Members

Sen. Phil Boots, Chairperson
Sen. Greg Walker
Sen. Carlin Yoder
Sen. Karen Tallian
Sen. James Arnold
Rep. Jerry Torr
Rep. Sue Ellspermann
Rep. Kreg Battles
Rep. David Niezgodski

INTERIM STUDY COMMITTEE ON EMPLOYMENT ISSUES

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MEETING MINUTES[1]

Meeting Date:	**September 7, 2011**
Meeting Time:	**9:00 A.M.**
Meeting Place:	**State House, 200 W. Washington St., House Chambers**
Meeting City:	**Indianapolis, Indiana**
Meeting Number:	**2**

Members Present: **Sen. Phil Boots, Chairperson; Sen. Greg Walker; Sen. Carlin Yoder; Sen. Karen Tallian; Sen. James Arnold; Rep. Jerry Torr; Rep. Sue Ellspermann; Rep. Kreg Battles; Rep. David Niezgodski.**

Members Absent: **None.**

Chairman Boots called the meeting to order at 9:00 a.m.

After an introduction of the committee members, Chairman Boots reminded the committee that this meeting would be focused on project labor agreements (PLAs). Invited speakers presented on issues related to PLAs, and responded to committee members' questions. Public testimony was not taken at this meeting due to the number of invited speakers, but will be allowed at the next committee meeting.

1. J.R. Gaylor, President and CEO, Associated Builders and Contractors (ABC) of Indiana – Mr. Gaylor spoke in support of free and fair markets and in opposition to PLAs as a barrier to free markets (Exhibit A). His association supports legislation that would prohibit or make the government neutral on PLAs. He also provided legislators with background information on PLAs (Exhibit B).

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[1] These minutes, exhibits, and other materials referenced in the minutes can be viewed electronically at http://www.in.gov/legislative Hard copies can be obtained in the Legislative Information Center in Room 230 of the State House in Indianapolis, Indiana. Requests for hard copies may be mailed to the Legislative Information Center, Legislative Services Agency, West Washington Street, Indianapolis, IN 46204-2789. A fee of $0.15 per page and mailing costs will be charged for hard copies.

2. Dr. Dale Glaser, principal of Glaser Consulting, statistical consultant and Adjunct Professor of Statistics at the University of San Diego and W. Erik Bruvold, founding President of the National University System Institute for Policy Research – Dr. Glaser and Mr. Bruvold presented the results of their recent study of school construction in southern California and the impact that PLAs had on the cost of construction (Exhibit C). They also provided legislators with a copy of their published study (Exhibit D). Based on the school construction data, they found that PLA projects cost 13-15% more to complete than non-PLA projects.

3. Kevin Korenthal, Executive Director, ABC California Cooperation Committee – (Exhibit E) Mr. Korenthal spoke about his experience auditing PLA projects and the problems he has seen with PLAs in California. The California Cooperation Committee is the only nonunion group that is contracted through the state to audit PLA projects. They found violations in some high-profile PLA projects they audited. In some cases contractors failed to pay the proper wages or failed to submit paperwork. In addition, PLAs were used on the construction of smart intersections in Los Angeles, shutting out nonunion contractors from doing the work despite having successfully completed similar projects in the past. Also, there was a work stoppage on a PLA project that cost the city $700,000. Mr. Korenthal argued that in order to participate in PLA projects, nonunion workers are required to pay union dues and benefits and go through union hiring halls.

4. Andy Conlin, Senior Manager, State and Local Affairs, National ABC – Mr. Conlin spoke in opposition to PLAs from a broad, national view (Exhibit F). Under government-mandated PLAs, contractors have to sign a contract with a union to be able to work on a project. It becomes difficult and expensive for nonunion contractors to compete for a project when they have to pay dues and benefit costs to the union, despite not receiving union benefits. PLAs require contractors to recognize a union as the sole representative of their workers. In addition, almost all PLAs require hiring through union hiring halls, which reduces competition. The result of government-mandated PLAs are higher costs to taxpayers and unfair political favoritism. Banning PLAs does not prevent local governments from entering into good contracts to ensure contractor accountability or discourage local hiring.

5. Dr. Dale Belman, Professor, School of Labor and Industrial Relations, University of Michigan – Dr. Belman has studied employment relations for 13 years. His presentation centered on three themes: PLAs can create value for the owners and the public, the use of PLAs should be evaluated on a project-by-project basis, and that requiring PLAs on all public projects would be just as bad public policy as would banning PLAs on any public projects (Exhibit G). Legislators were also presented with copies of his research (Exhibit H).

6. John Reamer, Inspector of Public Works, Los Angeles, California – Mr. Reamer presented about his experience using PLAs on public works projects in Los Angeles (Exhibit I). His agency's goals in using PLAs were to prevent labor difficulties, have access to a greater pool of skilled workers, and successfully complete construction projects on time. Based on their experience, PLA projects did not cost more than non-PLA projects. In addition, through PLAs, they were able to develop apprenticeship opportunities for under-represented populations and focus on using the local work force.

7. Charlie Kahl, Indiana Construction Association – Mr. Kahl argued that state and local governments should neither be required to use or banned from using PLAs for public construction projects. He expressed support for an open, competitive bidding process for both PLA and non-PLA projects. For a large, complex project like Lucas Oil Stadium with many different workers, a PLA may be a good idea. He suggested that the question the legislators should be asking is not whether or not a PLA must be used, but when PLAs should be used. Local entities should be able to decide whether or not to use PLAs. Under the current economic

uncertainty, he does not believe that it is a good time to change PLA laws in Indiana.

8. Paul Kersey, Mackinac Policy Institute – Based on his experience in Michigan, Mr. Kersey argued that PLAs disadvantaged nonunion contractors, because they were required to pay union dues, benefits, pensions, and health care. As a result, the legislature in Michigan recently passed a law prohibiting local governments from using PLAs. He suggested that wage concerns should not be a factor considered by the legislature or local governments in deciding whether to use PLAs in construction projects since construction wages tend to be higher than average wages in the state. Indiana has a prevailing wage law as well, so PLAs are redundant on several counts. He argued that PLAs do not lower costs or provide a greater degree of worker safety during construction.

9. Jonathan Weinzapfel, Mayor of Evansville, Indiana – At the beginning of his testimony, Rhonda Cook, from Indiana Association of Cities and Towns, distributed a letter from Mayor Jon Costas from Valparaiso (Exhibit J). Mayor Weinzapfel testified that legislatively prohibiting PLAs is bad public policy. He believes that local officials should have the ability to choose to enter into PLAs when appropriate, depending on local needs. He shared the city of Evansville's experience in using a PLA for the construction of the Ford Center Arena to ensure an on-time and on-budget project. Both union and nonunion contractors have worked on this project. All workers are well trained, and have to pass drug tests. Almost all are local workers. It has been very good for Evansville and the economy there.

10. Brian Snedecor, Mayor of Hobart, Indiana – Mayor Snedecor argued that local officials should be able to make decisions for local projects. Based on his experience, local projects with PLAs have finished under budget and on time. Locals should be able to decide when to use PLAs.

11. Harry Milly, commercial floor contractor – Mr. Milly has worked in the construction field for 28 years. When Wishard Hospital put out bids for flooring in the new hospital, his company did not bid on the project because of the PLA. His company was concerned about having to pay double benefits to the union under the PLA. Ultimately, only one bid was submitted on the project, and Wishard rebid the project. He pointed to the Palladium in Carmel as an example of a complex project requiring a lot of finishing work that was successfully built without a PLA. Mr. Milly believes in freedom of choice and competition, and believes that the free marketplace should determine who wins a bid.

12. Diana Brenner, President of Brenner Design Incorporated – Ms. Brenner spoke of her experience in bidding for projects for the Rebuild Indy Task Force. Her company had bid on 50 projects, and had not been awarded any of them, despite having competitive bids. She was told that they could not accept her company's bids because they were a nonunion shop. The labor agreement stated that they had to hire union subcontractors first, even if the other bids come in lower. Her company ended up winning only 4 out of 69 bids. The Rebuild Indy Task Force was not a PLA situation, but is an example of a larger problem of preferential treatment towards unions at the expense of non-union companies. It also reduces the ability of women- and minority-owned contractors to bid.

13. George Raymond, Indiana Chamber of Commerce – Mr. Raymond stated that the Indiana Chamber of Commerce supports legislation to prohibit the use of PLAs on public projects.

14. Pete Rimsans, Executive Director, Indiana State Building and Construction Trades Council – Mr. Rimsans presented the legislators with background information on PLAs (Exhibit K). He argued that PLAs are important to Indiana because of cost savings, guaranteed manpower, and ability to use local workers. When the economy is good and there are several

projects being built at the same time, having sufficient manpower can be a problem. The unions spend $29 million a year on training to deliver a well-trained workforce. He also spoke of the history of PLAs in Indiana. The first PLA in Indiana was with Subaru Isuzu. One concern they had about building in Indiana was whether or not they would have a guaranteed workforce. By negotiating a PLA, they were satisfied that they would have the workforce they needed for their projects. Mr. Rimsans and his organization believe that the PLA is an effective way to hold down costs and promote local hiring.

15. Gerry Scheub, Lake County Commissioner – Mr. Scheub spoke of his belief in home rule. The building trades in his area are competitive, and he does not want local construction jobs going outside to workers outside of his local area. He is proud of the union training facilities in his area, and wonders what will happen to the level of training if PLAs are not allowed.

16. Speros Bastistatos, President and CEO, South Shore Convention and Visitors Authority – Mr. Bastistatos was not able to appear in person, but submitted a letter for the record (Exhibit L).

17. Bill Mott, Vice President, Corporate Labor Relations and Safety, Hunt Construction Group – Mr. Mott argued that PLAs were initially used in highly unionized areas as tools to get concessions from unions on work rules and staffing requirements. Some PLAs still use this old form; however, Mr. Mott's company has also worked on many PLA projects including J.W. Marriot and Lucas Oil where they were able to negotiate work rules and staffing requirements. Nonunion contractors, small businesses, and minority- and women-owned businesses were able to work the project. In addition, in many PLAs there is a threshold above which subcontractors have to pay the common wage, but for jobs below the threshold those requirements do not apply. Mr. Mott also read a letter from Remo Mezzetta, who wrote in favor of PLAs from the nonunion contractor's perspective (Exhibit M).

18. Jim Tsareff, Vice President, Construction Operations, ERMCO Electric – Mr. Tsareff spoke from the perspective of a union contractor by choice. He argued that PLAs reduce costs and are a tool to promote consistency. PLAs benefit taxpayers by making sure the labor force is skilled, qualified, and well-trained.

19. Andrew Berger, Association of Indiana Counties – Mr. Berger testified that the Association supports local control and opposes a mandate on PLAs.

Following the final testimony, the committee chose a date for the next meeting. The third meeting will be held on October 6, 2011, at 8:00 a.m. in the Senate Chambers. The meeting will allow for a general discussion of any issues or testimony not yet covered by the committee. Chairman Boots asked the committee to inform him of anyone planning to testify at the meeting, and he reminded the committee that public testimony will be welcome at that meeting.

The meeting was adjourned at 3:45 p.m.

Remarks for Summer Study Committee on Employment: Topic Mandated Union-only Project Labor Agreements.

I am J.R. Gaylor, President and CEO of Associated Builders and Contractors of Indiana and our organization is an advocate for free and fair markets. A huge artificial barrier to free markets are union-only project labor agreements. (PLA's). Based on the information discussed to today, we would support upcoming legislation to prohibit the use of these agreements for public projects in Indiana.

**The supporters of PLA's sell these union-only deals on the promise they will protect the owner from strikes and work slowdowns

YET

Those are artificially created problems in the first place.

**Union-only deals are sold on the promise that they will ensure on-time, on-budget projects

YET

Glaring examples stand out to the contrary: Indianapolis Public Library was $50 million over budget, 2 years late, and had construction flaws.

Lucas Oil stadium was $75million over budget, a $50 million contingency fund was used up and just lately parts of the stadium were closed to repair flaws. Also, hundreds of out of state union travelers were used in place of hundreds of qualified Hoosiers.

Duke Energy-Edwardsport----Starting budget was $1.9 billion, was upped to $2.4 billion when first bids came in and costs now closing in on $3 billion. Public service rates may be profoundly impacted.

**Union only deals are sold on the promises that they provide access to apprenticeship training, minority recruitment, and drug testing

YET

All Merit Shop contractors already have access to ABC's 16 different craft apprenticeships certified by the U.S. DOL. (the same accrediting body as the unions)

ABC led all organizations in placing minority workers through the Major Moves program. Our apprenticeship currently has increased minority involvement to an all time high of 17.03%.

ABC's drug testing program is stricter than most of the union's programs.

ABC has one of only 3 special partnerships with the IDOL for safety quality and possible site visit exemptions based on quality of performance by contractors.

Exhibit A
Interim Study Committee on Employment Issues
Meeting #2 Sept. 7, 2011

**And now we hear that local communities should have the right to decide for union-only deals.

YET

Does local control "rights" trump discrimination? Does local control give a license to discriminate against groups of people based on group membership? The state should always have an over-riding interest in prohibiting discrimination what ever form it comes in.

You will hear today why union-only PLA's are not in the public interest and should be prohibited. Leading experts in the study of impact of PLA's have been assembled here today.

We have brought a team of researchers from California where the latest and largest study in the nation on the topic of PLA's has just been released.

I would like to present:

Erik Brovold-founding President of the National University System Institute for Policy

And

Dr. Dale Glaser-Principle of Glaser Consulting, a leading statistical consultant and Adjunct Professor of Statistics at the University of San Diego.

The Impact of Government-Mandated Project Labor Agreements

2011 Indiana Legislative Summer Study Committee

Briefing Materials Provided by:
Associated Builders & Contractors of Indiana, Inc.

Indiana Chapter

Support for the Elimination of PLAs

The Impact of Government-Mandated Project Labor Agreements

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Employment Issues
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Project Labor Revolt

One benefit of the squeeze on state and local budgets is that politicians are finally having to confront their sweetheart deals with labor unions. The latest reform movement is moving against project labor agreements, or PLAs, that limit bids on construction projects to contractors that agree to union representation.

The states ban union political bid-rigging. Obama demurs.

Only about 13% of construction workers belong to unions, and PLAs are a union invention to use their political muscle to organize more companies. Proponents argue that PLAs ensure the speed and quality of construction plans. But PLAs are one of the reasons that Boston's Big Dig was estimated at $2.8 billion but eventually cost $22 billion. Studies show that projects under PLA contracts on average cost 12% to 18% more than projects awarded by open, competitive bidding. Taxpayers pick up much of this tab.

The case of New York City is instructive. In 2009, the city's construction union and the association of builders agreed to an Economic Recovery Project Labor Agreement in the name of lowering costs and unfreezing construction halted during the recession. Some projects such as Frank Gehry's 76-story Beekman Tower did start, only to see costs skyrocket. According to the New York State Comptroller, wages have risen 12% city-wide, more than three times inflation. Contractors say strict union job classifications mean they have to employ superfluous workers. Many projects have frozen again, as PLA contracts expire and builders balk at new ones.

In response to this evidence, states have been pulling away from PLAs. Louisiana passed a law this month that prohibits state entities from mandating the use of PLAs. Tennessee, Arizona and Idaho passed similar legislation earlier this year, and Iowa's Governor Terry Branstad, in one of his first acts after inauguration, signed an executive order ending a state PLA requirement. Legislatures in Maine and Michigan recently passed bills along these lines that governors are expected to sign. These states are joining Utah, Montana, Missouri and Arkansas, which enacted bans in recent years.

The new wave of Republican state officials is leading this reform, but the public seems to support the effort even in Democratic-leaning areas. Seven localities in California have passed ballot initiatives to end mandated PLAs in the last decade, including five since 2009. This includes places like Chula Vista, where President Obama received 61% of the vote. As Andy Conlin of Associated Business and Contractors notes, wherever PLAs are subject to popular referendum, they're rejected.

You may not be surprised to learn that the Obama Administration is not part of this reform trend. In February 2009 Mr. Obama issued Executive Order 13502, which lifted President Bush's ban on PLAs and explicitly "encourages" them in federal construction projects worth more than $25 million. As the 2012 election nears, the Administration will be tempted to extend the order to include projects that receive any federal funds.

That would raise construction costs across the country, and at all levels of government, because so many public works projects are jointly funded by states and the feds. It would also mean fewer construction jobs overall, though higher pay for those unionized workers lucky enough to get one.

PLAs are a form of political bid-rigging that robs taxpayers even in good economic times. Amid today's limited fiscal resources, PLAs steal money from the likes of education and law enforcement to reward politically-connected companies and their unions. They deserve to be outlawed.

The Impact of Government-Mandated Project Labor Agreements: A Review of Key Reports and Studies 2011 Edition

"The examination of the construction labor market and the facts concerning the postures of organized labor, unionized construction, and their political supporters, as well as of the cases in various states, demonstrate that the claimed advantages of government-mandated PLAs are not supported by factual evidence"

- Dr. Herbert R. Northup, Journal of Labor Research, Winter 1998

Government-mandated project labor agreements (PLAs) are special interest kickback schemes that end open, fair and competitive bidding on public work projects. PLAs deny 86.9 percent of the U.S. construction workforce – those who do not belong to a union – a fair opportunity to build public work projects, thereby reducing competition and significantly driving up costs to taxpayers. With government budgets stretched to the breaking point and essential services being cut, it is critical that taxpayers get the best quality work at the best price. Union-favoring PLAs put Big Labor special interests ahead of the public interest by restricting the bidding process to ONLY contractors that agree to participate in these corrupt schemes -- denying qualified contractors and their skilled employees the opportunity to do a better job at a better price.

Construction and Employee Costs:

Anti-competitive PLAs increase costs by forcing contractors to:

1. Hire most or all employees from a union hiring hall
2. Follow inefficient union work rules
3. Exclude apprentices enrolled in nonunion apprenticeship programs
4. Make contributions to union benefit plans on behalf of nonunion employees that are permitted to work on a PLA project. Nonunion employees will never benefit from these contributions unless they join a union and become vested in union benefit plans.

These unfair mandates discourage competition from nonunion contractors, who employ 86.9 percent of the U.S. construction workforce, and needlessly increase costs for the occasional merit shop contractor that participates on government-mandated PLA projects.

Academic research and independent reports available at www.abc.org/plastudies support the reality that government-mandated PLAs increase the cost of construction.

- A study released Sept. 23 2009 by the Beacon Hill Institute (BHI), "Project Labor Agreements on Federal Construction Projects: A Costly Solution in Search of a Problem," found that PLAs significantly increase construction costs on federal projects. Had President Obama's pro-PLA Executive Order 13502 been in effect in 2008, and all 2008 federal construction projects worth $25 million or more had been performed under PLAs, it would have increased the cost to federal taxpayers by $1.6 billion to $2.6 billion. In addition, the BHI review of federal construction projects from 2001-2008, the years under which government-mandated PLAs were prohibited, also revealed that there were no instances in which labor disruptions occurred that resulted in significant project delays or increased costs. The study concludes that "the justifications for PLAs provided by Executive Order 13502 are unproven."

- A June 2009 study conducted by property and construction consulting firm Rider Levett Bucknall prepared for the U.S. Department of Veterans Affairs (VA) Office of Construction and Facilities Management found that PLAs would likely increase construction costs by as much as 9 percent on three of the five construction markets (Denver, New Orleans and Orlando) in which the VA is planning to build hospitals.

- An October 2009 report by Dr. John R. McGowan, "The Discriminatory Impact of Union Fringe Benefit Requirements on Nonunion Workers Under Government-Mandated Project Labor Agreements," found that employees of nonunion contractors that are employed under government-mandated PLAs suffer a reduction in their take home pay that is conservatively estimated at 20 percent. For example, the report estimates that as a result of President Obama's pro-PLA Executive Order 13502, hundreds of millions of dollars of nonunion employees' income on federal construction projects will be distributed to union pension funds, from which nonunion employees will likely receive no benefits. In addition, the report found that PLAs on federal projects substantially increase costs, by approximately 25 percent, for nonunion employers. Finally, the study found that had President Obama's pro-PLA Executive Order 13502 applied to federal contracts in 2008, additional costs incurred by employers related to wasteful PLA pension requirements would likely have ranged from $230 to $767 million per year. Lost wages for nonunion construction workers would have ranged from $184 million to more than $613 million, depending on the assumptions made for companies executing contracts via PLAs. In total, the move to PLAs could cost nonunion workers and their employers $414 million to more than $1.38 billion annually.

- A May 2006 study by the Beacon Hill Institute (BHI) at Suffolk University in Boston, Massachusetts, "Project Labor Agreements and Public Construction Costs in New York State" found that PLAs add an estimated $27 per square foot to the bid cost of construction (in 2004 prices), representing an almost 20 percent increase in costs over the average non-PLA project.

- A September 2004 study by the Beacon Hill Institute (BHI) at Suffolk University in Boston, Massachusetts, completed an extensive statistical analysis of the effects of PLAs on bid and final costs of school construction projects in Connecticut for the period of 1996 through 2004. "Project Labor Agreements and the Cost of Public School Construction Projects in Connecticut" found that PLAs raise the *actual or final base* construction costs by $30 per square foot (in 2002 prices), representing an almost 18 percent increase in costs over non-PLA projects. BHI concluded that "our key finding is that PLA projects cost more that non-PLA projects, holding the effects of project size and type constant. This is true whether one considers bid costs or final project costs. The effect is statistically significant and robust."

- A September of 2003 study by the Beacon Hill Institute (BHI) at Suffolk University in Boston analyzed Massachusetts school construction projects and concluded that *bid prices* on projects with a PLA were an estimated $18.83 per square foot or 14 percent higher than bid prices on non-PLA projects. In addition, the *actual* cost of construction was 12 percent higher (in 2001 prices) for projects executed with a PLA.

- In September of 2001, the firm of Ernst & Young was commissioned by Erie County in New York to analyze a project labor agreement on the Erie County Construction Project. Ernst & Young concluded that "bidder participation was diminished because the county chose to utilize a PLA. Further, the use of PLAs adversely affects competition for publicly bid projects to the likely detriment of cost-

effective construction. Our research revealed that the use of PLAs strongly inhibits participation in public bidding by non-union contractors and may result in those projects having artificially inflated costs." They went on to say that "there are no apparent valid economic justifications for the continued use of a PLA on Phase II of the Project."

- The Worcester Municipal Research Bureau released their study "Project Labor Agreements on Public Construction Projects: The Case For and Against" on May 21, 2001. The study concluded that "PLAs tend to constrict the number of bidders on a project compared to those without PLAs, and are likely to reduce the savings to the public that would accrue if nonunion contractors who are employed were allowed to follow their customary methods."

- A study commissioned by the Jefferson County Board of Legislators concluded that "[t]he additional costs estimated with the use of a PLA could range upwards of $955,000. With the loss of even on general contractor from the bidding [as a result of the PLA], the cost increase could approach $200,000." On this estimated $14 million project, this would mean a cost increase of upwards of 7 percent (September 2000).

- The Clark County School District (CCSD) retained Resolution Management to perform an objective study of the use of project labor agreements on School District Projects. The independent study found "no compelling reason for CCSD to enter into PLAs for school construction at this time."

- The Employment Policy Foundation estimates that if all federally-funded government contracts were to include PLAs, the result would be either an increase in the cost of construction by $4.8 billion annually, or a reduction in the amount of federal construction spending by 30 percent (April 1997).

- A study of public-sector PLAs concludes, "While assuring that projects are performed union, they provide little, if any, savings to the [public] owner. In addition, they provide little, if any, competitiveness to the union contractor and may be disruptive to other owners and contractors involved in the local construction market." It concluded that, "restraints imposed by government-directed PLAs are political decisions which have little or no economic rationale, nor can they be defended on grounds of labor peace, enhanced safety, or other such reasonable criteria." (Dr. Herbert R. Northrup, Journal of Labor Research, Winter 1998).

- A comparison of bids for a Middletown, Connecticut, school renovation proposal demonstrated a PLA would have added 20 percent to the cost. The town initially issued 72 sets of bid specifications with a PLA, and received only four responses, with the lowest bid ($9.1 million) at $600,000 over the project's $8.5 million budget. When the project was re-bid without the PLA, it received more than double the number of bids, with the lowest at $7.6 million, producing a savings for the town of $1.5 million.

- A comparison of two stadiums built in Maryland at approximately the same time (Jack Kent Cooke Stadium near Washington, DC and Ravens Stadium in Baltimore), indicates that the cost per seat of Ravens Stadium, built primarily with union labor under prevailing wage laws, was over 13 percent higher than the cost for Jack Kent Cooke Stadium, a merit shop project. Overall, the preliminary results of this study indicate that costs associated with union labor and prevailing wage made the Baltimore stadium costs 4 ½ to 5 percent higher than the Washington stadium.

- A study of the taxpayer costs for Roswell Park Cancer Institute in Buffalo, New York, assessed bids for the same project both before and after a PLA was temporarily imposed in 1995. It revealed that there were 30 percent fewer bidders to perform the work and that costs increased by more than 26 percent.

- A GAO report, issued May 5, 1998, demonstrated that it is nearly impossible to show any savings or increased quality derived from the use of project labor agreements, largely because of the difficulty in finding two identical projects with or without a PLA to study.

- A U.S. GAO report on Department of Energy Idaho Laboratory Project found that the labor costs under the union-only PLA were 17 percent to 21 percent above the federally mandated Davis-Bacon rates.

Work Opportunities:

- The U.S. Department of Labor's Bureau of Labor Statistics (BLS) Jan. 2011 report states that 13.1 percent of the nation's construction workforce was unionized in 2010. Therefore, since union-favoring PLAs discourage merit shop companies from working on a PLA project, PLAs discriminate against the majority of companies and more than eight out of 10 workers who choose not to join a union. These workers' hard-earned tax dollars fund these projects and they should not be summarily subject to such discrimination.

- The District Economic Empowerment Coalition (DEEC) October 2007 Study, "The DC Baseball Stadium Project: Broke Promises, Big Losses for DC Residents" concluded that a PLA signed to ensure local residents the majority of work on the District of Columbia's new $611-million baseball stadium failed to meet hiring goals outlined in the PLA. The study found that the PLA "was intended to produce numerous jobs and opportunities for local residents. Instead, most of the work has gone to residents from outside the city."

- A December 2008 editorial by The National Black Chamber of Commerce described PLAs as "a license to discriminate against black workers." Likewise, minority and women's construction, business and employee associations have vocally opposed government mandated union-only PLAs. Testimony from an Aug. 6, 1998 U.S. House Small Business Committee hearing called "The Administration's Policy of Discrimination: Project Labor Agreement's Negative Impact on Women and Minority Owned Small Businesses" highlights the negative impact of PLAs on women and minority owned businesses and their employees. The National Black Chamber of Commerce, Women Construction Owners and Executives and the National Association of Small and Disadvantaged Businesses are among a diverse coalition of groups that have actively opposed PLAs. These groups represent workers that are significantly underrepresented in all crafts of building trades unions. Encouraging PLAs on construction projects will make it even more difficult for minority-owned contractors and their workforce to compete.

- Ernst & Young's September 2001 study stated that their "research revealed that the use of PLAs strongly inhibits participation in public bidding by non-union contractors and may result in those projects having artificially inflated costs."

- In his analysis of government-mandated PLAs, Dr. Herbert Northrup concludes, "To exclude or to limit the right of open-shop contractors, who have won 75-80 percent of the national construction

dollar spent, from the opportunity to bid on public financed construction, and thus to limit or to eliminate their participation in construction paid for by taxpayers unless they are willing to work as if they were unionized contractors is palpably both unfair and contrary to sound public policy" (Journal of Labor Research, Winter 1998).

Productivity and Quality:

Government-mandated PLAs do nothing to guarantee better quality, skills, or productivity. Merely having a union status does not guarantee better performance as there is no evidence that union labor is more skilled than merit shop labor. Some of the largest and most successful projects completed every year are built on time and within budget by merit shop companies and without government-mandated PLAs. The union label is not needed for construction to be of top quality. Project quality is determined by sound business practices such as quality project management and is governed by voluminous procurement laws and regulations, project specifications and bonding requirements. Safeguards against shoddy work practices and stiff market competition also prevent unqualified companies from competing and winning public contracts. Moreover, quality lies with the worker's individual motivation and performance. There is no evidence that a PLA regularly produces quality construction and is the only method to achieve quality, safe and cost-effective construction.

- Although building trades unions promote PLAs by claiming open shop contractors do not have the capability of managing very large construction jobs, a study by Dr. Herbert R. Northup concludes that, "the facts demonstrate that open-shop contractors can and do successfully both perform and manage large projects." (Journal of Labor Research, Winter 1998).

- After performing a thorough study of PLAs in the New York area, Ernst & Young concluded that "[t]here is no quantitative evidence that suggests a difference in the quality of work performed by union or open shop contractors." (September 2001)

- A 2006 study by The Public Interest Institute concludes that a PLA on the Iowa Events Center project in Des Moines placed an "unnecessary burden" on local workers, business and taxpayers. Iowa public officials required a PLA and stated that it was necessary to "keep the project on time, keep it on budget, and complete it in a safe manner." According to the study, the union-only PLA "failed on all three counts."

Safety:

Unions claim projects built with a merit shop workforce are unsafe and/or union workers are safer than nonunion workers. There is no statistical evidence to support this claim. Today's construction worksites are governed by numerous laws, Occupational Safety and Health Administration (OSHA) regulations and safety procedures designed to protect the safety and health of craftspeople. Jobsite safety is not determined by the labor affiliation of a project's workforce as the majority of reputable and competitive construction companies employ craftspeople that have completed safety training. Contractor qualification and selection, workforce management and safety programs are more appropriate indicators of a project's quality and safety performance. In addition, there are a number of government-mandated PLA projects that have experienced unfortunate safety problems and OSHA violations cited in Maury Baskin's *Public Record of Poor Performance*.

Updated April 2011

List of Studies:

Electronic versions of studies referenced below are available at www.abc.org/plastudies.

Government-Mandated Project Labor Agreements: The Public Record of Poor Performance – Maurice N. Baskin (2011 edition)

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Project Labor Agreements: The Extent of Their Use and Related Information – GAO Report (May 1998)

Comparison of Nonunion and Union Contractors Construction Fatalities – National Center for Construction Education and Research (May 1995)

Analysis of Bids and Costs to the Taxpayer for the Roswell Park Cancer Institute, New York State Dormitory Authority Construction Project – Associated Builders & Contractors – Empire State Chapter (March 1995)

MINORITY AND WOMEN'S GROUPS HIT PLAs AS DISCRIMINATORY

"PLAs amount to *de facto* segregation ... African-American workers are significantly underrepresented in all crafts of construction union shops ... this problem has been persistent during past decades and there appears to be no type of improvement coming ... PLAs are anti-free-market, non-competitive, and, most of all, discriminatory."

- National Black Chamber of Commerce

"WCOE opposed federally mandated project labor agreements ... PLAs will disproportionately impact small business, particularly those owned by women and minorities."

- Women Construction Owners & Executives, USA

"Bay Area Black Contractors Association has been a strong advocate for merit shops in the Oakland/San Francisco Bay Area and we are opposed to project labor agreements."

- Bay Area Black Contractors Association

"We believe PLAs make it more difficult for minority-owned contractors to compete ... they effectively work against the goals of increasing the number of projects awarded to minority-owned businesses by placing roadblocks in our way."

- Latin Builders Association, Inc.

"(PLAs) are bad for business, especially small businesses which constitute most of our membership. They impose undue restrictions on our ability to compete, increase the cost of doing business, reduce employee benefits, and interfere with the free negotiation process between employee and employer. They are patently unfair to small businesses who do not have the resources to comply with yet another government mandate."

- United States Pan-Asian-American Chamber of Commerce

"The ultimate effect of the San Francisco Airport PLA is clear ... once a PLA was implemented, minority business enterprise prime contract participation dropped 91.9 percent and subcontract participation dropped 34.4 percent. This PLA has been a disaster for minority-owned businesses ... "

- American Asian Contractors Association

"(PLAs) are not good business for small business in general, and particularly for women and minorities in business ... the impact on women and minorities trying to compete in federal procurement would be devastating."

- National Association of Women Business Owners

GOVERNMENT-MANDATED PROJECT LABOR AGREEMENTS

THE PUBLIC RECORD OF POOR PERFORMANCE

2011 Edition

Maurice Baskin, Esq.
Venable LLP

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IX. APPENDIX: PLA PROBLEM PROJECTS

GOVERNMENT-MANDATED PROJECT LABOR AGREEMENTS: THE PUBLIC RECORD OF POOR PERFORMANCE

I. Introduction

Government-mandated project labor agreements (PLAs) are agreements that some public entities require construction contractors and subcontractors to enter into with labor unions as a condition of being allowed to perform work on public construction projects.[1] Government-mandated PLAs should be distinguished from voluntary, private sector PLAs, which are authorized by Sections 8(e) and 8(f) of the National Labor Relations Act solely when entered into by "employers in the construction industry" in an atmosphere free of union or government coercion.[2] The government-mandated PLAs described in this report are "union-only," meaning they require all contractors and subcontractors on a covered project to sign an agreement with a labor organization, regardless of whether their employees have previously authorized any union to represent them, as a condition of performing work on a public construction project.[3] In this sense, most government-mandated PLAs, and all of the PLAs described in this report, are "union-only."

Proponents of government-mandated PLAs claim the agreements reduce labor strife and increase efficiency in construction of large projects.[4] Opponents of PLAs assert they discriminate against the majority of the construction industry that is nonunion, reduce the number of potential

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[1] As defined in FAR 52.222-34, a "PLA" is "a collective bargaining agreement with one or more labor organizations that establishes the terms and conditions of employment for a specific construction project."

[2] 29 U.S.C. § 158(e) and (f).

[3] While most PLAs allow nonunion contractors to bid to perform on covered projects, they typically require all successful bidders/offerors to enter into union agreements in order to actually be *awarded and perform the work.* In other words, contractors (and subcontractors) must become unionized in order to perform work under the PLA.

[4] *See, e.g.,* Section 1 of Executive Order No. 13502, asserting that PLAs may promote the efficient and expeditious completion of large construction projects by "providing structure and stability."

bidders for the work, increase costs to taxpayers and delay construction—with no improvements in quality, safety or diversity.[5]

The purpose of this report is to fill the gap in public knowledge about the true impact of government-mandated PLAs. To achieve this goal, the report examines the actual results of government-mandated PLA construction projects across the country. By engaging in this review, it is possible to see whether government-mandated PLAs have achieved the efficiency goals claimed by their supporters, or whether such PLAs have been associated with increased costs, reduced competition, delayed construction timetables, unsafe work practices, problems for minorities and other construction defects. To the maximum extent possible, the report relies on published sources, particularly news media accounts and academic studies that have examined the actual progress of projects built under PLAs.

As shown below, the public record of government-mandated PLA construction reflects a persistent pattern of increased construction costs on public works projects, along with negative impacts on competition for such projects, numerous delays in construction, construction defects, safety problems and diversity issues. Each of these problems has been confirmed by numerous published reports on specific government-mandated PLAs.

This report is not intended to be a legal treatise; rather, it focuses on the practical outcomes of PLAs. It is nevertheless important to briefly review the legal controversy underlying the debate over government-mandated PLAs, beginning with the 1993 decision of the U.S. Supreme Court in the *Boston Harbor* case.[6] For the first time, the court held that a government-

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[5] *See* public comments filed by Associated Builders and Contractors, Inc. in the notice and comment proceeding on the proposed rule of the Federal Acquisition Regulations (FAR) Council in 2009 implementing President Obama's Executive Order No. 13502. FAR Case No. 2009-005. *Available at* www.thetruthaboutplas.com.

[6] *Building and Construction Trades Council of the Metropolitan District v. Associated Builders and Contractors of Massachusetts/Rhode Island, Inc. ("Boston Harbor"),* 507 U.S. 218 (1993).

mandated PLA that was tailored to an individual construction project was not automatically preempted by the National Labor Relations Act (NRLA). The court did not address the legality of multi-project PLAs, however,[7] nor did the *Boston Harbor* opinion deal at all with the legality of PLAs under state or federal competitive bidding laws or the U.S. Constitution. During the past two decades, a number of state courts have reviewed challenges to union-only PLAs on government projects, with mixed results.[8]

Three states—Missouri, Montana and Utah—have enacted laws (currently in effect) that prohibit government agencies from imposing union-only PLAs.[9] A fourth state, Idaho, recently passed legislation prohibiting state agencies from imposing government-mandated PLAs, effective July 1, 2011.[10] Several state governors have issued executive orders prohibiting or restricting the use of PLAs on state projects, while other governors have issued orders encouraging the use of PLAs.[11] New Jersey has enacted a law that encourages state government

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[7] *See Chamber of Commerce v. Brown*, 522 U.S ___ , 128 S. Ct. 2408 (2008) ("In finding that the state agency had acted as a market participant, we stressed [in *Boston Harbor*] that the challenged action "was specifically tailored to one particular job," and aimed "to ensure an efficient project that would be completed as quickly and effectively as possible at the lowest cost.").

[8] *Compare Tormee Const., Inc. v. Mercer County*, 669 A. 2d 1369 (NJ 1995) (government-mandated union-only PLAs generally not permitted under state competitive bidding law); *with New York State Chapter, Inc., Associated General Contractors of America v. New York Thruway Authority*, 88 N.Y. 2d 56 (1996) (PLAs permitted only upon proof of cost savings and demonstrable need to meet unusual construction circumstances); *and with Associated Builders and Contractors, Inc., Golden Gate Chapter v. San Francisco Airports Commission*, 87 Cal. Rptr. 2d 654 (1999) (upholding PLA absent proof of injury to competition in order to "prevent costly delays"); *See also ABC of Rhode Island, Inc. v. City of Providence*, 108 F. Supp. 2d 73 (D. R.I. 2002) (government's conditioning of tax incentives on developer's acceptance of PLA held preempted by NLRA); *Callahan & Sons v. City of Malden, Mass.*, 713 N.E. 2d 955 (1999) (PLAs neither "absolutely prohibited nor absolutely permitted.").

[9] Missouri RS § 34.209 (2007); Utah Code Ann. § 34-30-14(2) (1995); Mont. Code Anno., § 18-2-425 (1999).

[10] *Idaho Becomes 7th State to Ban Government-Mandated PLAs on State and Local Projects,* March 4, 2011, available at www.TheTruthAboutPLAs.com (Senate Bill 1006).

[11] Most recently, the governor of Iowa revoked his predecessor's pro-PLA executive order and substituted a new order prohibiting PLA mandates on any state-funded construction projects. *See* Iowa EO 69 (Jan. 14, 2011). Other state executive orders relating to PLAs include: Ark. EO 05-09 (2005) (prohibiting PLAs); Minn. EO 05-17 (2005) (same); Nev. EO (2008) (repealing previous order in favor of PLAs); 9 NY CRR § 5.49 (2006) (declaring that "no project labor agreement shall be approved by an agency unless the decision to enter into the project labor agreement has, both as its purpose and likely effect, the advancement of the interests of the state's competitive bidding statutes."); Ill. EO 2003-13 (2003) (encouraging PLAs); NJ EO (2002) (same).

agencies to adopt PLAs on large construction projects.[12] In 2010, a series of ballot initiatives filed by the citizens of several southern California counties resulted in overwhelming votes to prohibit their local governments from imposing PLAs.[13]

In 2001, President Bush issued executive orders prohibiting federal agencies and recipients of federal funds from imposing union-only requirements on federally funded construction projects.[14] The Bush orders remained in effect until 2009, during which time there were no significant labor disputes reported on federal construction that caused delays or cost increases.[15] Nevertheless, on Feb. 6, 2009, President Obama issued Executive Order No. 13502, which revoked the Bush orders and "encouraged" federal executive agencies to "consider, on a project-by-project basis," whether PLAs should be required on all projects whose costs exceed $25 million.[16] Opponents of the new executive order have successfully challenged its implementation through a series of bid protests filed at the Government Accountability Office (GAO), arguing that PLA mandates unlawfully restrict competition in violation of the federal Competition in Contracting Act (CICA).[17]

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[12] NJ Stat. 52:38-1, et seq. (2002).

[13] *Proposition A Wins Big*, www.KPBS.org (Nov. 3, 2010) (reporting 75 percent of all votes cast in favor of ballot initiative prohibiting government-mandated PLAs in San Diego County; and referencing previous votes prohibiting PLAs in Oceanside and Chula Vista, Calif.).

[14] Executive Order 13202 (Feb. 17, 2001), *as amended*, Executive Order 13208 (April 6, 2001). President Bush's executive order was upheld against claims of labor law preemption in *Building & Const. Trades Dept., AFL-CIO v. Allbaugh*, 295 F. 3d 28 (D.C. Cir. 2002).

[15] *See* Tuerck, Glassman and Bachman, *Project Labor Agreements on Federal Construction Projects: A Costly Solution In Search of A Problem* (2009), http://www.beaconhill.org/BHIStudies. From 2001 to 2009, the federal government entered into construction contracts valued in excess of $147 billion. *See* usaspending.gov.

[16] Executive Order No. 13502 (Feb. 6, 2009).

[17] 41 U.S.C. § 253. As a result of the bid protests filed with the GAO in 2009 and 2010, numerous federal agencies have been compelled to withdraw solicitations for bids on construction projects that contained PLA mandates. *See., e.g., Contractor Protest Causes VA to Delete PLA Mandate from Research Building Bid Notice,* 56 Const. Lab. Rep. 1366 (BNA), Jan. 12, 2011.

Much of the ongoing legal controversy over government-mandated PLAs is focused on whether they advance governmental interests in economy and efficiency, or whether they have precisely the opposite effect of increasing costs, reducing competition and generally harming the interests of taxpayers. Therefore, it is more important than ever to understand the true impact of government-mandated PLAs.

It is not feasible to report on the results of every PLA mandated by a government agency anywhere in the country during the past two decades. However, this report attempts to bring attention to as many government-mandated PLAs as possible whose actual results have been described in published media or academic reports. Those results frequently contradict PLA proponents' claims of cost savings, avoidance of delays and/or improved performance under proposed PLAs. Rather, the published reports of PLA poor performance strongly support the assertion that government-mandated PLAs, aside from their questionable legality, are a bad bargain for taxpayers.

This report is organized by PLA performance issue, in the following order:

- INCREASED COSTS ON PLA PROJECTS
- REDUCED COMPETITION ON PLA PROJECTS
- CONSTRUCTION DELAYS ON PLA PROJECTS
- CONSTRUCTION DEFECTS ON PLA PROJECTS
- SAFETY PROBLEMS ON PLA PROJECTS
- PLA PROBLEMS FOR MINORITIES AND WOMEN

Published reports on the government-mandated PLAs within each of these categories are organized chronologically under each issue associated with them, with some allowances for the fact that large projects sometimes generate reports during a period of years. The report concludes with an appendix containing an index of the cited reports on PLAs referenced in the text.

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II. Increased Costs on PLA Projects

Proponents of PLAs frequently claim that such agreements will achieve cost savings. To the contrary, the public track record of a significant number of government-mandated PLAs to date has reflected significant cost ***overruns***. The following union-only projects have been the subject of published reports of increased costs on PLA projects.

In the mid-1990s, the Roswell Park Cancer Institute in New York was partially constructed under a union-only PLA. Comparisons of bid packages released under the PLA and bid packages undertaken without any union requirement revealed that costs of construction under the government-mandated PLA were 48 percent higher than without the PLA. Projects not subject to the PLA were 13 percent under budget. Projects bid under the PLA were 10 percent over budget. [18]

Similarly, in Buffalo, N.Y., a PLA was imposed on the Northwest Academy school project in 1998. Bids were more than 20 percent over budget, and the price tag soared from an estimated cost of $26 million to $32.4 million. The school board was forced to cut $4 million from projects at other schools to make up the deficit.[19]

Also in Buffalo, a Democratic legislator proposed naming the new Erie County Courthouse the "Flimflam-50 Percent Courthouse." Referring to the product of a government-mandated PLA, the legislator stated: "We've been flimflammed and now we're 50 percent over budget."[20]

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[18] Baskin, *The Case Against Union-Only Project Labor Agreements*, 19 Construction Lawyer (ABA) 14, 15 (1999).

[19] *Board to Absorb Extra Costs as Price of New School Soars to $32.4 Million*, Buffalo Evening News, Oct. 29, 1998.

[20] *Calling Courthouse a Spade*, Buffalo News, Jan. 23, 2000.

In Rochester, Minn., bids were opened under a union-only PLA for expansion of the Mayo Civic Center on Sept. 21, 1999. The lowest bid was $14.9 million, 36 percent higher than the city's budget. On Oct. 5, 1999, the City Board voted to reject all bids, redesign the project and rebid it.[21] The City Parks Superintendent said: "We don't really know what to do. We were very disappointed with the bids." Significantly, previous work on the center had been performed without any union-only requirements and had been completed within the city's budget.

The Boston Central Artery Project (the "Big Dig") was built under a government-mandated PLA, notwithstanding a court challenge, in the 1990s. Originally projected to cost $2.2 billion, the Big Dig wound up costing more than $14 billion, among the biggest cost overruns in the history of American construction projects.[22] A July 17, 2008 *Boston Globe Article*stated, "In all, the project will cost an additional $7 billion in interest, bringing the total to a staggering $22 billion, according to a *Globe* review of hundreds of pages of state documents. It will not be paid off until 2038."[23] The scope of the overruns was reported on television's "Sixty Minutes" and in numerous newspaper reports, and allegations of fraud and waste on the Big Dig resulted in a Congressional investigation and years of litigation.[24] As discussed in later sections of this report, the excessive cost of the Big Dig did not result in higher quality or safety of construction, as there were a number of fatalities among the union workers, massive leakage throughout the tunnel, and ultimately a tunnel collapse that killed a motorist.[25]

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[21] *Civic Center Bids Exceed the Budget*, Post-Bulletin, Sept. 28, 1999.
[22] http//www.issuesource.org.

[23] Big Dig's red ink engulfs state, Boston Globe, July 17, 2008
[24] *Boston's 'Big Dig' Buried in Cost Overruns*, Washington Post, April 12, 2000; *Low Bid, $22 Million Over Estimate, Is Approved,* ENR, Jan. 13, 1997 at 5; *Boston Projects Tracking Higher*, ENR, Jan. 20, 1997, at 27.

[25] *See* below for further reports on safety and quality issues on the Big Dig.

The San Francisco Airport, whose PLA was upheld by the California Supreme Court in part on the ground of expected cost savings, subsequently went hundreds of millions of dollars over budget in 1999. Following the court decision in favor of the PLA, published estimates indicated the airport would exceed its $2.4 billion budget by more than $400 million.[26]

The Eastside Reservoir project east of Los Angeles, built under a government-mandated PLA, was the nation's largest earth moving project in the late 1990s. In October 1998, the project reported a $220 million (11 percent) cost overrun. The increase was attributed to payment of overtime wages under circumstances mandated by the PLA.[27]

The City of Elyria, Ohio, rejected the low bid of a nonunion construction contractor for its City Hall project because the contractor refused to sign a government-mandated PLA. The project was rebid, and the only bids received by the city were more than $600,000 higher on a $10 million project under the PLA. A court intervened and forced the city to rebid and award the work to the low bidder, without the PLA, resulting in more than $600,000 of cost savings.[28]

In Washington, D.C., a new convention center was projected to cost $685 million in 1998.[29] After a government-mandated PLA was signed, however, costs ballooned to more than $840 million by the time the project was completed.[30]

Another convention center in Boston, again built under a PLA, likewise suffered from cost overruns in 2001. Construction managers were "stunned" at the size of the cost overrun,

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[26] *SFO Expansion Project Hundreds of Millions Over Budget*, San Francisco Chronicle, Dec. 22, 1999.

[27] *Overruns Hit Eastside Project*, ENR, Oct. 19, 1998, at 1, 13.

[28] *Elyria Risks $610,500 To Get A Union Label*, Morning Journal, March 30, 2001.

[29] *Convention Center Costs Increase By $15 million*, Washington Construction News, March 2001.

[30] Washington Business Journal (March 2003).

which was deemed "likely to soar nearly $100 million over the allotted $750 million for the project."[31]

The pattern was repeated on the Iowa Events Center, constructed under a government-mandated PLA from 2003 to 2004. Though estimated to cost $200 million prior to the PLA being imposed, the center was several million dollars over budget by mid-2003.[32] The cost rose to $217 million by 2005.[33]

The $2.4 billion project to replace the Wilson Bridge between suburban Maryland and Virginia was temporarily subjected to a union-only PLA requirement by former Maryland Gov. Parris Glendening in 2000. After the PLA was imposed, only one bidder responded to the RFP for Phase 1 of the project, at a bid price more than $370 million above the state's engineering estimates—a 78 percent cost overrun.[34] After President Bush issued Executive Order 13202 prohibiting union-only PLAs on federally assisted projects like this one,[35] Phase 1 of the Wilson Bridge project was rebid without a government-mandated PLA. This time, multiple bids were received and the winning bids came in significantly *below* the engineering estimates.[36] The

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[31] *Huge Overrun Looms at Convention Center*, Boston Globe, Jan. 9, 2001.

[32] *Troubled Center Moves Ahead*, Des Moines Register, July 12, 2003; *Say No to Project Labor Agreement*, Des Moines Register, July 23, 2003.

[33] Frantz, et al., *The PLA for the Iowa Events Center: An Unnecessary Burden on the Workers, Businesses and Taxpayers of Iowa*, Policy Study 06-3, Public Interest Inst. At Iowa Wesleyan College (April, 2009), www.limitedgovernment.org/publications/pubs/studies/ps-06-3.pdf.

[34] *Lone Wilson Bridge Bid Comes in 70 percent Above Estimate*, Engineering News Record, Dec. 24, 2001; *see also* Baltimore Sun, March 2, 2002.

[35] *See* discussion above at page 2.

[36] *Unexpectedly Low Bid Keeps Wilson Bridge Under Budget,* Washington Post, March 2, 2002.

megaproject ultimately was completed on time and on budget, with no government-mandated PLA.[37]

In Seattle, the PLA construction of Safeco Field for the Seattle Mariners experienced very high cost overruns in 1998.[38] The original estimate for the new stadium was $320 million. The stadium's final price tag was in excess of $517 million, a 60 percent increase.

In Cleveland, Ohio, the cost of the Gund Arena originally was estimated at $118 million. After the governing agency entered into a union-only PLA, the final cost came in at $148 million—$30 million (25 percent) more than estimated.[39]

The cost of the Cleveland Browns' stadium, also constructed pursuant to a government-mandated PLA, was $21 million over the estimate in 1998. The union-only bids for the stadium were millions of dollars higher than the estimates. The final cost of the stadium was reported to be at least $61 million more than the original estimate, an increase of 25 percent.[40]

Comerica Park, the Detroit Tigers' baseball stadium, was expected to cost $260 million in 1999. A PLA was signed and, upon completion of construction, costs were reported to be in excess of $320 million.[41]

Construction of a new baseball stadium for the Washington Nationals in Washington, D.C., under a government-mandated PLA ran significantly over the budgeted $611 million.[42] By

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[37] *Wilson Bridge Bike Path Gets Rolling*, Washington Post, June 7, 2009; *See also Wilson Bridge Span Open Early*, Washington Post, June 12, 2006; *Woodrow Wilson Bridge Beats Obstacles as It Becomes Beltway Savior*, ENR, January 31, 2005.

[38] *New Seattle Stadium Battles Massive Cost Overruns*, ENR, July 27/Aug. 3, 1998, at 1, 9.

[39] *$12 Million to pay for Arena Overruns*, Cleveland Plain Dealer, Dec. 14, 1996, at 16-A.

[40] *Mayor's Final Cost at Stadium 25 percent Over*, Cleveland Plain Dealer, June 24, 2000; *Westbrook says stadium overruns at $21 million*, Cleveland Plain Dealer, Jan. 21, 1998.

contrast, Baltimore's nearby Camden Yards and Washington's own FedEx Field, among many other stadiums around the country, were built without any PLA requirements, with no cost overruns.

A 2001 study published by the nonpartisan Worcester Regional Research Bureau estimated that PLAs increased costs for a new vocational school by approximately 15 percent. The report expected a PLA to add $15 million to the school's construction costs.[43] City officials in Worcester subsequently admitted that a PLA added to the construction costs of a $21.5 million parking garage. The city's public works director estimated the additional costs at $365,000.[44]

A PLA was imposed on the Pasadena, Calif., power plant in 2003 after non-PLA bids had already been submitted. As a result of the PLA, the winning bidder announced its bid would go up $2.3 million, roughly a 15 percent cost increase.[45]

The Oakland Unified School District put out a call for bids on the Burkhalter Elementary School in 2002 and received a low bid of $1.8 million (out of seven bidders) for the construction work. Prior to contract award, however, the school district entered into a PLA for all of its school projects, resulting in rebidding the work. This time, only three companies bid on the PLA project, and the low bid exceeded $2.2 million, more than $437,000 (24 percent) higher than the original non-PLA bid.[46]

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[41] *Stadium On Time, But Costs More*, Detroit News, Oct. 31, 1999, B3; *see also Field of Woes,* Crain's Detroit Business Magazine, June 18, 2001.

[42] *Nationals Park Costs Rise, Sports Commission Struggles*, Examiner, Oct. 21, 2008

[43] Worchester Regional Research Bureau, Project Labor Agreements (www.wrrb.org)

[44] *Ronald N. Cogliano: Competing for School Construction*, Boston Globe, July 10, 2007

[45] *Power Plant Costs to Soar*, Pasadena Star-News, March 21, 2003.

[46] *School Costs Skyrocket After Labor Pact*, San Francisco Chronicle, April 28, 2004.

Hartford Public High School in Connecticut encountered significant cost overruns after the government imposed a PLA in 2004. As reported in the *Hartford Courant*: "Some components of the job received few or no bids. The bids that did arrive were several million dollars more than the $82 million that voters approved seven years ago."[47]

A 2003 study published by the Beacon Hill Institute examined 126 school construction projects undertaken with and without government-mandated PLAs in the Boston area from 1995 to 2003. The study found that PLAs added $37.88 per square foot to the cost of building schools.[48] One of the study's authors observed: "It is puzzling to us why any local official would enter into a PLA in the light of local budget realities, as well as our findings."[49]

A 2004 Beacon Hill study found that union-only PLAs increased the cost of school construction in Connecticut, based upon an analysis of dozens of actual projects built on both a union-only and open competition basis since 1996. According to its Connecticut report, Beacon Hill found that PLAs increase actual project costs by 17.9 percent and that bid costs are raised by 16.6 percent.[50] "Taken together, PLA projects accounted for 1.32 million square feet of construction with a combined actual cost of $224.8 million (in 2002 prices), based on the projects that we were able to include in our study. Our estimates show that this cost was $39.5 million higher than it would have been if PLAs had not been used."[51]

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[47] *School Project Back in Limbo*, Hartford Courant, April 7, 2004.

[48] Beacon Hill Institute, *Project Labor Agreements and the Cost of School Construction in Massachusetts* (Sept. 2003), www.beaconhill.org.

[49] Boston Business Journal (April 11, 2003).

[50] Beacon Hill Institute, *Project Labor Agreements and The Cost of School Construction in Connecticut* (Oct. 2004), www.beaconhill.org/BHIStudies.

[51] *Id.*

Finally, a 2006 Beacon Hill study found that the presence of a PLA on New York public schools increased a project's winning base bid by $26.98 per square foot relative to non-PLA projects, an increase of 20 percent.[52]

Efforts have been made by PLA proponents to rebut the Beacon Hill studies,[53] but such efforts were then refuted in a 2009 report.[54] As noted by Beacon Hill: "All of our findings are highly robust for the effects of PLAs. The PLA coefficient was positive and significant for Connecticut schools when we considered small projects only, large projects only, elementary schools only or other schools weighted by size. The coefficient was positive and significant for both winning bids and actual construction costs for both Massachusetts and Connecticut schools."[55]

Results similar to the Beacon Hill school studies were independently found in 2010 by New Jersey's Department of Labor and Workforce Development, which is required to issue annual reports on the use of PLAs pursuant to that state's PLA Act of 2002. The October 2010 government report stated: "School projects that used a PLA tended to have higher building costs, as measured on a per square footage and per student basis, than those that do not use a PLA."[56]

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[52] Bachman and Tuerck, *Project Labor Agreements and Public Construction Costs in New York State* (2006), www.beaconhill.org/BHIStudies.

[53] *See* Belman, Bodah and Philips, *Project Labor Agreements* (Electric Int'l 2007), *cited* in Kotler, *Project Labor Agreements in New York State: In the Public Interest* (Cornell U. 2009).

[54] *See, e.g.*, Beacon Hill Institute, *An Economic Analysis of Government-Mandated PLAs: A Reply to Professor Kotler* (2009), www.beaconhill.org/BHIStudies. *See also*, Tuerck, Glassman and Bachman, *Project Labor Agreements on Federal Construction Projects: A Costly Solution In Search of A Problem* (2009), www.beaconhill.org/BHI Studies. *See also,* Tuerck, *Why Project Labor Agreements Are Not in the Public Interest,* Cato Journal, Volume 30 Number 1, Winter 2010,

[55] *Id.* at 27.

[56] Annual Report to the Governor and Legislature, use of Project Labor Agreements in Public Works Building Projects in Fiscal Year 2008 (NJDOL Oct. 2010), available at www.thetruthaboutplas.com.

The report indicated that the indexed cost per square foot for all PLA projects was 30.5 percent higher than for all non-PLA projects.[57]

Elsewhere in New Jersey, the Township of Moorestown was forced to reject all construction bids in 2010 under a PLA for a town hall, library and police complex after the lowest bid came in at $15.7 million, 35 percent higher than the initial construction estimate of $11.6 million. The township mayor subsequently told a town meeting that the union-only restriction was a "bad call."[58]

A June 2009 study conducted by property and construction consulting firm Rider Levett Bucknall, prepared for the U.S. Department of Veterans Affairs (VA) Office of Construction and Facilities Management, found that PLAs likely would increase construction costs by as much as 9 percent in three of the five construction markets (Denver, New Orleans and Orlando, Fla.) where the VA was planning to build hospitals. For two other heavily unionized markets, the study predicted mixed results ranging from small project cost increases to small cost savings.[59]

The VA hired the same firm to conduct a similar PLA study for the construction of a $50 million VA Research Office Building in Pittsburgh. The September 2010 study found "a potential cost risk premium of 3 percent to 5 percent if a PLA is mandated. For a $40 million project, this could equate to $1.2 to $2 million." The study said, "We see that a mandated PLA will reduce subcontractors and lower the labor pool to the detriment of the project, and

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[57] Previous annual reports from New Jersey's Department of Labor came to similar conclusions about the poor performance of PLAs. See, *New Jersey Letter to the Editor Tells the Truth About PLAs,* (Nov. 9, 2010). Available at www.TheTruthAboutPLAs.com.

[58] *Council ponders next move on project*, CourierPostOnline.com (May 18, 2010), available at www.courierpostonline.com.

[59] *Project labor Agreements – Impact Study for the Department of Veterans Affairs*, Rider Levett Bucknall (June 2009), available at www.thetruthaboutplas.com.

potentially add cost; therefore, we believe that a PLA would likely not 'advance the federal government's interest in achieving economy and efficiency in federal procurement.'"[60]

Finally, in 2010 the General Services Administration (GSA) announced that a change order to adopt a PLA on the Lafayette Building construction project in Washington, D.C., would increase the cost of the project by more than $3.3 million. A Congressional oversight committee is looking into the GSA's reasons for adopting the PLA and its resulting cost increase.[61]

III. Reduced Competition on PLA Projects

According to a number of published sources, a contributing factor to the increased costs of government-mandated PLAs is the reduced competition evident on these projects. Published reports about government-mandated PLAs reveal a substantial number of projects in which the competition among bidders has been less than expected. These reports tend to confirm the results of numerous surveys of construction contractors, who overwhelmingly have indicated they are less likely to bid for work that includes a PLA requirement.[62] When asked, the contractors (and subcontractors) have explained that PLAs injure competition by discriminating against the

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[60] *Project Labor Agreements – Impact Study, Pittsburgh, Pennsylvania*, Rider Levett Bucknall (Sept. 2010), *See also, ABC Wins Another Challenge Against Government-Mandated Project Labor Agreements on Federal Construction Projects,* (Jan. 6, 2011), available at www.thetruthaboutplas.com

[61] Hemingway, *Mandatory PLAs Put Dollars Into Union Coffers,* Washington Examiner (Dec. 5, 2010).

[62] A national poll conducted by Associated Builders and Contractors in Jan. 2011 found that an overwhelming 98 percent of the nearly 600 respondents reported being "less likely" to bid for work under a PLA. A similar poll conducted by ABC in 2009 had almost identical results. See www.thetruthaboutplas.com. In a previous study of infrastructure contractors in the Washington, D.C., area conducted by the Weber-Merritt Research Firm, more than 70 percent of the surveyed contractors stated they would be "less likely" to bid on a public construction project containing a union-only PLA. *See The Impact of Union-Only Project Labor Agreements On Bidding By Public Works Contractors in the Washington, D.C. Area* (Weber-Merritt 2000), available at www.thetruthaboutplas.com. In Washington state, another survey of contractors revealed that 86 percent of open shop contractors would decline to bid on a project under a union-only PLA. Lange, *Perceptions and Influence of Project Labor Agreements on Merit Shop Contractors, Independent Research Report* (Winter 1997).

majority of the industry whose employees do not want to be represented by any union.[63] As further explained in a 2009 study, PLAs on government projects covered by prevailing wage laws typically discriminate against nonunion contractors and their employees with respect to benefit contributions—in effect reducing the take-home pay of nonunion workers while increasing the fringe benefit costs of nonunion contractors, with no benefit to either group.[64]

Numerous published reports on specific PLA projects have reflected dramatic reductions in the number of bidders/offerors when government agencies have included PLA requirements in their bid solicitations, including the following examples.

In 1995, as noted in Section I, a published study examined the impact of a government-mandated PLA on the bidding for a construction project on the Roswell Park Cancer Institute in New York.[65] Portions of the project were first bid under a PLA before being re-bid without the PLA. The study found that the number of bidders correlated to whether there was a PLA, and that the number of bidders on the project further correlated to whether the project came in under budget. Thus, projects that were bid without a PLA had 21 percent more bidders and were more than 10 percent under budget. The projects bid with a PLA had fewer bidders and were 10 percent over budget. "Those packages that were bid under budget had 45 percent more bidders than those that were bid over budget." The study concluded that PLA projects attract fewer bidders, thereby causing a decrease in competition for the construction work and an increase in

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[63] The Bureau of Labor Statistics' (BLS) most recent report states that the nonunion private sector workforce in the construction industry comprises more than 84 percent of the total industry workforce. *See* www.bls.gov, *"Union Members Summary"* (Jan. 2009). *See also* Comments filed by Associated Builders and Contractors, Inc. in the 2009 FAR Council rulemaking proceeding on Executive Order 13502, FAR Case No. 2009-005, available at www.thetruthaboutplas.com.

[64] *See* McGowan, *The Discriminatory Impact of Executive Order 13502 on Non-Union Workers and Contractors* (2009), available at http://abc.org/plastudies. According to the study, the take home pay of nonunion workers is reduced by an average of 20 percent, while nonunion contractors' fringe benefit costs are increased by 25 percent, largely in the form of forced contributions to union trust funds from which the nonunion workers derive no benefits.

costs.[66] Elsewhere in New York, in 1997 the City of Oswego Sewer project attracted *no* bids after the city imposed a union-only PLA.[67]

In 1995, Boston officials administrating the union-only Central Artery/Tunnel (CA/T) ("Big Dig") project predicted intense competition for the award of work on the project. The project director, Peter M. Zuk, said: "previous history indicates intense competition for the jobs, with all bids generally coming in below engineers' estimates."[68] Only one year later, however, after a PLA was imposed, Zuk said that, "given the size of the project we are surprised at the relatively small number of bidders to date."[69] He also said that, "the bid packages are big enough that they should be attractive." Zuk eventually was forced to pursue bidders for the remaining $2 billion in construction work that had not been awarded. As discussed later in the report, all of the Central Artery project bids were awarded at costs higher than the engineers' estimates.[70]

The San Francisco International Airport experienced a similar adverse impact on competition when the Airport Authority implemented a union-only PLA in 1996. Only four bids were submitted and all of them were higher than the undisclosed estimates.[71] Due to the high bids, the project designers were forced to "backtrack to cut costs."[72]

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[65] *Analysis of Bids and costs to Taxpayers in Roswell Park*, New York (ABC 1995), available at http://abc.org/plastudies.

[66] *Id.*

[67] *Sewer Project Phase Attracts No Bids*, Syracuse Post-Standard, Aug. 20, 1997, E-1.

[68] *Big Boston bids in 1996*, ENR Nov. 20, 1995 at 26.

[69] *More Bidders Wanted For Central Artery Project Work*, ENR, Feb 3, 1997, at 1, 18.

[70] *Boston Project Tracking Higher*, ENR, Jan. 20, 1997, at 27.

[71] *Labor Protests Fly, Bids Are High*, ENR, July 22, 1996, at 16.

[72] *Id.*

In another similar case in 1998, the town of Middletown, Conn., distributed 72 sets of bid specifications containing a PLA for a local school. Only four responses were received, and the lowest bid submitted by a union contractor for the school renovation was $9.1 million, $600,000 over the project's $8.5 million budget. When the PLA was removed and the project re-bid, 10 responses were received, including a $7.8 million bid from a nonunion contractor that saved local taxpayers more than $1.5 million dollars.[73]

In 2000, the Polk County, Iowa, Board of Supervisors imposed a PLA mandate on construction of the Iowa Events Center in downtown Des Moines. The project suffered from a "lack of bids," which in turn inflated costs.[74] Though the project was broken up into 22 individual bid packages in order to increase the number of potential bidders, the county received an average of fewer than three bids per package, and four packages received only one bid.

In December 2000, the Wyoming County, W.Va., Board of Education experienced similar reductions in bidders and increased costs from its attempt to impose a union-only PLA. The County Board voted 4-1 to re-bid all PLA contracts, without the union-only requirement, after initial bids came in more than $1.5 million over estimates and with fewer than half the expected number of bidders. The construction manager stated: "I believe that the labor agreement had a negative impact on the number of bids, as well as the dollar amount of each bid."[75] Without the PLA, the number of bidders increased by 67 percent and the overall cost of the project decreased by 11 percent.

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[73] *State's Dubious Labor Policy*, Hartford Courant, Aug. 20, 1998, 3.

[74] Frantz, et al., *The PLA for the Iowa Events Center: An Unnecessary Burden on the Workers, Businesses and Taxpayers of Iowa*, Policy Study 06-3, Public Interest Inst. At Iowa Wesleyan College (April, 2009), www.limitedgovernment.org/publications/pubs/studies/ps-06-3.pdf.

[75] *New Wyoming County School to be Rebid*, Associated Press, Dec. 20, 2000.

Also in 2000, a study conducted on behalf of the Jefferson County, N.Y., Board of Legislators found that there was a statistically significant relationship between the number of bidders and the cost of projects, concluding that the relationship between these two factors does not occur by chance. The study further concluded that a PLA requirement would adversely impact the number of bidders and would thereby increase project costs.[76] Similar conclusions were reached by the Clark County, Nev., School District, which recommended against adoption of any union-only requirements on Clark County schools.[77]

The $2.4 billion project to replace the Wilson Bridge between suburban Maryland and Virginia was temporarily subjected to a union-only PLA requirement in 2001. After the PLA was imposed, only one bidder responded to the RFP for Phase 1 of the project, at a bid price more than $370 million above the state's $470 million engineering estimate, a 78 percent cost overrun.[78] After President Bush issued an executive order prohibiting union-only PLAs on federally assisted projects like this one, however,[79] Phase 1 of the Wilson Bridge project was rebid without the PLA. This time, multiple bids were submitted and the winning bids came in significantly *below* the engineering estimates.[80]

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[76] Carr, *PLA Analysis for the Jefferson County Courthouse Complex* (Submitted to Jefferson County Board of Legislators, Sept. 14, 2000).

[77] *School District Should Heed Conclusions of Report*, Las Vegas Journal, Sept. 11, 2000.

[78] *Lone Wilson Bridge Bid Comes in 70 percent Above Estimate*, Engineering News Record, Dec. 24, 2001; *see also* Baltimore Sun, March 2, 2002.

[79] *See* discussion above at page 2.

[80] *Unexpectedly Low Bid Keeps Wilson Bridge Under Budget,* Washington Post, March 2, 2002. *See also* Thieblot, *Review of the Guidance for a Union-Only Project Labor Agreement for Construction of the Wilson Bridge* (Md. Foundation for Research and Economic Education Nov. 2000)

As noted above, prior to entering into a PLA the Oakland Unified School District received seven bids on the Burkhalter Elementary School in 2002 and received a low bid of $1.8 million for the construction work, After re-bidding the work under a newly signed PLA, however, the district received only three bids and the low bid was $2.2 million, more than $437,000 (24 percent) higher than the non-PLA bid.[81]

In Hartford, Conn., bid results under a union-only PLA for the renovation of Hartford Public High School were characterized as "pitiful" in April 2004. Some components of the job received few or no bids. The bids that did come in were several million dollars more than the $82 million voters had approved.[82]

In another example from 2004, the City of Fall River, Mass., initially bid three school construction projects under a PLA. When the projects attracted a low number of bidders, the city cancelled the PLA and reopened bidding without the PLA, which immediately resulted in more bidders and reduced bid prices.[83]

In 2008, the Lucas Oil Stadium in Indianapolis "blew out" its budget by more than $75 million under a PLA for the construction project.[84] A similar result occurred on the Indianapolis Public Library, which exceeded its budget under a PLA by $50 million.[85]

In 2010, the Ohio School Facilities Commission was forced to rebid a planned PLA project for replacement of the state's schools for the deaf and blind after only two firms bid on the general trades contract work, with the lowest bid exceeding the estimated cost by 44 percent.

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[81] *School Costs Skyrocket After Labor Pact*, San Francisco Chronicle, April 28, 2004.

[82] *School Project Back in Limbo*, Hartford Courant, April 7, 2004.

[83] Beacon Hill Institute, *Project Labor Agreements and Financing School Construction in Massachusetts* (Dec. 2006) (www.beaconhill.org).

[84] *An Ailing Process*, Indianapolis Star, Jan. 24, 2010, available at www.thetruthaboutplas.com.

[85] *Id.*

After removing the PLA, 12 firms bid for the general trades work, with a low bid 20 percent under the commission's estimate.[86]

Also in 2010, the Carter County School Board in Kentucky was forced to reject all bids on the Tygart High School project after the lowest bid under a PLA came in more than $1 million over budget.[87] The PLA also prompted a lawsuit that was settled only after the board voted to withdraw the PLA mandate.

In all, more than a dozen comparisons have been performed on projects on which bids were received for the same work with and without PLAs. ***In every instance,*** significantly fewer bids were received under the PLAs than without the PLAs (and the PLA projects suffered from more cost overruns).[88] Finally, it should be noted that there are ***no*** published reports of PLA projects resulting in an increased number of bidders compared to non-PLA projects.

IV. Construction Delays on PLA Projects

Another argument often made in support of government-mandated PLAs is that they will ensure timely completion of construction projects by, *inter alia*, guaranteeing labor peace. Once again, however, the proponents' claims are belied by the published reports of the completion dates of union-only projects and their significant labor disruptions.

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[86] *New bids drop cost of work on deaf, blind schools* (Nov. 10, 2010), www.dispatch.com.

[87] *School Board rescinds PLA after latest Tygart bids rejected,* Journal-Times, Oct. 8, 2010, www.journal-times.com.

[88] *See Examples of Projects Bid With and Without PLAs*, available at http://abc.org/plastudies. *See also New Study of Boston Harbor Project Shows How PLA Hurt Competition*, ABC Today, June 4, 1999; Neil Opfer, Jaeho Son, and John Gambatese, "*Project Labor Agreements Research Study: Focus On Southern Nevada Water Authority*" (UNLV 2000).

In 1999, union carpenters on the San Francisco Airport expansion project struck over wages even though their union had signed a PLA. The union electricians, plumbers and painters also went on strike in support of the union carpenters.[89] The cost of the strike was $1 million. The project, which already was a month behind schedule, lost even more time.[90]

The PLA-mandated Safeco field in Seattle also was completed months later than scheduled. The stadium could not be opened in time for the beginning of the 1999 season, as had been promised, and the Seattle Mariners could not begin play at their new home until July 1999.[91]

The Miller Park baseball stadium in Milwaukee, built under a government-mandated PLA, was supposed to be completed in time for opening day of the 2000 season. Instead, the new stadium was not completed in time to be used at all during that season due to construction delays, which included a fatal accident involving union workers (discussed above).[92]

The completion of the Big Dig in Boston, which suffered significant cost overruns, was delayed by more than two years. The project was supposed to be finished in 2002 but was not finished until several years later.[93]

In 2006, four Los Angeles Unified School District campuses built under a PLA were forced to open their schools one month late because contractors could not find enough skilled labor to complete the project on time.[94]

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[89] *Carpenters at Airport Protest Against Union Leadership*, San Francisco Chronicle, May 21, 1999; see also *Arbitrator Orders California Carpenters To End Wildcat Strike, Return to Work*, Daily Labor Report, June 23, 1999.

[90] *Carpenters at Airport Protest Against Union Leadership*, San Francisco Chronicle, May 21, 1999.

[91] *New Seattle Stadium Battles Massive Cost Overruns*, ENR, July 27/Aug. 3, 1998 at 1, 9.

[92] *Crane Accident Kills Three at Unfinished Miller Park*, Washington Time, July 15, 1999.

In 2008, the owner of the Washington Nationals initially refused to pay $3.5 million in rent because the PLA project was not "substantially complete" on the date the city was required to hand over the stadium.[95]

Union members walked off the job in violation of their no-strike clause under a PLA governing construction of Chicago's Trump International Hotel and Tower in 2006. The development company was forced to sue the Chicago and Cook County Building and Construction Trades Council.[96]

A two-week construction workers strike also halted the resurfacing of Chicago-area expressways and streets, despite a PLA containing a union no-strike clause. The strike forced the Illinois Tollway to suspend its major projects in 2010.[97]

Construction of three state prisons in Pennsylvania was delayed for many months in 2009 and 2010 after state officials announced plans to mandate PLAs on the projects, which were valued between $200 million and $400 million each. According to the *Pittsburgh Post-Gazette*, "[A] major reason can be summed up in three words – Project Labor Agreements."[98]

The 2010 report on New Jersey PLA projects by the New Jersey Department of Labor found that the average duration of PLA projects was 100 weeks compared with 78 weeks for non-PLA projects.[99]

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[93] http//www.issuesource.org.

[94] *Construction Delays Will Force 4 New L.A. Schools to Open Late*, Los Angeles Times, June 17, 2006.

[95] *Nationals Withhold Rent on Ballpark*, Washington Post, July 11, 2008.

[96] *401 North Wabash Venture LLC v. Chicago and Cook County Building and Construction Trades Coucnil,* N.D. Ill., No. 06-CV-3077 (N.D. Ill. June 5, 2006).

[97] *Construction strike now affects tollway work*, www.chicagobreakingnews.com, (July 16, 2010).

[98] *Dispute between builders delays 3 prisons*, Pittsburgh Post-Gazette, March 14, 2010, available at www.postgazette.com.

Finally, a study of federal construction projects completed between 2001 and 2009, during which time President Bush's Executive Order No. 13208 prohibited any PLAs on federal construction projects, found there were ***no*** significant labor disputes reported on federal construction that caused delays during that entire period.[100]

V. Construction Defects on PLA Projects

Many PLA projects have suffered from serious construction defects, despite claims from PLA supporters that government-mandated improve the quality of construction.

The union-only Boston Central Artery / Tunnel project encountered several defects in construction that both delayed and increased the overall cost of the project.[101] An auditor reported that "inadequate controls resulted in a serious leak in the sunken tube tunnel, . . . and that inadequate welding and inaccurate measurements generated unnecessary costs."[102] When the tunnel opened, the toll takers were forced to wear respirators because of headaches, nausea, sore throats and itchy eyes. The same auditor previously found $170 million in waste and other questionable costs. In 2004, after the project was substantially completed, *The Boston Globe* reported that the tunnel had developed more than 400 leaks, as well as "thousands of ceiling fissures, water damaged supports and fireproofing systems, and overloaded drainage

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[99] Annual Report to the Governor and Legislature, use of Project Labor Agreements in Public Works Building Projects in Fiscal Year 2008 (NJDOL Oct. 2010), available at www.thetruthaboutplas.com.

[100] *See* Tuerck, Glassman and Bachman, *Project Labor Agreements on Federal Construction Projects: A Costly Solution In Search of A Problem* (2009), http://www.beaconhill.org/BHI Studies. During the 2001-2009 time period, the federal government entered into construction contracts valued in excess of $140 billion. *See* usaspending.gov.

[101] *Project under renewed fire*, ENR, Sept. 25, 1995, at 1, 28, see also, *Smell seeps into toll booths,* Feb. 5, 1996, at 1, 22.

[102] *Id.*

equipment."[103] In 2006, concrete slabs inside the tunnel collapsed, killing a driver.[104] Additionally, the state is conducting an investigation into the safety of tunnel lighting after a 110-pound light fixture crashed from the ceiling onto the road, narrowly missing a vehicle.[105]

Meanwhile, even before the opening of the new Convention Center in Washington, D.C., built under a government-mandated PLA, a large section of the roof collapsed during construction of the project. Construction workers and building managers said "fasteners that held the large steel pieces of the roof together were improperly fastened [by union workers]."[106]

A section of concrete flooring in the second-floor loading dock of Pittsburgh's David L. Lawrence Convention Center gave way under the weight of a tractor trailer in 2007. The collapse left a 20-foot by 60-foot hole across the floor of the PLA project, "sending concrete steel, debris and equipment crashing 30 feet down into a walkway and a water feature below."[107]

In 2003, hairline cracks were discovered throughout the PLA-constructed Iowa Events Center's main concourse floor. An estimated 30 to 40 cracks were found throughout the slab, which an out-of state contractor poured. Local concrete contractors had refused to bid on the work due to the presence of the union-only PLA, according to the county's construction manager.[108]

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[103] Boston Globe, Nov. 11, 2004; *See also* Powell, *Boston's Big Dig Awash in Troubles: Leaks, Cost Overruns Plague Project*, Washington Post, Nov. 19, 2004, available at http://washingtonpost.com.

[104] *See* WBZTV: *$21 Million Settlement In Big Dig Tunnel Collapse*, available at http://wbztv.com/bigdig.

[105] *State: Corrosion discovery prompts review of Big Dig lights*. Boston Herald (March 16, 2011

[106] *Roof Section Collapses at D.C. Convention Center Site*, Washington Construction News (May 2001).

[107] *Convention Center's Builders Assess Collapse*. Pittsburgh Post Gazette, Feb. 6, 2007.

[108] Des Moines Register, Oct. 3, 2003.

Construction under a PLA on the Indianapolis Public Library had to be halted for more than a year in 2004 after cracks and gaps were discovered in the concrete in its new parking garage. As noted above, the project cost suffered nearly $50 million in overruns due to required repairs.[109]

Finally, the *New York Post* reported in 2009 that the Mets' new Citi Field, built under a PLA at a cost of $850 million, is "riddled with construction defects." The defects included large chunks of concrete and granite and a neon sign falling from the stadium, as well as numerous problems with elevators, electricity and flooding of various stadium sections.[110]

VI. Safety Problems on PLA Projects

The public record also does not support claims of increased safety on construction sites as a result of PLAs. To the contrary, during the last several years, union-only construction projects have been cited numerous times for serious safety violations, many of which caused fatalities and serious injuries to workers and bystanders.

On the Boston Harbor PLA clean-up project, the Occupational Safety and Health Administration (OSHA) proposed $410,900 in fines against four contractors in connection with the fatalities of two workers overcome by insufficient oxygen.[111] OSHA already had proposed more than $100,000 in penalties against subcontractors on the project for violations of "safety standards relative to tunneling, cranes, suspended work platforms, electrical grounding and

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[109] *Concrete Cracks Halt Construction On Indianapolis Library*, Indianapolis Star, April 22, 2004.

[110] *Mets in Foul Territory*, New York Post, September 6, 2009.

[111] *OSHA Cites Boston Harbor Contractors*, 13 Daily Labor Report (BNA) A-2 (Jan. 20, 2000).

guarding of an open shaft pit."[112] Harbor tunnel work ceased because of an electrical fire; workers were evacuated because of fumes; and an engineer was crushed to death in an accident. Two other fatalities occurred on the project.

In July 1995, 200 Boston Harbor tunnel workers were sickened from a stench in the wastewater tunnel to Deer Island; other incidents indicated a lack of sufficiently diligent management safety practices.[113] In September 1998, OSHA fined a unionized contractor $158,500 for safety violations on Boston's Deer Island Wastewater Treatment Plant.[114] The violations were for exposing employees to various hazards. The fine also included $12,500 for it being a second violation.[115]

Other safety problems plagued the Central Artery Project. The state auditor charged 'that faulty design work on the cross-harbor portion...jeopardizes workers and increased costs by more than $1 million...Inadequate controls resulted in a serious leak in the sunken tube tunnel, threatening worker safety.'[116] In April 2001, OSHA proposed $69,000 in fines against a Big Dig contractor for alleged serious health and safety violations.[117]

Thirty-two safety violations occurred on New York state's PLA-governed Tappan Zee Bridge project in 1998.[118] Citations were issued for failing to comply with fall protection

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[112] *"Boston Harbor"-Type Project Labor Agreements in Construction: Nature, Rationales, and Legal Challenges,* 19 J. Lab. Res., Winter 1998, at 1, 14.

[113] *Id.*

[114] *Modern Hit With Heavy Fine*, ENR, Sept. 21, 1998, at 9.

[115] *Id.*

[116] *"Boston Harbor"-Type Project Labor Agreements in Construction: Nature, Rationales, and Legal Challenges*, 19 J. Lab. Res., Winter 1998, at 1, 14.

[117] *OSHA Proposed $69,000 in Fines Against Big Dig Contractor*, OSHA Regional News Release (April 2, 2001).

[118] Cover Story: *Safety*, ENR, June 21, 1999, at 30-31.

standards, safety training programs and exposure to lead. These safety violations led to $22,530 in penalties.

In August 1999, the PLA-mandated construction of the new Miller Park baseball stadium for the Milwaukee Brewers came to a halt when a crane collapsed onto the stadium, killing three workers and injuring three others.[119]

The Hanford nuclear site in Washington state, covered by a government-mandated PLA, was fined a record $330,000 by the Department of Energy for nuclear safety violations under the Price-Anderson Act.[120] This was the largest penalty issued in the history of the Price-Anderson Enforcement Program. The construction managers failed to see to it that contractors building the site followed safety procedures. They allegedly failed to meet quality assurance requirements in areas such as work process controls, subcontractor qualifications, subcontractor oversight and project design.[121]

The PLA-constructed Iowa Events Center also suffered nearly 50 construction accidents during the first six months of construction, including four linked directly to substance abuse by unionized construction workers. One construction worker was killed after being struck by a steel beam. Ironworkers had been working late shifts to catch up due to previous delays on the project.[122] In another incident, a large crane nearly fell several stories after being compromised by a heavy load. The crane operator was fired for refusing to take a drug test.[123]

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[119] *Crane Accident Kills Three at Unfinished Miller Park*, Washington Times, July 15, 1999.

[120] *Fluor Unit Gets Record Fine Over Nuclear Waste Safety*, ENR, June 7, 1999, at 9.

[121] *DOE Fines Hanford Contractor $330,000; Secretary Issues First Compliance Order*, CLR Vol. 45, No. 2231, June 2, 1999, at 370.

[122] Des Moines Register, Sept. 21, 2004.

In 2010, a private audit found violations by 55 contractors working on a $150 million high school under a PLA mandated by the Los Angeles Unified School District. The violations included inadequate supervision of workers and performing work under expired or suspended licenses.[124]

VII. PLA Problems Involving Minorities and Women

Some recent PLAs have included provisions purporting to increase training and business opportunities for local minorities and women. In part, these clauses have been designed to deflect criticism of unionized construction emanating from minority and women's groups. However, several PLA projects have suffered from problems relating to the employment of local minorities and women.

In Detroit, four black female carpenters sued the Stadium Authority for discrimination and failure to provide promised job opportunities to minorities and women on the PLA Tiger Stadium project.[125]

In Chicago, 100 black and female union construction workers were awarded $1.33 million under a consent decree arising out of the Robins Incinerator project, built under a PLA. The government was forced to sue both the contractor and the Pipe Fitters Union because of a "gross degree of harassment," including offensive graffiti on portable toilets featuring racial epithets and sexual images.[126]

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[123] *County Grapples With Substance Abuse On Self-Insured Construction Project*, Workplace Substance Abuse Advisor, Nov. 26, 2003.

[124] Failing Grade for PLA School Job?, Los Angeles Business Journal, Nov. 1, 2010, available at www.labusinessjournal.com.

[125] *Four Black Female Carpenters Sue*, Detroit News, Oct. 29, 1999, C-1.

The biggest contractor on the union-only San Francisco International Airport PLA project was sued by a Los Angeles transit agency alleging that it used bogus minority subcontractors to get millions in unionized subway work.[127] Similar allegations were investigated by the FBI in connection with the San Francisco Airport project. The Los Angeles lawsuit and San Francisco investigation both alleged that white-owned unionized firms set up companies that "either were not qualified or in whom the union companies owned an undisclosed interest." The lawsuit also alleged that the union joint venture joined with its sham minority subcontractors to present false claims on subway work to obtain millions of dollars in additional payments.

On Jan. 10, 2000, an Alameda County jury awarded a black construction worker $490,000 for racial harassment on the PLA San Francisco Airport jobsite. The case centered on a noose left hanging for two months at the site. For part of the time, the noose contained the effigy of a black man with the worker's name pinned to it. At trial, the harassment was attributed to someone dispatched from the union hall.[128]

In 2004, the mayor of Buffalo, N.Y., announced that construction trade unions were failing to meet diversity goals established in the PLA covering $1 billion in school renovation work. The PLA called for at least 35 percent minority participation and 10 percent women participation.[129]

In 2007, the Philadelphia City Council voted to require unions to disclose demographic information and adopt a long-term workforce diversity plan before they would be permitted to

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[126] *Construction Firm to Pay $1.33 Million to Settle Racial, Sexual Harassment Case*, 45 Construction Labor Report (BNA) 1266 (Jan. 12, 2000).

[127] *LA Transit Agency Says Sham Minority Firms Were Used to Win Bids*, SF Chronicle, A-9 (Dec. 7, 1999).
[128] *Jury Awards Construction Worker $490,000*, 45 Construction Labor Report (BNA) 1290 (Jan. 19, 2000).

[129] *Buffalo Mayor Says Trades Not Attaining Diversity Goals as Specified in School PLA*, Construction Labor Report (BNA) Sept. 22, 2004.

sign a PLA to expand the city's convention center.[130] In a city in which 60 percent of its residents are African-American, Latino and Asian,[131] the union data revealed that "the vast majority of Philadelphia's unionized construction workers are male, white and live in the suburbs."[132]

In Washington, D.C., the PLA to build the Washington Nationals baseball stadium called for half of the journeyman construction hours to be performed by city residents, a high percentage of whom are minorities. A subsequent study revealed, however, that city residents only performed 27 percent of the work. Targets to have all new apprentices be city residents and to have their work constitute at least one-fourth of the hours dedicated to construction also fell short.[133]

In 2008, the *New York Daily News* reported that the PLA containing a similar "community benefits" agreement on construction of the new Yankee Stadium was a "joke." "The team acknowledges that more than 3,900 people have applied for construction work at the stadium. More than 80 percent didn't belong to any union. Since you must be a union member to work on the site, the Bronx residents most in need of a job have been shut out of the daily workforce of 1,200."[134]

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[130] *Unions Disclose Minority, Female Numbers of Members in Philadelphia Building Trades*, 53 Construction Labor Report (BNA) 1588,(Feb. 13, 2008).

[131] *Tom Ferrick Jr.: City Political Climate is Changing on Union Hiring*, Philadelphia Inquirer, Jan. 20, 2008.

[132] *Unions Disclose Minority, Female Numbers of Members in Philadelphia Building Trades*, 53 Construction Labor Report (BNA) 1588 (Feb. 13, 2008).

[133] *Stadium Project Falling Short of City's Ambitious Hiring Goals*, Washington Post, Feb. 24, 2008; *see also Think Locally, Hire Regionally*, Washington City Paper, Sept. 12, 2007.

[134] *Bronx officials deal with Yankees on stadium*, New York Daily News, June 19, 2008, available at www.nydailynews.com. The article describes the practice of "checkerboarding," by which unions transferred Bronx residents already working at another site in order to "boost the numbers."

Finally, the 2010 study of PLA school construction projects by the New Jersey Department of Labor concluded that PLA projects fell short of the goals for minority participation by a wider margin than non-PLA construction projects. The study also found that statewide apprenticeship rates were higher on non-PLA projects than on PLA projects.[135]

VIII. Conclusion

Many quality contractors in the construction industry, both union and nonunion, have worked together to build public projects safely, on time and under budget, without any need for government-mandated PLAs. Each of the "problem" projects described above, however, was performed under a government-mandated PLA on a discriminatory union-***only*** basis, instead of awarding the work on the basis of merit after full and open competition, regardless of labor affiliation.

As has been shown, PLA construction projects have been plagued by cost overruns, adverse impacts on competition, delays in construction, construction defects, safety problems, and problems related to the local hiring of minorities and women. Meanwhile, the purported benefits of union-only PLAs have not been demonstrated in actual practice. The published track record of union-only construction indicates that union-only PLAs are a bad bargain for taxpayers.

[135] Annual Report to the Governor and Legislature, use of Project Labor Agreements in Public Works Building Projects in Fiscal Year 2008 (NJDOL Oct. 2010), available at www.thetruthaboutplas.com.

APPENDIX
PLA Problem Projects

Cost Overruns

Project Name	Source	Date
1. Boston Central Artery Project	Boston's Big Dig Buried in Cost Overruns, *The Washington Post*	4/12/2000
2. Boston Convention Center	Huge Overrun Looms at Convention Center, *The Boston Globe*	1/ 9/ 2001
3. Boston Schools	*Boston Business Journal*	4/11/2003
4. Buffalo's Northwest Academy	Board to Absorb Extra Costs as Price of New School Soars to $32.4 Million, *Buffalo Evening News*	10/29/1998
5. Cleveland Browns Stadium	Mayor's Final Cost at Stadium 25 Percent Over, *Cleveland Plain Dealer*	6/24/2000
6. Cleveland Gund Arena	$12 Million to pay for Arena Overruns, *Cleveland Plain Dealer,*	12/14/1996
7. Des Moines, Iowa Events Center	Troubled Center Moves Ahead, *Des Moines Register*	7/12/2003
8. Detroit Baseball Stadium	Stadium On Time, But Costs More, *The Detroit News*	10/31/1999
9. Erie County, N.Y. Courthouse	Calling Courthouse a Spade, *Buffalo News*	1/23/2000
10. Elyria City Hall, Ohio	Elyria Risks $610,500 To Get A Union Label, *Morning Journal*	1/30/2001
11. Hartford Public High School	School Project Back in Limbo, *Hartford Courant*	4/7/2004
12. Los Angeles Eastside Reservoir	Overruns Hit Eastside Project, *Engineering News-Record*	10/19/1998
13. Moorestown, N.J. Public Projects	Council Ponders Next Move on Project, *CourierPostOnline.com*	5/18/2010
14. New Jersey Schools	Use of PLAs in Public Works Building Projects in Fiscal Year 2008, *NJ DOL Annual Report to the Governor and Legislature*	10/1/2010
15. Oakland Unified School District	School Costs Skyrocket After Labor Pact, *San Francisco Chronicle*	4/28/2004
16. Pasadena Power Plant	Power Plant Costs to Soar, *Pasadena Star-News*	3/21/2003
17. Pasadena Power Plant	Kevin D. Korenthal: PLAs Cut Bid Competition, Boost Price Tags, *Los Angeles Business Journal*	2/25/2008
18. Rochester's Mayo Civic Center	Civic Center Bids Exceed the Budget, *Post-Bulletin*	9/28/1999
19. Roswell Park, N.Y., Cancer Institute	http://abc.org/plastudies	1995
20. San Francisco Airport	SFO Expansion Project Hundreds of Millions Over Budget, *San Francisco Chronicle*	12/ 22/1999
21. Seattle Mariners Safeco Stadium	New Seattle Stadium Battles Massive Cost Overruns, *Engineering News-Record*	7/27/1998
22. Washington, D.C., Convention Center	Convention Center Costs Increase by $15 Million, Washington Construction News	3/2001
	Washington Business Journal	3/2003
23. Washington, D.C., Lafayette Building	Mandatory PLAs Put Dollars Into Union Coffers, *Washington Examiner*	12/5/2010
24. Wilson Bridge, Md.-Va.	Lone Wilson Bridge Bid Comes in 70 percent Above Estimate, *Engineering News-Record*	12/24/2001
	Baltimore Sun	3/2/2002
	Unexpectedly Low Bid Keeps Wilson Bridge Under Budget, *The Washington Post*	3/2/2002

	New Bridge on the Rise, *The Washington Post*	10/13/2004
	Woodrow Wilson Bridge Beats Obstacles as It Becomes Beltway Savior, *Engineering News-Record*	1/31/2005
25. Washington, D.C., Baseball Stadium	Nationals Withhold Rent on Ballpark, *The Washington Post*	7/11/2008
	Nationals Park Costs Rise, Sports Commission Struggles, *Washington Examiner*,	8/21/2008
26. Worchester Vocational School	Worchester Regional Research Bureau, Project Labor Agreements (www.wrrb.org)	
27. Worchester Parking Garage	Cogliano: Competing for School Construction, *The Boston Globe*	7/10/2007

Competition Reduced

Project Name	Source	Date
1. Boston Central Artery Project	Big Boston bids in 1996, *Engineering News-Record*	11/20/1995
2. Carter County, K.Y., School	School Board Rescinds PLA After Latest Tygart Bids Rejected, *Journal Times*	10/8/2010
3. Clark County, N.V., School District	School District Should Heed Conclusions of Report, *Las Vegas Journal*	9/11/2000
4. Des Moines, Iowa Events Center	The PLA for the Iowa Events Center: An Unnecessary Burden on Workers, Businesses and Taxpayers of Iowa, *Public Interest Institute*	3/1/2006
5. Fall River Schools	Project Labor Agreements and Financing School Construction in Massachusetts, *Beacon Hill Institute*	12/1/2006
6. Hartford Public High	School Project Back in Limbo, *Hartford Courant*	4/7/2004
7. Jefferson County, N.Y. Courthouse	PLA Analysis for the Jefferson County Courthouse Complex, *Report to Jefferson County Legislators, Paul Carr*	9/14/2000
8. Lucas Oil Stadium	An Ailing Process, *Indianapolis Star*	1/24/2010
9. Middletown, Conn., School Renovation	State's Dubious Labor Policy, *Hartford Courant*	8/20/1998
10. New York's Oswego Sewer	Sewer Project Phase Attracts No Bids, *Syracuse Post-Standard*	8/20/1997
11. Oakland Unified School District	School Costs Skyrocket After Labor Pact, *San Francisco Chronicle*	4/28/2004
12. Ohio Schools	New Bids Drop Cost of Work on Deaf, Blind School, *Columbus Dispatch*	11/10/2004
13. Roswell Park, N.Y., Cancer Institute	Analysis of Bids and Costs to Taxpayers in Roswell Park, New York (ABC)	1995
14. San Francisco International Airport	Labor Protests Fly, Bids Are High, *Engineering News-Record*	7/22/1996
15. Southern Nevada Water District	Opfer, et al, PLA Research Study: Focus on SNWA, (UNLV 2000)	2000
16. Wilson Bridge, Md.-Va.	Lone Bid Comes in 70 percent Above Estimate, *Engineering News-Record*	12/24/2001
	Unexpectedly Low Bid Keeps Wilson Bridge Under Budget, *The Washington Post*	3/2/2002
17. Wyoming County, W.Va.	New Wyoming School to be Rebid, Associated Press	12/20/2000

Construction Defects

Project Name	Source	Date
1. Boston Central Artery Project	*The Boston Globe*	11/11/2004
	Project under renewed fire, *Engineering News-Record*	9/25/1995
	$21 Million Settlement In Big Dig Tunnel Collapse, http://wbztv.com/bigdig	2006
2. Citi Field	Mets in Foul Territory, *New York Post*	9/6/2009
3. Des Moines, Iowa Events Center	*Des Moines Register*	10/3/2003
4. Indianapolis, Ind., Library	Concrete Cracks Halt Construction on Indianapolis Library, *Indy Star*	4/22/2004

5. Pittsburgh, Penn., Convention Center	Convention Center's Builders Assess Collapse, *Pittsburgh Post-Gazette*	2/6/2007
6. Washington, D.C., Convention Center	Roof Section Collapses at Center Site, Washington Construction News	5/2001

Construction Delays

Project Name	Source	Date
1. Boston's Big Dig	http//www.issuesource.org.	11/2004
2. Chicago Union Strike	Laborers Reaping Gains from Union's Timely Risk, *The Chicago Tribune*	6/6/2006
3. Los Angles Schools	Construction Delays Will Force 4 New L.A. Schools to Open Late, *Los Angeles Times*	6/17/2006
4. Milwaukee's Miller Park	Crane Accident Kills Three at Unfinished Miller Park, *The Washington Times*	7/15/1999
5. New Jersey Schools	NJ DOL Annual Report to the Governor and Legislature, Use of PLAs in Public Works Building Projects in Fiscal Year 2008	10/1/2010
6. San Francisco International Airport	Carpenters at Airport Protest Against Union Leadership, *San Francisco Chronicle*	5/21/1999
7. Seattle Mariners Safeco Stadium	New Seattle Stadium Battles Massive Cost Overruns, *Engineering News-Record*	7/27-8/3/98
8. Trump Towers, Chicago	*401 North Wabash Venture LLC v. Chicago and Cook County Building and Construction Trades Council*	6/5/2006
9. Washington, D.C., Stadium	Nationals Withhold Rent on Ballpark, *Washington Post*	6/22/2008

Discrimination

Project Name	Source	Date
1. Buffalo Schools	Buffalo Mayor Says Trades Not Attaining Diversity, *Construction Labor Report*	9/22/2004
2. Chicago Robbins Incinerator	Construction Firm to Pay $1.33 Million to Settle Racial, Sexual Harassment Case *Construction Labor Report*	1/12/2000
3. Detroit Baseball Stadium	Four Black Female Carpenters Sue, *The Detroit News*	10/29/1999
4. New Jersey Schools	NJ DOL Annual Report to the Governor and Legislature, Use of PLAs in Public Works Building Projects in Fiscal Year 2008	10/1/2010
5. San Francisco International Airport	Jury Awards Construction Worker $490,000 After Company Failed to Prevent Harassment, BNA CLR, Vol. 45, 1290	1/19/2000
6. San Francisco International Airport	LA Transit Agency Says Sham Minority Firms Were Used to Win Bids, *San Francisco Chronicle*	12/7/1999
7. Philadelphia Unions	Tom Ferrick Jr.: City Climate is Changing on Union Hiring, *The Philadelphia Inq.*	1/20/2008
	Unions Disclose Minority, Female Numbers of Members in Philadelphia Building Building Trades, *Construction Labor Report* (BNA)	2/13/2009
8. Washington, D.C., Stadium Local Hiring	Stadium Project Falling Short of City's Ambitious Hiring Goals, *The Washington Post*	2/24/2008
	Think Locally, Hire Regionally, *Washington City Paper*	9/12/2007
9. Yankee Stadium	Bronx Officials Deal with Yankees on Stadium, *New York Daily News*	6/19/2008

Safety Problems

Project Name	Source	Date
1. Boston Central Artery Project	"Boston Harbor"-Type Project Labor Agreements in Construction: Nature, Rationales, and Legal Challenges, 19 J. Lab. Res., Winter 1998, at 1, 14	Winter 1998

2.	Boston Harbor Clean-Up	OSHA Cites Boston Harbor Contractors Following Investigation Into Tunnel Fatalities, BNA DLR, Vol. 13, A-2.	1/20/2000
3.	Boston Harbor Clean-Up	"Boston Harbor"-Type Project Labor Agreements in Construction: Nature, Rationales, and Legal Challenges, 19 J. Lab. Res., Winter 1998, at 1, 14	Winter 1998
4.	Des Moines, Iowa Events Center	County Grapples with Substance Abs, *Workplace Substance Abuse Advisor* *Des Moines Register*	11/26/2003 9/21/2004
5.	Hanford Nuclear Site	Fluor Unit Gets Record Fine Over Nuclear Waste Safety, *Engineering News-Record*	6/7/1999
6.	Los Angeles Unified School District	Failing Grade for PLA School Job?, *Los Angeles Business Journal*	11/1/2010
7.	Milwaukee's Miller Park	Crane Accident Kills Three at Unfinished Miller Park, *The Washington Times*	7/15/1999
8.	New York's Tappan Zee Bridge	Cover Story: Safety, *Engineering News-Record*	6/21/1999

Why Project Labor Agreements Are Not in the Public Interest

David G. Tuerck

Project labor agreements (PLAs) are agreements between owners of construction projects and construction unions, under which firms retained to work on a construction project must enter into collective bargaining with the unions, hire workers through union hiring halls, and pay union wages and benefits. Contractors must operate, in effect, as union contractors, whether they ordinarily use union labor or not. Workers must usually pay union dues whether they belong to a union or not.

PLAs do not preclude nonunion contractors from bidding on construction projects. But they authorize the unions to negotiate the wages and work rules under which a contractor (whether it uses union labor or not) must operate. For that and other reasons, nonunion contractors generally oppose PLAs. The construction unions favor PLAs, and with increasing vigor.

PLAs are common on major projects in both the private and the public sector. Disney World and the Trans-Alaska Pipeline, both private projects, were conducted under PLAs. The discussion here is focused on public projects, however. Both private and public owners are under pressure, politically, to enter into PLAs for major projects and, in negotiating a PLA, to agree to terms favorable to the unions. But public owners are governmental entities made up of elected offi-

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cials or persons appointed by elected officials, who must answer to the unions, along with other powerful voting blocs, through the political process. Private owners are accountable, instead, to their shareholders. School boards and state transportation authorities do not have to make a profit on their projects. Builders of theme parks and pipelines do.

Thus, private owners can decide on whether to use a PLA on the basis of whether it reduces construction costs and thus increases profitability (that is, assuming the choice is freely made without the threat of union retaliation should the decision go against a PLA). Public owners, on the other hand, are constrained only by competitive bidding laws, the effectiveness of which is arguably compromised by the very decision to enter into a PLA. Elected officials have an incentive, in contracting for projects, to weigh political concerns against cost effectiveness. A decision by public owners to enter into a PLA is a signal that they are willing to subordinate the interests of the general public to those of the unions. Private owners do not have the luxury, or the incentive, to subordinate the interests of their shareholders in a similar manner.

By one estimate, PLAs add 12–18 percent to the cost of public projects. PLAs were banned from federally funded construction projects throughout the administration of President George W. Bush. Had they not been banned and had they been applied to major federal construction projects conducted in the final year of the Bush administration, they would, by the same estimate, have increased construction costs by $1.6 to $2.6 billion in that year (Tuerck, Glassman, and Bachman 2009).

Unions in Decline

Despite the clout they continue to exercise in the political arena, the power of unions to set wages and to control work rules is declining. Over the period 1983–2008 (the period over which comparable data are available), there was a decline in the percentage of workers who belonged to unions and a decline in the wage "premium" earned by union members. The fraction of all U.S. workers who belonged to unions fell from 20.1 percent in 1983 to 12.4 percent in 2008 (U.S. BLS 2009a). In 1983, union workers earned 38.2 percent more than nonunion workers. By 2008, this wage premium had shrunk to 28.2 percent (BLS 2009b).

Among union members, construction workers experienced a similar trend. According to one report, 87.1 percent of construction workers belonged to unions in 1947 (Baskin 1998). The percentage was 27.5 percent in 1983 and 15.6 percent in 2008 (BLS 2009c). The wage premium earned by union construction workers fell in tandem with that earned by all union workers. In 1983, union construction workers earned 74 percent more per week than nonunion construction workers. In 2008, they earned 51.8 percent more (BLS 2009d).

The decline in the wage premium for construction workers has been particularly steep. In 1983, construction workers, both union and nonunion, earned 14.2 percent more per week than all workers, both union and nonunion. In 2008, they earned 1.4 percent less. The decline in relative earnings has been steep also among union members. In 1983, union construction workers earned 31.2 percent more per week than all union workers. In 2008, they earned 14.5 percent more.

The increasing energy with which the construction unions and some elected officials encourage PLAs on public projects can be seen as an effort to shore up the construction union wage premium against further decline. The question, however, is whether there is a legitimate public policy reason for slowing or reversing this decline. The construction unions, as shown below, seldom couch their pleas for PLAs in terms of their own interests. But, political considerations aside, an elected official might see these trends as arguing for policies that would strengthen the unions, to the end of protecting workers' wages from erosion brought about by declining union influence.

The idea that it is possible to help construction workers in general by helping union construction workers in particular is, however, contradicted by the evidence. First, the decline in the union wage premium does not necessarily reflect a general decline in wages. The reason that the union wage premium has declined is that nonunion wages have risen faster than union wages, for both construction workers and all workers. It could well be that some workers have abandoned the unions because wages are growing faster for nonunion workers. Moreover, and as shown below, the very process by which the construction unions keep union wages higher than nonunion wages consists in part of using PLAs to exclude nonunion contractors and workers from public projects.

Finally, the construction industry is far too fractionalized for even the biggest construction firms to be able to suppress wages or impose onerous work rules. According to the U.S. Census Bureau (2007),

there were 725,101 construction establishments in the United States in 2007. There were, on average, 10 workers per establishment. According to the U.S. Small Business Administration (2009), 86.1 percent of construction firms have fewer than 500 workers.

Thus, it is not possible to rationalize a decision to use a PLA as an action that will improve the lot of the average construction worker. PLAs benefit only the minority of construction workers who belong to unions.

The History of PLAs

PLAs date back at least to 1938, when work began on the Shasta Dam in California. In those days, when strikes against public projects were commonplace, a contractor taking on a project of this size would see a PLA as a method of maintaining labor peace. In view of the tumultuous labor conditions at the time, the general contractor under the Shasta Dam PLA readily agreed to hire only members of the recognized unions and to pay union scale. The project was completed without incident, apparently as a result of this arrangement (Johnston-Dodds 2001).

Although the construction unions remained strong for decades thereafter, the short-term nature of most construction work posed an obstacle to union organization efforts. Thus, in 1959, a sympathetic Congress passed the Landrum-Griffith Act (U.S. Labor-Management Reporting and Disclosure Act of 1959), which made it possible for unions to represent workers even when only a minority of workers actually belonged to unions. By passing this act, Congress opened the door to "pre-hire" agreements, such as PLAs, that owners could sign with the unions before any workers were hired.

Another milestone was reached when the U.S. Supreme Court upheld a 1987 PLA entered into by the Massachusetts Water Resources Authority, which was conducting a court-ordered cleanup of the Boston Harbor. The MWRA had required its contractors, whether union or not, to accept the terms of the PLA. The court decision (*Building Trades v. ABC* 1993) constituted a serious rebuke to efforts by nonunion contractors to mount a legal challenge to PLAs.

The Boston Harbor decision prompted the construction unions to press more aggressively for PLAs on public projects. Boston's "Big Dig," which became the most expensive (and probably the most controversial) public works project in U.S. history, was conducted under a PLA.

By the time that the Court approved the Boston Harbor PLA, however, the decline of the construction unions was in full bloom. Indeed, the decisions to use PLAs on the MWRA project and the Big Dig can be seen as made in order to protect Boston area construction unions from further decline.

By the 1980s, a PLA was no longer necessary in order to get a contractor to take on a major public construction project, as it had been as with the Shasta Dam project. Instead, PLAs had become arrangements into which public owners would enter out of deference to the unions, whose political significance had come to outweigh their ability to pose a threat to labor peace. As one union official (Northrup and Alario 1998: 21) put it, the purpose of PLAs now was "to fight the growing nonunion element throughout the country."

This growing nonunion element was not the result of any organized attempt by nonunion contractors to diminish union power. It was the result, rather, of shifting living patterns and of technological progress.

One author who has analyzed these changes points out that the post-World War II housing boom shifted a large portion of the construction business from the cities, where the unions are strong, to the suburbs, where they are not. Over the years, "standardized factory-made sub-assemblies, materials, and fasteners, ... specialized tools and techniques, and ... other engineering solutions" rendered traditional skills obsolete (Thieblot 2002: 562–64). Highly skilled craftsmen found it possible to delegate much of the work that they previously performed to less skilled craftsmen. At the same time, new specializations emerged with the development of new building components and construction methods. And contractors found that they could increase productivity by switching workers from one task to another, unencumbered by union work rules. These developments made it increasingly difficult for the construction unions to justify the practice of forcing workers into rigid job descriptions and of requiring that every job be performed by highly skilled, expensive labor (Thieblot 2002: 566–67).

The Nexus between PLAs and the Prevailing Wage Law

The construction unions have relied mainly on two weapons in their efforts to protect the union wage premium against these developments. One is the PLA. The other is the prevailing wage laws, imposed by the federal government and by most states, the purpose

of which is to put a floor on wages paid construction workers on public projects. The prevailing wage is calculated in such a way as to be heavily weighted toward the union wage rather than the lower nonunion wage. Thus the prevailing wage law, which sets wages for given trades in given geographical areas, reinforces union efforts to keep members' wages above market levels.

Because the legally mandated prevailing wage for a given trade is usually far greater than the average (union and nonunion) wage for that trade, the unions consider it necessary to prevent competition from nonunion contractors from driving the union wage down to the market-clearing level. The prevailing wage laws, which are aimed at protecting the unions, therefore require contractors to pay the prevailing wage on a public project, whether or not the contractor hires union labor and whether or not the project is conducted under a PLA.

However, the fact that most construction workers no longer belong to unions creates another threat to the union wage premium. The above-described demographic and technological changes have made it increasingly difficult for union contractors to compete with nonunion contractors. Without a PLA, and despite the fact that they must pay the prevailing wage, nonunion contractors often have a competitive advantage in bidding on public projects. If a nonunion contractor has the flexibility to get a particular task done with less labor and cheaper labor than a union contractor, that adaptability puts downward pressure on the union wage premium. What a PLA does is neutralize this threat—forcing the nonunion contractor to operate as a union contractor and thereby to forgo its competitive advantage.

The PLA reduces the competitive advantage of nonunion contractors on public projects by artificially raising the contractors' costs and, often, by reducing their workers' net pay. The unions use PLAs to bring about this result by forcing nonunion contractors to accept work rules that undermine their efficiency and by forcing them to pay twice for fringe benefits.

Here's how: Nonunion contractors big enough to work on major public projects typically develop and retain their own workforce by offering health, retirement, vacation, training, and other benefits. But if a contractor signs onto a PLA-governed project, the workers it hires come to it through the union hiring hall and will therefore not ordinarily be part of its own workforce. The employer has to pay

wages and fringe benefits for the workers it ends up hiring for the project, while continuing to pay for the fringe benefits that it has guaranteed its own workers.

Nonunion workers seek employment with nonunion contractors in part because they can get the benefits offered by those contractors without having to pay union dues or submit to the union's hiring rules. Under a PLA, they have to pay dues and accept deductions from their paychecks that go toward benefits that they already receive from their employer and that they, as nonunion workers, will never collect from the union. They also have to put themselves at the disposal of the union hiring hall if they wish to work on PLA projects conducted by their own employers.

The problem is illustrated by a lawsuit (*Electrical Contractors* 2009) that was brought by an electrical contractor against the state of Connecticut after the contractor, which was the lowest bidder, was denied a school building project for refusing to operate under a PLA. In an affidavit filed in connection with the suit, an officer of the firm pointed out how the PLA at issue undermined his firm's ability to compete for the project (Flynn 2009).

The officer reported that his firm provides its workers with benefits that include vacation and sick days, profit sharing, and health insurance. These benefits cost the firm $9.33 per hour for a journeyman electrician. The prevailing wage law requires the firm to pay $53.36 per hour, including benefits, for the same worker when he is employed on a public project. Unencumbered by a PLA, the contractor would satisfy its obligation under the prevailing wage law by providing the promised benefits and paying the worker a net wage of $44.03 (= $53.36 − $9.33) per hour. The cost to the employer would be $53.36 per hour whatever benefit package the employer offers. The cost of the benefits would simply come out of the worker's paycheck.

Things would change, however, under the PLA. Under the PLA, the contractor would acquire an added responsibility to the union, which is to pay the mandated $53.36 per hour for the labor supplied to it by the union. It would at the same time have to continue providing the fringe benefits promised its workers at a cost of $9.33 per hour, whether or not they ended up working on the school project—or any project. The cost of labor would rise thus by 17.5 percent, from $53.36 to $62.69 per hour.

The firm's workers would lose as well. If the project discussed here had not been governed by a PLA, the electrician would have received his fringe benefits and his net pay of $44.03 per hour. Under the PLA, however, and assuming that he would end up working on the project through the union hiring hall, his net pay would be less.

The reason is that, under the PLA governing the project, every contractor must pay $18.96 toward union benefits, whether it is a union contractor or not. In this instance, the mandated benefits are more than twice what the contractor already provides its own workforce. Under the PLA, the worker's net pay would be $34.40, equal to the prevailing wage of $53.36 minus the mandated benefits $18.96, of which all but an annuity portion would go straight to the union treasury.[1] The worker's net pay would fall by $9.63 (= $44.03 − $34.40) plus whatever he must pay in union dues. He would suffer this fall in net pay even though he would not, except for the annuity portion, receive any of the benefits for which his paycheck is docked.

For the two school projects, the total fringe benefits that would have been deducted from workers' paychecks in this fashion came to $463,970.16. The PLA would add $228,314.43 to the firm's costs.

This example is typical of PLAs entered into on public projects. In comments filed in opposition to a presidential executive order encouraging PLAs on federal construction projects, Associated Builders and Contractors (ABC, undated), an association that represents nonunion contractors, cited two federal projects that cost its workers $2.2 million in take-home pay. John R. McGowan (undated) cites other examples in a report performed for ABC.

Thus, a PLA on a public project has the purpose and effect of reducing the competitive advantage of nonunion contractors, first by forcing them to pay twice for benefits already offered their workers and second by forcing pay cuts on their workers. It amounts to a straightforward effort by the construction unions to put nonunion firms and workers at a competitive disadvantage.

It can also be interpreted as a decision to confer a degree of monopoly power on the construction unions. A monopoly works by taking actions that discourage rivals from entering the market in which it operates—in this instance, the market for public projects. While the details vary from project to project, the example presented

[1]Of the $18.96, all goes to the union except for an annuity portion equal to $4.55.

here shows how the unions use PLAs to discourage nonunion contractors from entering this market.

Ordinarily, one expects a seller that exercises monopoly power over its market to dominate the market in which it sells. Because the construction unions serve only a small portion of the construction market, their monopoly power would be nonexistent but for their ability to discourage the entry of nonunion contractors through the process just described and through other methods.

Union Arguments for PLAs

Such are the motives that underlie the unions' support for PLAs. The arguments used to pitch PLAs to voters and politicians are quite another matter. Once we leave the world of motives and enter the world of politics and public relations, the picture changes dramatically. There we have a public-relations campaign by the unions to make their case before water authorities, school committees, government agencies, the courts, and the public. The task of the unions, in conducting this campaign, is to show that PLAs serve the public interest rather than merely the interests of their members and officials.

The unions' approach to this task is to argue that PLAs are necessary for projects that are particularly "complex." It is necessary, so the unions argue, for construction owners contemplating such projects to enter into pre-hire arrangements with the unions before they put the project out to bid. Failing to understand this principle, so they warn, will create the prospect of disruptions, delays, and cost overruns once these particularly complex projects have gotten under way. PLAs, we are told, are necessary to assure "labor peace" over the life of a project (Waites and Mancini 2002).

One often-cited article, written by Fred B. Kotler (2009), the head of a union leadership school operated by Cornell University, puts it as follows:

> PLAs provide job stability and prevent costly delays by: 1) providing a uniform contract expiration date so that the project is not affected by the expiration of various local union agreements while the PLA is in effect; ... 2) guaranteeing no-strikes and no-lockouts; 3) providing alternative dispute resolution procedures for a range of issues; 4) assuring that contractors get immediate access to a pool of well-trained and highly-skilled workers through union referral procedures during the hiring phases and throughout the life of the project.

The logic employed by PLA advocates like Kotler is none too subtle: Owners can enjoy "labor peace" and "job stability" if only they are enlightened enough to enter into a PLA before they put a project out to bid. Owners proceed without a PLA at their peril. Failure to sign up invites "costly delays." The threat to shut down a project or otherwise cause trouble lies just below the surface of the high minded appeals for cooperation that come from the unions and their advocates.

Decades ago, when the construction unions commonly disrupted public projects, it was not necessary to fashion arguments about contract expirations and access to skilled labor in order to get a public owner to sign a PLA. The threat to labor peace was evident without the need for studies bearing the imprimatur of an Ivy League university.

The threat doesn't always remain below the surface, even in recent times. Northrup and Alario (1998) describe episodes of suspicious, or overtly disruptive, union behavior. In one such episode, unidentified vandals destroyed electrical work performed by nonunion workers at a Boston building project that had been picketed by the International Brotherhood of Electrical Workers. New York Thruway authorities came to support a PLA after a riot took place in response to the award of a project to a nonunion contractor.

How Real Are the Threats to Labor Peace?

Although worries about union shenanigans, or even violence, continue to be real enough, owners have little to fear, at least as far as any legal retaliation is concerned, should they decide not to enter into a PLA. And this is so whether or not a union contractor is selected to perform the project.

Consider what happens once a contractor is selected. If a nonunion contractor is selected, there will be no strikes or jurisdictional disputes to resolve in performing the work. Nonunion workers don't strike. Nonunion contractors derive their competitive advantage largely from the fact that they, not their workers, decide who has jurisdiction over which job.

On the other hand, if a union contractor is selected, then the unions are largely in control of the terms and conditions under which their members will work. Because public owners have to pay the prevailing wage and because the prevailing wage imposes a floor on the

wage that can be paid on a project, the unions get to set whatever wage they can at or above this floor. The unions can head off jurisdictional disputes by settling on the appropriate dispute resolution procedures in their agreements with contractors, even without a PLA. Once a union contractor gets a public project, therefore, there is seldom much of anything over which to cause trouble.

The union argument for PLAs is a curious one in that it is the unions that are the source of the very difficulties against which the PLA is intended to offer protection. It is an empty threat for the unions to raise worries about labor peace on non-PLA projects that take place under collective bargaining agreements to which they themselves are willing signatories. At any rate, the bid submitted by a union contractor in competing for a project will reflect any effect that the prospect of union jurisdictional disputes, strikes, contract expirations, and the like may have on costs. If the prospects for these problems are genuine, then nonunion contractors, which are immune from such problems, will have an advantage in competing for the project. On the other hand, if a union contractor submits the lowest bid, then it will be in part because the same problems were nonexistent in the first place. The threats to labor "peace" made by the unions' subalterns in universities and consulting firms thus turn out to be little more than spin.

The reality is that strikes are disappearing from the landscape, in tandem with the unions' shrinking market share. The Bureau of Labor Statistics reports major work stoppages going back to 1947. According to the BLS, work stoppages across all industries peaked in 1952 at 470, involving 2,746,000 workers. Since then, the number of major work stoppages has declined steeply. There were 15 work stoppages in 2008, the second lowest ever reported, involving 72,000 workers, or .05 percent of the labor force (BLS 2009e).

Politicians nevertheless continue to put stock in the union threats, and they do so at all levels of government. President George W. Bush was not intimidated. He banned the use of PLAs on federal construction projects over the course of his administration. But in February 2009, President Barack Obama revoked President Bush's ban and issued an executive order permitting federal agencies to use PLAs on federal construction projects of $25 million or more. Under President Obama, it is now "the policy of the Federal Government to encourage executive agencies to consider requiring the use of project labor agreements in connection with large-scale construction

projects in order to promote economy and efficiency in Federal procurement" (White House 2009).

Among the reasons given by the president for the change in policy was that "a lack of coordination among various employers, or uncertainty about the terms and conditions of employment of various groups of workers, can ... threaten the efficient and timely completion of construction projects undertaken by federal contractors." The president was thus persuaded by the argument that PLAs are necessary to prevent labor disputes leading to cost overruns and delays.

The Strikes That Didn't Happen

In a recent study, the Beacon Hill Institute (BHI) attempted to determine whether there is an empirical basis for this argument (Tuerck, Glassman, and Bachman 2009). If there is a basis for concerns about "lack of coordination" and "uncertainty" in construction projects not conducted under PLAs, there should have been many threats to "the efficient and timely completion" of federal construction projects that were initiated during the PLA-free Bush administration. The BHI study sought to identify projects costing $25 million or more that were initiated during the Bush years and that suffered delays or cost overruns resulting from labor disputes that could have been prevented by a PLA.

The authors approached this task by examining three sources of data. First, they examined a website (*usaspending.gov*) that provides data on federal construction projects conducted during this period. The authors attempted to contact the contractor on every project identified on the website that took place over the period 2001–2008 and that cost $25 million or more. The purpose was to determine from the contractor whether any of the projects suffered a delay or cost overrun that could have been prevented by a PLA. Second, they examined the results of a survey conducted by ABC to determine whether its members had any knowledge of relevant delays or cost overruns. Finally, they examined the responses to letters sent to federal agencies with procurement responsibilities, in which ABC asked the respondents to identify any delays or cost overruns on major projects initiated during the Bush administration that could have been prevented by PLAs.

This threefold effort yielded no reported instances of delays or cost overruns attributable to the Bush ban on PLAs. Unless every govern-

ment agency that responded to ABC's letters, which were sent under the auspices of the Freedom of Information Act, falsely reported on its own records, the lack of PLAs over the course of the Bush administration ban had no effect on "efficiency" or "timeliness." The Bush administration was able to conduct almost $60 billion in major construction projects with nary a hitch attributable to the ban.[2] Particularly telling is the fact that, when queried, the Office of Management and Budget, which has procurement responsibility over all federal spending, did not report any episodes that would illustrate the concerns expressed in President Obama's executive order.

From this record, it would appear that the union threat is indeed an empty one and that PLAs are not necessary to protect the labor "peace." There is no need for public owners to let the construction unions muscle their competition out of the bidding process. Still, there is interest in the empirical question how PLAs affect costs. If PLAs are in fact, anticompetitive, it should be possible to show that they raise winning bids on construction projects and that they raise final construction costs.

Effects on Costs

But how do PLAs affect costs? In other studies, BHI conducted regression analyses on school building projects in Massachusetts (Bachman et al. 2003), Connecticut (Bachman, Haughton, and Tuerck 2004), and New York (Bachman and Tuerck 2006) to provide an answer to this question.

Regression analysis consists of determining how certain independent variables, such as number of days of sunshine and quality of soil, affect some dependent variable, such as crop yields. Here the purpose was to determine how PLAs and other independent variables, such as building size, affected the cost per square foot of building a school. BHI selected school building projects for analysis because they are sufficiently comparable to make it possible to identify a limited number of independent variables that explain cost differences.

The Massachusetts regressions were performed on a data set for 126 projects, 21 of which used PLAs. One regression included three independent variables: (1) a "dummy variable" for whether the

[2]The FOIA requests did unearth one project that suffered a two-day delay at a cost of $16,000. Apparently, however, the delay was unrelated to the absence of a PLA (see Tuerck, Glassman, and Bachman 2009: n. 12).

project was done under a PLA or not, (2) another dummy variable for whether the project was for a new building or not, and (3) project size, measured by number of square feet. The dependent variable was "bid cost," that is, the size of the winning bid. The regression showed that a PLA added $18.83, or 14 percent, per square foot to bid cost. All three variables were significant at the 99 percent level (Bachman et al. 2003).

The regression was highly robust for alternative specifications, in which the authors used other independent variables, such as whether a school was an elementary school or not, and divided their samples between small, medium, and large projects and between new projects and renovations. A regression performed on projects for which data were available, showed that PLAs added $16.51, or 12 percent, to final construction costs (Bachman et al. 2003).

BHI performed similar analyses for Connecticut and New York. It found that PLAs added $26.07, or 17 percent, to bid costs and $30.00, or 18 percent, to final construction costs in Connecticut. It found that PLAs added 20 percent to bid costs in New York (Bachman and Tuerck 2006). Those findings also were robust for alternative regression specifications.

Other analysts have used other approaches to measure cost effects. Max Lyons proceeded on the premise that a PLA requires a contractor to the pay the union wage, rather than the prevailing wage, and that the union wage is generally higher. He calculated the fraction by which the average union wage exceeds the average prevailing wage and used that fraction to estimate the effect on costs of bringing a project under a PLA. He found that an executive order under the Clinton administration that removed a previous ban on PLAs added 1.7–7.0 percent to the cost of federal projects (Lyons 1998).

Defenders of PLAs have criticized BHI's regression models as failing to account adequately for variables other than PLAs that account for the higher cost per square foot of construction on PLA projects (Kotler 2009; Belman, Bodah, and Philips 2007). This supposed problem is called "omitted variable bias" by statisticians.

Belman, Bodah, and Philips imply that the regressions used by BHI to analyze Massachusetts schools suffered from this bias. They complain that the BHI regressions ignored such matters as "whether the building is an elementary school, the construction of an auditorium, cafeteria or kitchen, whether the roof includes both low and steep pitches, and whether the project was located in an urban area."

These critics, however, have not proved that omitted-variable bias exists in the BHI regressions. Just adding more variables may reduce, rather than increase, the ability of a regression model to explain how a particular independent variable, such as whether there was a PLA or not, affects the variable being explained, in this instance the cost per square foot of building a school.

The specification of a regression model requires a tradeoff between the predictive power of the model and the statistical significance of the independent variables in the model. In general, adding more independent variables increases predictive power but invites "multicollinearity," which decreases the statistical significance of individual independent variables (in this case, the PLA effect).[3] Thus, it adds nothing to our understanding of how PLAs affect costs merely to pile additional explanatory variables, many of which may be correlated with each other, into a regression model. Statistical significance falls also when using a smaller sample size.

BHI's critics have run regressions of their own to show that PLAs are not significant. One research team used 30 independent variables in a sample of 70 schools and found that the PLA variable became insignificant (Belman et al. 2005: 13). There should be no surprise here. A determined statistician can always find a way to reduce statistical significance by adding independent variables and by making the sample size sufficiently small. The argument then goes as follows: "Because we can build a model in which PLAs are found not to affect costs, there is no need to pay attention to other models that show that they do."

Defenders of PLAs sometimes argue that PLAs *reduce* construction costs. The above-cited Cornell University article illustrates the reasoning that is common to these efforts. It cites a "feasibility study" of a New York state highway project that purportedly showed "$8.4 million in PLA-related cost saving." According to the article, these savings were brought about by features of the applicable PLA that included "standardizing" the work week and work day, "elimination of premium rates," "standardizing eight holidays" and increasing the "ratio of apprentices" (Kotler 2009).

Another study, this one performed for the Department of Veterans Affairs, examined the effects of PLAs in five cities—

[3]Multicollinearity arises when two or more explanatory variables have a strong linear relationship.

Denver, New Orleans, New York, Orlando, and San Francisco. The study found that PLAs increased costs in the cities where the union presence was "low" (Denver, New Orleans, and Orlando), but decreased costs in the other cities where there were strong unions but weak construction markets. The study used a formula for calculating cost savings attributable to a PLA, which "considers issues such as holiday pay concessions, increased apprenticeship ratios, relaxed overtime and shift differential costs, as well as other intangible cost benefits" (Rider Levett Bucknall 2009).

All such studies implicitly adopt a methodology in which they:

1. Take, as a given, the existence of costly work rules that benefit the unions (e.g., holiday pay concessions, favorable apprenticeship ratios, high overtime pay).
2. Identify work rules, among them costly rules given in (1), above, that would be modified under a PLA.
3. Show how much more it would have cost to perform the project had those rules not been modified.
4. Count (3) as a cost saving that argues for the PLA.

This methodology presupposes that we can count as a cost "saving" some feature of a PLA that corrects for a problem that might otherwise go uncorrected once the project gets under way. But therein lays the error: Why, if correcting for a problem cuts cost, would it go uncorrected? An open bidding process forces firms competing for a project to cut costs to the end of submitting a winning bid. If the unions want their employers to succeed in bidding for a project, they have every incentive to remove problems that lead to higher costs.

It is not a cost saving to modify work rules that are inefficient to begin with and that would not survive a competitive bidding process. If union contractors are underutilizing apprentices, then they are operating inefficiently and should not expect to win projects on which they bid. It makes no sense to score the modification of a work rule as a "cost saving" when a competitive bidder would have modified that work rule anyway.

On the other hand, it hardly matters in an open bidding process if the unions refuse to modify inefficient work rules or to cooperate in cutting costs. Some contractor, most probably a nonunion contractor (given the existing dominance of nonunion contractors over mar-

ket share), will be perfectly willing to work out cost-saving adjustments in the work day or in the use of apprentices, without help from a PLA. Presumably, the contractor that is most successful in working out problems of this kind will submit the lowest bid. It makes no sense to say that failure to adopt a PLA precludes the adoption of cost-cutting measures, when those measures would have been adopted anyway without a PLA.

The purpose of the bidding process is to induce bidders to fashion work rules and assign tasks in such a way as to get the job done at the lowest cost. And the best way to achieve that purpose is to make sure that the bidding process is unencumbered by measures, such as a PLA, whose real purpose is to preserve work rules that benefit the unions at the expense of efficiency.

The unions want policymakers to believe that PLAs are effective for removing inefficient work rules before a project goes up for bid. But the unions push for PLAs for the very reason that a PLA is the best way to make sure that some of the inefficient work rules from which they benefit will survive the bidding process.

Conclusion

PLAs are motivated by a desire on the part of the construction unions to shore up the declining union wage premium against technological changes and other changes that make traditional union work rules and job designations obsolescent. The earliest PLAs on public projects were instituted before these changes had begun and in an era when strikes against public projects were common. That era is over. Now the PLA has evolved into an instrument that the unions employ in tandem with the prevailing wage laws in order to reduce the competitive advantage of nonunion contractors. The unions are able to sell PLAs to government entities only by promising to modify work rules and potential jurisdictional disputes that are the creation of the unions themselves.

Kotler, the author of the Cornell article, argues that PLAs are "in the public interest." But the public has no interest in an arrangement that forces taxpayers to accept an uncompetitive bidding process for the sake of getting a project done. Project owners don't save on costs by wringing piecemeal concessions from unions on work rules. They save on costs by eliminating, from the start, the ability of the unions to foist costly work rules on their employers.

PLAs on public projects are a "heads-we-win, tails-we-break-even" proposition for the unions. At worst, from the point of view of the unions, a PLA modifies work rules that would have been modified anyway in the course of open bidding. At best, it preserves work rules that would have been modified had the bidding process not been encumbered by a PLA. The only explanation for a PLA on a public project is the reluctance of politicians to enforce open bidding laws against the resistance of a weakening, but still powerful, union monopoly.

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THE DISCRIMINATORY IMPACT OF UNION FRINGE BENEFIT REQUIREMENTS ON NONUNION WORKERS UNDER GOVERNMENT-MANDATED PROJECT LABOR AGREEMENTS

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EXECUTIVE SUMMARY

The subject of project labor agreements (PLAs) has created much controversy in the past few decades in public policy circles and in the construction industry. A recent revival of the debate surrounding this contentious issue resulted from Executive Order 13502, issued by President Barack Obama Feb. 6, 2009, which encourages the use of PLAs on federal construction projects exceeding $25 million, as well as repealed a previous executive order that prohibited PLAs on federal and federally-assisted construction projects.

Numerous studies and white papers have evaluated the arguments in support of and in opposition to PLAs. This report addresses an argument against PLAs that has received little attention, but is a key reason why PLAs discourage competition from nonunion contractors and harm the economic welfare of nonunion construction employees.

This report examines the economic impact of the fringe benefit requirements of typical government-mandated PLAs and concludes that these agreements disproportionately harm nonunion contractors and employees.

As detailed in the following report, PLAs hurt nonunion employees by reducing their take-home pay on "prevailing wage" government construction projects, and by forcing them to give up such wages in favor of union benefit funds from which they receive little or no benefit.

Nonunion employers likewise face increased and/or duplicative benefit costs under government-mandated PLAs. The problem is particularly acute with regard to multi-employer union pension plans in the construction industry, many of which are severely underfunded. Contractors that are forced to participate in such plans may be subjected to significant withdrawal liability at the conclusion of the PLA project.

The economic disadvantages faced by nonunion employees and employers related to a PLA's fringe benefit requirements explains why many nonunion construction companies are discouraged from participating in the bidding process for government-mandated, union-only PLA projects.

The key findings of the study are threefold. First, employees of nonunion contractors who are forced to perform work under government-mandated PLAs on prevailing wage construction projects suffer a reduction in their take-home pay that is conservatively estimated at 20 percent. If PLAs were imposed on a significant percentage of federal construction work, hundreds of millions of dollars of income would be taken from nonunion workers and distributed to union pension funds, which do not benefit nonunion workers. More specifically, lost wages for nonunion construction workers range from $184 million to more than $613 million, depending on the assumption made for companies executing contracts through PLAs.

Second, the study finds that nonunion contractors will be forced to pay extra costs—in excess of 25 percent—to work under PLAs on federal construction projects. Had Executive Order 13502 been in place in 2008, evidence is provided that these costs would likely have ranged from $230 to $767 million per year. In total, the move to PLAs could cost nonunion workers and their employers $414 million to more than $1.38 billion annually.

Third, nonunion contractors will face increased and unnecessary exposure to pension fund liability if they perform work under PLAs, including possible withdrawal liability when the PLA project is completed.

OBJECTIVE

The first objective of this paper is to estimate the fringe benefit-related costs government-mandated PLAs on federal construction projects will impose on both nonunion construction employees and their employers as a result of President Obama's Executive Order 13502.

Because PLAs typically require contractors to participate in multi-employer pension plans[1], the second portion of this paper presents an explanation and discussion of the withdrawal liability contractors are likely to face if they decide to terminate their affiliation with a multi-employer (union) pension plan.

BACKGROUND

On Feb. 6, 2009, President Obama signed an executive order encouraging executive agencies of the federal government to require every contractor or subcontractor on a large-scale construction project to negotiate or become a party to a PLA with one or more labor organizations. A PLA is a pre-hire collective bargaining agreement between contractors and one or more unions that establishes the terms and conditions of employment for a specific construction project.

Under government-mandated PLAs, all subcontractors are required to sign onto the labor agreement as a condition of performing work on the project. Because PLAs typically require employers to contribute to union fringe benefit trust funds—including poorly performing multi-employer union pension funds—nonunion contractors and employees have strongly criticized PLAs.

Nonunion employees argue that PLAs reduce their take-home pay because instead of being paid fringe benefits in cash or via contributions into existing fringe benefit

1 Multi-employer pension plans cover workers from more than one employer. This is in contrast to the traditional company pension plan, which covers workers from just one employer (single employer plans). Multi-employer pension plans have a specific definition under the Labor Management Relations Act of 1947, known as the Taft-Hartley Act. Under Taft-Hartley, negotiating an employer contribution as part of a labor-management agreement and placing it in a trust fund establishes a multiemployer pension plan. Then, labor organizations bargain with additional employers to have workers covered by these plans.
Employer contributions, determined by collective bargaining, fund the multi-employer pension plans.

programs, PLAs require their employers to contribute to union benefit and pension plans that employees will never benefit from unless they join a union and satisfy appropriate vesting schedules.

Nonunion contractors maintain that PLAs increase their benefit costs because, under typical PLAs, employers must make fringe benefit payments to union trust funds and either reduce their employees' take-home pay or duplicate their own costs of providing such benefits to their employees in existing health care, retirement and vacation benefits.

Nonunion contractors also argue that by forcing contributions to poorly performing union multi-employer pension plans, PLAs expose businesses to unknown liabilities and additional costs. Contractors maintain that the additional fringe benefit costs and concerns prevent them from offering customers the best bid at the best price.

Naturally, the question has arisen whether a government-mandated PLA discriminates against and otherwise harms nonunion workers and contractors by imposing fringe benefit costs on them from which they derive little or no actual benefit (i.e., the government mandates taking something without just compensation). This paper attempts to provide measurable data that can be used to answer this question. It is critical to calculate the potential economic impact of government-mandated PLAs on nonunion employers and employees in order to evaluate if Executive Order 13502 is sound public policy. As demonstrated in this report's findings, many nonunion contractors are placed at a severe disadvantage when bidding on projects covered by such agreements because PLAs significantly increase fringe benefit costs and PLAs reduce take-home pay of their existing nonunion employees.

METHODOLOGY

Identifying Population of Federal Construction Spending That May Be Subject to PLAs

The first step in predicting the fringe benefit-related costs to employees and employers as a result of President Obama's Executive Order 13502 requires identifying a population of construction contracts that likely will be subject to PLA mandates. Because it is impossible to determine the population and value of future federal construction contracts—and predict which contracts will be subject to government-mandated PLAs—this report makes some factual assumptions to generate a model necessary to estimate

costs. This model uses 2008 federal construction spending data to give a sense of the increased fringe benefit-related costs President Obama's Executive Order 13502 would have on federal construction spending (had it been in place in 2008).

The number of federal construction contracts exceeding $25 million awarded in 2008 was generated from the free searchable database at USAspending.gov.[2 3] The category of contracts listed in the USASpending.gov database with the highest probability of affecting the construction industry is Construction of Structures and Facilities. Two hundred and fifty-three contracts in this category meet the criteria of exceeding $25 million in 2008.[4] The total amount of these 253 contracts is $28,876,358,458.[5]

In the proposed rule recently issued by the Federal Acquisition Regulation (FAR) Council,[6] the Obama administration anticipates that only 10 percent of all federal construction projects with costs exceeding $25 million will be subject to PLAs in the year following the issuance of Executive Order 13502's final rule. No explanation is given for how this figure was arrived at, but the FAR Council uses it to estimate that there will be 30 construction projects on which PLAs will be imposed. The total cost of the projects remains undefined, as these are future projects, but the total value is likely to be in the billions of dollars.[7]

Because the 10 percent estimate is unexplained and potentially underestimated by the proposed rule, alternative estimates are provided for measuring the effect of nonunion contractors and their employees moving to PLA arrangements. This paper estimates the effect of government-mandated PLAs on 15 percent, 30 percent and 50 percent of all applicable federal construction projects.

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2 USAspending.gov is a relaunch of www.fedspending.org. It provides citizens with easy access to government contracts, grants and other award data.

3 Executive Order 13502 also applies to multiple contracts awarded for one construction project that combine to exceed $25 million, but these contracts were left out of the computations because they were difficult to track depending on the type of project delivery method. As a result, the numbers used in this study are very conservative.

4 While it is difficult to identify every federal construction project exceeding $25 million that would be subject to Executive Order 13502, had it been in place in 2008, USAspending.gov is the best resource. The total dollar amount of federal construction contracts is likely much greater than the one category (*Construction of Structures and Facilities*) examined in this study. There are other types of federal contracts that fall under the use of PLAs that did not fall in this category. Therefore, the dollar value and number of contracts that might be subject to Obama's Executive Order is a conservative figure.

5 As noted, the FAR Councils' proposed rule estimates a higher number of large federal construction projects (300) in the year following implementation of the final rule under Executive Order 13502. With an estimated $140 billion invested in federal, state and local construction projects as a result of the American Reinvestment and Recovery Act, an estimate of 300 projects exceeding $25 million is likely far too conservative.

6 Federal Acquisition Regulation; FAR Case 2009–005, Use of Project Labor Agreements for Federal Construction Projects, Federal Register/Vol. 74, No. 133/Tuesday, July 14, 2009/Proposed Rules.

7 According to USAspending.gov, the total cost of the 30 largest federal construction contracts awarded in 2008 exceeded $18 billion.

Calculating Labor Costs of Applicable Federal Construction Contracts

The next step of the analysis includes a determination of the portion of each contract that may be reasonably attributed to labor costs. A number of studies have determined that the appropriate labor percentage on a construction contract is between 20 percent and 30 percent (Vedder, 2009).[8] Accordingly, the average of 25 percent is used to calculate the labor costs for each construction contract used in this study; therefore, the total labor cost figure used in this study is $7,219,089,615 (28,876,358,458 x .25).

Determining Federal Construction Market Share of Nonunion Contractors

Next, in order to accurately measure the impact of President Obama's Executive Order 13502 on nonunion employers and employees, it is necessary to determine the federal construction market share of nonunion contractors. Bureau of Labor Statistics data indicate that unions compose about 15 percent of the U.S. construction workforce.[9] There is no government data indicating that union market share is larger on federal construction projects. Therefore, an assumption is made that 85 percent of the workforce is forced to adopt new fringe benefit rules and reduced take-home pay under PLAs.

Estimating Effect of PLAs on Nonunion Employees' Take-Home Pay

The next step in this study's analysis includes conducting a detailed examination of the effect PLAs are likely to have on nonunion employees' take-home pay. This analysis—which is both empirical and based on the specific experiences of construction contractors that filed comments in the ongoing regulatory rulemaking proceess with regard to Executive Order 13502—demonstrates that PLAs reduce nonunion workers' take-home wages by at least 20 percent. Even though some nonunion contractors report a reduction of more than 20 percent in some cases, the 20 percent figure will be used for this study in an effort to avoid exaggerating the effect of PLAs.

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8 See also the U.S. Bureau of the Census, *Census of Construction Industries, 1992*, or the 1997 *Statistical Abstract of the United States*, p. 713.

9 2008 Union Membership Summary. Bureau of Labor Statistics. Jan. 28, 2009. http://www.bls.gov/news.release/union2.nr0.htm

Determining Average Fringe Benefit Costs to Nonunion Employers Under a PLA

The final step in the analysis includes determining average fringe benefit costs that nonunion employers must pay to union funds under a PLA. This will be calculated through an examination of a sample of the following six unions: bricklayers, carpenters, electricians, painters, plumbers and roofers. For the sake of simplicity, a nationwide average is computed and used as the percentage of fringe benefit costs that must be paid by nonunion employers to union benefit funds under PLAs. This average then will be used to compute the windfall that flows to union fringe benefit funds from nonunion employers when they move to PLA arrangements.

ANALYSIS

The Impact of Fringe Benefit Requirements on Nonunion Employees and Employers

To measure the effect PLAs would have on nonunion workers' take-home pay, nonunion contractors were asked to provide actual data on the amount nonunion workers stand to lose in take-home wages as a result of the use of PLAs on government projects. In each case, nonunion workers' take-home pay is reduced by at least 20 percent when their employers enter into PLA arrangements.

The primary source of this reduction is the fact that the federal Davis-Bacon Act and many state prevailing wage laws currently allow employers a credit for their fringe benefit payments. Under each of these laws, employers are permitted to pay their employees the cash equivalent to the costs of the prevailing fringe benefits, thereby increasing employees' take-home pay on government projects. However, when contractors sign PLAs that require payment of union fringe benefits, the amount of workers' take-home pay is the difference between the gross amount and the fringe benefit amount paid to the union shop. This amounts to a nearly 20 percent reduction in take-home pay.

The second component of reduced wages is the union dues that must be paid. The estimated amount for union dues payments is another 2 percent.[10] The math for this calculation is corroborated by the following real world examples obtained from contractors:[11]

> **Example 1:** On a normal federal or state job, the required base rate for journeymen is $34.40 per hour, with a required benefit rate of $18.96 per hour, totaling $53.36 per hour for the prevailing wage. This means the contractor must pay its licensed journeymen working in the field an aggregate of $53.36 in wages and benefits. Per state DOL standards, the company is permitted to "credit" against this $53.36 the hourly value of the benefits provided to employees for vacation days, paid holidays, sick days, profit sharing and health insurance. For licensed journeymen, the state DOL recognizes this "credit" for the company's benefits at $9.33 per hour, which means the journeymen receive the remaining $44.03 per hour in gross wages. Were it to perform these same jobs under a PLA, the company also would have to pay the listed benefits of $18.96 per hour directly to the trade union. The remaining "base rate" of $34.40 would then be paid to the individual journeyman as gross wages. The $9.63 difference in the wages actually received represents a greater than 21 percent decrease in take-home pay for the journeymen in this example. In addition, the union and its trust would have a windfall of $449,288 (24,471 hours x $18.96 fringe benefits paid to unions). Another 2 percent could be added, as employees would be required to pay union dues.
>
> **Example 2:** Our company hires insulators. The Davis-Bacon wage is $17.14 plus $2.72 per hour. Our company pays for the health insurance, vacation and training and does not take credit for these benefits as allowed by the law. Our company also pays half of the fringe benefit ($1.36) to a retirement account for the employee, which is 100 percent vested on day one. Therefore, the employee receives $18.50 per hour in gross wages and $1.36 per hour in retirement. Our company has a number of current federal projects under contract with a total of 13,109 hours. If these contracts were subjected to a PLA, the workers' wages would be reduced to $17.14, as the $2.72 would be paid to the union. This would result in a reduction of wages of $17,855 ($1.36 x 13,109) and a reduction in retirement of another $17,855. In addition, the workers would pay union dues totaling $1.37 per hour, or $17,987. The cumulative reduction in wages, benefits and union dues is $53,697 ($17,855 + $17,855 + $17,987). So, instead of receiving $260,742, workers receive $207,045. This

10 A few examples where unions charge 2 percent are: AFSCME http://www.afscme.org/publications/13294.cfm; UFW http://migration.ucdavis.edu/RMN/more.php? id=746_0_8_0; and University of Albany http://hr.albany.edu/content/bengata.asp.

11 The sources of these examples are contractor statements in the possession of the author. Many similar statements were filed by contractors with the FAR Councils in the ongoing rulemaking process on Executive Order 13502.

computation illustrates a slightly greater than 20 percent reduction in wages for workers as a result of working under the PLA. In addition, the union and its trust would have a windfall of $53,697.

Example 3: XYZ is an electrical contracting firm that performs federal work. The Davis-Bacon wage is $19.04 plus $5.88 in fringe benefits. XYZ pays health insurance on each employee and takes a credit for those benefits of $1.29 per hour. Therefore, the employee receives $23.63 per hour in gross wages and $1.29 per hour in health care benefits. The employees receive vacation and training for which no credit is taken. The total hours associated with these projects is 23,939. If these projects were subjected to a PLA, the workers would give up $4.59 per hour ($5.88 less credit taken of $1.29), totaling $109,880 plus union dues. XYZ would have to continue to pay the $1.29 per hour in health insurance, totaling $30,881. The union dues amount to another $1.25 per hour, or $29,924. The cumulative reduction in wages and benefits to the workers is $139,804 ($109,880 + $29,924). This amounts to a greater than 23 percent reduction in wages for the workers. The windfall to the union in this example is $140,761 ($5.88 x 23,939) in fringe benefits paid, as workers will not receive benefits.

Example 4: We are a defense contractor performing federal construction work in California and elsewhere. On one representative project exceeding $25 million, our fringe benefit costs for medical/dental and savings and retirement are less than the entire fringe packet called for by the Davis-Bacon Act; therefore, we have paid the difference in cash to our employees, adding $290,485.84 to their take-home pay. Were the project performed under a PLA, employees' take-home pay would be reduced by this amount and we would have to pay an additional $289,099.34 ($184,798.92 medical/dental and $104,300.42 savings and retirement) to maintain our medical/dental and savings and retirements plans, both of which require inclusion of all employees.

All of these examples arrived at a figure in excess of 20 percent as a measure of the loss of nonunion construction workers' take-home pay due to a PLA arrangement. As noted earlier, in an effort to be conservative, the 20 percent figure is used as a measure of the reduction in take-home wages for employees forced to work under PLAs.

It should be noted that the aforementioned examples are typical of nonunion construction contractors' experiences when dealing with PLAs. A July 2009 survey of federal contractors conducted by Associated Builders and Contractors, Inc. (ABC) received approximately 70 specific comments from contractors regarding their

perspectives on PLAs. The following comments are representative of the discriminatory impact of fringe benefit costs of PLAs for nonunion contractors and their employees:

> Open shop employees do not want to pay union dues to work on a project or pay into a union pension plan because they will never see a dime of that money! Open shop contractors do not want to pay into a union health and welfare program or union trust fund because they have their own benefits program and would have to pay twice.
>
> * * *
>
> If I have to sign one-time agreements with the unions to do a job, my employees and myself as the employer have to pay twice for medical benefits—none of which they will ever receive from the union because they will never work enough hours to qualify.
>
> * * *
>
> We pay our employees the base wage plus fringes on their check. If we sign a PLA, our employees' pay would decline 20 percent to 30 percent and that money would go to the unions, and the employees would get no benefits. On top of that, our company would be tied to pension plans with unfunded liabilities we may have to pay for at the conclusion of the agreement with the unions.
>
> * * *
>
> If I choose to have my employees work on a PLA job, I now have to pay into the union for their benefits [that they will never see], plus maintain their existing benefits. This raises my labor costs, which will get passed on to the owner.
>
> * * *
>
> A merit shop contractor would have to contribute to two separate employee benefit programs, such as medical benefit plans. The contractor would have to continue to offer the plan he has been offering to his employees and also make contributions to the union-sponsored medical benefit program. Employees may never reach eligibility to receive benefits under the union's benefit plan and the contractor does not want to place his employees in this situation. A federal PLA excludes its own taxpayers from working on a project that is using their tax dollars to build.
>
> * * *
>
> As a pavement-marking subcontractor on highway projects, our crews are on the project sporadically, not every day. As such, they would not work the total number

> of hours required by the PLA to take advantage of any of the benefits provided by the union. The dues they would pay, along with the fringe benefit portion of their hourly wage, would go to the union. The union in turn would receive these dollars and have no obligation to provide the employee with benefits. This would be a windfall for the union. The employee would still need to arrange health and other benefits outside of the union umbrella.[12]

These reports are confirmed by examination of the fringe benefit components of Davis-Bacon wage determinations throughout the country. As shown in Table 1, the fringe benefit components of the total compensation found to be "prevailing" based on the union scales in many counties significantly exceeds 20 percent.[13] Moreover, Table 2 summarizes the national averages for these trades and shows that the average fringe benefit package exceeds 27 percent.

In the absence of a PLA, nonunion employers are entitled to pay their employees the cash equivalent to the amount of such fringe benefits, or they can take credit against the mandated fringe benefit requirements for their existing costs of providing equivalent fringe benefits. In most cases, once a PLA is imposed, employers must pay the fringe benefit amount to union trust funds, and either reduce their employees' take-home pay, or duplicate their own costs of providing such benefits to make sure their employees receive proper health care, retirement and vacation benefits.

As previously noted, an assumption of the model is that union shops currently perform 15 percent of federal contracts in the data population; therefore, the nonunion portion of labor costs is reduced from $7,219,089,615 to $6,136,226,173 (.85 x 7,219,089,615). This figure is then used to compute the additional costs for employers as they begin to pay fringe benefits to union benefit funds. In an effort to arrive at a conservative estimate and avoid overstatement, the figure of 20 percent is used to compute the lost wages for workers. The amount shown in Table 3A is presented as $1,227,245,235 (.20 x $6,136,226,173). The lost take-home wages are then shown based on whether the population of contracts move to PLAs in the percentages of 15, 30 or 50. Specifically, Table 3A displays lost take-home wages for nonunion workers ranging from $184 million to $613 million.

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12 More than 450 contractors responded to a July 15, 2009, *ABC Newsline* survey question about whether they would be "more likely" or "less likely" to bid on a public construction project containing a PLA requirement. Ninety-eight percent of respondents stated they would be "less likely" to bid. ABC conducted a lengthier survey on July 14, 2009, in which all 233 respondents (100 percent) said they would be "less likely" to bid on a public construction project containing a PLA requirement.

13 The fringe benefit percentages for six representative union trades – bricklayer, carpenter, electrician, painter, plumber and roofer – vary from an average of 24 percent to 33 percent of total compensation, with a total average of 27 percent.

Table 1: Wage Rate States and Current Wages for the County of the State Capital

	Bricklayers		Carpenters		Electricians		Painters		Plumbers		Roofers	
State	**Rate**	**Fringes**	**Rate**	**Fringes**	**Rate**	**Fringes**	**Rate**	**Fringes**	**Rate**	**Fringes**	**Rate**	**Fringes**
Alaska	$33.82	$15.80	$33.30	$17.85	$36.47	3%+$18.15	$27.18	$17.22	$35.54	$18.32	$32.12	$10.50
Arkansas	$19.11	$0.00	$15.06	$3.42	$24.41	$9.47	$14.41	$5.34	$23.51	$8.14	$14.59	$4.64
California	$33.49	$16.00	$27.97	$19.73	$38.43	3%+$11.40	$30.07	$11.86	$39.32	$13.45	$22.82	$13.88
Connecticut	$32.10	$19.48	$29.00	$17.80	$35.40	$19.51	$27.87	$14.00	$36.32	$21.36	$31.10	$14.46
Delaware	$27.50	$15.93	$29.57	$15.09	$33.92	$19.85	$24.43	$13.28	$25.90	$6.81	$30.00	$22.70
Hawaii	$34.70	$16.47	$36.20	$19.02	$38.80	30.6%+$11.65	$31.15	$21.75	$34.60	$20.73	$32.35	$14.43
Illinois	$25.34	$15.10	$28.66	$14.75	$33.22	$11.65	$27.99	$12.77	$37.00	$13.40	$27.25	$12.90
Indiana	$29.85	$10.13	$27.52	$10.74	$31.45	$14.74	$24.95	$9.73	$30.71	$13.38	$22.03	$7.97
Kentucky	$23.68	$9.25	$11.03	$0.00	$13.86	$0.00	$11.65	$0.62	$11.88	$0.00	$10.72	$0.00
Maine	$14.39	$0.00	$14.09	$3.47	$26.30	$12.34	$11.03	$0.00	$12.59	$1.91	$11.97	$1.32
Maryland	$19.71	$0.00	$15.91	$3.62	$32.90	5.25%+$12.15			$34.20	$14.21	$25.80	$8.26
Massachusetts	$43.54	$22.05	$36.93	$21.64	$41.21	$22.79	$30.76	$19.70	$44.97	$21.73	$34.56	$19.87
Michigan	$27.58	$14.04	$25.34	$12.62	$38.60	$15.84	$21.74	$9.77	$32.33	$16.89	$25.85	$10.85
Minnesota	$34.39	$14.65	$33.79	$12.50	$33.60	3%+$17.01	$30.94	$15.60	$36.91	$17.59	$32.49	$13.65
Missouri**	$31.75	$15.27	$31.27	$9.67	$33.60	$21.23	$28.61	$10.24	$32.00	$18.68	$28.00	$13.75
Montana			$18.49	$8.40	$28.36	4.25%+$8.55	$13.93	$2.70	$18.40	$3.55	$18.90	$0.54
Nebraska	$18.20	$4.60	$14.50	$1.22	$24.37	4.5%+$8.42	$11.01	$0.00	$15.46	$1.53	$11.89	$0.60
Nevada	$22.94	$9.14	$27.54	$9.76	$30.90	3%+$13.02	$23.94	$7.75	$27.28	$15.02	$14.23	$3.03
New Jersey	$36.70	$20.97	$35.72	46%	$45.90	54%	$26.67	$13.80	$43.00	$23.70	$31.57	$16.50
New Mexico	$22.85	$6.65	$22.26	$6.20	$27.80	5%+$8.00	$16.60	$4.40	$28.30	$11.05	$17.72	$5.31
New York	$26.29	$14.70	$26.20	$14.95	$29.75	$16.20	$24.34	$6.30	$30.31	$17.18	$21.65	$9.42
Ohio	$26.30	$10.90	$24.86	$9.88	$28.00	$12.41	$23.12	$8.87	$30.73	$16.61	$22.16	$8.90
Oregon	$32.32	$14.05	$27.56	$13.30	$34.05	3%+$14.08	$19.29	$7.14	$35.69	$16.99	$21.29	$9.90
Pennsylvania	$27.84	$12.92	$24.56	$11.52	$27.20	$14.69	$22.17	$8.90	$30.27	$16.99	$30.00	$22.70
Rhode Island	$33.75	$17.00	$30.00	$19.96	$34.08	47.41%	$27.25	$14.62	$33.61	$23.22	$28.70	$16.45
Tennessee			$15.08	$2.15	$21.40	$10.32	$16.78	$5.80	$29.07	$11.95		
Texas	$13.25	$0.00	$20.15	$5.47	$25.18	$6.59	$24.69	$7.16	$10.06	$0.31		
Vermont			$15.22	$0.00	$23.00	20%+$6.20			$25.10	$11.85		
Washington	$32.16	$11.59	$32.49	$11.26	$32.71	3%+$13.19	$19.91	$6.85	$35.55	$15.32	$27.00	$9.29
West Virginia	$26.54	$14.40	$23.98	$10.84	$30.45	$13.61	$22.68	$10.00	$28.94	$14.98	$16.00	$5.05
Wisconsin	$30.61	$14.10	$29.06	$13.36	$31.00	3%+$15.77	$25.65	$13.10	$34.78	$12.76	$18.00	$3.28
Wyoming	$22.62	$0.00	$13.85	$0.00	$26.93	5%+$9.35	$12.14	$0.00	$21.78	$10.60		

* States in **bold** denote states with strong prevailing wage laws.

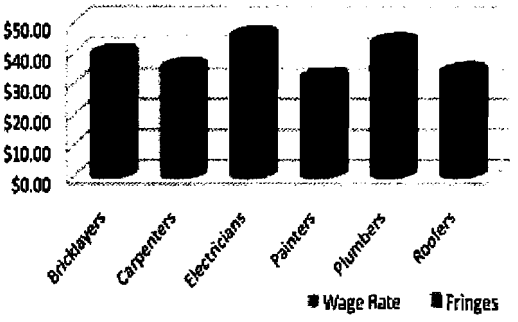
All wages shown represent wages under the Building Construction Projects category found on http://www.access.gpo.gov/davisbacon/allstates.html. Data was collected in July 2009.

Spaces left blank indicate that no prevailing wage rate was available for that category of worker.

The respective additional costs to employers are exposed in Table 3B. Twenty-five percent is used for additional employer cost due to the fact that the average fringe benefit package shown in Table 2 exceeds 27 percent. Therefore, 25 percent of $6,136,226,173 is $1,534,056,543. Finally, the additional costs to employers are shown based on the extent that current nonunion contracts are performed under PLAs. These amounts are $230,108,431 at 15 percent; $460,216,923 at 30 percent; and $767,028,272 at 50 percent. In summary, evidence is shown that additional costs to employers would range from $153 million to $767 million.

Table 2: U.S. Averages

Professions	Rate	Fringes	% Fringes of Total Wage
Bricklayers	$27.70	$11.56	25.96%
Carpenters	$24.91	$10.02	25.06%
Electricians	$31.04	$14.36	32.91%
Painters	$22.43	$9.31	25.70%
Plumbers	$29.57	$13.44	28.40%
Roofers	$23.60	$10.01	26.12%
Overall Avg.	$26.54	$11.45	27.36%



Data was collected in July 2009.

Table 3A: Lost Take-home Wages for Nonunion Construction Workers Based on Percentage of Contracts That Move to PLAs

20% of Nonunion Labor Cost	15%	30%	50%
$1,227,245,235	$184,086,785	$368,173,571	$613,622,617

Table 3B: Additional Costs to Employers from Payment of Fringe Benefit Costs to Unions Based on Percentage of Contracts That Move to PLAs

25% of Nonunion Labor Cost	15%	30%	50%
$1,534,056,543	$230,108,481	$460,216,963	$767,028,272

Potential Withdrawal Liability for Employers

A withdrawal liability arises if and when an employer decides to cease contributions to a multi-employer pension plan,[14] provided that certain conditions are met under the Multi-Employer Pension Plan Amendments to ERISA. Employers may decide to leave a multi-employer pension plan for any number of reasons, including bankruptcy, ceasing operations, switching to nonunion employees, and/or choosing an alternate employee benefits model with less expensive contribution amounts (See Binns 2009). The business must then pay its "fair share" of any unfunded benefits to ensure the pension funds remain financially stable and solvent. That "fair share" is known as withdrawal liability. Withdrawal liabilities are often painful to employers because they can be a very large dollar amount and may need to be paid in one lump-sum payment.

Employers that become signatory or otherwise bound to collective bargaining agreements incorporating these defined benefit plans are obligated by the contract to make contributions to the pension trust for the benefit of their employees.[15] Over time, employees' rights to a future pension benefit become vested, meaning they have earned—and cannot be deprived of—the promised pension benefit. The pension trust fund employs actuaries who evaluate the plans' promised future benefits against the assets and income available to the trust to fund those future benefits. When a plan's assets and anticipated income (contributions and earnings) are equal to or greater than future promised benefits, it is considered fully funded. However, when the assets and anticipated income are insufficient to satisfy promised benefits, the plan is considered underfunded.

Impact of Economy on Multi-Employer Pension Plans

For the 20-year period leading up to 2003, most multi-employer benefit plans enjoyed positive financial results due to positive stock market results and increasing contribution rates. Due to this profitability, benefits promised to employees rose and employers were given time off from making full pension contributions. Plans initially started to unravel during the 2002-2003 drop in the stock market, when the Dow Jones dipped slightly below 8,000 from a high of 12,000. Some plans suffered losses of 30

14 Multi-employer pension plans are created and sponsored by a labor union in order to provide retirement income for workers who have worked for multiple employers. This requires the union, the sponsor of the plan, to negotiate with each employer to join and contribute to the fund. They are often called "Taft-Hartley plans," and are managed by a board of trustees, which consists of an equal number of union and employer representatives. The union negotiates with each employer and the board to determine contribution levels, and the board determines the level of benefits and manages the fund. (Furchtgott-Roth and Brown, 2009)

15 Discussion in this section relies on an article by Ronald W. Brown, Esq. "Withdrawal Liability Is Back with a Vengeance."

percent to 40 percent in the assets available for plan benefits. As a result, many defined benefit plans became seriously underfunded. Fortunately, the market began recovering, with the Dow exceeding 14,000 in 2008. Since then, however, the Dow has once again dipped below 8,000 and placed even more pressure on defined benefit pension plans.[16] While the Dow has recently risen above 10,000, pending demographic shifts and problems with the Social Security trust fund will exacerbate the current problems with defined benefit pension plans.

The problem with Social Security is that its finances are based on the relationship between the number of workers paying taxes and the number of retirees receiving benefits. Back in 1950, as the baby boom was just getting started, each retiree's benefit was divided among 16 workers. Taxes could be kept low. Today, that number has dropped to 3.3 workers per retiree, and by 2025, it will reach—and remain at—about two workers per retiree. Each married couple will have to pay, in addition to its own family's expenses, Social Security retirement benefits for one retiree. In order to pay promised benefits, either taxes of some kind must increase or other government services must be cut.[17]

A recent study from the Bureau of National Affairs (BNA; Maresca 2009), reported that multi-employer plans have become significantly underfunded across all industries, thus threatening their long-term viability. To deal with these financial struggles, certain pension plan trustees have agreed to allocate both employer pensions and health plan contributions to cover pension plan obligations alone. In other cases, unions have agreed to sacrifice some of the bargaining units' entire wage increases to maximize pension plan contributions.

The Critical or Endangered Status of Construction Union Pension Plans

Among other things, the Pension Protection Act (PPA) of 2006 mandated that employees be informed about whether their pension plans are adequately funded to pay current and future pension benefits. The PPA requires companies to value the assets of the pension plans on an actuarial basis yearly to ensure plans are funded adequately. If at the beginning of the year the funded percentage of the pension plan is less than 80, the plan is considered to be in an "endangered" status. Moreover, if at the beginning of the

16 See also *Washington Examiner*, June 7, 2009, "Almost Half of Top Unions Have Underfunded Pension Plans." http://www.washingtonexaminer.com/opinion/blogs/beltway-confidential/Almost-half-of-top-unions-have-underfunded-pension-plans--47162127.html

17 Social Security's Problem, See http://socialsecurityreform.org/problem/index.cfmSocial.

year the funded percentage is less than 65, then the plan is considered to be in a "critical" status. A plan also is considered critical if its level of contributions currently is—or is projected to be in any of the next three plan years—less than the minimum contribution amount required by the law for that year. If a pension plan falls into either a critical or endangered status, the trustees of the plan are required to establish steps and benchmarks for the pension plans to improve their funding status during a specified period of time.

As of July 31, 2009, the Department of Labor received notice that more than 130 multi-employer pension plans were endangered and more than 100 were critical.[18] As presented in Table 4A, 82 of the plans in the endangered status are in the construction industry. Forty-one pension plans in critical status are also in the construction industry.

A recent survey of multi-employer plans' zone status (conducted by the Segal Co., a benefits and human resources consulting firm) shows that multi-employer plans across all industries are struggling to meet their funding obligations under the PPA as a result of the market collapse. In 2008, only 7 percent of plans surveyed were in the red zone; that percentage jumped to 32 in 2009.[19]

Another study on pensions (Moody's, September 2009) estimates multi-employer pension plans in the construction industry are underfunded by $72.484 billion, or 54 percent funded. In other words, for every dollar that these funds owe, they hold only 54 cents in invested assets.[20]

Risks of Withdrawal Liability in the Construction Industry

The risk of mass contractor withdrawal from pension plans, and the resulting withdrawal liability penalties, is greatest during difficult economic times. In fact, actuaries are busy calculating and determining the impact of the 2008 economy on multi-employer pension plans (Thiel and Wrigley, 2009). Most commonly under MPPAA,[21] withdrawal liability is determined by multiplying the total unfunded vested benefits (UVB) by the ratio of the withdrawing employer's total contributions during the five-year period preceding the withdrawal to the total contributions by all participating employees for the same time period.

18 See http://www.dol.gov/ebsa/criticalstatusnotices.html.

19 The Segal survey also reports that in 2008, only 10 percent of plans were in the yellow zone, but 29 percent of plans surveyed in 2009 were in endangered status. Between 2008 and 2009, plans in the green zone dropped by approximately 44 percentage points, with 83 percent of plans falling in the green zone in 2008, but only 39 percent fell in the same zone in 2009 (127 DLR A-5, 7/7/09). A summary of the Segal survey is available at http://www.segalco.com/publications-and-resources/multiemployer-publications/surveys-studies/?id=1275.

20 Moody's Global Corporate Finance, Sept. 10, 2009, "Growing Multiemployer Pension Funding Shortfall Is an Increasing Credit Concern." Available at: http://www.alacrastore.com/storecontent/moodys/PRO_186510.

21 Multi-employer Pension Plan Amendments Act of 1980. P.L. 96-364 as signed by the president on Sept. 26, 1980

Table 4A: Construction-Related Multi-Employer Pension Plans with an Endangered Status

Asbestos Workers Local 47 Retirement Trust Fund
Asbestos Workers Local No. 23 Pension Fund
Asbestos Workers Local No. 27 Pension Plan
Bay Area Painters and Tapers Pension Trust Fund
Bricklayers and Allied Craftsmen Local No. 16 Pension Plan
Bricklayers and Allied Craftsmen Local No. 5 of New Jersey Pension Plan
Bricklayers and Allied Craftsworkers Local 5 New York Pension Plan
Bricklayers Local No. 1 of PA Pension Fund
Bricklayers Union Local No. 6 of Indiana Pension Fund
Carpenters Pension Trust Fund of Northern California
Cement Masons' Area 699 Pension Fund
Cement Masons' Union Local 592 Pension Fund
Connecticut Carpenters Pension Fund
Connecticut Plumbers and Pipefitters Pension Fund
Construction and General Laborers Local 190 Pension Plan
Electrical Workers Fringe Benefit Funds
Heavy and General Laborers' Funds of New Jersey Local 472 and 172
Indiana Laborers Pension Fund
International Association of Bridge, Structural, Ornamental and Reinforcing Ironworkers Local No.79 Pension Plan
International Association of Heat and Frost Insulators and Asbestos Workers Local No. 40 Pension and Welfare Plan
International Brotherhood of Electrical Workers Eastern States Pension Plan
International Brotherhood of Electrical Workers Local 164 Joint Pension Fund
International Brotherhood of Electrical Workers Local 237 Pension Fund
International Brotherhood of Electrical Workers Local 456 Pension Fund
International Brotherhood of Electrical Workers Local No. 223 Pension Fund
International Brotherhood of Electrical Workers Local No. 38 Pension Fund
International Brotherhood of Electrical Workers Local Union No. 357 Pension Trust Fund
International Brotherhood of Electrical Workers Local No. 98 Pension Plan
International Brotherhood of Teamsters Freight Drivers Local Union No. 557 Pension Fund
International Brotherhood of Teamsters Joint Council No. 83 of Virginia Pension Plan
International Brotherhood of Teamsters Local 177 Multiemployer Retirement Plan
International Brotherhood of Teamsters Local 445 Construction Division Pension Fund
International Brotherhood of Teamsters Local 705 Pension Plan
International Brotherhood of Teamsters Local 731 Excavators and Pavers Pension Trust Fund
International Brotherhood of Teamsters Local 804 and International Association of Machinists and Aerospace Workers Local 447 - Multi-Employer Retirement Plan
International Brotherhood of Teamsters Local 808 Pension Plan
International Brotherhood of Teamsters Local 813 and Local 1034 Severance and Retirement Fund
International Brotherhood of Teamsters Local 814 Pension Trust Fund
International Brotherhood of Teamsters Local 837 Pension Fund
International Brotherhood of Teamsters Local No. 436 Building Material Drivers Pension Fund
International Brotherhood of Teamsters Local Union No. 854
Iron Workers' Local No. 25 Fringe Benefit Funds
Ironworkers Fringe Benefit Funds Local Unions No. 549 and 550
Ironworkers Local 340 Retirement Income Plan
Ironworkers Local 498 Pension Fund
Ironworkers Pension Plan of Western Pennsylvania

Table 4A: Construction-Related Multi-Employer Pension Plans with an Endangered Status

Laborers District Council of Western Pennsylvania Pension Fund
Laborers International Union of North America National (Industrial) Pension Fund
Laborers Local 157 Pension Plan
Laborers Local 1000 Pension Fund
Laborers Local 17 Pension Fund
Laborers Local 186 Pension Fund
Laborers Local 3 Sales Pension Fund
Laborers Local 322 Pension Plan
Laborers Local 35 Pension Plan
Laborers Local 7 Pension Plan
Laborers Union Local No. 1298 of Nassau and Suffolk Counties Pension Fund
Local Union No. 466 Painters, Decorators, and Paperhangers Pension Plan
New York State International Brotherhood of Teamsters Conference Pension and Retirement Fund
Northwest Ironworkers Retirement Trust
Painters District Council No. 3 Pension Plan
Painters Union Pension Fund
Plumbers and Pipefitters Local 162
Plumbers and Pipefitters Local No. 520 Benefit Fund
Plumbers and Pipefitters Local Union No. 333 Fringe Benefit Funds
Plumbers and Pipefitters Local Union No. 74 Pension Plan
Plumbers and Pipefitters Local Union No. 9 Pension Plan
Plumbers and Steamfitters Local No. 150 Pension Fund
Plumbers and Steamfitters Local No. 577 Pension Plan
Plumbers Local 773 Pension Fund
Plumbers Local Union 690 Industry Funds of Philadelphia and Vicinity
Plumbers United Association Local 773 Pension Fund
Plumbers, Pipe Fitters and MES Local Union No. 392 Pension Fund
Plumbing and Pipe Fitting Industry Local 219 Pension Plan
Sheet Metal Workers' Local 292 Fringe Benefit Funds
Sheet Metal Workers' Local 73 Pension Plan
Sheet Metal Workers' Local 7-Zone 3 Benefit Funds
Sheet Metal Workers Local No. 40 Pension Fund
Sheet Metal Workers' Local No. 19 Benefit Fund
Teamsters Negotiated Pension Plan
Toledo Area Sheet Metal Workers Pension Plan and Trust
Toledo Roofers Local No. 134 Pension Plan
Twin City Iron Workers Pension Fund
UA Local 190 Plumbers/Pipefitters/Service Technicians Gas Distribution Fringe Benefit Funds
United Association of Plumbers and Pipefitters Local 51 Pension Plan
United Brotherhood of Carpenters and Joiners of America Local No. 370 Pension Plan
United Steelworkers District 10 Local 286 Pension Plan
Upper Peninsula Plumbers' and Pipefitters' Pension Fund
Western Pennsylvania Teamsters and Employers Pension Fund
Will County Carpenters Local 174 Supplemental Pension Fund
WV Plumbers and Pipefitters Local Union 152 Combined Pension Funds

* Information obtained from the U.S. Department of Labor Employee Benefits Security Administration. Accessed July 2009.

Table 4B: Construction-Related Multi-Employer Pension Plans with a Critical Status

Asbestos Workers Local No. 8 Retirement Trust Plan

Asbestos Workers Philadelphia Pension Plan

Asbestos Workers Syracuse Pension Plan

Asbestos Workers Union Local 64 Pension Plan

Baton Rouge Sheet Metal Workers Pension Fund

Bricklayers and Allied Craftsmen Local 1 of Maryland, Virginia and the District of Columbia Maryland Pension Fund

Bricklayers and Allied Craftsmen Local No. 7 Pension Plan

Bridge, Structural, Ornamental and Reinforcing Ironworkers Local 207 Pension and Annuity Fund

Carpenters Pension Trust Fund - Detroit and Vicinity

Carpenters Pension Trust Fund for Northern California

Cement Masons Local 783 Pension Trust

Cement Masons Local Union No. 681 Pension Plan

Central New York Painters and Allied Trades Pension Plan

Heat and Frost Insulators and Allied Workers Local 47 Fringe Benefit Funds

Insulators Local Union Number 112 Pension Plan

International Brotherhood of Electrical Workers Local No. 129 Pension Fund

International Brotherhood of Electrical Workers Local Union 380 Pension Plan

International Brotherhood of Electrical Workers Local Union No. 1158 Pension Plan

International Brotherhood of Electrical Workers Local Union No. 90 Pension Fund

International Brotherhood of Teamsters Local 210 Pension Plan

International Brotherhood of Teamsters Local 469 Pension Fund

International Brotherhood of Teamsters Local 575 Pension Fund

International Brotherhood of Teamsters Union Local No. 52 Pension Fund

Iron Workers Local No. 12 Pension Fund

Iron Workers' Locals No. 15 and 424 Pension Plans

Iron Workers-Laborers Pension Plan of Cumberland Maryland

Ironworkers Local 340 Retirement Income Plan

Laborers International Union of North America, AFL-CIO Local 734 Pension Fund

Local 295/Local 851 International Brotherhood of Teamsters Employer Group Pension Trust Fund

Local Union No. 863 International Brotherhood of Teamsters Pension Plan

Michigan Carpenters' Fringe Benefit Funds Pension Plan

New England Teamsters and Trucking Industry Pension Fund

Painters and Allied Trades Paint Makers Pension Plan

Paintmakers Local Union No. 1310 Pension Plan

Plumbers and Steamfitters Local No 106 Pension Trust Fund

Plumbers and Steamfitters Local No 267 Benefit Funds

Sheet Metal Workers National Pension Fund

Teamsters Local No. 264 Moving Division Pension Fund

United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada Local 198 AFL-CIL Pension Plan

United Brick and Clay Workers of America, AFL-CIO District Council No. 9 Pension Plan

Wyoming Carpenters Pension Fund

* Information obtained from the U.S. Department of Labor Employee Benefits Security Administration. Accessed July 2009.

For example, assume a single unionized construction company suffers a withdrawal liability to the Laborers International Union pension plan. Further assume that the contractor's pension contributions for the five-year period before the sale amounted to $250,000, and that total contribution by all employers was $250 million. The employer's withdrawal liability would be .001 times the total unfunded liability. If the total unfunded liability were $1 billion, the individual contractor would owe $1 million in withdrawal liability.

The rules governing withdrawal liability for employers in the construction industry are somewhat unique. In such cases, employers will not incur withdrawal liability unless they (1) cease having an obligation to contribute to the fund, and (2) continue to engage in the same business in the same geographic area covered by the plan. In other words, a construction industry employer will not incur withdrawal liability if it goes out of business or moves its business out of the geographic area covered by the plan; however, it will incur withdrawal liability if it "goes nonunion" and continues operations in the area.[22]

Another example of increased employer contributions in the construction industry is discussed in BNA (Maresca 2009). Due to the market collapse and sharp decline of activity in the building and construction industry, many construction employers have withdrawn from multi-employer funds and ceased building activity in the same area served by members of the multi-employer fund. In these cases, employers were not subject to withdrawal liability. As a result, the long-term viability of the plans from which they withdrew were put under increased pressure. When several construction employers leave a multi-employer plan without incurring withdrawal liability, contributions decline and the remaining plans could end up in the red zone. As a result, these plans would have to comply with the PPA's requirements for emerging from critical status. Furthermore, when a construction employer goes bankrupt, a multi-employer plan looking to collect from the employer is at a loss. The plan cannot collect money from the bankrupt employer, nor would the plan have a claim in bankruptcy court, as there is no official liability.

The extent of withdrawal liability exposure for construction employers that sign union-only PLAs has not been fully tested in litigation.[23] Because of the significant risks and substantial sums of money involved, however, nonunion contractors are reluctant to incur the potential costs of participation in any underfunded union pension plan.

22 As one of numerous examples of such withdrawal liability being imposed on construction contractors, see, e.g., *Technical Metallurgical Services, Inc. v. Plumbers and Pipefitters National Fund*, 213 Fed. Appx. 268 (5th Cir. 2007) (upholding assessment of $125,336 in withdrawal liability against a construction contractor who ceased making contributions to an underfunded pension fund).

23 See *Northern New England Carpenters Pension Fund v. H.P. Cummings*, 2003 WL 1856440 (D.Me., April 10, 2003), where the Carpenters Pension Fund attempted to assess withdrawal liability against a former signatory to a PLA. A federal court affirmed an arbitrator's holding that, because the "jurisdiction" of a PLA was a particular project, subsequent work in the geographic area would not be "in the jurisdiction…" within the meaning of 29 U.S.C. § 1383(b)(2) unless the contractor went back to perform work on the same site within five years.

CONCLUSION

For a variety of reasons, the execution of federal construction contracts through PLAs reduces take-home pay for workers and substantially increase costs for nonunion employers. In addition, nonunion employers may be exposed to significant withdrawal liability as a result of being required to participate in a multi-employer (union) pension plan.

This paper provides evidence on the amounts of both lost take-home wages for nonunion employees and additional costs to employers as a result of the adoption of PLAs.

Had President Obama's Executive Order 13502 been in place in 2008, lost wages for nonunion construction workers would have ranged from $184 million to more than $613 million, depending on the assumption made for companies executing contracts through PLAs. Similarly, additional costs to nonunion employers would have ranged from $230 million to $767 million. In total, the move to PLAs would have cost nonunion workers and their employers $414 million to more than $1.38 billion annually. In addition, nonunion contractors may face significant exposure to withdrawal liability if they participate in multi-employer pension plans imposed on them by PLAs.

This robust data and well-documented concerns about the impact of a PLA's fringe benefit requirement on nonunion employers and employees should be considered carefully when evaluating whether Executive Order 13502 and government-mandated PLAs are good public policy.

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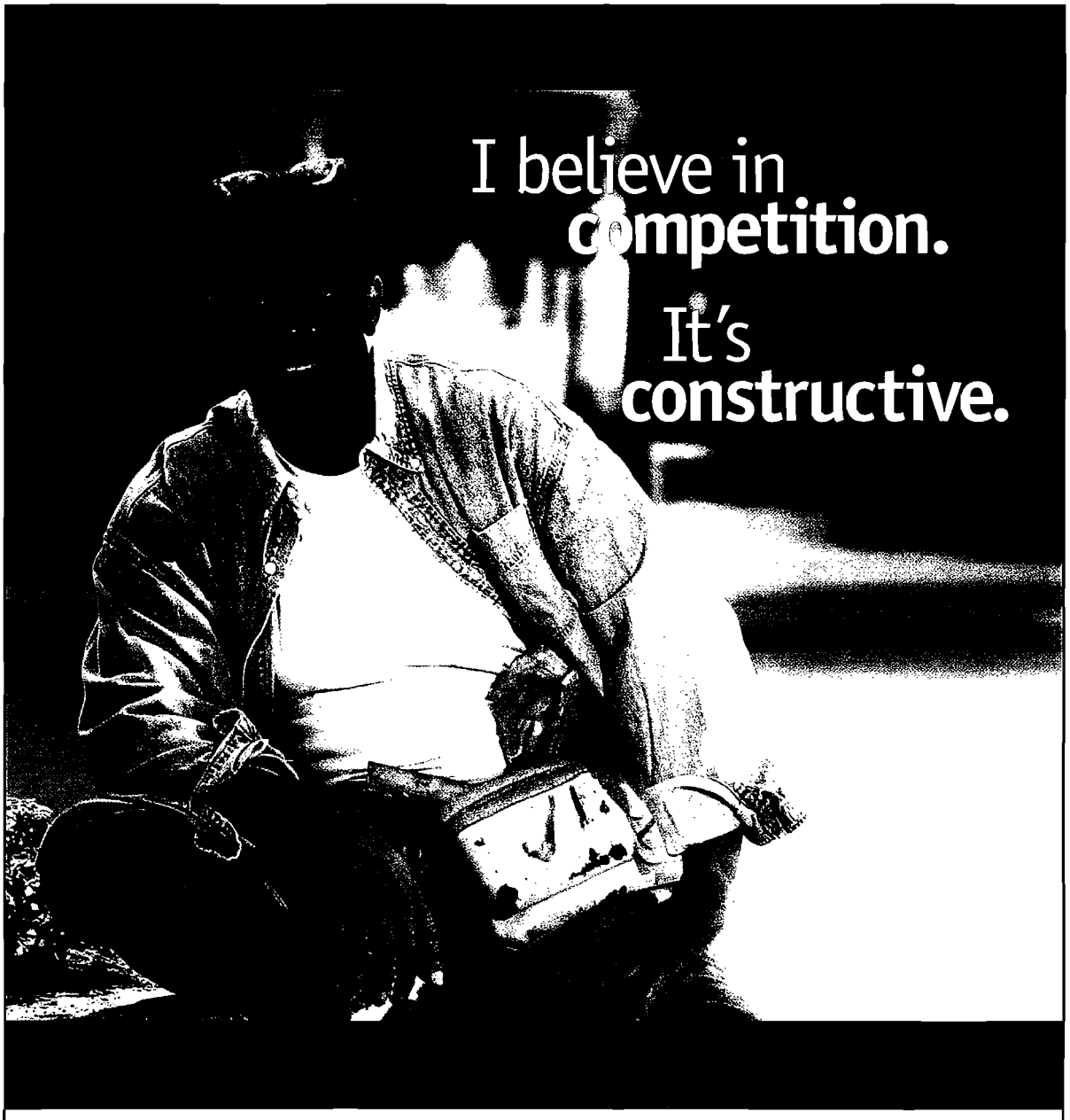

I'm a merit shop construction contractor. That means I hire the best people for the job, whether they're union or non-union workers. But when there's a union-only project labor agreement in place, it doesn't make sense for me to bid and most of my employees would be out of a job. I'd have to hire through the union hall, pay into the union funds and adopt union work rules. I'm not against using union labor; I just don't think it should be mandatory. Competition brings out everyone's best effort. Isn't that what it's all about?

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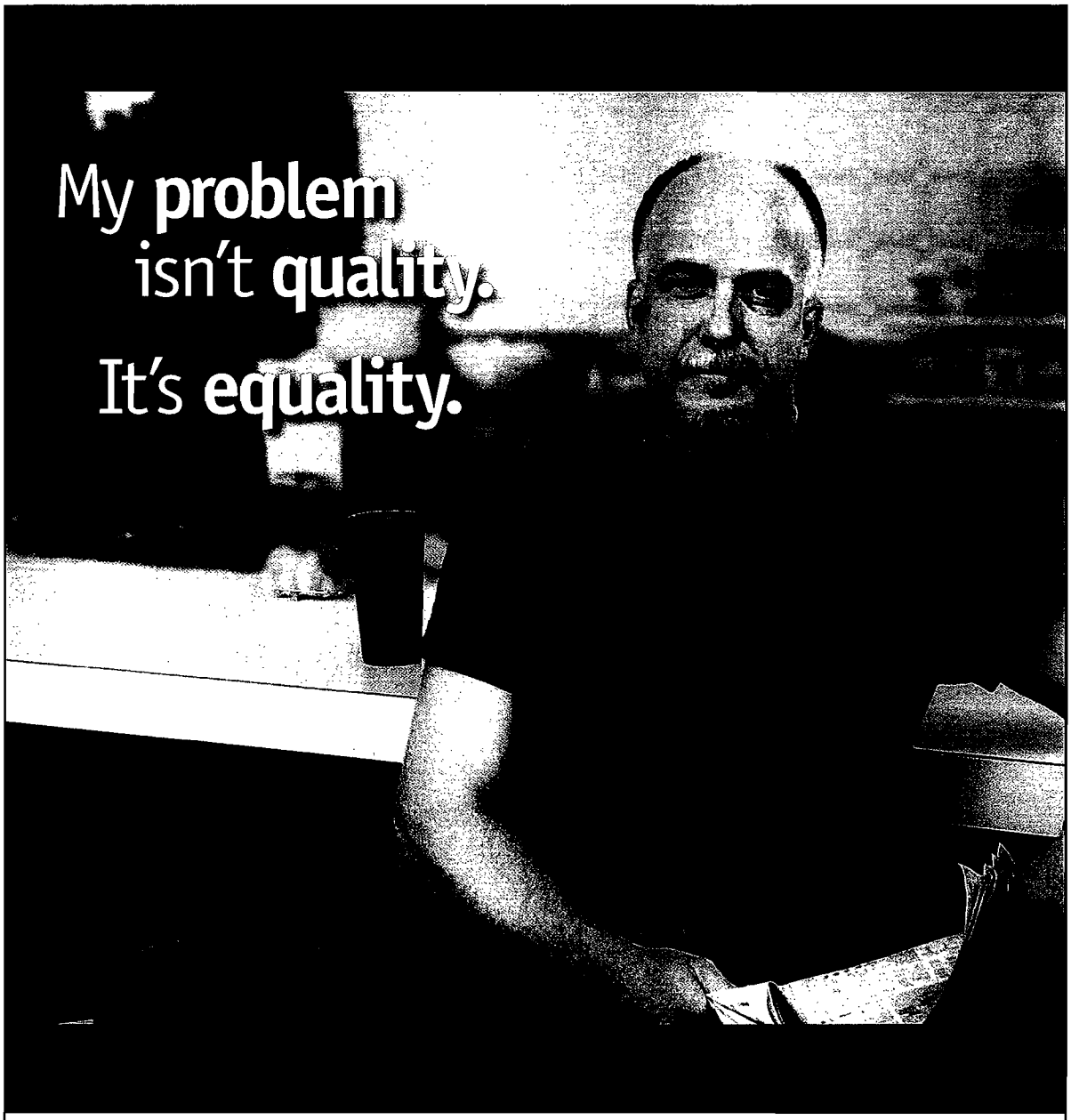

As a merit shop construction worker, I'm among the 85% of people in my field who choose not to belong to a union. But even though we're in the majority, we're often discriminated against. Not because of our ability, but because big labor and politicians enter into union-only project labor agreements on projects in our community. It's a myth perpetuated by those opposed to open competition that only union workers can do quality work — something I pride myself on. I'm a highly trained, experienced and motivated employee. I say give everyone a fair shot. And may the best skills win.

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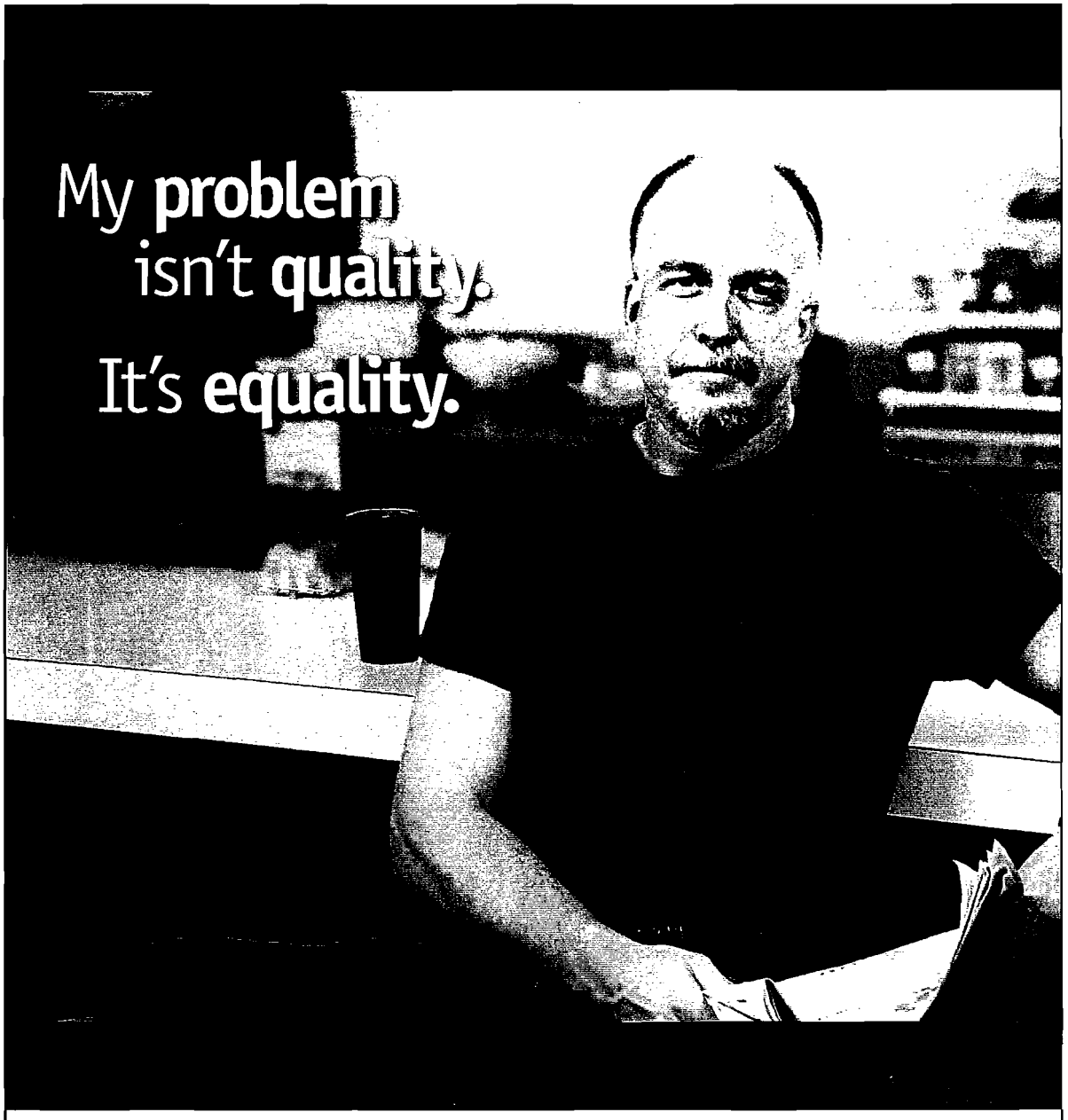

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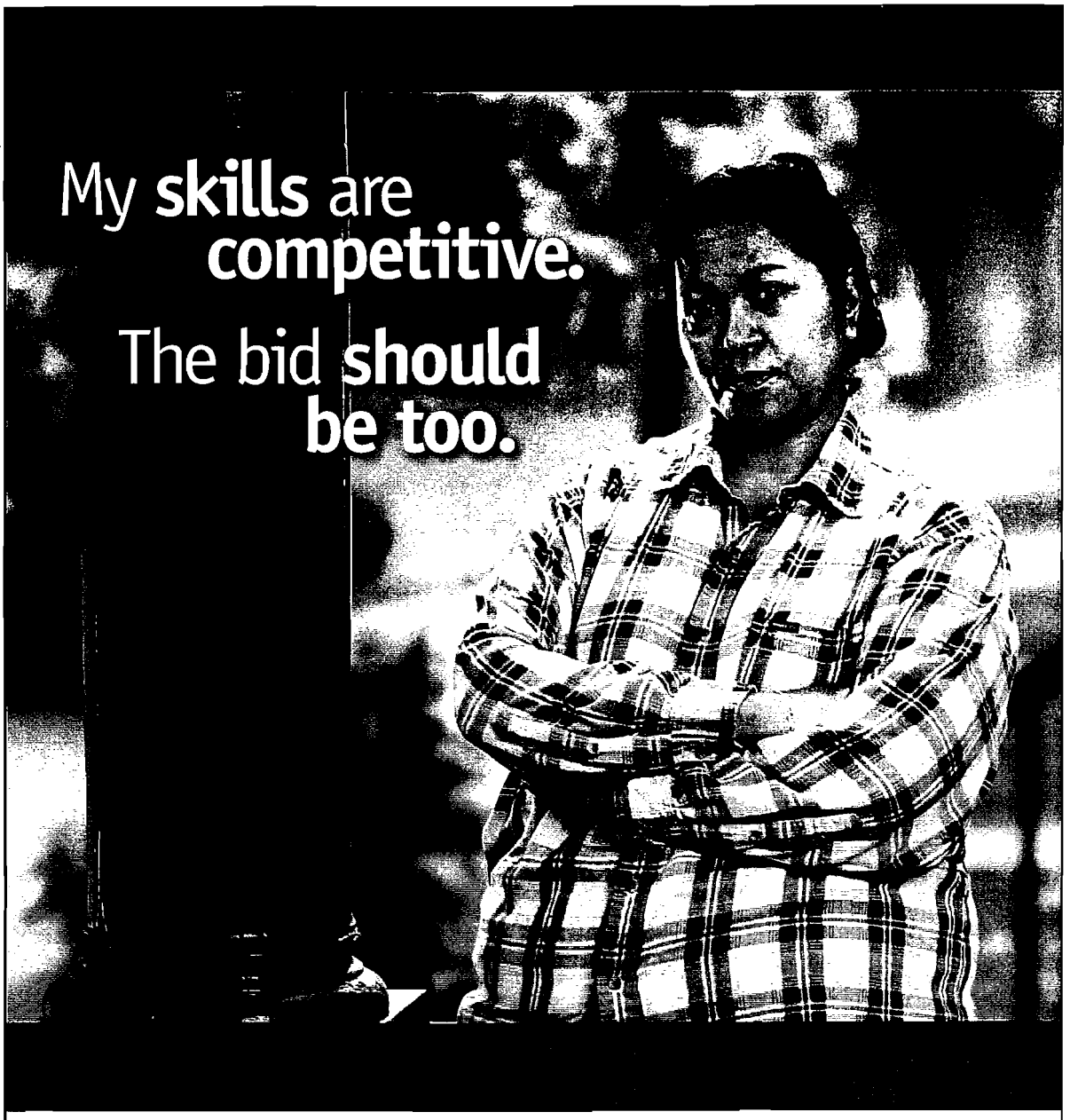

The opportunity to compete is supposed to be open to all. But in the construction industry, it doesn't always work that way. I'm among the eight out of 10 construction workers in America who don't belong to a union. So when government requires a union-only project labor agreement, I'm out of a job even though I have all the necessary training and skills. The fact is, I have everything the job requires. Including the skill to compete for it.

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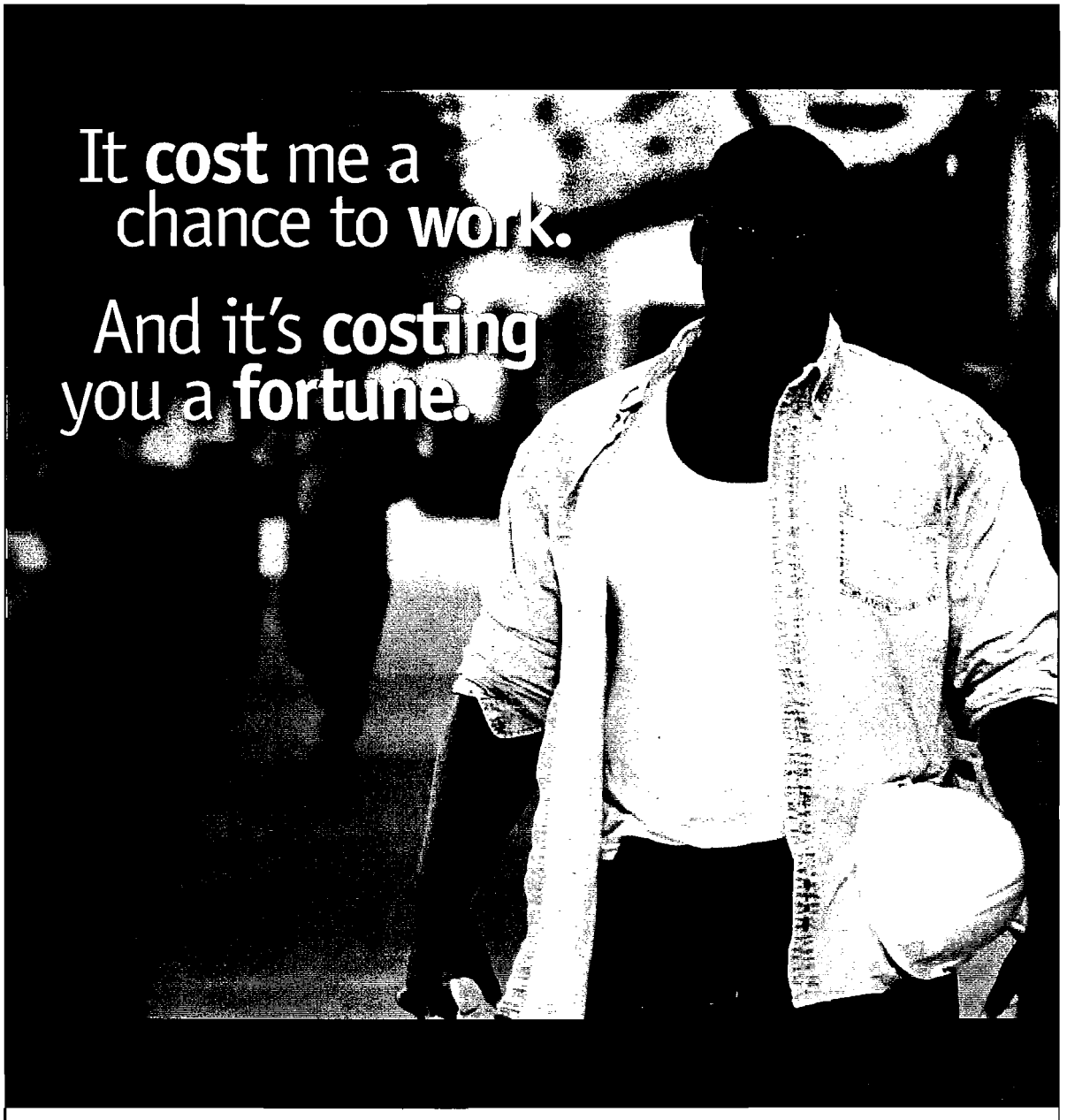

As a merit shop contractor, my employer hires both union and non-union construction workers like me. But often, they can't even bid on a job. When there's a union-only project labor agreement in place, my boss would have to abide by union rules. He'd also have to leave me out, unless I agreed to sit on the union bench and pay union dues. It's costly for the contractor, for me, and especially for you as a taxpayer. Limited competition just leads to higher bids. And inefficient union work practices drive construction costs. Tell your elected officials to give all of us a break.

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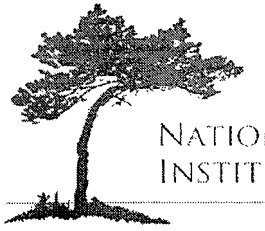
Indiana Chapter

September 7, 2011

Testimony Before the Interim Study Committee on Employment Issues

W. Erik Bruvold & Dr. Dale Glaser



NATIONAL UNIVERSITY SYSTEM
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Exhibit C
Interim Study Committee on Employment Issues
Meeting #2 Sept. 7, 2011

Speakers Present

- W. Erik Bruvold
  - President & CEO, National University System Institute for Policy Research (NUSIPR)
  - B.A., Political Science & Public Policy, University of Denver
  - M.A., Political Science, University of California - San Diego

- Dr. Dale Glaser
  - Principal, Glaser Consulting
  - Ph.D., Industrial-Organizational Psychology, California School of Professional Psychology

National University System & NUSIPR

- National University is California's 2nd largest non-profit university
- NUSIPR is a research unit affiliated with the National University System since 2009
- Research interests include regional economic development, economic impact analyses, & public policy research focused on San Diego/Baja California mega-region

California is a Good Test Bed to Address the Question of PLA Impact on Construction Costs

- Since 1998, California has been on a school construction boom
  - $64 billion+ in bonds authorized
  - 21,000+ classrooms built since 2002
- Two statewide databases on public school construction costs
- Proscriptive statewide school construction regulations
- Relatively small variance in prevailing wage
- One of the nation's toughest public records law for local governments

Building our Data Set

- Spring 2010 – submitted public records request to 319 school districts for 1,000 school construction projects.
- Focus on school construction in California between 1996 and 2008
  - 40,000 to 400,000 square feet
  - Valuation of $5 million or more
- Information back from 551 Projects in 180 school districts (65 PLA, 486 non-PLA)
- Dataset is four times larger than any other published study

Reviewing the Descriptive Statistics

Variable	Description	Minimum	Maximum	Percentage or Mean	Percentage or Mean w/ PLA	Percentage or Mean non-PLA
PLA	Project built under PLA	0	1	.118	1	0
Elementary	Elementary v. non-elem. School	0	1	.604	.615	.602
Multi-Story	Single v. multi-story	0	1	.368	.969	.288
Gym	Inclusion of gymnasium	0	1	.294	.385	.282
Pool	Inclusion of swimming pool	0	1	.049	.046	.0494
Demolition	Demolition required	0	1	.24	.846	.158
Square Footage	Total square footage	12,812	370,000	84,364	86,278	84,108
Average Date	Average year of construction	1996	2009	2003.85	2006.34	2003.52

Ordinary Least Squares Model

Variable	b[1]	t-statistic	p-value	Significant?
PLA	28.902	2.523	0.012	Yes
Elementary	-8.599	-1.186	0.236	No
Multi-Story	-10.299	-1.419	0.157	No
Gym	25.304	3.511	< .001	Yes
Pool	38.141	2.585	0.01	Yes
Demo	18.529	2.216	0.027	Yes
Sqr Footage	-0.0002	-3.922	< .001	Yes
Average Date	7.852	8.367	< .001	Yes

r-squared = .279

Results

- Avg. cost per square foot for all projects was $228.56 (adjusted for inflation)
  - PLA projects cost $302.98 per square foot
  - Non PLA cost $218.61 per square foot
- Controlling for other factors, PLAs are associated with project costs$28.90 (13%) to $32.49 (15%) per sq. ft. higher than non-PLA projects
- Consistent with previous research which found PLAs are associated with higher school construction costs by 9% to 20%.

Omitted Variable Bias and Collinearity

- A danger in complex models with two or more variables is that the predictors of interest are closely correlated with another (collinearity)
  - E.g G. collinearity between English Language Learners and Disadvantage socio-economic conditions in some districts.
- In our model it is the case that LAUSD and PLA are highly collinear
  - LAUSD - 47 out of 48 schools built with PLAs. 47 out 65 of the entire dataset
- Endemic to this research - Many PLAs are political decisions; more likely in urban areas and Urban areas are more expensive to build in

Omitted Variable Bias and Collinearity (continued)

- Tried to tease out whether PLAs are the driver or some other factor
  - In subsequent correspondence it was suggested that seismic standards, underground parking, and wages rates were the omitted variables
  - We were able to incorporate underground parking and seismic into new model (n=545 due because we could not ascertain parking situation)
- Results – slight improvement in model fit, PLAs remain significant

New Statistical Model

Variable	b	t-statistic	p-value	Significant?
PLA	33.438	2.356	.019	Yes
Elementary	-4.505	-.507	.613	No
Stories	-9.222	-1.247	.213	No
Gym*	26.147	2.514	.012	Yes
Pool	38.578	2.607	.009	Yes
Demo	17.721	2.095	.037	Yes
Sqr Footage	<.001	-4.148	<.001	Yes
Average Date	8.150	.8.636	<.001	Yes
Seismic	.292	.043	.966	No
Parking	23.288	1.355	.176	No

r-squared = .290
N=545

*additional data refinement.

Omitted Variable Bias and Collinearity (continued)

- Other tests were inconclusive
  - Dropping 48 LAUSD project showed PLAs significant but model fit decreased
  - Mixed Linear Modeling challenged by structure of dataset
  - Propensity score matching (low matching scores and almost no variable remained significant)
- Bottom line on OVB and Collinearity
  - USC Keston Institute - Best design would be randomized experiment.
  - The suggested OVs have failed to fundamentally challenge initial results; Subsequent research could continue to explore new variables
  - Belman 2010 suggested that one way to get at "PLA/non-PLA comparisons, all other things being equal, Is to "Expand the size and variability of the data". <u>That is what we did.</u>
  - Only test that would seem to satisfy critics is if major urban district did randomized experiment - not holding breath

Conclusion

- PLAs are associated with higher school construction costs across four statistical models
- Study is largest and most comprehensive to date in this field of research
- Third different group of researchers since 2000 that failed to find evidence that PLAs are associated with lower construction costs

Exhibi

Measuring the Cost of Project Labor Agreements on School Construction in California

By Vince Vasquez, Dr. Dale Glaser, and W. Erik Bruvold

Exhibit D
Interim Study Committee on
Employment Issues
Meeting #2 Sept. 7, 2011

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The National University System Institute for Policy Research is a non-partisan organization that formulates and promotes high quality economic, policy, and public-opinion research to improve the efficiency and effectiveness of local governments in San Diego County and the quality of life enjoyed by the region's citizens. For more information, visit: www.nuinstitute.org

This study was underwritten, in part, by the Associated Builders and Contractors, California Cooperation Committee (ABC-CCC). All conclusions, errors and omission are the sole responsibility of the authors. We thank ABC-CCC for their support.

ACKNOWLEDGMENTS

The authors would like to acknowledge a number of individua that have made the completion of this report possible. A errors, omissions or faults are solely those of the authors.

Recognition is due to Dr. Jerry Lee, Chancellor of the Nationc University System, and the NUSIPR Advisory Committee whose guidance and support was instrumental from beginnin to end. We also would like to thank Dr. Paul Bachman of th Beacon Hill Institute at Suffolk University whose original wor in this area inspired us when we first encountered it almost decade ago.

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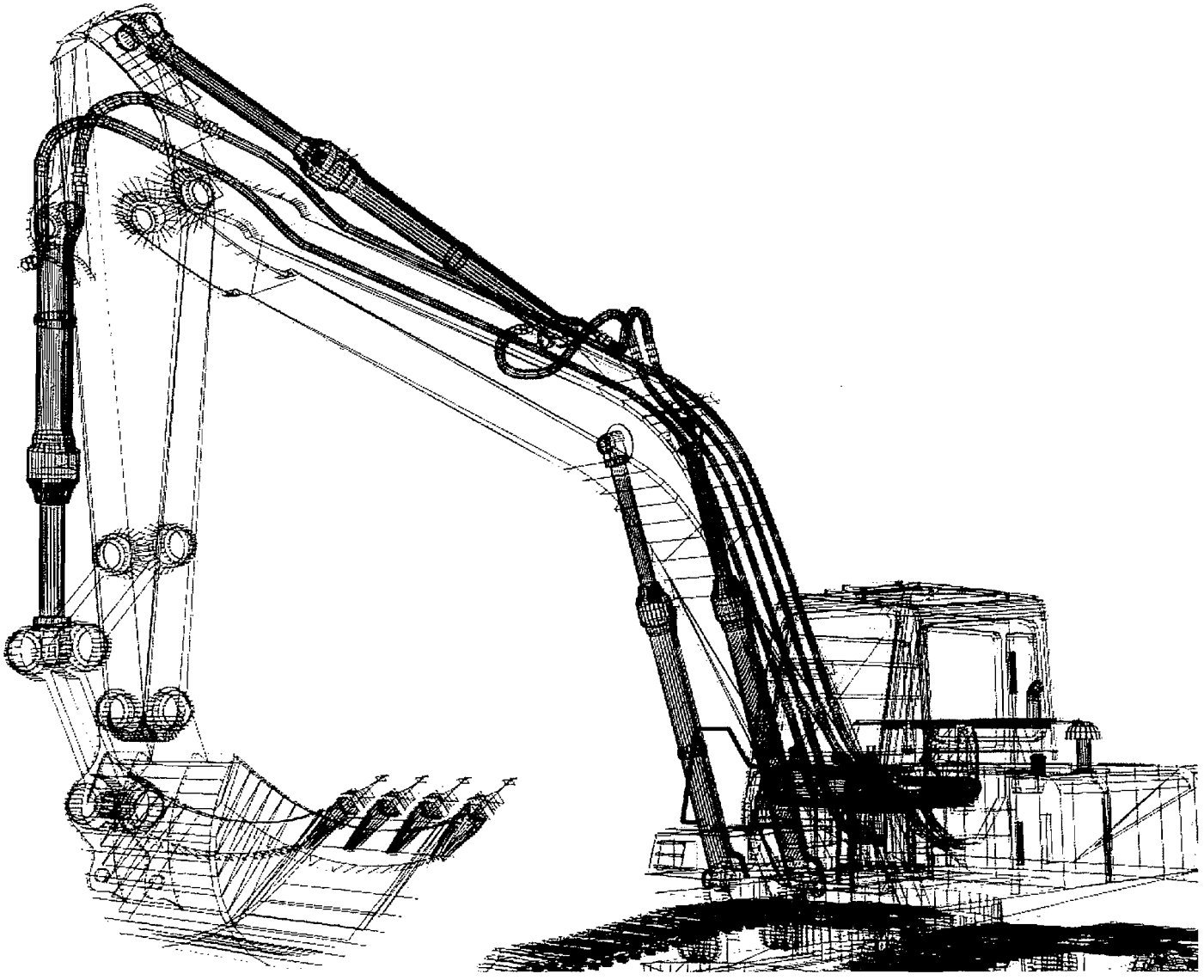
The authors would also like to extend a special thank you t the extensive comments they received from Mr. Richard G Little and his team at The Keston Institute for Public Finance an Infrastructure Policy at the University of Southern Californic Their review was requested by the project sponsors, and th final comments the authors received from them are included i this report as Appendix A.



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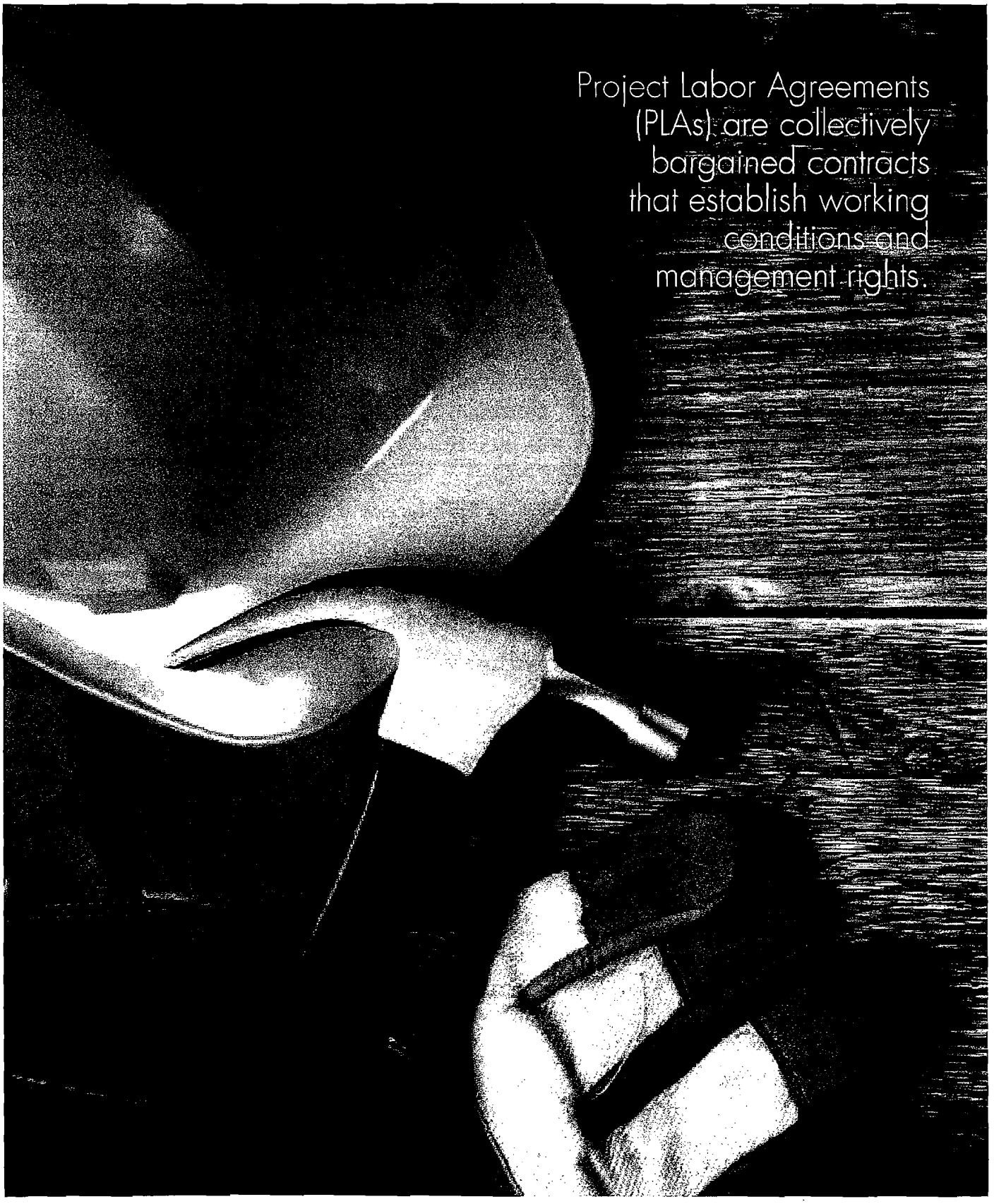

Project Labor Agreements (PLAs) are collectively bargained contracts that establish working conditions and management rights.

This study examines the relationship between the adoption of PLAs and public school construction costs in California.

EXECUTIVE SUMMARY

Project Labor Agreements (PLAs) are collectively bargained contracts that establish working conditions and management rights. They have been used by both public and private entities since the 1930s. In the debate over the use of PLAs, one of the most prominent areas of disagreement is whether these contracts effect construction costs[1]. Supporters argue that PLAs save public dollars because contractors with highly skilled workers are more likely to participate in construction projects, resulting in higher worker productivity and fewer change orders[2]. Proponents also contend that special provisions in PLAs enhance job site cooperation and ensure quick and effective resolution of labor disputes that would otherwise result in delays that could either increase costs or create severe operational disruptions.

Opponents argue that PLAs increase costs. They claim that the requirements imposed by PLAs discourage nonunion contractors from bidding on projects and subcontractors from participating. This reduced competition, it is claimed, results in overall higher bids. Opponents also claim that the work condition rules required in PLAs increase labor costs and that these are passed onto the project's developer.

This study examines the relationship between the adoption of PLAs and public school construction costs in California. We examine the inflation-adjusted square foot construction costs for 551 school projects in California built between 1995 and 2009. Sixty-five of these projects were built using PLAs in eight separate school districts.

Our research shows that PLAs are associated with higher construction costs. We found that costs are 13 to 15 percent higher when school districts construct a school under a PLA. In inflation-adjusted dollars, we found that the presence of a PLA is associated with costs that are $28.90 to $32.49 per square foot higher.

The relationship between the presence of a PLA and higher school construction costs was found when controlling for other factors that previous study in this field found to effect the costs of construction. We conducted three sensitivity tests, including and excluding projects known to have extraordinary costs and employing statistical tests that neutralize the impact of outliers on results. In each case, we found that school construction costs were higher when PLAs were used.

PROJECT LABOR AGREEMENTS

Project Labor Agreements (PLAs) are contracts signed between construction trade unions and project owners (in this research, school district officials) to establish working site conditions and management rights prior to the start of project construction.[3] On federal projects, PLA use dates back to at least 1938 when a PLA was signed for the construction of the Grand Coulee Dam in Washington State. In 1940, a similar agreement was used during the construction of the Shasta Dam in Northern California. Other major public infrastructure projects built under PLAs include atomic facilities in Oak Ridge, Tennessee; Hanford, Washington; the Nevada Test Site; NASA's Cape Canaveral Launch Operations Center (now known as the Kennedy Space Center), and Mississippi Test Facility (now known as the John C. Stennis Space Center).

There is variation among the provisions in PLAs, but generally they contain two key components. The first involves how labor disputes will be handled. Contractors who are party to PLAs agree not to lock out workers from worksites. In turn, the construction trade unions agree to refrain from strikes. Both parties consent to a process where disputes are resolved without labor disruptions, usually under some form of accelerated arbitration.

The second core component found within PLAs involves who will be hired and the conditions of their employment. Signatories to these agreements recognize labor unions as the exclusive bargaining representative for all project workers. Common to most PLAs is a requirement that contractors use a centralized union job referral system or "hiring hall" as a source of workers.[4] Most PLAs require workers on the project to pay union dues, regardless of their membership status. Also common are requirements that contractors make payments on behalf of their workers to union-affiliated fringe benefit trust funds during the course of the project.

Debates about the efficiency and effectiveness of these agreements are intense. Supporters of PLAs argue that they keep costs down and ensure timely construction (and create ancillary benefits beyond the construction of the project).[5] By agreeing to predetermined wages and benefits by mandating the use of union hiring halls, proponents argue that labor markets are more effective and the supply is more certain. Proponents also argue that worker grievances and alleged contract violations can be resolved quickly and more efficiently under PLAs. As

THIS STUDY, WE BELIEVE, BREAKS NEW GROUND IN SIX IMPORTANT WAYS:

1) The data set examined is more than four times larger than the next largest data set used in similar studies.

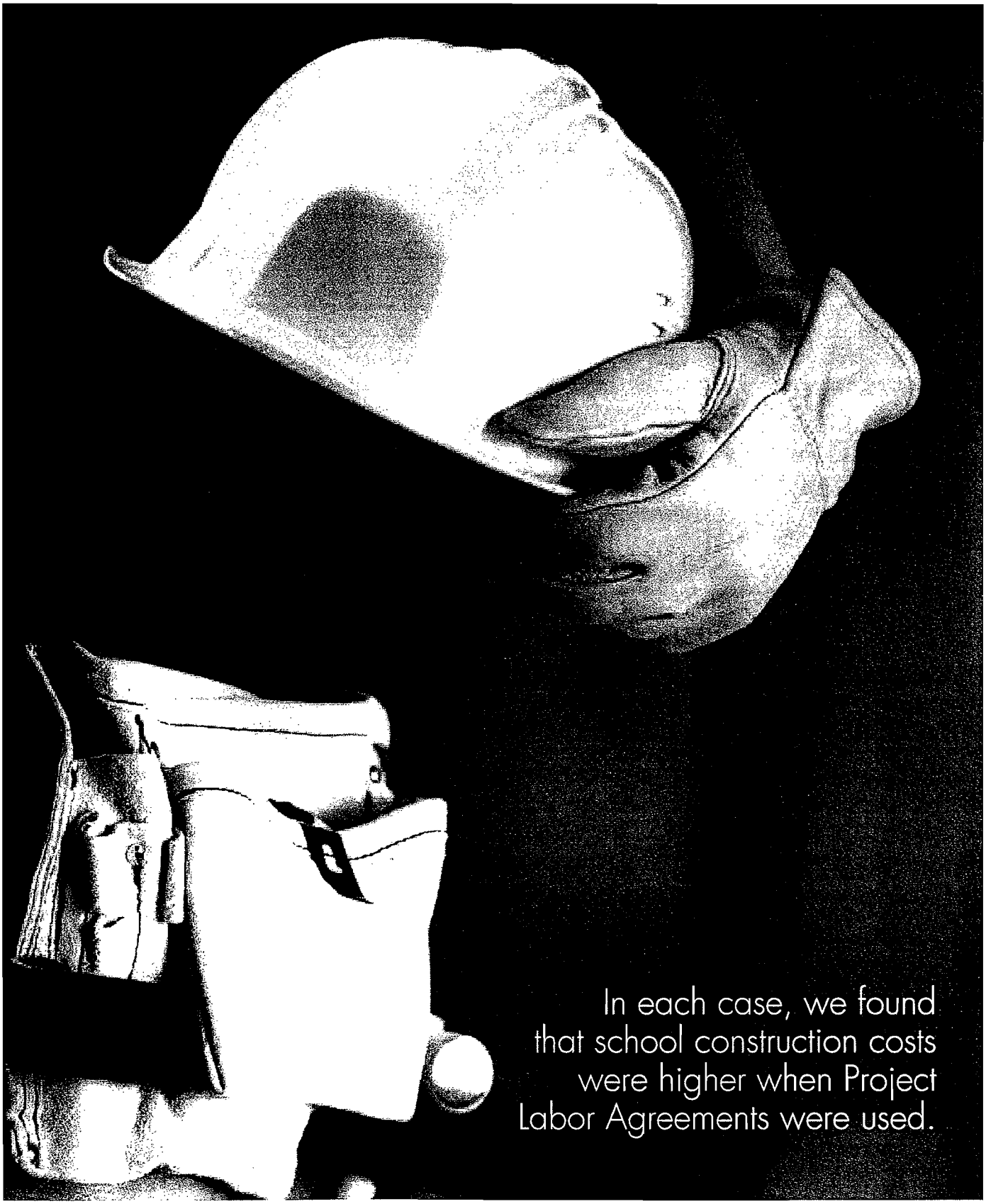
2) By confining the study to a single state with a highly detailed and prescriptive education-construction code, we partially controlled for factors like architectural requirements and construction regulations.

3) We have richness in the data. Projects ranged from small school additions in rural school districts to large high school facilities built in densely populated urban areas.

4) The data obtained relate to the final cost of construction.

5) NUSIPR took into consideration how some isolated school construction projects were exceptionally costly for reasons unrelated to labor practices. We did this in several ways, including the use of robust regression tests and respecifying the model, excluding projects like the Los Angeles Unified School District's Belmont Learning Center (now known as the Edward R. Roybal Learning Center).

6) We cross-referenced data obtained from districts via public records access laws with data obtained from the California Division of the State Architect. When there were discrepancies, we contacted the school districts to resolve differences in the data, sometimes utilizing the state's public records access laws for a second time. This approach refined data to a much higher degree than in prior studies and offers a way for future researchers to duplicate our methods and confirm our findings.



In each case, we found that school construction costs were higher when Project Labor Agreements were used.

noted, strikes and lockouts are explicitly prohibited. Proponents also claim that PLA requirements involving apprenticeship programs and improved workplace safety lower workers' compensation claims. In total, proponents argue that these provisions create stability and predictability that reduce delays, cost overruns, and change orders, thus increasing the likelihood that projects will be completed on-schedule and on-budget.

PLA critics argue that the provisions within labor agreements are onerous, discriminatory, and unnecessary. They claim that construction projects under PLAs are less likely to receive interest from nonunionized contractors and subcontractors. This results in fewer bidders and less competition, which in turn, leads to higher costs. Mandatory contributions to union trusts for worker benefits (healthcare, pension, etc.) mean some nonunion contractors and subcontractors will have higher labor costs, some of which will be passed through to the project's owner.

PREVIOUS PLA RESEARCH ON COSTS OF NEW SCHOOL CONSTRUCTION

There is an increasing body of empirical research in both mainstream economics and public policy studies that has looked at costs of new school construction. Many studies focused on a single case. For example, the Pasadena City Council re-bid a contract to build a power plant in 2003, amending the contract and adding a PLA. The lowest bidder, Sermatech Power Solutions, increased its bid by 15 percent, from $14.9 million to $17.2 million, to complete the work. In a local newspaper, the vice president, Nathen Howard, stated that "the additional cost is '100 percent' due to the PLA, and that the city actually removed several work items from the contract."[6] Similarly, Oakland Unified School District retroactively added a PLA to a contract to renovate Burckhalter Elementary School in 2004. The original contract winner (and lowest bidder), M. A. Davies Builders, competed against seven other bidders and offered to complete the job for $1.8 million. After Oakland Unified rebid the contract under a PLA, only three companies placed bids, and the lowest bid came in at $2.2 million, a 22 percent increase.[7]

A handful of studies have gone beyond the case study approach and employed comparative techniques. For example, a 2001 UCLA report examined three utility projects in California built under a PLA and featured the testimony of project managers who broadly reject the criticisms of PLA opponents.[8] In 2010, a report from New Jersey's Department of Labor examined the award costs of new school construction for forty PLA projects and thirty-fi non-PLA projects.[9] They found that the inflation-adjusted cost p square foot for PLA projects was 30.5 percent higher than for no PLA projects. The report also concluded that PLA project costs we higher than non-PLA project costs even when controlling for oth variables, such as region and type of school.

These anecdotes and narrow approaches have limited val because they are unable to control for other important variabl such site conditions or the complexity of construction (both which impact costs). These studies also can exhibit selecti bias, as proponents and opponents seek out the best cases wi which to illustrate their respective points. Often, the proje examined are so unique as to be of limited utility to those tryi to understand the general impact of PLAs across geographic a temporal boundaries.

Two groups of researchers have used statistical techniques a larger data sets to better understand construction costs. T first, the Beacon Hill Institute at Suffolk University, published study in 2003 comparing school construction costs in the Bost area. Written by Paul Bachman, Darlene C. Chisholm, Jonath Haughton, and David G. Tuerck (Bachman et al.), the stu examined a relatively large sample of 126 school constructi projects in the greater Boston metropolitan area, 21 of whi were built under a PLA.[10] Comparing the preliminary project b amounts of their sample across five different models, Bachm et al. determined that PLAs increased the cost of projects by $ to $20 per square foot, or nine percent to 15 percent more th the average cost of a non-PLA project. The researchers we then able to obtain actual construction cost information for projects, and of these, PLA projects cost $16.51 more per squa foot than non-PLA projects, a 12 percent premium.

Bachman et al. analyzed their data using regression analysis, class of statistical techniques used to test relationships betwee dependent variable and one or more independent variables. T authors constructed several models, each containing three to sev independent variables. Factors Bachman et al. examined includ the number of floors in the construction project, whether the proj was new construction or a renovation, and whether the school w an elementary or high school. The researchers consistently foun statistically significant relationship between the presence of a PI and higher construction costs across all their models.

Bachman et al. have expanded upon their Massachusetts PI

work in several subsequent studies. In 2004, they published a study with Jonathan Haughton and David G. Tuerck analyzing 71 public schools in the state of Connecticut, of which 14 were built under a PLA. That study found a significant cost increase related to school district requirements that contractors sign PLAs with unions—an 18 percent premium over the average cost of non-PLA projects.[11] In 2006, Paul Bachman and David G. Tuerck examined a sample of 117 public school construction projects in New York State, of which 19 (16 percent) were PLA projects. Bachman and Tuerck found that PLA projects added approximately $27 more per square foot (in 2004 dollars) to the bid cost of construction, which is a 20 percent increase over the average bid cost per square foot for non-PLA projects.[12]

The other principal group examining this issue is Dr. Dale Belman and Russell Ormiston of Michigan State University and William Schriver and Richard Kelso of the University of Tennessee (Belman et al.). In 2005, they distributed a paper examining 92 school construction projects, 70 of which were in Massachusetts and 22 of which were in Rhode Island and Connecticut.[13] Of these, 10 school projects (10.8 percent) were built under a PLA. Belman et al. gradually increased the number of variables tested from three to 30 across six different models.[14] In the first two more leanly specified models, PLA projects in Massachusetts were initially found to be statistically significant, raising the cost of construction by an additional $28.57 to $32.31 per square foot, or 16.6 percent to 20.2 percent more than non-PLA projects. Belman et al. argued, however, that since contractors were often required to sign PLAs for the most complex, largest projects, a robust test would include additional explanatory variables that were likely to impact costs. The authors wrote, "Our research also indicates that schools built under PLAs are often more complex projects than those built without PLAs and that, absent appropriate controls for the nature of the construction, the increased costs associated with complexity are erroneously attributed to PLAs."[15] This expanded analysis found that while the schools built under PLAs had higher costs, this increase was not statistically significant. Belman et al. concluded that while "simple" statistical tests may find that PLAs raise the cost of school construction, "this is not found in more complete specifications that better fit the data."[16]

An updated 2006 brief from Bachman et al. took issue with the Belman et al. analysis, stating that "a cautious conclusion would be that the sample used is not large enough to permit one to conclude that PLAs have no significant effect on costs."[17] As Bachman points out, the Belman study failed to find any support for the proposition that PLAs actually lower construction costs. More recently, in 2010, Belman et al. reexamined their original 2005 data to determine whether it is possible to distinguish between the cost effect of PLAs and the effects of project characteristics commonly found in schools built under PLAs.[18] Looking at seventy school projects from Massachusetts, Belman et al. ran a series of statistical models that attempted to sift through the impact of variables, such as whether a project was built in Boston, within the Boston Public School District, and under a PLA.[19] Ultimately, the authors conclude that there is significant conflation between the presence of PLAs and characteristics commonly associated with PLA projects, and that, absent of a larger data set, it is not possible to statistically isolate their individual explanatory power over project costs. Belman et al. also found that "PLA and non-PLA schools have different and largely non-comparable characteristics" that impair researchers' ability to use advanced statistical techniques that could provide answers in the PLA debate.[20]

CALIFORNIA SCHOOL CONSTRUCTION AND PLAs

This research seeks to expand upon prior work by looking at the effects of PLAs in California. The Belman et al. and Bachman et al. studies provide valuable insight into the fiscal impact of PLAs in general. However, both sides have insufficient sample sizes, which make it difficult to isolate the impact of PLAs from the myriad of other factors that can impact costs, especially in the urban settings where they are frequently employed. The National University System Institute for Policy Research (NUSIPR) set out in May 2010 to assess the impact of PLAs on the cost of public school construction projects in California. The timing for this research is particularly appropriate, as debates over the use of PLAs in school construction are becoming increasingly pronounced.

To date, 24 California K–12 school districts have adopted PLAs covering school construction. In the course of our research, we were ultimately successful in making contact with eight of these school districts: Los Angeles Unified, West Contra Costa Unified, San Leandro Unified, Roseville City Elementary,[21] Pittsburg Unified, Oakland Unified, Sacramento City Unified, and Santa Ana Unified. This allowed us to initially identify 127 PLA projects with significant variation on several independent variables that prior research suggested affect school construction costs.[22] These variables include total square footage; the start and end date of project construction; whether demolition was required prior

to construction; the number of stories; and whether a gym or swimming pool was built under the project.

In addition, California has an education code that is highly prescriptive with respect to construction standards and requirements. Through the Division of the State Architect (DSA), the State of California enforces minimum statewide standards for school design, structural safety, construction, and planning.[23] We believe this highly prescriptive code creates greater uniformity and reduces regulatory variance among different school projects. This isn't to say there are no differences or outliers, but, compared to the areas examined by previous studies, California schools look remarkably similar with respect to design, construction specifications, and the kind of features that are or are not included.[24]

Finally, this study benefits from two factors unique to California that facilitated data collection. First, the State of California has a comprehensive public records disclosure law for state and local governments. Rather than depending on interviews or voluntary data from project architects or subcontractors, we were able to gather data about costs and project characteristics directly from school districts. (For a copy of our Public Record Act requests, see appendix B.)

Secondly, data on final construction costs for California public schools completed over the last 10 years are available in a searchable database located on the California Division of the State Architect website. This database was an invaluable tool for confirming the data provided by districts and identifying the presence of discrepancies that required follow up, refinement, and confirmation.

METHODOLOGY

As with the Bachman et al. and Belman et al. studies, we first gathered school construction information from McGraw Hill Construction/Dodge reports. This data source, which is used by general contractors to prepare work bids, lists numerous features about construction projects, including the school district, site location, square footage, estimated project value, and construction start date. In many cases, it also contains contact information for the district, including in most cases a mailing address and, occasionally, the names of actual individual employees.

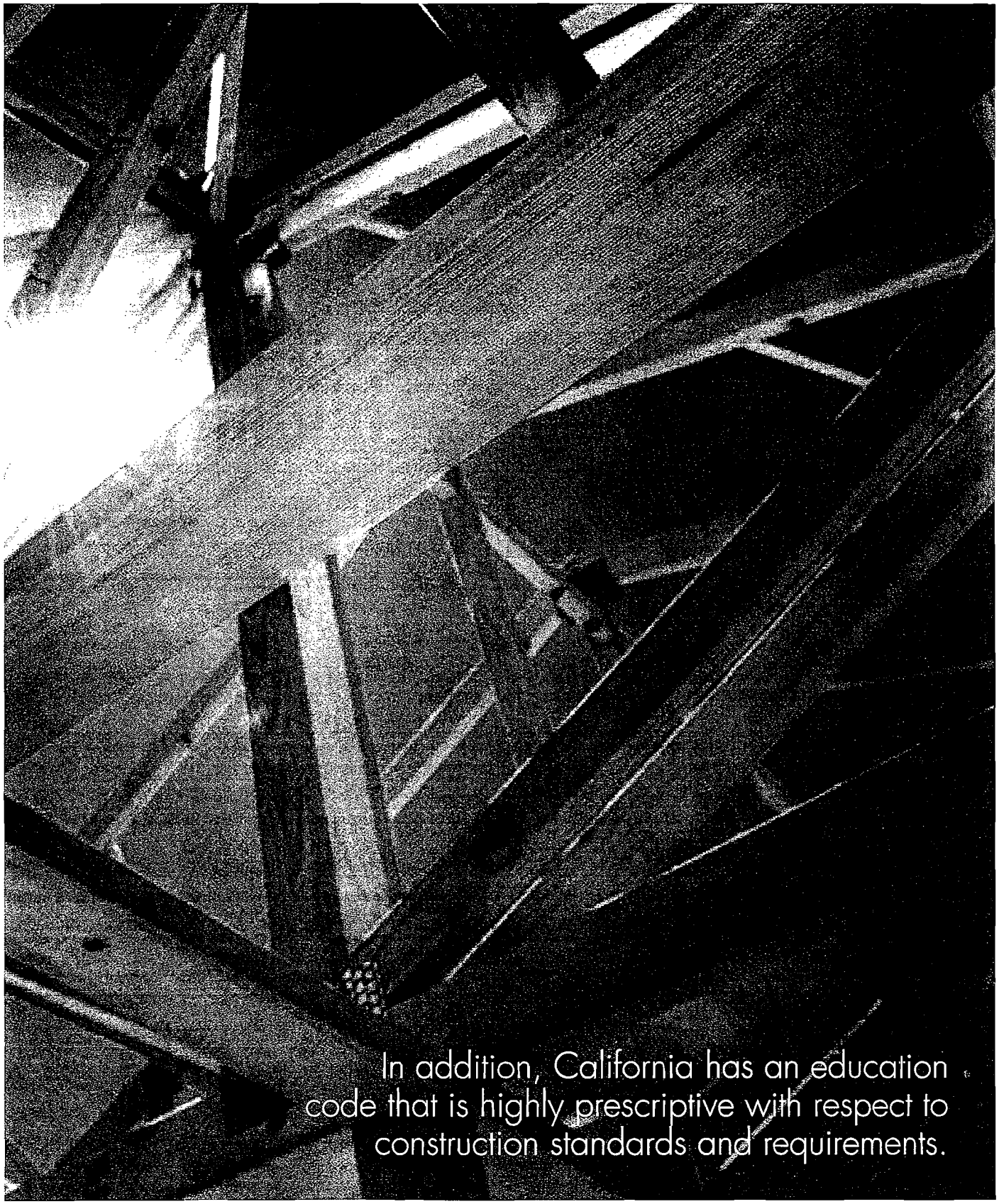
We began by identifying all California school construction projects built from 1996 through 2008, which yielded almost 11,000 projects. To reduce this number to a workable set of cases we limited our analysis by square footage and project value, similar to other studies. For example, Bachman et al. 2003 limited their Dodge data to school projects from the greater Boston area that ranged between 40,000 and 400,000 square feet, were valued at $5 million or more, and were built between 1995 and 2003.[25] The Belman et al. study limited its scope to the years 1996–2002, with no specified size range. With an interest in obtaining both current data and historical data, NUSIPR targeted new construction projects between 40,000 and 400,000 square feet, with a valuation of $5 million or more, and which Dodge identified as being built between 1996 and 2008.[26] These parameters reduced our data set to 1,023 school construction projects.

Both Belman et al. and Bachman et al. verified Dodge data with surveys of architects and contractors involved in the projects and directly obtained final construction data from school district officials. Faced with a significantly larger sample size, we chose a different approach, soliciting data from individual school districts via a California Public Records Act request.[27]

We requested information from 319 different California school districts. The letters listed the school construction projects of interest and requested information or documentation on the following:

- The project's total square footage
- The project's total construction cost
- The start date and end date of construction
- The type of school project built (elementary, high school, etc.)
- Whether the project was built under a PLA
- Whether the project was new construction or a modernization of an existing facility
- The number of stories built
- Whether the project included an HVAC system
- Whether the project included the construction of a gym
- Whether the project included the construction of a swimming pool
- Whether the project required demolition of existing structures[28]

This request generated complete data from approximately 50 percent of schools. Subsequently, NUSIPR followed up at least three times with school officials to obtain missing or incomplete data or to refine the parameters of our request. Over the course of seven months of active data collection, we made telephone



In addition, California has an education code that is highly prescriptive with respect to construction standards and requirements.

calls at least twice to school districts that failed to respond to the initial request or did not provide the data requested in their response. If we still did not receive data, the projects were eliminated from the sample.

We then verified the data from a second source, the California Division of the State Architect's (DSA) online Project Tracking System.[29] The data comes from a form submitted by the districts to the DSA when the construction contract is awarded and the change order documents are submitted to the DSA during the final review process.

We found it necessary to use both information sources. The DSA database contains neither information about construction site characteristics nor uniform information about the square footage of projects. In several instances, a new construction project is reported out in phases or aggregated with other projects undertaken by the district. Ultimately, the greatest value of the DSA database was in identifying discrepancies in the PRA information provided or in helping us to identify those school districts that required follow-up and refinement.

To control for the rise in construction costs during the period of time in our sample, we adjusted for inflation using the California Construction Cost Index (CCCI), which averages the costs of industry labor wages and building materials in Los Angeles and the San Francisco Bay Area.[30] We adjusted the cost per square foot of construction using a constant of 2000 dollars. This adjustment is similar to the "deflation" techniques used by both Bachman et al. and Belman et al.[31]

RESULTS

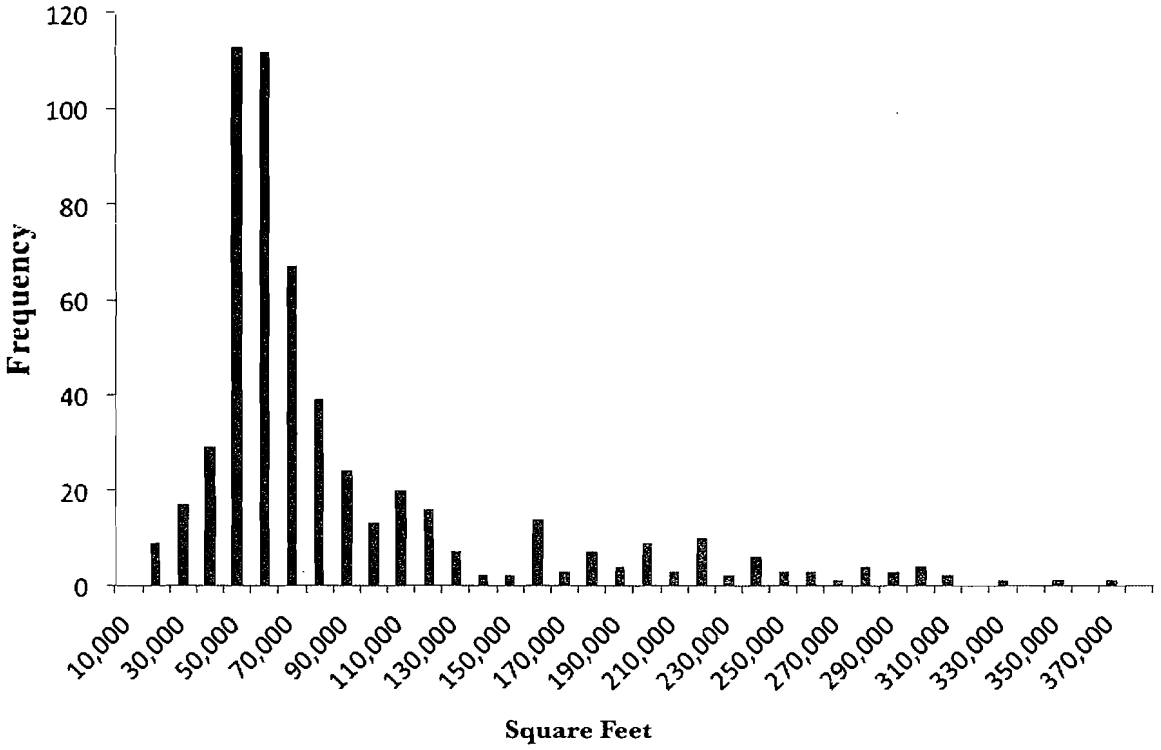
Our final sample size consisted of 551 school construction projects (a 53.8 percent inclusion rate) originating from 180 school districts and spread across 37 counties.[32] Our sample size is four times larger than any other data sample featured in a published PLA study.[33] (Chart 1)

Overall, 25.7 percent of projects (142) in our sample were classified as urban schools, 44.6 percent (246) as suburban schools, and 29.5 percent (163) as rural schools. Of these, 333 were elementary schools, 248 were single story projects, and 259 had a gym or multi-purpose room. Few projects contained

CHART 1: PLA Statistical Study Comparison

Study Name, Author	Year of Study	Number of Schools	Dependent Variable	Data Independently Available?
"The Effect of Project Labor Agreements on the Cost of School Construction," Belman et al.	2005	92	inflation-adjusted final cost of construction per square foot; inflation-adjusted log of final cost per square foot	No
"Do Project Labor Agreements Raise Construction Costs?," Bachman et al.	2003	126	inflation-adjusted bid cost of construction per square foot	No
"Do Project Labor Agreements Raise Construction Costs?," Bachman et al.	2003	62	inflation-adjusted final cost of construction per square foot	No
"Project Labor Agreements and Public Construction Costs in New York State," Bachman and Tuerck	2006	117	inflation-adjusted bid cost of construction per square foot	No
"Project Labor Agreements and Public Construction Costs in Connecticut," Bachman et al.	2004	71	inflation-adjusted final cost of construction per square foot	No
"Measuring the Cost of Project Labor Agreements on School Construction in California," Vasquez et al.	2011	551	inflation-adjusted final cost of construction per square foot	Yes

CHART 2: Histogram of Square Footage Figures in Sample



swimming pools (27), and less than a quarter required the demolition of existing structures on site (132). Within our sample, we were able to positively identify 486 school construction projects as non-PLA, while 65 (11.7 percent) were built under a PLA. This ratio is similar to the ones found in Belman et al. and Bachman et al. Most schools were built in Southern California and the Central Valley. As Charts 2 and 3 show, most school projects ranged from 50,000 to 70,000 square feet, and $10 to $20 million in total construction costs.

The average inflation-adjusted cost per square foot for these projects in California was $228.56 with a standard deviation of $78.08. Construction projects under PLAs were found to cost substantially more, with an average (mean) adjusted cost per square foot of $302.98, and a standard deviation of $102.21. In contrast, projects not built under PLAs had a mean cost of $218.61, with a standard deviation of $68.51.

This is not the whole story. If, for example, PLAs are principally found on projects in urban areas where the demolition of structures is necessary, or on multi-story projects, the observed cost differences may be a result of these project characteristics, not a PLA. Hence, we must isolate the impact of PLAs on adjusted square foot costs from other variables. To do so, we conducted a multiple linear regression analysis of the construction data. We utilized the ordinary least squares method,[34] conducting several sensitivity tests and specified models.

In our final model, we found a statistically significant relationship between PLAs and inflation-adjusted per square foot costs. Controlling for other factors that effect the costs of construction, this test indicated that new school construction projects built under a PLA cost $28.90 (13 percent) more per square foot than non-PLA projects. The following predictors also attained statistical significance: the presence of a gymnasium or pool, whether demolition of structures was required, the average date of construction, and the square footage.[35] (Chart 5)

The percentage of variability that can be explained by a statistical model is often reflected by the value of the model's r-squared value. For the full NUSIPR model, 27.9 percent of the variation in total cost was accounted for by the set of predictors. An r-squared value of 0.279 would generally be considered to be a large effect size for social science research. It is also within range of the r-squared estimates found in previous research.[36] Similar to Beacon Hill, NUSIPR conducted a weighted regression of the sample. This test found that

CHART 3: Histogram of Total Project Cost Figures in Sample in Present Dollars

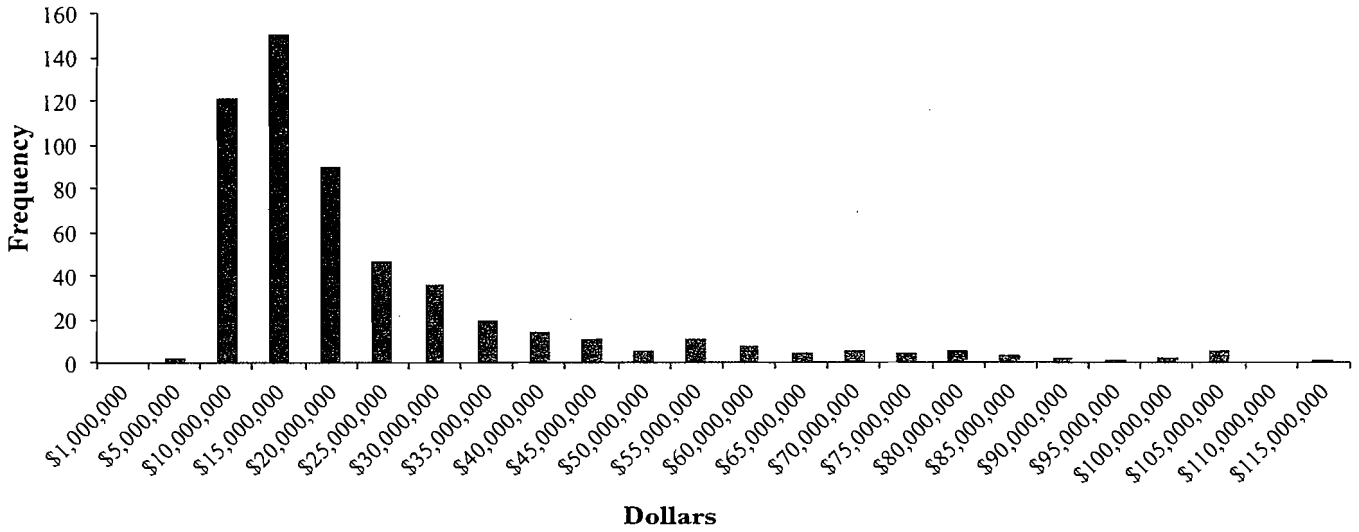


CHART 4: PLA Statistical Study Results Comparison

Study Name, Author	Year of Study	Number of Schools	Additional Cost per Square Foot	Percentage Increase Cost
"The Effect of Project Labor Agreements on the Cost of School Construction," Belman et al.	2005	92	$29-$32	17%-20% *
"Do Project Labor Agreements Raise Construction Costs?," Bachman et al.	2003	62	$12-$20	9%-15%
"Project Labor Agreements and Public Construction Costs in Connecticut," Bachman et al.	2004	71	$30	18%
"Measuring the Cost of Project Labor Agreements on School Construction in California," Vasquez et al.	2011	551	$29-$32	13%-15%

**As noted on Page 5, the fully specified model did not find PLAs were significant.*

PLAs remain statistically significant and increase costs by $32.49 per square foot of school construction, or 15 percent, compared to non-PLA projects. The r-squared value increased slightly to 0.2861, and all other predictors were determined to be significant. Based on the results from the weighted regression and ordinary least squares tests, we found overall that PLAs increase the adjusted square foot final costs of construction by 13%-15%, or approximately $29-$32 per square foot. These results are similar to those found from samples of school construction projects in other states, where final project costs were examined (See Chart 4).

ROBUST REGRESSION AND ROBUST ESTIMATOR RESULTS

In statistical science, probability theory suggests that random values will cluster fairly consistently around the mean or average value. This is known as normal distribution, and it typically takes the shape of a bell curve on an x and y axis. However, when the sequence of random data points lacks this

CHART 5: Ordinary Least Squares Analysis Results

Regression Technique	Variable	b[1]	t-statistic	p-value	Significant?[2]
Ordinary Least Squares	PLA	28.902	2.523	.012	Yes
r2 = .279	Elementary	-8.599	-1.186	.236	No
F(8,542) = 26.42	Stories	-10.299	-1.419	.157	No
p < .05	Gym	25.304	3.511	< .001	Yes
	Pool	38.141	2.585	.010	Yes
	Demolition	18.529	2.216	.027	Yes
	Square Footage	-0.0002	-3.922	< .001	Yes
	Average Date	7.852	8.367	< .001	Yes

[1] Unstandardized partial coefficient
[2] $\propto = 0.05$

predicted uniformity, the data are called "heteroscedastic." Special statistical tests can be used to adjust values in the event of heteroscedasticity in a data set, dampening the effects of outliers at the far extreme of the data. In an effort to provide a rigorous analysis of our data, NUSIPR used two special techniques to address heteroscedasticity as well as outliers: the robust standard errors test (using Huber-White standard errors) and a robust regression. Both are standard robustness techniques, and Bachman et al. also used a Huber-White test to verify robustness.

Robust regression is a statistical technique that is used in conjunction with predictive models when the data set lacks normal distribution, or when there are substantive outliers that may skew the results from a standard regression test. In a robust regression analysis, the influence of outliers is down-weighted, allowing more statistical relationships to appear in the results. A robust standard errors test gives a more precise estimate of relationships when there is heteroscedasticity, or takes it into account. Using Stata 11.0 statistical software, we ran both analyses. In both cases, the presence of PLAs was found to be statistically significant. The complete results of these two statistical tests are shown in chart 6.

ADDITIONAL RESEARCH QUESTIONS

When testing the model for the full sample of schools, 27.9 percent of the variation in the CCCI adjusted cost per square footage was accounted for by the set of predictors. This is generally considered to be a large effect size. A sizeable amount of the variability in the outcome was accounted for in the model. Moreover, across the three alternative regression techniques (i.e., robust regression, regression with robust standard errors, and weighted regression), PLA and four other covariates (gym, pool, square footage, and average date) held as significant predictors with a similar pattern of results.

One issue that arose was that during this period, there were a handful of projects that had extraordinary circumstances that drove costs higher. Several of these were built under a PLA. So as not to bias the results, we eliminated from many of our initial statistical tests projects, such as the Edward R. Roybal Learning Center (formerly known as the Belmont Learning Center) and the Robert F. Kennedy Community Schools Complex.[37] We found that their inclusion or exclusion did not impact the results.

Furthermore, a peculiarity in our data set was the large number of PLA school projects that were built by a single school district, Los Angeles Unified (LAUSD). Part of the reason for this is that LAUSD is the largest school district in the state and has built projects using PLAs since 1999.

To address potential concerns about the disproportionate inclusion of projects from LAUSD, an alternative statistical

CHART 6: Robust Regression Analysis Results

Regression Technique	Variable	b[1]	t-statistic	p-value	Significant?[2]
Robust Regression	PLA	30.549	2.880	0.004	Yes
r2 = .211	Elementary	-12.095	-1.800	0.072	No
F(8,542) = 28.56	Stories	-4.416	-0.660	0.511	No
p < .05	Gym	15.437	2.320	0.021	Yes
	Pool	42.741	3.130	0.002	Yes
	Demolition	10.832	1.400	0.162	No
	Square Footage	-0.0002	-3.470	0.001	Yes
	Average Date	9.051	10.430	< .001	Yes
Robust Standard Errors	PLA	28.903	1.990	0.047	Yes
r2 = .279	Elementary	-8.599	-1.040	0.297	No
F(8,542) = 20.49	Stories	-10.299	-1.460	0.144	No
p < .05	Gym	25.303	3.380	0.001	Yes
	Pool	38.141	2.200	0.028	Yes
	Demolition	18.529	2.060	0.039	Yes
	Square Footage	-0.0002	-3.550	< .001	Yes
	Average Date	7.852	7.110	< .001	Yes
Weighted Regression (Sqr Foot)	PLA	32.498	2.980	0.003	Yes
r2 = .286	Elementary	-2.548	-0.320	0.746	No
F(8,542) = 27.15	Stories	-10.268	-1.550	0.122	No
p < .05	Gym	25.237	3.320	0.001	Yes
	Pool	29.949	3.160	0.002	Yes
	Demolition	20.948	2.580	0.010	Yes
	Square Footage	-0.0001	-2.680	0.008	Yes
	Average Date	7.420	8.190	< .001	Yes

[1] Unstandardized partial coefficient

[2] $\propto = 0.05$

model was examined that codes LAUSD as a dummy variable. PLAs did not yield statistical significance from these specialized tests. (Chart 7)

However, 47 out of 48 (97.92 percent) of the LAUSD school projects used PLAs, resulting in a large correlation effect with PLAs (correlation of LAUSD status and PLA is 0.825). This substantive overlap results in an inability to explain and identify the unique contribution of PLAs.[38] In fact, when the PLA variable was removed from the model and a new variable was included that identified whether a project was built in LAUSD, there were starkly similar results. Both variables (PLA and LAUSD) yielded statistical significance, and 28.7 percent of the variation in cost was accounted for.

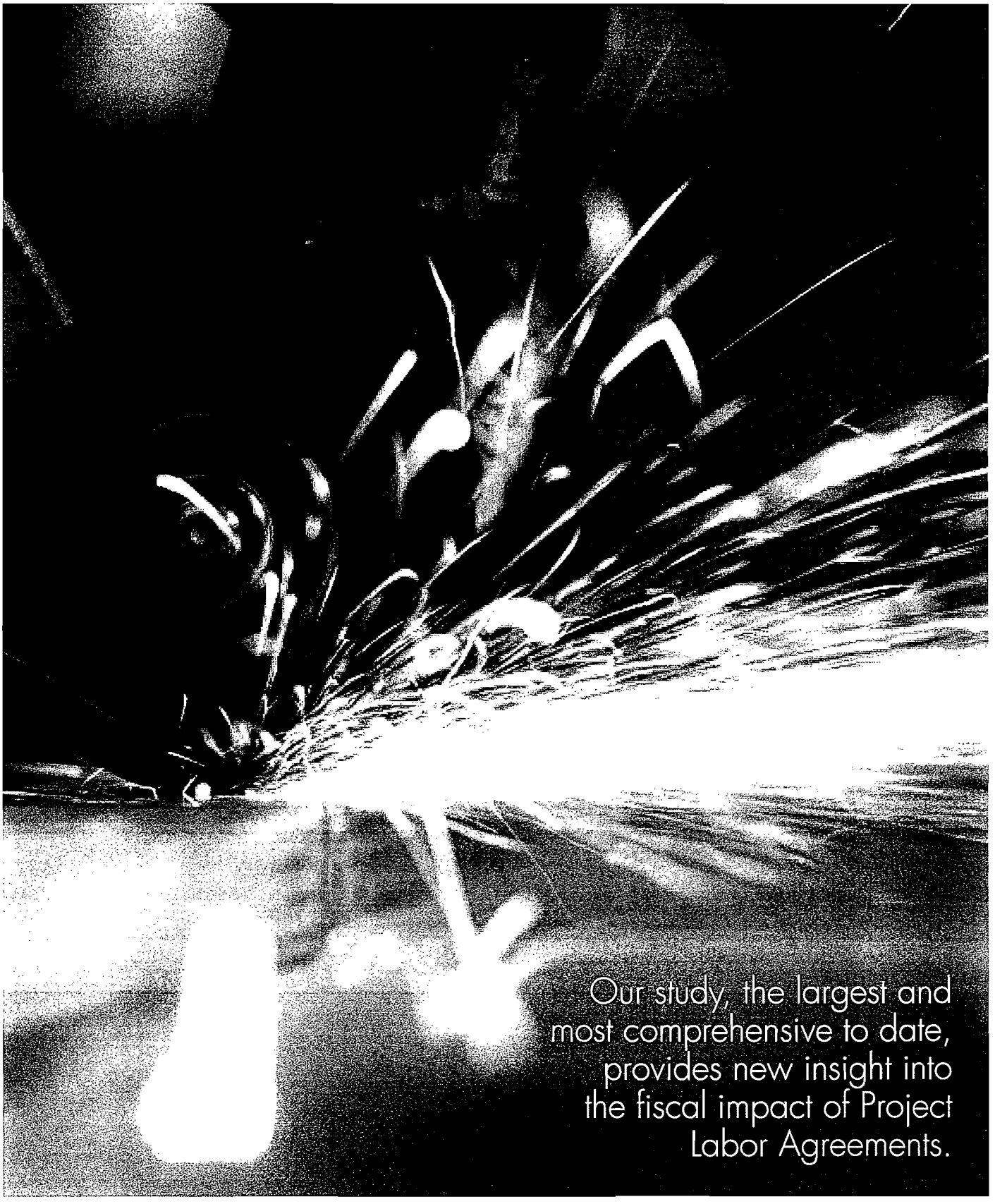
When we test an alternative statistical model that removes all LAUSD projects from our data set, and test for fewer variables including square footage (and its squared, nonlinear counterpart), whether the project was a modernization, type of school, and presence of PLA, the r-squared value decreases to 9.6 percent,

CHART 7: LAUSD Regression Analysis Results

Regression Technique	Variable	b[1]	t-statistic	p-value	Significant?[2]
Ordinary Least Squares	PLA	6.598	.395	.693	No
r2 = .284	Elementary	-10.038	-1.379	.168	No
F(9,541) = 23.81	Stories	-10.283	-1.420	.156	No
p < .05	Gym	25.545	3.551	< .001	Yes
	Pool	36.675	2.488	.013	Yes
	Demolition	15.088	1.764	.078	No
	Square Footage	-0.0002	-4.022	< .001	Yes
	Average Date	7.944	8.471	< .001	Yes
	LAUSD	33.718	1.830	.068	No
Robust Regression	PLA	11.021	0.71	0.478	No
r2 = .216	Elementary	-12.918	-1.91	0.057	No
F(9,541) = 27.05	Stories	-3.998	-0.59	0.553	No
p < .05	Gym	15.445	2.31	0.021	Yes
	Pool	40.623	2.96	0.003	Yes
	Demolition	7.625	0.96	0.338	No
	Square Footage	-0.0002	-3.45	0.001	Yes
	Average Date	9.265	10.63	< .001	Yes
	LAUSD	35.851	2.09	0.037	Yes
Robust Standard Errors	PLA	6.599	0.35	0.727	No
r2 = .288	Elementary	-10.039	-1.23	0.22	No
F(9,541) = 18.69	Stories	-10.283	-1.45	0.147	No
p < .05	Gym	25.544	3.41	0.001	Yes
	Pool	36.675	2.11	0.036	Yes
	Demolition	15.088	1.64	0.102	No
	Square Footage	-0.0002	-3.66	< .001	Yes
	Average Date	7.944	7.1	< .001	Yes
	LAUSD	33.719	1.48	0.138	No
Weighted Regression (Sqr Foot)	PLA	13.354	0.82	0.410	No
r2 = .289	Elementary	-3.493	-0.44	0.657	No
F(9,541) = 24.48	Stories	-10.322	-1.56	0.120	No
p < .05	Gym	25.482	3.35	0.001	Yes
	Pool	28.673	3.02	0.003	Yes
	Demolition	18.030	2.17	0.030	Yes
	Square Footage	-0.0001	-2.75	0.006	Yes
	Average Date	7.519	8.29	< .001	Yes
	LAUSD	28.447	1.59	0.111	No

[1] Unstandardized partial coefficient

[2] $\propto = 0.05$



Our study, the largest and most comprehensive to date, provides new insight into the fiscal impact of Project Labor Agreements.

showing an appreciable decrement in model fit. PLA and all the other variables are still statistically significant. That said, the correlation of PLA and the price per square foot is only 0.163 and overall model fit is not impressive (r-squared = 0.096).

PLA projects and LAUSD schools both so strongly co-vary that it hinders us from delineating to what extent each uniquely contributes to explaining the variability in cost. We do, however, control for factors, such as: urban location, demolition, and multiple stories in our fully specified model. It is unknown what additional factors might plausibly account for higher construction costs in LAUSD projects. However, as previously noted, we do see a reduction in model fit when the LAUSD projects are excluded from the analysis. Hence, they are a substantive contributor to the overall fit of our model.

NUSIPR took additional efforts to resolve the collinearity in our data set. Following the methodology explained in the Belman 2010 study, we created a two-step propensity scoring technique. We first performed a binary logistic regression model, using all of the predictors that were originally used to predict the CCI adjusted cost per square foot, with the exception that the grouping variable of interest (PLA vs. non-PLA) now served as the binary outcome. This was accomplished using a propensity score matching macro developed for statistical software (SPSS). Based on the regression solution (the partial logistic coefficients), a predicted probability of whether a project was built under a PLA or not was computed for each of the individual construction projects. This predicted probability served as the propensity score.

Unlike Belman et al., we were able to identify a region of common support, matching 65 PLA projects with 65 non-PLA projects that, but for the absence of a PLA, are similar with respect to other project characteristics, such as the use of demolition and total square footage. Propensity weights can be utilized as a covariate at the first stage of a hierarchical approach to multiple regression. In our second phase, we analyzed the matched set of 130 projects (incorporating a propensity weight covariate) using the ordinary least squares method. We found that PLAs were not statistically significant. Similar results were found when the propensity score was omitted from the model.

However, when PLAs were analyzed in isolation from the other covariates, using a one-way ANOVA test, we found them to be statistically significant. These results tell us that while there is evidence that PLAs are associated with higher project costs, collinearity is still present in the data set, hampering the ability to disentangle the unique contribution of the individual covariates on a wider scale. Interestingly, within our sub-sample of matched schools, we found the average CCI adjusted cost per square foot of non-PLA projects to be $244.69, which is significantly lower than the cost of PLA projects ($302.98/per square foot).

CONCLUSION

Our study, the largest and most comprehensive to date, provides new insight into the fiscal impact of PLAs. Our models suggest a significant positive relationship between PLAs and costs, and they hold true under a number of statistical tests and specifications.

Perhaps most definitively, our examination of the data found no support for the proposition that PLAs reduce costs. Even if one places great weight on the reduction of model fit when excluding LAUSD projects, ours is now the third statistical research project released since 2000 that failed to find evidence that these agreements help lower school construction costs.

Our findings are important for California. Over the last decade, state voters have passed more than $64 billion of school construction bonds (statewide and local) to build new classrooms and modernize existing facilities that have deteriorated over time.[39] In 2007–2008, California public elementary and secondary school districts spent more than $8.2 billion on construction.[40] With this expenditure of funds, the number of statewide school construction projects has swelled. One estimate has identified 21,399 new classrooms built in California from 2002 to 2010.[41] California's rapid pace of school construction activity is now matched by only a handful of other states.[42]

At the same time, several school districts have adopted PLAs and debates about their use rage on. It is our hope that our findings inform public debate when PLAs are advanced as a costless policy tool. Our research suggests that they are not, and should districts choose to adopt them, school construction is very likely to cost more.

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ABOUT THE AUTHORS

VINCE VASQUEZ, SENIOR POLICY ANALYST, NATIONAL UNIVERSITY SYSTEM INSTITUTE FOR POLICY RESEARCH

Vince Vasquez is the senior policy analyst with the National University System Institute for Policy Research. He works on a wide variety of local and regional policy issues, including education, small business, government finance, and the Latino workforce.

Mr. Vasquez's opinion pieces have appeared in many publications, including the *Wall Street Journal, San Diego Union-Tribune, San Francisco Examiner, Silicon Valley-San Jose Business Journal,* and the *Los Angeles Business Journal.* He has also appeared on CNN and has been quoted in the *Los Angeles Times, Chicago Tribune, Christian Science Monitor, San Francisco Chronicle,* and *Investor's Business Daily.*

Prior to joining the National University System Institute for Policy Research, Mr. Vasquez worked at the Pacific Research Institute for Public Policy (PRI), an economic think tank based in San Francisco. He also worked at the Leadership Institute, a nonprofit educational foundation in Arlington, Virginia. Mr. Vasquez received a B.A. in Political Science at the University of California, San Diego (UCSD), and has earned a Master of Public Administration (MPA) at Keller Graduate School of Management.

DALE GLASER, PH.D., GLASER CONSULTING

Dr. Dale Glaser, principal of Glaser Consulting and adjunct professor of statistics for the School of Nursing at the University of San Diego, has accrued extensive experience in statistical analyses, psychometric testing, program evaluation, and organizational assessment and development within the healthcare, nursing, organizational, educational, and marketing research domains. He has published extensively in the area of nursing research and has furnished statistical and methodological consulting to many nursing faculty, practitioners, and students in regard to their research projects.

As a statistical consultant, he has been responsible for engaging in comprehensive assessment efforts from the formative stages of survey construction and experimental design, power analyses, psychometric assessment, and statistical analysis to presentation/implementation and the publishing of results. He also has extensive experience with advanced quantitative methods, including Structural Equation Modeling, multilevel modeling, and other multivariate and biostatistical techniques.

Dr. Glaser obtained his Ph.D. in Industrial-Organizational Psychology from the California School of Professional Psychology and his M.S. in Counseling Psychology from California State University–Fullerton. He also teaches at the graduate and undergraduate levels in courses such as: multivariate and univariate statistics, research methods, testing and measurement, psychometrics, and related industrial-organizational psychology courses, such as Decision Theory.

W. ERIK BRUVOLD, PRESIDENT AND CEO, NATIONAL UNIVERSITY SYSTEM INSTITUTE FOR POLICY RESEARCH

W. Erik Bruvold is the founding president of the National University System Institute for Policy Research. He has conducted several widely cited public policy and economic research reports on the San Diego region. Prior to joining NUSIPR, he was vice president of public policy for the San Diego Regional Economic Development Corporation (EDC), where he oversaw the organization's public policy efforts on a range of issues impacting San Diego's business climate.

Among Mr. Bruvold's achievements at the EDC were his leadership of the successful effort to extend the TransNet sales tax for transportation investment and his leadership of the successful regional response to the 2005 round of military base closures and realignments (BRAC 2005). Prior to joining EDC, Mr. Bruvold was executive director for the San Diego chapter of the American Electronics Association. He has served on several boards, including the North County Economic Development Corporation, the East County Economic Development Corporation, and the San Diego Association of Government's Transnet Citizens Advisory Committee.

Mr. Bruvold holds a Bachelor of Arts with Highest Honors from the University of Denver and a Master of Arts in Political Science with High Honors from the University of California, San Diego.

APPENDIX A:
FINAL LETTER OF REVIEW BY THE KESTON INSTITUTE FOR PUBLIC FINANCE AND INFRASTRUCTURE POLICY, UNIVERSITY OF SOUTHERN CALIFORNIA

USC
UNIVERSITY OF SOUTHERN CALIFORNIA

Keston Institute for Public Finance and Infrastructure Policy

Richard G. Little
Director

Direct: 213 740 4120
Cell: 703 582 0317
e-mail: rglittle@usc.edu

July 13, 2011

Mr. Kevin D. Korenthal
Executive Director
Associated Builders and Contractors of California Cooperation Committee
28005 Smyth Drive
Suite 129
Valencia, CA 91355

Dear Mr. Korenthal:

You have requested the Keston Institute for Public Finance and Infrastructure Policy to provide an independent review of the report "Measuring the Cost of Project Labor Agreements on School Construction in California" prepared by the Institute for Policy Research of the National University System. The review was to focus on the statistical analysis and associated conclusions described in "Measuring the Cost of Project Labor Agreements on School Construction in California" and consisted of an assessment of the analytical methodology employed and assumptions made in regard to the data set used in the analysis and which was provided to me on May 2, 2011 (This data set was not independently verified.). This review was conducted by myself and Professor Lisa Schweitzer, Ph.D., of the USC School of Policy, Planning and Development and undertaken in two parts; a review of the draft report and a review of the revised version that was prepared following a conference call on June 9, 2011 to discuss our initial findings.

Our review determined that the analysis of the school construction data conducted by the Institute for Policy Research employed proven and well-accepted statistical techniques and the conclusions drawn regarding project cost differentials between school projects that utilized Project Labor Agreements (PLAs) and those that did not follow logically from this analysis. In particular, we were impressed by the efforts of the research team to probe deeply into potentially confounding relationships among the variables such as the large number of outliers and the fact that the data points are not normally distributed (heteroscedasticity) through the use of robust regression and robust estimators and other techniques. The fact that the coefficients based on the Ordinary Least Squares Analysis (Chart 5) and the Robust Regression Analysis (Chart 6) do not change significantly supports the overall significance of the PLA variable on construction cost per square foot.

The LAUSD projects represent an unavoidable dilemma of covariance which hindered the ability of the research team to delineate to what extent it was the presence of PLAs or the LAUSD that explain the variability in cost. Despitelaudable efforts by the research team to address this issue, they were not able to disentangle the two factors. Perhaps the only way to do so is empirically, with LAUSD undertaking a group of projects which do not utilize PLAs to serve as a control group.

Overall, we believe that the conclusion drawn in the report regarding the influence of PLAs on project cost are supported by the data set provided to us and the subsequent statistical analysis of that data. The research team appropriately utilized well-accepted statistical methods to arrive at this conclusion and it constitutes an important research finding. However, I would like to reiterate at this time that the results of our review should in no way be construed as the Keston Institute for Public Finance and Infrastructure Policy supporting any position relating to the use of Project Labor Agreements by any public or private entity.

Please let me know if you have any questions regarding this Letter Report or if I can provide additional information pertaining to the Keston Institute's review of "Measuring the Cost of Project Labor Agreements on School Construction in California". We appreciate this opportunity to be of service.

Cordially,

Richard G. Little

Richard G. Little, AICP
Director, The Keston Institute for Public Finance and Infrastructure Policy

APPENDIX B:
COPY OF PUBLIC RECORDS REQUEST LETTER MAILED TO SCHOOL DISTRICTS

PUBLIC RECORD REQUEST

May 19, 2010
Public Information Officer
(School District)
(Street Address)
(City, State, Zip Code)

RE: PUBLIC RECORDS ACT REQUEST – SCHOOL CONSTRUCTION DATA

Dear Public Information Officer,

The National University System Institute for Policy Research, an affiliate of the nation's largest, nonprofit higher education system, is conducting a major econometric project on public school construction costs in California and is collecting data statewide from school districts. Pursuant to my rights under the California Public Records Act (Government Code Section 6250 et seq.), I respectfully request information about the following school(s) in your district:

(School Construction Project Name), located at (Street Address), (City);

Specifically, I am seeking the following details related to the construction of the school(s):

- The total square footage of the construction project(s);
- The final cost(s) of the construction project(s);
- The approximate date on which construction started and the approximated date on which construction was completed;
- Whether the project(s) was constructed under a Project Labor Agreement (PLA);
- The type of school (Elementary or Secondary);
- Whether the project(s) is/are new construction or a rehabilitation of an existing building;
- Number of stories in the project(s);
- Inclusion of HVAC system(s) in the project(s);
- Inclusion of a gymnasium in the project(s);
- Inclusion of a swimming pool in the project(s);
- Whether construction required demolition of an existing structure(s).

I ask for a determination on this request within 10 working days of your receipt of it, and an even prompter reply if you can make that determination without having to review the information in question.

If you determine that any or all or the information qualifies for an exemption from disclosure, I ask you to note whether, as is normally the case under the California Public Records Act, the exemption is discretionary, and if so whether it is necessary in this case to exercise your discretion to withhold the information.

If you determine that some but not all of the information is exempt from disclosure and that you intend to withhold it, I ask that you redact it for the time being and make the rest available as requested.

If you determine that any or all of the information is exempt and will not be disclosed, please provide a signed notification citing the legal authorities on which you rely.

If I can provide any clarification that will help expedite your attention to my request, please contact me at (phone number), or (email address). I ask that you notify me of any duplication costs exceeding $10 before you duplicate the records so that I may decide which records I want copied.

Thank you for your time and attention to this matter.

Sincerely,

s/_____

Vince Vasquez
Senior Policy Analyst
National University System Institute for Policy Research

APPENDIX C:
SCHOOL DISTRICTS THAT PROVIDED COMPLETE SCHOOL CONSTRUCTION DATA

Alpine Union School District
Alta Loma School District
Alvord Unified School District
Anaheim City School District
Anaheim Union High School District
Antelope Valley Joint Union High School District
Antioch Unified School District
Arvin Union Elementary School District
Barstow Unified School District
Beardsley School District
Beaumont Unified School District
Bellevue Union Elementary School District
Beverly Hills Unified School District
Buckeye Union Elementary School District
Burbank Unified School District
Burton School District
Cabrillo Unified School District
Cajon Valley Union School District
Calexico Unified School District
Capistrano Unified School District
Center Unified School District
Chaffey Joint Union High School District
Chowchilla Elementary School District
Chula Vista Elementary School District
Coachella Valley Unified School District
Coalinga/Huron Joint Unified School District
Columbia Elementary School District
Conejo Valley Unified School District
Corona Norco Unified School District
Cottonwood Union Elementary School District
Cutler-Orosi Unified School District
Davis Joint Unified School District
Delano Joint Union High School District
Delano Union School District
Delhi Unified School District
Denair Unified School District
Desert Sands Unified School District
Downey Unified School District
Dry Creek Joint Elementary School District
Dublin Unified School District
East Side Union High School District
El Dorado Union High School District
Elk Grove Unified School District
Escondido Union High School District
Escondido Union School District
Etiwanda School District
Evergreen Elementary School District
Fairfield-Suisun Unified School District
Fallbrook Union Elementary School District
Fallbrook Union High School District
Farmersville Unified School District
Folsom Cordova Unified School District
Fowler Unified School District
Fresno Unified School District
Gilroy Unified School District
Golden Valley Unified School Dist
Greenfield Union School District
Hanford Elementary School District
Hanford Joint Union High School District
Hemet Unified School District
Hesperia Unified School District
Hillsborough City Unified School District
Huntington Beach City School District
Imperial County Office of Education
Imperial Unified School District
Irvine Unified School District
Jefferson School District
Kern County Superintendent of Schools
Kern High School District
King City Joint Union High School District
Kings Canyon Unified School District
Kingsburg Joint Union Elementary School District
Lake Elsinore Unified School District
Lammersville School District
Lancaster Elementary School District
Las Virgines Unified School District
Lawndale School District
Lemoore Union Elementary School District
Lennox School District
Liberty Union High School District
Long Beach Unified School District
Los Alamitos Unified School District
Los Angeles Unified School District
Los Banos Unified School District
Lucia Mar Unified School District
Madera Unified School District
Mammoth Unified School District
Manteca Unified School District
Marysville Joint Unified School District
Menifee Union School District

Merced City School District
Merced Union High School District
Milpitas Unified School District
Modesto City School District
Mojave Unified School District
Moreno Valley Unified School District
Morgan Hill Unified School District
Mountain View/Los Altos Union High School District
Murrieta Valley Unified School District
Natomas Unified School District
New Haven Unified School District
Newhall School District
Newport Mesa Unified School District
Norris School District
Norwalk La Mirada Unified School District
Oakdale Joint Unified School District
Oakland Unified School District
Oceanside Unified School District
Ontario Montclair School District
Oxnard School District
Pajaro Valley Unified School District
Palm Springs Unified School District
Palo Alto Unified School District
Palos Verdes Peninsula Unified School District
Panama Buena Vista Union School District
Paramount Unified School District
Paso Robles Joint Unified School District
Petaluma Joint Union High School District
Pioneer Union School District
Pittsburg Unified School District
Placentia-Yorba Linda Unified School District
Pleasant Valley School District
Plumas Elementary School District
Poway Unified School District
Redlands Unified School District
Reed Union School District
Rescue Union School District
Richland Unified School District
Rio School District
Ripon Unified School District
Riverbank Unified School District
Rocklin Unified School District
Rosedale Union Elementary School District
Roseville City Elementary School District
Roseville Joint Union High School District
Sacramento City Unified School District
Saddleback Valley Unified School District
Saint Helena Unified School District
Salida Elementary School District
Salinas Union High School District
San Bernardino County Superintendent of Schools
San Diego Unified School District
San Dieguito Union High School District
San Francisco Unified School District
San Jacinto Unified School District
San Leandro Unified School District
San Mateo Union High School District
San Ysidro School District
Sanger Unified School District
Santa Ana Unified School District
Santa Clara Unified School District
Santa Maria Joint Union High School District
Santee School District
Silver Valley Unified School District
Simi Valley Unified School District
Snowline Joint Unified School District
Solana Beach School District
Stockton Unified School District
Sulphur Springs Unified School District
Sweetwater Union High School District
Tehachapi Unified School District
Temecula Valley Unified School District
Tracy Unified School District
Tulare City Elementary School District
Tulare Joint Union High School District
Turlock Joint Union High/Elementary School District
Twin Rivers Unified School District
Ukiah Unified School District
Vallejo City Unified School District
Valley Center-Pauma Unified School District
Vista Unified School District
Wasco Union Elementary School District
Waterford School District
Weaver Union School District
West Contra Costa Unified School District
Western Placer Unified School District
Westside Union School District
Wiseburn School District
Yuba City Unified School District
Yucaipa-Calimesa Joint Unified School District

APPENDIX D:
SUPPLEMENTAL RESEARCH ON CALIFORNIA PROJECT LABOR AGREEMENTS

During the course of this project, NUSIPR was able to identify common provisions across California school construction PLAs.[43] A comparative analysis reveals many similarities. Most of the PLAs that were reviewed require construction firms to become signatories to master collective bargaining agreements (CBAs) with all applicable craft unions. Generally speaking, CBAs are detailed documents that identify the terms of employment and working conditions of unionized workers in a particular trade or industry. The majority of PLAs also require all subcontractors to sign both PLAs and CBAs prior to the start of construction.

Seven PLAs absolutely prohibit labor unions from strikes, work stoppages, picketing, and slowdowns of any kind at the worksite. However, five allow unions to withhold workers from contractors that are delinquent on payments to union trust funds. Similarly, seven PLAs prohibit contractors from conducting employee lockouts of any kind, but five make exceptions for laying off, suspending, and terminating employees in cases wholly unrelated to labor disputes.

Almost all (92 percent) PLAs required contractors to source workers from union halls, but with exceptions. The overwhelming majority allow firms to obtain workers from any source if union hiring halls are unable to provide workers within a forty-eight hour period. 100 percent of PLAs require construction workers to pay union dues.

All PLAs include language that suggests that contractors retain the exclusive authority, or responsibility for project operations; however, most contain strong restrictions on management rights. Less than half explicitly state that contractors can hire supervisors, apprentices, foremen, and subcontractors at their own discretion.

All of the PLAs restrict a contractor's ability to hire their own "core employees." Usually this is done by restricting who a contractor can classify as a core employee and when they can be employed (if at all) in a way that bypasses the union hall hiring queue.[44] Eight out of 12 PLAs do not allow contractors to discharge at-will employees — most require contractors to have just cause for doing so, or grant workers additional rights under a craft agreement. Seven out of 12 also do not allow contractors to discipline employees at will. All but one reviewed PLA required contractors to make supplemental contributions into separate union-controlled benefit trusts.

CHART 8: Major Provisions of California School PLAs

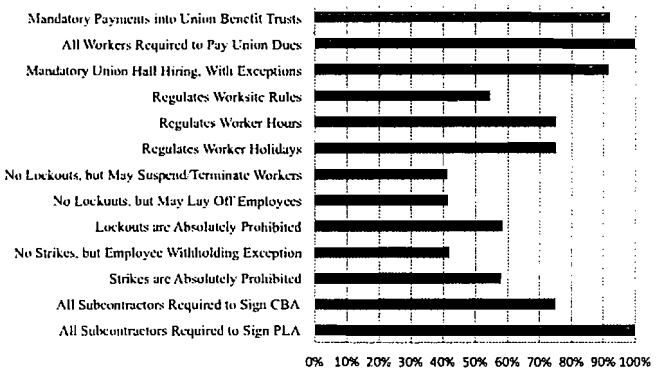
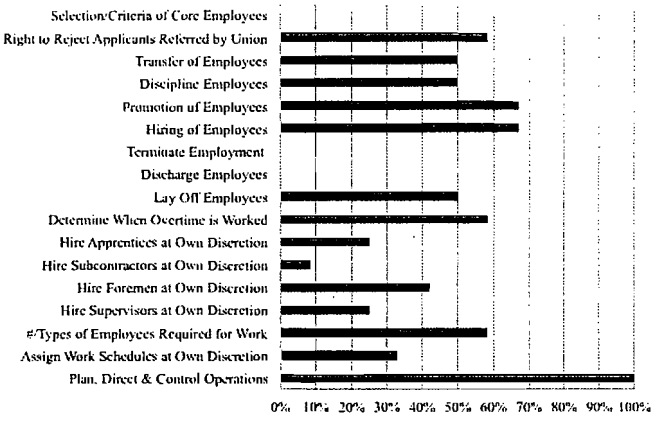


CHART 9: Management Rights Under California School PLAs



APPENDIX E:
NOTES BY THE AUTHORS

There are important aspects of NUSIPR's research efforts that deserve greater elaboration, which we do here.

WAGE RATES AS A NEUTRAL FACTOR

Unlike many states, the State of California requires contractors to pay state-mandated construction wage rates (known as "prevailing wages") to their construction trade workers on school construction projects.[45] Prevailing wage rates in California are almost always based on the wage rates and benefit payments indicated in collective bargaining agreements for construction trade unions. As a result, all contractors on the school construction projects researched in this study were paying a common wage rate for each specific trade in a defined geographic region, regardless of whether the contractors were signatory to a PLA or signatory to a union collective bargaining agreement for their employees. In addition, school districts using state funding for construction from the statewide bond measure Proposition 47 (approved by voters in 2002) were required to adopt a labor compliance program to ensure that contractors were paying proper wage rates and abiding by the state's other labor laws. We can assume that these conditions effectively neutralize wage rates as a variable and conclude that the difference in project cost between projects with a PLA and projects without a PLA was not due to differences in wage rates for construction trade workers.

GEOGRAPHIC DISTRIBUTION OF THE PROJECTS

To eliminate selection bias, our data sample sourced school construction projects at random. Nonetheless, 60 percent of the projects were built in districts located in the five highly populous counties located at the southern end of the state. These five counties comprise 54 percent of the population. Another 33 percent of the projects were built in districts located in the Central Valley, which was among the fastest growing parts of the state between 2000 and 2010.[46]

ENDNOTES:

1 The Building & Construction Trades Department's website says, "Critics of PLAs frequently claim that PLAs limit the pool of bidders . . . particularly non-union contractors . . . and as a result construction costs for a given project are higher. This is a fallacy that has been refuted through the work of many academic researchers . . . A similar public relations attack on project labor agreements that is frequently used by the open shop leads people to believe that the use of a higher-skill, and better paid, workforce will result in increased costs." See http://www.plaswork.org/CWA/media/Documents/PLA-PowerPoint.ppt. The Associated Builders and Contractors' website says, "PLAs drive up the cost of construction projects. By unnecessarily limiting bidders and following outdated and inefficient union work rules, PLAs consistently and unnecessarily drive up costs on projects. Numerous academic studies indicate PLAs increase the cost of construction between 10 percent and 20 percent when compared to similar projects not subject to union-only PLAs." See http://www.thetruthaboutplas.com/get-the-truth.

2 Benefits include increasing the number of apprentices entering into construction trades and increasing the level of health and retirement benefits available to construction workers. For a vigorous articulation of these supposed benefits, see Fred Kotler, "Project Labor Agreements in New York State: In the Public Interest," New York: Cornell University, 2009, http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1021&context=reports.

3 Alternate names for PLAs include Project Stabilization Agreements and Community Workforce Agreements.

4 Some PLAs have special exemptions for a small number of long-term "core" contractor employees.

5 Detailed arguments of PLA proponents can be found at the PLAs WORK website, a project of the Building & Construction Trades Department. See http://www.plaswork.org/Impact/Contractors-Owners-Developers-and-Construction-Use/Contractors,-Owners,-Developers---Construction-Use.aspx.

6 Gary Scott, "Power Plant Costs to Soar," *Pasadena Star-News*, March 21, 2003.

7 Phillip Matier and Andrew Ross, "School's Costs Skyrocket after Labor Pact," *San Francisco Chronicle*, April 28, 2004.

8 Daniel Rounds, "Project Labor Agreements: An Exploratory Study," Los Angeles: UCLA, 2001.

9 New Jersey Department of Labor, "Annual Report to the Governor and Legislature: Use of Project Labor Agreements in Public Works Building Projects in Fiscal Year 2008," Trenton: State of New Jersey, 2010, pp. 3–4, http://lwd.dol.state.nj.us/labor/forms_pdfs/legal/2010/PLAReportOct2010.pdf.

10 Paul Bachman et al., "Project Labor Agreements and the Cost of School Construction in Massachusetts," Boston: Beacon Hill Institute, 2003, http://www.beaconhill.org/BHIStudies/PLApolicystudy12903.pdf.

11 Paul Bachman, Jonathan Haughton, and David G. Tuerck, "Project Labor Agreements and the Cost of Public School Construction Projects in Connecticut," Boston: Beacon Hill Institute, 2004, http://www.beaconhill.org/bhistudies/pla2004/plainct23nov2004.pdf.

12 Paul Bachman and David G. Tuerck, "Project Labor Agreements and Public Construction Costs in New York State," Boston: Beacon Hill Institute, 2006, http://www.beaconhill.org/BHIStudies/PLA2006/NYPLAReport0605.pdf.

13 Dale Belman et al., "The Effect of Project Labor Agreements on the Cost of School Construction," East Lansing: Michigan State University, 2005, http://isapapers.pitt.edu/57/1/2005-01_Belman.pdf.

14 Variables in the Belman study included minutia such as the presence/absence of tennis courts, band rooms, kitchens, and science labs.

15 Belman et al., "Effect of Project Labor Agreements," p. 3.

16 Ibid., p. 20.

17 Paul Bachman and Jonathan Haughton. "Do Project Labor Agreements Raise Construction Costs?" *Case Studies in Business, Industry and Government Statistics* 1, no. 1 (2006): 78.

18 Dale Belman et al., "Project Labor Agreements' Effect on School Construction Costs in Massachusetts," *Industrial Relations* 49, no. 1 (2010): 44–60.

19 Statistical tests used include three F-test models that examined the relationship between the construction cost per square foot and the effect of PLAs, the city of Boston, and the Boston Public School District. A two-stage propensity score technique was also used to analyze projects that, but for the presence/non-presence of a PLA, are fairly similar. Under this technique, projects were rated based on the probability that their characteristics could predict that they would be built under a PLA, and the resulting "region of common support" was to be examined with a regression test. However, Belman et al. did not complete its propensity score technique, as it failed to find many similar projects.

20 Belman et al., "Effect on School Construction Costs in Massachusetts," p. 57.

21 The Roseville PLA was for three unions in four subtrades and was directly signed with a private developer.

22 As noted below, a remaining limitation which we cannot overcome involves the large number of PLAs in Los Angeles Unified, a district that has had a PLA in place for much longer than other districts and, as one of the nation's largest school districts, has built a large number of schools.

23 The DSA website states, "The Division of the State Architect provides design and construction oversight for K–12 schools, community colleges, and various other state-owned and leased facilities. The Division also develops accessibility, structural safety, fire and life safety, and historical building codes and standards utilized in various public and private buildings throughout the state of California." www.dsa.dgs.ca.gov

24 For example, in Belman (2003), the authors found that the presence of a centralized air conditioner had a statistically significant impact on construction costs. We collected information on this variable, but found that all but one school project in our sample had air conditioning.

25 Bachman et al. noted that their sample size limit excluded abnormally small and larger projects as well as those projects whose valuation is "typically too small to be of interest to union contractors." NUSIPR adopted the same square footage range for project size within its sample in order to achieve similar objectives.

26 NUSIPR's final sample varied slightly from the initial bid estimates given by McGraw Hill. Of the 551 construction projects, 12 were modernization projects, five were built either before 1996 or after 2008, 52 were smaller than 40,000 square feet, and two cost less than $5 million.

27 California Government Code § 6250–6276.48.

28 The language used in the public records requests can be found in appendix B.

29 The California Division of the State Architect's online Project Tracking System is available at https://www.apps.dgs.ca.gov/tracker/default.aspx.

30 The California Construction Cost Index (CCCI) is developed from data featured in the Building Cost Index (BCI) published by Engineering News-Record (ENR). BCI estimates include costs for skilled industry labor, average fringe rates, and the cost of common construction materials.

31 Bachman created a construction cost index using state industry wage and salary data from the U.S. Bureau of Economic Analysis and the national producer price index for intermediate materials, supplies, and components. Belman deflated costs using ENR's construction cost index for Boston.

32 The complete list of complying school districts can be found in Appendix C.

33 The Belman study used a sample size of 92 school projects, and Beacon Hill's sample size was 126 projects.

34 The ordinary least squares method is a statistical technique used to analyze the relationship between a continuous dependent variable and categorical (or continuous) independent variables. It minimizes the "error," or the difference between the predicted outcome and the actual outcome, and optimizes the solution.

35 Both the Bachman et al. and Belman et al. regression tests included square feet squared as a co-variate. However, NUSIPR found that this co-variate did not substantively modify the model fit and declined to include it.

36 The sample used in the Bachman et al. study had an adjusted r-squared of 31 percent. The six models used in the Belman study to study Massachusetts school construction costs had an r-squared range of 19.79 percent to 65.12 percent.

37 For more on Belmont Learning Center see Alan Richard, "L.A. Chief Recommends Abandoning Belmont," *Education Week*, January 26, 2000, and Greg Gittrich, "Most of the Bond Money Blown on Belmont," *Los Angeles Daily News*, July 30, 1999.

38 NUSIPR took additional efforts to resolve the collinearity found in our data set. Following the methodology explained in the Belman 2010 study, we created a two-step scoring technique. We first used a logistic model, rating projects based on the probability that their characteristics could predict that they would be built under a PLA. Unlike Belman et al., we were able to identify a region of common support, matching 65 PLA projects with 65 non-PLA projects that, but for the absence of a Project Labor Agreement, are similar with respect to other project characteristics, such as the use of demolition and total square footage. Two subsequent regression tests (one which had the predicted score as an independent variable and one that excluded it) for the n=130 data set used the ordinary least squares method. These tests failed to find PLAs to be statistically significant. However, a one-way ANOVA test on the sub-sample did find PLAs to be statistically significant. This tells us that though there is evidence that PLAs are associated with higher project costs, collinearity is still present in the data set, hindering further analysis. Interestingly, within our sub-sample, we found the average CCI adjusted cost per square foot of non-PLA projects to be $244.69, still significantly lower than the cost of PLA projects ($302.98/per square foot).

39 According to the Public Policy Institute of California, "Local facilities bonds totaling $36 billion have passed since 2001, and state facilities bonds totaling $28.7 billion have passed since 2002." See "Just the Facts: Education Facilities," September 2008, http://www.ppic.org/content/pubs/jtf/JTF_EducationFacilitiesJTF.pdf.

40 United States Census Bureau, Public Education Finances 2008, table 9, "Capital Outlay and Other Expenditure of Public School Systems by State: 2007–08," Washington, D.C., 2010, http://www2.census.gov/govs/school/07f33pub.pdf.

41 "California Department of Education Closes Out 2010 Noting Record of Accomplishment by State Superintendent Jack O'Connell," California Department of Education, December 28, 2010, http://www.cde.ca.gov/nr/ne/yr10/yr10rel150.asp.

42 National Clearinghouse for Educational Facilities, "State Capital Spending on PK–12 School Facilities," Washington, D.C., 2010, p. 4, http://www.edfacilities.org/pubs/state_capital_spending_on_school_facilities.pdf.

43 NUSIPR obtained PLAs for the following school districts: San Francisco Unified, San Diego Unified, Los Angeles Unified, Oakland Unified, Sacramento City Unified, Pittsburg Unified, West Contra Costa Unified, Rialto Unified, Santa Ana Unified, San Mateo Union High School District, San Gabriel Unified, and Roseville City School District. In some cases, the PLAs were silent as to provisions we examined, or were not explicit in the language of the contract. In other cases, the provisions were referenced as being present within a CBA, which the PLA requires all signatories to assent to. Our charts reflect these aspects of the PLAs.

44 For example, see the provisions of the Project Labor Agreement for the Oakland Unified School District, 2004, p. 19.

45 According to the United States Department of Labor, eighteen states do not have prevailing wage laws: Alabama, Arizona, Colorado, Florida, Georgia, Idaho, Iowa, Kansas, Louisiana, Mississippi, New Hampshire, North Carolina, North Dakota, Oklahoma, South Carolina, South Dakota, Utah, and Virginia. See "Dollar Threshold Amount for Contract Coverage Under State Prevailing Wage Laws," n. 1, http://www.dol.gov/whd/state/dollar.htm.

46 United States Census Bureau, table 1, "The Most Populous Counties and Incorporated Places in 2010 in California: 2000 and 2010," http://2010.census.gov/news/xls/cb11cn68_ca_2010redistr.xls.

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What They're Saying About the Groundbreaking National University Study Exposing the High Cost of Project Labor Agreements

"Six weeks have passed since the release of a research study that analyzed the cost of using union-only Project Labor Agreements on California school construction projects. The National University System Institute for Policy Research (NUSIPR) conducted the study titled Measuring the Cost of Project Labor Agreements on School Construction in California. It has garnered statewide and national coverage."

Kevin D. Korenthal, Executive Director
Associated Builders and Contractors of California, Cooperation Committee

"National University study discovered that the cost of school construction projects operating with PLAs was 13 to 15 percent higher ($28.90 to $32.49 more per square foot) than those without PLAs. For the 65 schools included in this study that were constructed with PLAs, the total cost of $1.7 billion includes as much as $200 million in unnecessary spending. This is the fourth study since 2003 that has found that school construction projects are more expensive when executed under a project labor agreement."

Dan Oney, Editor
PublicCEO.com
August 16, 2011

"That's why this study is so important. For the first time, school district officials will have independent and irrefutable data upon which they can make a decision. Similarly, voters who are asked to support school construction bonds have a barometer to gauge their choice."

Eric Hogue
Sacramento Bee
Aug 30, 2011

"Overspending for a project labor agreement is offensive at the least. . . I would encourage every education official to think long and hard about enacting these mandated waste agreements and tell any voter to reject a school bond, UNLESS, there is written language that states there will be no project labor agreement tied to any of the funds."

Jon Fleischman, Founder & Publisher
FlashReport.com
July 25, 2011

"The latest study reminds us that governments – driven by politics and dependent on Other People's Money – can't even stretch a dollar during tight budget times. The only solutions are less government and more privatization if the public wants to improve services and keep a check on expenses."

Editorial
Orange County Register
August 9, 2011

"We believe that the conclusion drawn in the report regarding the influence of PLAs on project cost are supported by the data set provided to us and the subsequent statistical analysis of that data. The research team appropriately utilized well-accepted statistical methods to arrive at this conclusion and it constitutes an important research finding."

Richard G. Little, Director
USC Keston Institute for Public Finance and Infrastructure Policy,
July 13, 2011

Exhibit E
Interim Study Committee on Employment Issues
Meeting #2 Sept. 7, 2011

NATIONAL UNIVERSITY SYSTEM
INSTITUTE FOR POLICY RESEARCH

Press Release

New Groundbreaking Study Reveals "Project Labor Agreements" (PLAs) Increase School Construction Costs by 13 to 15 Percent in California

School projects built under these contracts cost $28.90 to $32.49 more per square foot

JULY 22, 2011 SAN DIEGO – California school construction projects built under contracts that contain provisions known as Project Labor Agreements (PLAs) cost 13 to 15 percent more than non-PLA projects. That is the major finding of a new study published today by the National University System Institute for Policy Research (NUSIPR). This research is, to date, the most expansive review of the use of these agreements on school construction. It is particularly relevant considering that California voters have approved $64 billion in school construction bonds during the last decade. Clearly, the facts suggest that enactment of a PLA may have significant financial consequences.

Project Labor Agreements are agreements between those constructing projects and construction trade unions. They address issues such as hiring preferences, wages, benefits and how labor disputes are to be resolved. At present at least 24 K-12 school districts in California have adopted PLA provisions, including Los Angeles Unified, Santa Ana Unified, San Diego Unified, San Francisco Unified and West Contra Costa Unified school districts. Between 1996 and 2008 these districts built 65 schools using PLAs with a cumulative cost of $ 1.7 billion. Given the higher costs of PLAs, this means these agreements cost taxpayers and students more than $200 million.

Prior statistical research identified PLAs as contributing to higher final costs of school construction in other states, but no study has examined California school projects. NUISPR research shows that Project Labor Agreements in California are associated with higher construction costs for public schools. Costs are higher when school districts construct a school under a Project Labor Agreement. In inflation-adjusted dollars, the presence of a PLA is associated with costs that are $28.90 to $32.49 per square foot higher.

The relationship between the presence of a PLA and higher school construction costs was found even when controlling for other factors that previous studies found impact cost: such as the number of stories, whether the school was built in an urban setting or whether the project included swimming

pools and gymnasiums. The NUSIPR study sets a new national standard for PLA research. The authors examined 551 schools in 180 diferent districts and used two different methods to get the most accurate information possible. The study is four times larger than other studies.

NUSIPR Senior Policy Analyst and the report's co-author Vince Vasquez noted "This study, the largest and most comprehensive to date, provides new insight into the fiscal impact of PLAs. Our statistical models indicate that that schools built under PLAs are likely to cost more." He went on to note, "These findings are important for California. Over the last decade, state voters have passed more than $64 billion of school construction bonds to build thousands of new classrooms and modernize hundreds of existing facilities. California's rapid pace of school construction activity is now matched by only a handful of other states. It is our hope that our findings inform public debate when PLAs are advanced as a costless policy tool. Our research suggests they are not. Should districts choose to adopt them, school construction costs are likely to rise significantly."

Note: The study's authors conducted three sensitivity tests, including and excluding projects known to have extraordinary costs. These projects include Robert F. Kennedy Community Schools, Central Los Angeles High School #9, and the Edward R. Roybal Learning Center. NUSIPR employed statistical tests that neutralize the impact of outliers on results. In each case, they found that school construction costs were higher when Project Labor Agreements were used.

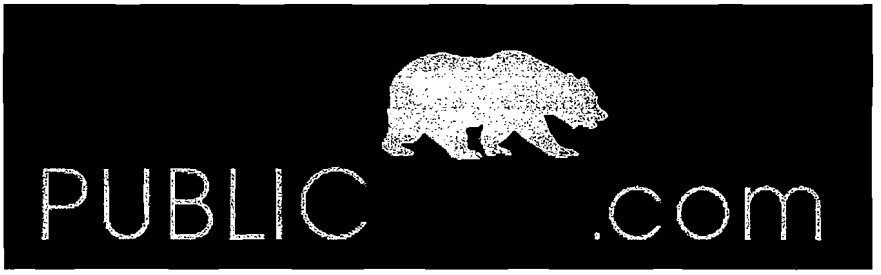
Additionally, the Keston Institute for Public Finance and Infrastructure Policy at the University of Southern California performed an independent review focusing specifically on the statistical analysis and associated findings. "Overall, we believe that the conclusion drawn in the report regarding the influence of PLAs on project cost are supported by the data set provided to us and the subsequent statistical analysis of that data," said Richard G. Little, AICP, Director of The Keston Institute. The research team appropriately utilized well-accepted statistical methods to arrive at this conclusion and it constitutes an important research finding. However, I would like to reiterate at this time that the results of our review should in no way be construed as the Keston Institute for Public Finance and Infrastructure Policy supporting any position relating to the use of Project Labor Agreements by any public or private entity."

The research was partially underwritten by a grant from the Associated Builders and Contractors, California Cooperation Committee. NUSIPR estimates that this support comprised no more than 20 percent of the total project cost.

The full version of the PLA study can be found at the NUSIPR website, www.nusinstitute.com

About the National University System Institute for Policy Research

Based in San Diego, the National University System Institute for Policy Research, (NUSIPR) is a non-partisan organization that formulates and promotes high quality economic, policy, and public-opinion research so as to improve the quality of life enjoyed by the region's citizens.



August 16, 2011

In Case You Missed It: School Construction Study the Latest Front of Project Labor Agreement Fight

By: Dan Oney
PublicCEO.com

What should it cost to build a public school in California? The issue and a new study have sparked yet another round of fierce debate between union and non-union organizations.

Researchers at the non-partisan National University System Institute for Policy Research (NUSIPR) conducted a study of 551 school construction projects that cost taxpayers a combined $10.7 billion to determine what effect union-sponsored Project Labor Agreements (PLAs) may have on construction costs. The Associated Builders and Contractors of California, Cooperation Committee provided approximately 20 percent of the funding, which researchers say was used to increase the breadth of the study. As a result, the study used a far broader sample size than has previously been utilized in PLA research. A 2005 study of projects in Massachusetts, Rhode Island, and Connecticut examined 93 school projects; a 2010 New Jersey Department of Labor study reviewed 75.

"This study, the largest and most comprehensive to date, provides new insight into the fiscal impact of PLAs. Our statistical models indicate that that schools built under PLAs are likely to cost more," said NUSIPR Senior Policy Analyst and the report's co-author Vince Vasquez. "These findings are important for California. Over the last decade, state voters have passed more than $64 billion of school construction bonds to build thousands of new classrooms and modernize hundreds of existing facilities. California's rapid pace of school construction activity is now matched by only a handful of other states. It is our hope that our findings inform public debate when PLAs are advanced as a costless policy tool. Our research suggests they are not. Should districts choose to adopt them, school construction costs are likely to rise significantly."

From their data, the National University study discovered that the cost of school construction projects operating with PLAs was 13 to 15 percent higher ($28.90 to $32.49 more per square foot) than those without PLAs. For the 65 schools included in this study that were constructed with PLAs, the total cost of $1.7 billion includes as much as $200 million in unnecessary spending. This is the fourth study since 2003 that has found that school construction projects are more expensive when executed under a project labor agreement.

Knowing that the debate surrounding PLAs is highly charged, the study sponsors had an independent third party organization review the statistical methodology and conclusions. The Keston Institute for Public Finance and Infrastructure Policy at the University of Southern California performed the review and concluded that the determination was sound. t should also be noted that they do not have a position, for or against, PLAs.

"Our review determined that the analysis of the school construction data employed proven and well-accepted statistical techniques," wrote Richard G. Little, Director of the Institute, in a letter published with the study. "In particular, we were impressed by the efforts of the research team to probe deeply into potentially confounding relationships among the variables."

Despite the USC findings PLA supporters were quick to attack the study.

Mr. Dale Belman, who conducted the 2003 study in Massachusetts, sent a letter to the National University authors questioning their methods and conclusions. "I have read your study," wrote Belman. "I find that your study's conclusion is not supported by your research; that you have overlooked important factors that affect costs, and that you have misinterpreted and drawn erroneous conclusions from my work."

However, Vasquez said that Mr. Belman was looking for causal relationships, when the study examined associated relationships.

"The scope of our research was one of association and not causation," said Vasquez. In other words, the claim that the study didn't prove that PLAs cause costs increases was irrelevant, because that was never the goal of the study," said Vasquez. "That is the job of proponents and opponents of PLAs to argue."

Indeed representatives from the building trades union went on the attack immediately, claiming that the study "cherry picked" districts for political reasons. They also alleged that the study didn't account for differences in prevailing wage rates, building codes and weather delays.

"It looks like the anti-worker extremists at ABC have gotten too devious and underhanded for their own good," wrote State Building & Construction Trades Council of California President Robert L. Bagelnorth. "Recently, they paid one of those right-wing propaganda outfits with a deceptively neutral name to produce a study that would show the world that Project Labor Agreements increase the cost of school construction. The study had purported to compare the costs of schools built with PLAs to those built without them, and of course, the authors did what they were paid to do: conclude that schools built with PLAs cost more."

Non-union contractor representatives dismissed the allegations.

"The union's sensational accusations underscore the power of the study's findings," Associated Builders and Contractors of California, Cooperation Committee Executive Director Kevin D. Korenthal said. "In each instance, however, they're flat wrong. The prevailing wage and building codes across California are overwhelmingly consistent, while the sample of schools studied is the largest of any study ever conducted on the issue. Public officials will see through the rhetoric and acknowledge the fact that Project Labor Agreements waste millions. At a time when schools are being cut to the bone, union-only agreements make things worse."

Proponents of PLAs often argue that they deliver lower costs by guaranteeing no work stoppages, by providing a framework for settling labor disputes without work stoppages, providing benefits and fixed wages for workers, and enumerating hiring preferences.

PLA opponents counter that the provisions of a standard PLA are untenable for non-union contractors, and force them to pass on projects that are attached to PLAs. All the benefits of a PLA, opponents suggest, can be achieved through a well-crafted open bid process and subsequent development agreement that establishes wage rates, local hiring preferences and no-strike provisions.

The Sacramento Bee

July 22, 2011

Viewpoints: Exposing California's costly school construction secret

By: Eric Hogue
Viewpoints: The Sacramento Bee

When it comes to public school investment, what's more important: building schools or making sure that the teachers inside them have the resources to be successful?

For most people, this isn't even an issue. Clearly, what goes on inside classrooms is more important than who builds the schools. But when it comes to taxpayer investments in public education, an independent university research study has revealed that school districts across California, including Sacramento City Unified School District and Roseville City Elementary School District, may have overspent millions to build schools, even as school budgets are being slashed.

Sadly, this problem isn't specific to our region, far from it.

The National University System Institute for Policy Research has just released the findings of what is the most expansive study regarding school construction costs in state history. Using cost data provided by school districts across California and statistical analysis validated by the University of Southern California Keston Institute for Public Finance and Infrastructure Policy, they concluded that districts that have adopted special union-only agreements – commonly known as "project labor agreements" – are paying 13 percent to 15 percent more to build schools than if they used a traditional competitive bidding process.

Project labor agreements are essentially mandates that any contractor who works on a project either use union labor or pay into the union's health care and retirement fund, even when there is no chance that the workers on the project can receive those benefits. Proponents claim that the agreements are needed to ensure worker harmony and project accountability while opponents counter that they limit the number of contractors who will bid on a project. To date, the debate on project labor agreements has focused on rhetorical statements from both sides that seek to justify their position. And while philosophy has a place in policy debates, it shouldn't be the sole factor. That's why this study is so important. For the first time, school district officials will have independent and irrefutable data upon which they can make a decision. Similarly, voters who are asked to support school construction bonds have a barometer to gauge their choice.

pools and gymnasiums. The NUSIPR study sets a new national standard for PLA research. The authors examined 551 schools in 180 diferent districts and used two different methods to get the most accurate information possible. The study is four times larger than other studies.

NUSIPR Senior Policy Analyst and the report's co-author Vince Vasquez noted "This study, the largest and most comprehensive to date, provides new insight into the fiscal impact of PLAs. Our statistical models indicate that that schools built under PLAs are likely to cost more." He went on to note, "These findings are important for California. Over the last decade, state voters have passed more than $64 billion of school construction bonds to build thousands of new classrooms and modernize hundreds of existing facilities. California's rapid pace of school construction activity is now matched by only a handful of other states. It is our hope that our findings inform public debate when PLAs are advanced as a costless policy tool. Our research suggests they are not. Should districts choose to adopt them, school construction costs are likely to rise significantly."

Note: The study's authors conducted three sensitivity tests, including and excluding projects known to have extraordinary costs. These projects include Robert F. Kennedy Community Schools, Central Los Angeles High School #9, and the Edward R. Roybal Learning Center. NUSIPR employed statistical tests that neutralize the impact of outliers on results. In each case, they found that school construction costs were higher when Project Labor Agreements were used.

Additionally, the Keston Institute for Public Finance and Infrastructure Policy at the University of Southern California performed an independent review focusing specifically on the statistical analysis and associated findings. "Overall, we believe that the conclusion drawn in the report regarding the influence of PLAs on project cost are supported by the data set provided to us and the subsequent statistical analysis of that data," said Richard G. Little, AICP, Director of The Keston Institute. The research team appropriately utilized well-accepted statistical methods to arrive at this conclusion and it constitutes an important research finding. However, I would like to reiterate at this time that the results of our review should in no way be construed as the Keston Institute for Public Finance and Infrastructure Policy supporting any position relating to the use of Project Labor Agreements by any public or private entity."

The research was partially underwritten by a grant from the Associated Builders and Contractors, California Cooperation Committee. NUSIPR estimates that this support comprised no more than 20 percent of the total project cost.

The full version of the PLA study can be found at the NUSIPR website, www.nusinstitute.com

About the National University System Institute for Policy Research

Based in San Diego, the National University System Institute for Policy Research, (NUSIPR) is a non-partisan organization that formulates and promotes high quality economic, policy, and public-opinion research so as to improve the quality of life enjoyed by the region's citizens.

FLASHREPORT
...on California's most significant political news...
Presented by Jon Fleischman

July 25, 2011

Checkmate: University Study Makes the Case Against Project Labor Agreements

By: Jon Fleischman
FlashReport

Last Friday, a study was released that should have a seismic impact on the debate regarding school funding and, more specifically, how education dollars are spent. I've made no bones about the fact that I don't think taxpayers should be asked for one more penny until it can be demonstrated that the billions we are already putting into our schools are being spent efficiently and for the benefit of students.

The National University System Institute for Policy Research released a study comparing school construction costs with the use of project labor agreements to those using a fair and open competitive bidding process. What they found not surprisingly is that the use of union giveaways results in significantly higher costs for taxpayers. Looking at more than 500 school construction projects over the last decade, the research was able to quantify that project labor agreements save anywhere from 13% to 15% to the overall cost of a project. The project sponsors get extra credit for having the prestigious Keston Institute for Public Finance and Infrastructure at the University of Southern California Marshall School of Business review the statistical methodology and conclusions of the research. This should erase any doubt as to the credibility of the data.

Overspending for a project labor agreement is offensive at the least. The education lobby, on one hand, has been trying to rally support for extending tax increases, yet they've not said a peep about becoming more efficient. For years, conservatives have railed against union-backed laws that prevent school districts from saving money by contracting out for landscaping, maintenance, food service and transportation services. Now, we learn that schools have also been effectively mandating waste by using project labor agreements.

Not surprisingly, even before the study was released, the union spin machine went into overdrive claiming that a

"reputable economist" debunked the study. The immediacy and shrillness of their attacks suggest that the data and conclusions of the research are extremely powerful tools that can be used to fight and outlaw project labor agreements.

I would encourage every education official to think long and hard about enacting these mandated waste agreements and tell any voter to reject a school bond, UNLESS, there is written language that states there will be no project labor agreement tied to any of the funds. If the unions earn the work by providing the best bid, then that's fine. But forcing taxpayers to spend millions more than necessary at the same time as we're pink-slipping teachers and talking about shortening the school year is flat wrong.

This report is required reading for anyone who cares about schools or the state's budget challenges. It's full of good data that should serve as the foundation for a statewide campaign to ensure all public dollars spent for school construction are allocated through a competitive bidding process that is open to all licensed and qualified contractors.

Orange County's news source
ocregister

August 9, 2011

Editorial: Getting less bang for school-bond bucks

The Orange County Register

Governments at all levels are running out of money, the result of chronic overspending and a continually troubled economy. So agencies are struggling to find the money to build the roads, schools and other infrastructure projects that are, at least arguably, among government's core functions.

In the private sector, when money is tight corporate managers tighten their belts, cut back on unnecessary expenses and strive to provide new efficiencies so that the product or service they offer doesn't suffer. If it does, they will lose customers, and the future of their business could be threatened.

It doesn't work that way in the public sector, which often cuts back those very services that most affect the public. It's not as if commuters can take their driving business elsewhere or parents can easily send their kids to another district if the local schools are overcrowded and ill-performing. Not only do cash-strapped government agencies cut back on services directly utilized by the public, they also seem too willing to squander scarce resources to satisfy interest groups.

School districts, in particular, are known for pitching bond issues to the public to get the money to upgrade schools and to build new ones. They ask the public to pay more in taxes to "save" the schools, but as soon as the new bond is approved the districts will pass what is known as a project labor agreement.

These pacts mandate that all contractors who bid on the new projects follow union work rules and get workers through union hiring halls. As the National Right to Work Foundation, a think tank that opposes mandatory unionization, explains, "A project labor agreement requires all contractors, whether they are unionized or not, to subject themselves and their employees to unionization in order to work on a government-funded construction project. This is done by including a union collective bargaining agreement in a public construction project's bid specifications. In order to receive a contract, a contractor must sign the agreement and subject its employees to union control."

The result: Many of the most cost-competitive firms – those open-shop firms that use nonunionized labor – refuse to bid on such contracts because it would turn them into de facto union shops. This reduces the number of bidders and mainly

limits the pool to unionized businesses with work rules that drive costs higher.

We've seen anecdotally the costs soar on projects covered by PLAs. A new study by the National University System for Policy Research confirms this point: "Our research shows that PLAs are associated with higher construction costs. We found that costs are 13 percent to 15 percent higher when school districts construct a school under a PLA. In inflation-adjusted dollars, we found that the presence of a PLA is associated with costs that are $28.90 to $32.49 per-square-foot higher."

Unions are attacking the study mainly because it is underwritten by a contractors' trade group. A union-backed think tank questioned the data by suggesting that it doesn't account for various differences in geography in California, although the study's authors say that they did, indeed, account for those differences. But it's clear that PLAs increase costs. How could they not, given that, by design, they impose costly union monopoly standards that reduce competition and promote higher benefit levels?

President Barack Obama signed an executive order mandating the expanded use of PLAs on federal government contracts, but it shouldn't surprise anyone that much of the money from the stimulus bill is squandered on left-leaning interest groups, such as unions, more than on rebuilding the economy.

The latest study reminds us that governments – driven by politics and dependent on Other People's Money – can't even stretch a dollar during tight budget times. The only solutions are less government and more privatization if the public wants to improve services and keep a check on expenses.

Eliminating Project Labor Agreement (PLA) Mandates

Indiana Interim Study Committee on Employment Issues

September 7, 2011

Andy Conlin
Associated Builders and Contractors
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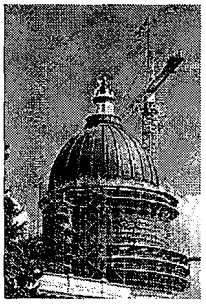

About Associated Builders and Contractors (ABC)

- National trade association representing 23,000 construction and construction-related firms with over 2 million employees.
- The majority of ABC members perform commercial or industrial construction.
- ABC members believe in the advancement of the merit shop construction philosophy, which encourages open competition and a free-enterprise approach that awards contracts based solely on merit, regardless of labor affiliation.

What is a Government-mandated Project Labor Agreement?

Project Labor Agreement (PLA)

- A PLA is a contract negotiated between a government entity, a project owner or a construction manager, and labor unions.
- When mandated by a government entity on public construction, contractors are forced to sign a contract with construction labor unions as a condition of winning covered projects.
- A typical PLA requires contractors to recognize the signatory unions as the sole representatives of workers on the covered project; hire workers exclusively through union hiring halls; hire apprentices only through union apprenticeship programs; contribute to union pension and benefit plans; and obey the union's restrictive work rules in exchange for the promise of labor peace and stability.

Exhibit F
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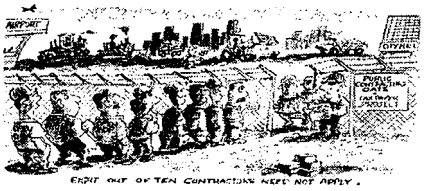
What is a PLA in Practice?

PLAs create a monopoly by reducing competition from nonunion contractors. Typical PLAs essentially require nonunion contractors to operate as union contractors for the life of a PLA project.



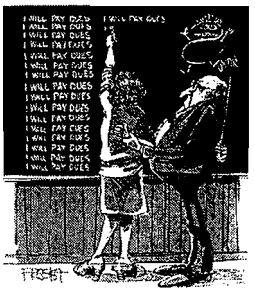
How do PLAs Reduce Competition?

PLAs require contractors to recognize a union as the sole representative of their workers.

How do PLAs Reduce Competition?

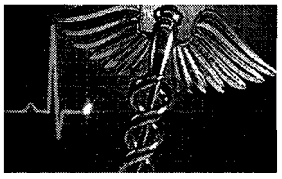
PLAs require ALL contractors to hire all or some of their employees through union hiring halls.

How do PLAs Reduce Competition?



PLAs require nonunion workers to pay union dues and fees or join a union in order to work on a PLA project.

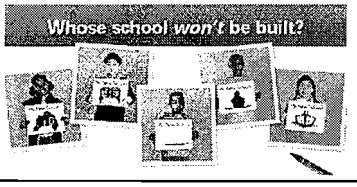
How do PLAs Reduce Competition?



PLAs require non-signatory contractors to pay into union health and welfare benefits

The Result of Government-Mandated PLAs

- Costly to taxpayers
- Unfair political favoritism
- Less construction means fewer jobs



PLAs: Myths and Facts

Common Arguments in Support of PLA Mandates

- Wages and Benefits
- No Strike Promise
- Local Hire
- Union Productivity
- Union Safety
- Apprenticeship
- PLAs are Used in the Private Sector
- PLAs Reduce Costs
- PLAs Attract High Road Contractors and Increase Competition
- Anyone Can Bid a PLA Project
- Illegal Immigrants/Undocumented Workers

Myths versus Facts

Myth: PLAs lead to economy and efficiency in construction.

Facts:

- ABC believes there is a firm public record of PLAs increasing construction costs.
- It is simple economics. If you reduce the supply of qualified contractors, then costs will go up.

Myth versus Fact

Myth: Banning government-mandated PLAs will prohibit all PLAs on public construction.

Facts:

- Public entities can still award projects to contractors that submit PLA bids. The public entity simply cannot require a contractor to agree to a PLA as a condition of performing work on a covered project.
- This allows the market to determine if a PLA is appropriate.

Myth versus Fact

Myth: Banning government-mandated PLAs deprive government entities of an important construction management tool used by large, private sector companies.

Facts:

- Public entities have a responsibility to taxpayers to procure the highest quality construction at the best price.
- Private firms require PLAs for a variety of reasons and upfront construction costs may not be the most important consideration in the way that it must be for public entities.
- If a PLA is appropriate, then a contractor will submit a competitive bid with a PLA. This lets the market determine when a PLA is necessary.

Myth versus Fact

Myth: State efforts to ban government-mandated PLAs on public projects deprive communities of local control.

Facts:

- Local communities can develop strong, non-discriminatory contracts to guarantee contractor accountability.
- Many local officials appreciate being removed from this policy debate.

Myths versus Facts

Myth: PLAs promote local hiring.

Facts:

- 28 percent of Indiana's construction workforce chooses to join a labor organization.
- Most PLAs require hiring through union hiring halls. If there are not enough workers for a trade, unions dispatch "travellers" from other halls – not nonunion workers – to fill the gap.

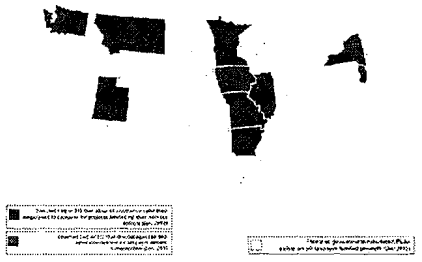
President Barack Obama Issues Executive Order 13502

Executive Order 13502

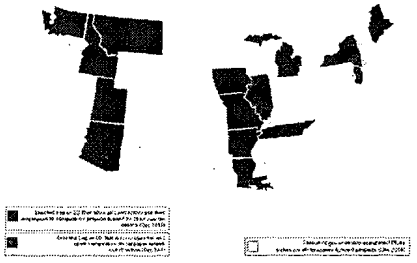
- Encourages federal agencies to require PLAs on federal construction costing more than $25 million.
- Limited Success in implementing this order.
- The Obama order DOES NOT require state or local government to require PLAs.
- Section 7 threat looms large.

States Taking a Stand Against Government-mandated Project Labor Agreements

December 2010



August 2011



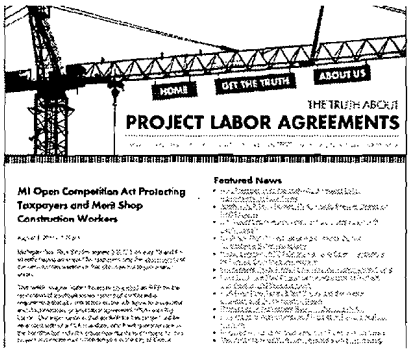
PLAs and Jobs

PLAs and Jobs

- ABC's economist estimates that 1 job is created per every $12 of public infrastructure investment.
- Efficient management of public construction spending provides more opportunity for public construction projects, which put people back to work.

Associated Builders and Contractors Resources

The Truth About Project Labor Agreements



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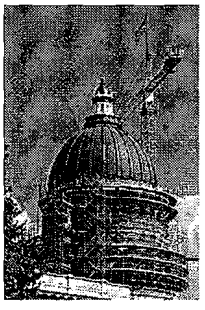


A Look at Best Practices for the Design of Project Labor Agreements:

BUILDING BETTER:

Exhibit G
Interim Study Committee on Employment Issues
Meeting #2 Sept. 7, 2011

Who am I?

- Dale Belman
  - Professor
  - School of Human Resources and Labor Relations, Michigan State University
- Studied Employment Relations in Construction for 13 years.
  - Placed research on construction in peer reviewed journals such as *Industrial and Labor Relations Review* and *Industrial Relations*
  - Three current articles on PLAs which investigate their effect on construction outcomes such as cost and timeliness.
  - Reviewed the current literature on PLAs

Three Themes

- PLAs can produce value for the owner and public
  - The owner has to be know what they need
- Use of PLAs should be evaluated on a project by project basis
  - "The right PLA for the right project"
- Just as requiring PLAs on all public projects would be bad policy, banning PLAs would be equally bad for the citizens of Indiana.

Role of the Owner

- Owner needs to determine whether a PLA provides value on the project under consideration
  - Particularly important for the public owner
- Owner needs to provide guidelines on the content of the PLA for the CM/GC/negotiator
- Who signs the PLA varies

What Types of Value Can Be Achieved with a PLA?

- Two types of value
  - Construction value
    - Cheaper to complete
    - On time completion
    - Quality of construction (maintenance)
    - Safety and health outcomes
    - Less oversight by contracting officers!
  - Social value (Important to Public Owners)
    - Provision of training and access to jobs
    - Externalities
      - A project work force which looks like the U.S. construction labor force
      - Middle class income and benefits
      - Provision of benefits (Costs to local hospitals)
      - Local hire & economic stimulus to area
      - Adherence to labor and employment law

When Does a PLA Provide Value?

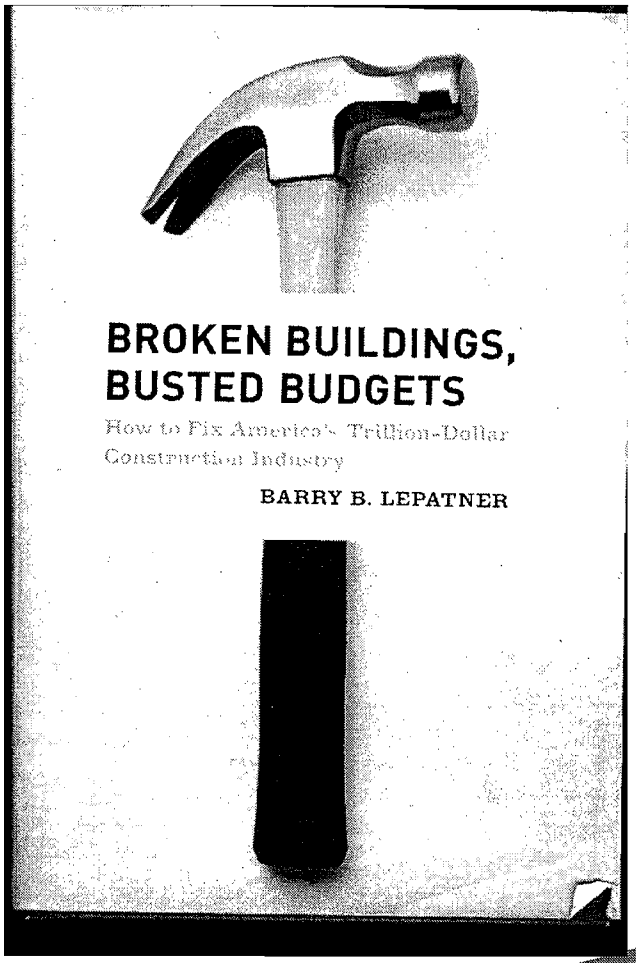
- Larger, more complex projects
  - Minimum may be in the $5 to $10M range
- Projects where completion time is important.
- Projects where skill levels and training are important to quality.
- Projects built under prevailing wage requirements

Challenges of Contemporary Construction

The Challenge of Construction:

- Management structure is complex
  - Articulated subcontracting (3 to 5 levels of subs)
  - Oversight has become more complex
  - Potential conflict between Owner-CM-Prime Contractors-Subs
- Labor organization is complex
  - Multiple trades which have to interact
    - Challenge of coordinating work gangs across trades
  - Labor force has to be mobile between jobs
    - labor force numbers and quality cannot be assumed
- Additional sources of disorganization
  - Incomplete plans/incompatible CAD systems
  - Lack of central control of the worksite causes inefficiencies and conflict

The Problems Are More Than Speculative



How Does a PLA Create Value?

Topics Addressed in PLA

- Scope and Exclusions
  - Scope/duration
- Dispute Resolution ♣
  - Specification of responsibilities & mechanisms
- Economic Adjustments ♣
  - Harmonization of hours/common holidays
- Administration of Labor ♣
  - Referral/dues/core personnel
- Parties to PLA
- Social Investment/Social Value ♣

Dispute Resolution

Dispute Resolution

- No Strike/No Lockout
  - Absolute ban with Liquidated Damages
    - Project moves forward during area contract strikes
    - Project disputes do not stop work
  - Dispute resolution procedure (arbitration)
    - Used to resolve substantive disputes including those over prevailing wage & employment law
    - Relieve contract officer of enforcement of employment laws
- Use of meetings to head off problems
  - Pre-job Meeting
    - Contractors and labor representatives meet to resolve disputes over jurisdiction and other inter-trade and inter-contractor issues
    - Often continued into the project
    - Important because of the incompleteness of plans
    - Beneficial results at the World Trade Center demolition

Dispute Resolution: Informal

- PLA creates identification with the project from stakeholders
  - Labor-management committees may create an informal dispute resolution process

ECONOMIC ADJUSTMENTS

Some Economic Adjustments

- Break Time
  - Common Lunch
  - Elimination of formal breaks
- Harmonization of Hours
  - Common start time
  - Common holidays
- Flexible Start Time
- Cap on Premium
  - 2nd & 3rd shifts
  - Cap on M-F over-time at 1.5
  - Cap on Saturday overtime at 1.5
- Shift Schedules
  - 4 x 10 at Regular Hourly Rate & other extended schedules
  - Second Shift w/out morning shift
  - Saturday weather make up at straight time

Economic Adjustments (con't)

- Additional Direct Savings
  - Limitation on Benefit Payments (training and industry funds)
  - No Travel Allowance
  - Pay reductions
- Worker Comp – ADR

Economic Adjustments: Work Rules

- Management Rights Clause
- Shop steward requirements
- Eliminate manning requirements, limits on technology, or other limitations
  - Rules exist formally on union sites and informally on union and nonunion sites
  - Need to negotiate them away, fiat seldom works
    - Apprentice ratios vs.
    - safety signaler for cranes.

Labor Administration

Assuring a Timely Supply of Labor

- Unions are typically required to supply needed labor within 48 hours
  - Contractor able to obtain labor from other sources if time limit it not met.
  - Reduces recruiting costs and eliminates labor hoarding.
  - Problem of insufficiently skilled labor is always there (Volkswagen plant in Chattanooga)

Assuring Adequate Competition

- Importance of sufficient competition to the bidding process
  - Evidence on bidding suggests that PLAs do not reduce the number of bidders to a level at which prices increase.
  - No gouging clause (Harvard)
  - Language to allow out of area contractors to compete
    - Core personnel or drag along clause

PLAs and the Open Shop

- All PLAs allow nonunion contractors to bid and be selected for a project. Openness to nonunion contractors is determined by
  - What does the nonunion contractor have to do with respect to the local collective agreement?
  - How can nonunion contractor obtain labor needed for the project?
  - How are required benefits to be paid?
  - Does the nonunion employee have to join the union?

Social Investment through PLAs

Using PLAs to aid less skilled groups (two examples).

- West Coast Port PLAs
  - Create requirements for moving individuals in low income areas through pre-apprenticeship programs into well paid construction jobs
- San Jose Construction Academy
  - Integrate blue and while collar training in construction with internships and post high school apprenticeships
  - Initially part of a PLA
- Programs meet several needs
  - Shortage of skilled construction workers
  - Majority of training is paid for by the private sector.

Reprise

- PLA can provide value to owners, including public owners
- Use of PLAs should be evaluated on a project by project basis
- The right policy on PLAs is to establish clear criteria for their use.
  - Banning or requiring PLAs will reduce the value realized by the public.

Thank You

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EPI BRIEFING PAPER
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BUILDING BETTER

A Look at Best Practices for the Design of Project Labor Agreements

BY DALE BELMAN (MICHIGAN STATE UNIVERSITY, SCHOOL OF LABOR AND INDUSTRIAL RELATIONS) AND MATTHEW M. BODAH (UNIVERSITY OF RHODE ISLAND, SCHMIDT LABOR RESEARCH CENTER)

Executive summary

Project labor agreements (PLAs) are a type of contract used in the construction industry to set the terms and conditions of employment on large projects of long duration and design complexity. PLAs allow the expeditious resolution of disputes that can arise in the course of the project, thereby helping to ensure that the project is delivered on time and that quality standards are maintained. Recently, PLAs have begun to include provisions that seek to improve conditions on the worksite (e.g., health and safety rules) and provide benefits to the community by including jobs and training opportunities for disadvantaged workers and carve-outs for small or minority-owned businesses.

Although PLAs have been around for years and used on some of the most famous construction projects in American history, their use has become controversial as the nonunion sector of the construction industry has grown and as PLAs have been applied to relatively small projects. Critics argue that PLAs place nonunion contractors at a disadvantage in bidding on projects and raise overall project costs. PLA opponents are particularly critical of the use of PLAs on public projects. They argue that such usage violates the spirit of public bidding statutes by requiring the adherence to collectively bargained terms and conditions of employment as a prerequisite for winning a contract.

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If designed properly, PLAs can help projects meet deadlines by guaranteeing a steady supply of highly skilled labor through the building and construction trades unions' nationwide network of referral systems and by reconciling the various work routines of the many trades. PLAs also help to assure timely completion by keeping projects free from disruptions resulting from local labor disputes, grievances, or jurisdictional issues.

PLAs can improve efficiency and promote innovation by prohibiting restrictive work norms, by improving coordination in work flow, and by supporting experiments in changing the work environment. In addition, many PLAs include highly developed systems of labor/management cooperation.

Language in PLAs can be written to advance important policy goals, such as improving training and recruiting members of disadvantaged communities into high-paying jobs in construction.

Often PLAs, particularly those on large projects, contain sophisticated health and safety provisions, including those that dictate overall safety practices, create safety committees, mandate safety training and safety meetings, and address such matters as drug screening.

While nonunion contractors are the most vocal PLA opponents, many PLAs accommodate nonunion firms by, among other things, prohibiting discrimination in bidding based on union status and allowing nonunion firms to bring at least certain core workers with them to projects. Evidence suggests that, where they have attempted to gain PLA work, nonunion firms have been successful in competing for it.

One successful method that is used in many parts of the country for negotiating PLAs is their development by local labor/management councils. Such groups can use the AFL-CIO Building and Construction Trade Department's model PLA and include language to accommodate local concerns. A local model PLA can then be fashioned on a job-by-job basis to meet the needs of the owners and community groups that might have a stake in a project.

We hope that this report can move the PLA discussion beyond a debate about whether PLAs are good or bad and toward a more constructive discussion regarding how to create PLAs that help deliver better projects for owners, contractors, workers, and communities.

Introduction

What is a project labor agreement?

The construction of major projects such as highways, bridges, and power grids entails the careful coordination of large numbers of individual contractors and their workforces, often under demanding time schedules and design specifications. Failure to meet project deadlines or quality standards can be costly to the businesses and agencies involved and to the public at large. Project labor agreements (PLAs) are a type of contract used in the construction industry to set the terms and conditions of employment on large projects of long duration and design complexity.

The longstanding purpose of PLAs is to resolve expeditiously disputes arising in the course of the project, thereby helping to ensure that the project is delivered on time and that quality standards are maintained. PLAs in more recent years also include provisions that seek to improve conditions on the worksite (e.g., health and safety rules) and provide benefits to the surrounding community (for example, by including jobs and training opportunities for disadvantaged workers).

Two basic design features allow PLAs to meet the twin goals of creating greater uniformity in labor contracts and minimizing disruptions that can occur on major construction projects. First, the typical PLA is negotiated by a local building and construction trades council (BCTC) and a construction management firm with the goal of reconciling the differing provisions found in local labor agreements across the building trades unions. For example, each local union's collective bargaining agreement may have different benefits and premium-pay provisions, different hours-of-work provisions, and different work rules. When many trades are working together on a single project over a long period, it makes sense to reconcile differing contract provisions within a master agreement.

The second fundamental design feature in PLAs offers the construction user—typically called the owner—assurances that work will be undertaken without disruption and that disputes will be resolved expeditiously without causing delays to project schedules. Accordingly, one provision that is nearly universal in PLAs is that work continues on a project no matter what conflicts arise on the project or off. Therefore, even if a building trade union is on strike in a local area, work on a PLA-covered project continues; disputes on the project itself are handled through labor/management committees and grievance procedures culminating in binding arbitration.

Along with these basic elements, PLAs can contain a variety of provisions relating to health and safety practices, training, recruitment of local workers, and operational issues. They may also include favorable language for owners and contractors on compensation and work rules.

History of PLAs

Although the term is relatively new, PLAs have been around for many years. During World War I, American Federation of Labor President Samuel Gompers and Secretary of War Newton D. Baker agreed that military cantonments would be built under a union pay scale in exchange for the unions giving up a request for a closed shop on such projects (McCartin 1997). During and immediately after World War II, agreements that were particularly popular at atomic energy and space and missile sites provided for uniform shift and overtime rates along with no-strike guarantees (Dunlop 2002). Iconic American projects such as Hoover Dam and the Trans-Alaska Pipeline were built under PLAs.

PLAs continued to be used with little controversy in both the private and public sectors throughout the postwar period—a period during which much of the construction industry was highly unionized. With powerful unions, there was a strong desire on the part of owners and contractors to avoid labor disputes and gain the best economic deal possible relative to local agreements. The climate changed, however, in the 1970s and 1980s, when union market share dropped and construction users and the nonunion sector became better organized (Linder 1999). In the new environment, with large nonunion contractors able to compete for all types of work in most states, and with the growing strength of a nonunion contractors' association—the Associated Builders and Contractors (ABC)—challenges to PLAs became more common. In the past decade, all branches and levels of government have entered the PLA debate (Cockshaw 2003; U.S. Senate 2000).

Why are PLAs controversial?

Because PLAs require that all contactors working on a project adhere to a collective bargaining agreement, even non-union contractors must operate under negotiated rules. These contractors complain that PLAs remove their competitive advantage, require them to use union workers from hiring halls rather than their own employees, and require them to contribute to union-sector health care and pension funds from which their own employees are unlikely to benefit (ABC 2001). Opponents of PLAs argue that they frequently add costs to projects that benefit only the contractors and workers, not the general public.

Private sector owners may place nearly any conditions they like on their projects; even so, private sector PLAs often restrict bidding to unionized contractors. On public projects, however, state and federal bidding statutes and regulations must be followed. Therefore, much of the controversy surrounding PLAs is whether, on government projects, they violate public bidding statutes by placing a condition on successful bidding (i.e., the willingness to sign a PLA) beyond the requirement of being the "lowest qualified bidder."

As public policy has developed, most courts have held that governments may use PLAs on public projects as long as bidding is open to all qualified bidders (union and nonunion) and due diligence has been done to determine the cost effectiveness of the PLA. On a practical level, this means that the benefits of improved coordination and management offered by the PLA can outweigh any additional costs that might arise from their use. Whether they do depends on the provisions of the PLA and how they are implemented by the parties on the project.

At the federal level, PLAs have been something of a political football. Their use was prohibited on federally funded projects at the end of George H.W. Bush's administration, encouraged during the Clinton administration, essentially prohibited during George W. Bush's administration, and, again, encouraged under the Obama administration (see Executive Order 13502, February 6, 2009). Federal regulations pursuant to the implementation of President Obama's executive order appeared in the Federal Register on April 13, 2010.[1] As evidence of how contentious the issue of PLAs can be, the public comment period on the federal regulations in the fall of 2009 yielded nearly 700 responses, pro and con.

The purpose of this report

Passions in the PLA debate often eclipse reason. But PLAs should be viewed for precisely what they are: a tool to provide value on construction projects. Because PLAs have many elements, and differ considerably in terms of which elements are used and how they are carried out in practice, an agreement's success at adding value is dependent on design choices and how its provisions are implemented during the project. This report focuses on best practices that have helped parties make the most of their agreements. Accordingly, rather than rehashing the PLA debate, we offer advice on such matters as assuring timely projects, maximizing efficiency and innovation, supporting community development, improving health and safety, resolving disputes, accommodating nonunion contractors, and negotiating PLAs. We hope this report can be used by parties to craft better PLAs and achieve success on their construction projects.

The construction industry

For convenience we speak of the construction industry, but construction comprises several distinct industries and is organized around occupations rather than employers. Construction projects are temporary, as are most construction jobs. Craft workers and professional employees in the industry move between employers to remain employed, and these continual transitions result in a weak attachment between employers and employees. Demand for construction and, therefore, construction workers is cyclical. In addition, immigrants, as historically has been the case, make up a large and increasing part of the construction labor force. In this section, we will discuss each of these characteristics of the industry.

Even though the construction sector is devoted to building things—except, of course, for those segments that specialize in tearing things down—there are marked differences in the work, technology, financing, and labor forces between industries. Perhaps the most obvious difference is between residential and all other construction. Residential construction firms are typically small, operate in markets with vigorous price competition, and employ workers with less training and fewer skills. But there are also meaningful differences between other parts of construction. For example, highway construction depends on public works expenditures, industrial construction is driven by demand for manufacturers' products, and large commercial projects require capital from banks and outside investors.

The occupational structure of work and the occupational structuring of firms distinguishes construction from other industries. Construction workers are defined by their occupation more so than by their employers. Skill development is specific to a trade—electricians do not have the skills to do the work of carpenters or pipefitters—and once workers have acquired substantial skills within a trade they usually remain in that trade. Moreover, most firms are occupationally structured. They provide a specific type of service, such as electrical contracting, plumbing, pipefitting, painting, or roofing. Even general contractors seldom employ more than the basic trades—for example, carpenters, ironworkers, laborers, operating engineers, and bricklayers—and may obtain even these workers by subcontracting with specialty employers. The occupational structure of construction makes skill development central to the success and efficiency of the industry and supports the easy movement of employees between employers.

Construction is unique among the goods-producing industries in being dominated by small employers and establishments. Although there are well-known large employers such as the Bechtel Group, Bovis Lend Lease, Skanska, and KBR, to name a few, only 15% of all construction workers are employed by contractors with 250 or more employees—about

a quarter (24.4%) work in firms with nine or fewer employees—and of the 710,307 establishments in the construction industry only 163 have 1,000 or more employees (U.S. Census Bureau 2005). The small number of employees in most firms is due to workers being specialized not only by trade but by type of work. Hence, an electrician, for example, may work for a firm that specializes in residential work or industrial work or in the installation on lighting on highways. Except for the very largest firms, construction employers typically operate in local or, at most, regional markets.

Construction projects are inherently temporary. Consequently, a contractor's volume of work and the number of employees it needs vary considerably over time. The workforce has to be mobile between projects, and often between employers. Historically, building trades unions have served as labor market intermediaries that provide a clearinghouse for labor to contractors and serve as a guarantor of the skills of the workforce and conditions for craft workers. In conjunction with signatory (i.e., unionized) employers and their associations, the unions provide training and health and welfare benefits to a mobile labor force. At the same time, however, workforce mobility makes relations between the unions and the employers less stable than in other industries.

The complexities created by the small size of construction employers and the transient nature of construction projects are compounded by the multifaceted organization of construction projects. That is, no single company builds a project. Rather, parts of every project are subcontracted out to firms that specialize in the type of construction needed. A building construction project is likely to involve site preparation, foundations, framing, roofing, electrical work, plumbing, heating and cooling, drywalling, painting, and flooring. In many cases, some or all of these tasks will be contracted to subspecialty firms. As a result, many employers and craft workers will operate—or need to operate—on the same site at the same time. Coordination of multiple contractors is a critical and challenging task, one which, if poorly done, will have negative effects on timeliness and quality. Successful coordination of multiple employers and trades is the hallmark of good projects. However, successful coordination of projects has been complicated during the past several decades as general contracting firms have evolved into construction management firms. Historically, general contractors took overall responsibility for successful completion of a project, and they assumed the financial risks and rewards of that responsibility. In contrast, construction managers serve the owner by coordinating and overseeing the contractors and subcontractors, but they do not take on financial risk if a project goes poorly. The shift from the general contracting to the construction management model complicates lines of authority and incentives.[2] Whatever the management structure of a project, the fundamental complexity of the construction worksite makes coordination across trades and contractors important to the project's success.

The decline of union representation in the construction industry over the past 40 years coincides with an increase in issues related to worker training and a shortage of skilled craft workers. Training highly skilled craft workers requires multi-year programs that combine classroom training and on-the-job experience. In the past, much of the training of construction workers took place in apprenticeship programs overseen by joint labor/management committees. These programs were financed by contractually mandated employer contributions determined by the number of hours worked by a trade. The joint governance structure proved to be effective in providing broad skills training economically. With the large-scale shift to nonunion employment, the apprenticeship system has declined. The lack of large-scale training systems in the nonunion sector was not an issue for many years because many of its workers had been trained in joint apprenticeship programs. Over the past 20 years, however, the lack of effective training systems in the nonunion sector has increasingly affected the ability to deliver high-quality projects. Thus, training has become an issue for construction stakeholders.[3]

Because the construction industry is very sensitive to demand conditions and changes in interest rates, construction workers face higher and more volatile unemployment than workers in the balance of the economy. For example, the nation's overall annual unemployment rate ranged from 4% to 6% between 2000 and 2007, while the rate in the construction industry was 6.2% to 9.3%.[4] Monthly rates show even greater variability. The average difference in the high and low monthly unemployment rate in these years was only 1.05% for unemployment overall, while the figure

for the construction industry was 5.88%, or over five times higher.[5] Another example can be found in recent unemployment rates. While the national unemployment rate was 9.5% in June 2010, the unemployment rate in construction was 20.1%.[6]

Construction has been and continues to be a port of entry into the labor force for immigrant workers. Just as large numbers of immigrants from Ireland, Italy, and Central Europe once entered construction soon after entering the United States, construction has more recently served as an important source of employment for new immigrants from Central and South America. Research by the Pew Hispanic Center found that, in 2006, 75% of Hispanics employed in construction were foreign born. Between 2003 and 2006, Hispanic employment in construction rose from 11% to 15% of total employment and provided 40% of the increase in employment among Hispanics during that period (Pew Hispanic Center 2006). The influx of immigrant labor provided an important support for the housing boom of the early 2000s, but may have exacerbated problems with earnings and employment conditions, particularly in residential construction.[7]

Understanding these distinctive characteristics of construction helps us to understand why and how PLAs can be used to deal with complexity on large projects of long duration. PLAs can control some of the uncertainty in an otherwise diverse and decentralized industry.

Designing PLAs to meet project deadlines and quality standards

PLAs can be an effective tool for ensuring that projects are completed on time. Delays create inconveniences and costs for everyone. The school that is not ready for the first day of the new year may force the use of temporary and overcrowded facilities and necessitate a mid-year move. The highway that is not completed on time continues to cause travel problems for commuters and truckers, which result in real costs to a local economy. The factory that is not finished cannot produce revenue for its owners. Moreover, project delays impose additional costs for borrowers and are often the root causes of construction litigation.

Delays in construction projects are not unusual and have many sources. Sometimes, they are related to inadequate numbers of available and appropriately skilled workers. They may also be caused by weather, by materials being lost on the site or arriving late, by problems associated with financing or insufficient planning, or by the unavailability of contractors at the time when their services are needed. Although no one project may suffer delays from all of these sources, delays are common in construction, and timely completion of a project often requires adjustments to work schedules and labor requirements to bring it back on schedule.

Interviews we have conducted with more than one hundred individuals involved in various aspects of construction—e.g., owners, contractors, contractors' association staff, and union officials—on scores of projects[8] reveal broad satisfaction with the ability of PLAs to assure timely completion. Where delays were experienced, they were usually unrelated to labor issues.[9] In fact, the anecdotal evidence suggests that some projects would have experienced schedule delays were it not for the interventions made possible in the PLA.[10] For example, there were instances in which remaining on schedule required bringing in out-of-area workers at critical points in projects. Absent the local unions' commitment in the PLA to providing labor on a timely basis, it is likely that the local unions would have been far less willing to give up work for their members.

PLAs act to improve timeliness through several mechanisms. First, all PLAs include provisions that commit the local unions to provide labor on a timely basis, usually within 48 hours. This commitment is supported by arrangements between union locals to facilitate the movement of skilled labor to areas of labor shortage. Second, most PLAs proscribe work disruptions—strikes, slowdowns, wobbles, and other labor actions—and provide mechanisms by which disputes can be anticipated and peacefully resolved. The presence of these bans, and the provision of dispute resolution mechanisms, supports timeliness both by removing many of the causes of disruptions and by emphasizing the importance of timeliness to all project stakeholders. Third, many PLAs include provisions to harmonize work time and promote the

efficient utilization of labor, thereby improving project performance. Finally, obtaining the commitment of all of the stakeholders—owners, contractors, union officials, and workers—through a PLA supports an understanding of the requirements of the project and encourages a positive identification with the ends of the project, including getting the job done on time.

Commitment to the timely provision of skilled workers

PLAs can include provisions that commit local unions to actions and practices that allow contractors to operate efficiently and with the confidence that there will be access to the workers required for the project. The quid pro quo for using local unions as an initial source for skilled workers is that union locals agree to provide the labor needed for a project quickly, usually within 24 to 48 hours. By way of example, the Tappan Zee Bridge, which spans the Hudson River just north of New York City, was upgraded using a PLA that included a commitment that unions provide labor on a timely basis:

> The Contractors agree to hire on the Project craft employees covered by this Agreement through the job referral systems and hiring halls established in the Local Unions' area collective bargaining agreements....In the event that a Local Union is unable to fill any request for qualified employees within a 48 hour period after such requisition is made by the Contractor (Saturdays, Sundays and holidays excepted), the Contractor may employ applicants from any other available source.

Similar language can be found in almost all PLAs. Such language commits unions to make available skilled workers quickly, and allows contractors to seek alternative sources of labor if the unions cannot provide it, allows better coordination of project workforces, bans job actions, and provides for immediate means of dispute resolution.

Recruitment of workers from outside the region

The agreement with the local unions does more than provide access to local craft workers. Local unions have arrangements through their international parent organizations to allow for union members from other locals to work on a project when the local labor force is insufficient. With adequate notice, even large projects can recruit a labor force of workers with established employment records from around the nation. The arrangement the locals have with their internationals has proven important for large projects, especially projects in regions with low population density. For example, the construction of the General Motors assembly plant in Lansing, Mich. in the early 2000s was not hampered by the extremely tight labor markets of the time because appropriately skilled labor could be drawn from the Midwest and, if necessary, from other regions of the country. In contrast, trade publications reported numerous delays and price escalation on large construction projects in the years leading up to and during this project.[11]

Ban on job actions

The complex organization of work and responsibilities on construction sites create considerable potential for misunderstandings and disagreements concerning the "ownership" of work and how the work is to be accomplished. Since construction sites are temporary workplaces, contractors and workers constantly have to determine how to work together to produce a successful project. Unlike a permanent workplace, where issues of who is supposed to do what have been spelled out, in construction these matters often must be resolved anew on each site. The inherent lack of organization on construction sites becomes more complex due to the uncertain lines of authority, particularly on sites overseen by a construction manager. Problems arise frequently because construction plans are often incomplete when projects are bid by contractors. Consequently, many of the details of the work, deliverables, and cost are determined once the project has begun, and decisions have to be made expeditiously so as not to delay work. Therefore, the details of the contract and subsequent decisions are often made onsite, a pressure adding to an already complex situation.

The assignment of work is a frequent source of dispute between contractors and between workers on both union and nonunion sites. In some instances, parties try to claim the work; in others they try to avoid it. On union projects, disagreements over the ownership of work are usually jurisdictional disputes—that is, a disagreement between unions over which union's members should do the work. These disputes may arise when mid-project changes occur or when changing technology blurs craft lines. Despite conventional wisdom, delays about who should do what are not unique to the union sector. Nonunion worksites can also suffer delays when contractors do not agree on the scope of their work.

Work can also be disrupted by labor disputes. On union sites, work can slow or stop due to contract negotiations, disputes over jurisdiction between trades, safety disagreements, or other issues. Nonunion worksites can also be affected by slowdowns, walk-offs, excessive absenteeism, and other labor problems when employees and contractors are in conflict. For institutional reasons, disputes on union sites are more visible, but disputes between contractors and workers on both union and nonunion sites can seriously impede work.

The no-strike/no-lockout language and the dispute resolution processes (discussed more fully in a later section) provided in PLAs have proven to be highly effective in preventing disruptions on union worksites. The dispute resolution provisions of most PLAs (1) provide an expeditious means to resolve any strike or work slowdown, (2) commit union leaders and contractors to take immediate action to resolve the problem and resume work, and (3) impose large and rapidly increasing penalties when strikes or slowdowns occur. The success of PLAs in addressing work disruption issues is demonstrated by the very small number of work stoppages and slowdowns on projects built under PLAs.[12] However, if work disruptions occur, then the disputes are resolved rapidly and prior to serious the consequences that could result. For example, a wildcat work stoppage at the San Francisco Airport in May 1999 under other circumstances might have lasted much longer, but the dispute was resolved in less than 24 hours due to the union leaderships' commitment under a PLA.[13] Although the occurrence of any stoppage might be viewed as a failure, the success in quickly ending the work stoppage was only possible because of the PLA.

Language to foster efficiency and reduce time to completion

PLAs promote practices that increase project efficiency and may shorten time to completion. One important practice is the harmonization of working hours. For historic reasons, different trades may have different rules about starting times, the number of holidays and the dates when holidays are taken, allowable shift schedules, breaks, and methods of determining overtime. This can result in situations in which carpenters start and end their shifts an hour after electricians, or pipefitters take a day off on Friday when a holiday falls on a weekend while other trades take the day off on Monday.[14] Because of the need for coordination between trades, such differences result in inefficient use of time and/or an excessive use of overtime. By coordinating starting times, holidays, and other work rules, PLAs can improve efficiency, as well as reduce project times and cost.[15]

Another important practice is the creation of labor/management committees to oversee projects and anticipate problems before they occur. For example, many PLAs now include language on pre-job conferences, which permit the parties to discuss issues and resolve them ahead of time rather than wait for them to come up during a project. Determining whether ironworkers or millwrights will do a particular task can be determined at the outset, avoiding any delay that might occur if the decision is left until the start of the task. Similarly, as information about unanticipated problems becomes available, the committees can review the problem and find a solution on the front end to avert delays.

The success of PLAs depends, in part, on craft workers, union officials, and contractors' identification of the project as one in which each participant has a role in making a success. In the course of our interviews, we frequently heard that stakeholders' identification with PLA projects and their investment in the success of the project underlie easier dispute resolution. Jurisdictional issues that might have been fought out at length on other projects were ceded because the

parties wanted the project to move forward without impediment. Labor leaders also indicated that they expected reciprocity on the next PLA; if the Carpenters Union gave up work on this PLA, the Laborers Union would give up work on the next one. Often times, the parties preferred that issues be resolved without the involvement of the project owner. Toward this end, issues were resolved at the lowest level possible.[16]

Most PLAs are negotiated locally. Local negotiation plays an important role in creating understanding and identification with a project on the part of the local union representatives and membership. There are, however, national agreements, such as the Toyota PLA. Although the content of these national agreements is similar across projects, local building trades councils are part of negotiations between the owner and the AFL-CIO's Building and Construction Trades Department. This involvement assures that the members of the local council, who will be signatory to the agreement, understand the agreement and the gains and responsibilities it confers. Local involvement can also play a critical role in adapting the agreement to local laws and conditions. This suggests that, even if the content of PLAs were standardized into sets of alternative language, the discussion, revision, and joint agreement on the language is important to creating the conditions needed for the agreement to be fully successful.

The effectiveness of PLAs in delivering projects on time is due, then, not only to the provisions of the PLA but also to the identification of contractors, union leaders, and workers with the project and its success. The importance of local engagement surfaced numerous times during our interviews with individuals involved in PLAs. When this identification occurs, those involved in the project will seek ways of making the PLA work and often develop informal means of assuring success.

A case example of a 'close success'

On-time completion of a project may require union leaders' active involvement to assure that labor is available when it is needed and that local disputes do not affect work. In most cases, PLAs commit contractors to using members of the local unions that are signatory to the agreement, but they also commit the unions to provide appropriately skilled labor quickly, most often within 48 hours. In addition, the PLAs specify the actions contractors may take when labor is not available. The standard language allows the contractor to hire from any union local that has members available or, in some cases, any other source at all.

A challenge that the building trades can face is assuring that the timeline of the project is not disrupted by local labor issues. Although PLAs are written so that work is not affected by work stoppages consequent to local bargaining, putting this concept into effect can be difficult. Maintaining the contracted work schedule during periods of tension between employers and the trades can challenge the skills and competing responsibilities of local union leaders and employers.

Much of the large-scale construction work in Minneapolis, Minn. is done under PLAs. The professional construction staff of the municipal airport reports that it builds only under PLAs because the agreements mean it can count on timely completion of the work. This is an important consideration for airlines, which build their flight schedules around the facilities' expected completion date.[17]

In the late 1990s, circumstances converged to test the ability of a PLA to assure on-time completion of a major project at the Minneapolis Airport. Construction labor markets were extremely tight in the latter 1990s, and large projects in the Minneapolis area required bringing in "travelers," or workers from locals in other parts of the country.[18] The tight labor market also encouraged jockeying between trades in their negotiations over wages and benefits. The electricians had won a favorable agreement from their contractors, and the members of the pipe trades believed they should do as well, if not better, in their negotiations. The negotiations over a new agreement were difficult, and a seven-week strike took place prior to the final settlement of a new agreement.

Work continued on PLA projects as required by the agreement. However, it slowed as travelers—at the first hint of labor troubles—left the area. Since work was continuing on a number of PLA-covered projects, the loss of the travelers left the local unions struggling to staff jobs, including the airport project.[19] The owner and contractors were, in the end, able to

find sufficient labor by shifting labor from less urgent work to the project. The situation was burdensome and was viewed by the airport authority as not in keeping with the commitments made by the PLA. There were concerns on the part of owner representatives that the local union leadership used the slowdown on the PLA work as leverage in bargaining.

Not surprisingly, these problems drove changes in construction labor relations in the city. Because this "close success" left construction stakeholders, such as the airport authority, vocally dissatisfied with the events around the contract negotiations, the local union and employer association agreed that, in future negotiations, they would submit disputes in negotiations to a joint dispute resolution procedure rather than strike. As a result, relations have improved.

A suggestion that emerged from the airport construction situation was the need for greater involvement by local union officials in the negotiation and implementation of PLAs. The airport construction staff says that in some instances the local union officials with whom they worked were not the same officials who crafted the PLAs, and there was a lack of understanding with regard to the role of the local union and its responsibility to keep the project running smoothly. Subsequently, discussions with local union officials were successful in soliciting greater support for the efficient management of the PLA.

Summary

It is reasonable to conclude that PLAs are most successful, in part, when local union officials and members understand and support the goals of the PLA. Moreover, the union and its members must understand their responsibility as a party to the PLA. The argument is not that national PLAs cannot be successful; rather, it is that local officials need to be involved in the implementation of the national templates. Local engagement is central to gaining the support of the officials who will implement the PLA and to ensuring workers' identification with the project.[20]

Designing PLAs to improve efficiency and encourage innovation

Due to its complexity, temporary nature, and turbulence, the construction industry faces particularly difficult challenges in productivity improvement and in innovation, including the development of new technologies and the introduction of new work practices. These issues appear regularly in professional journals and books on construction.[21] PLAs can be an effective tool for improving productivity and supporting innovation in organization and work structures. The most immediate improvements are provided in provisions concerning the harmonization of work rules between trades, a move that increases efficiency while reducing costs, and provisions that require jurisdictional issues to be addressed prior to the start of a project. PLAs can also be used to experiment with work rule changes, such as minimum staffing requirements or limitations on the use of particular tools and technology.

PLA provisions that change work practices

Each construction trade has work practices that have evolved independently over long periods of time. In the unionized sector, practices such as starting time are usually part of the collective bargaining agreement, but they are most likely based on established past practices. Among nonunion contractors, historic work practices are the unwritten "customs of the trade." Problems and subsequent inefficiencies may arise because of differences between trades. For example, electricians may start work at 7 a.m., while carpenters start at 8 a.m. Pipefitters may have ten holidays, electricians nine, and carpenters eleven. In each situation, the lack of coordination between the trades can create inefficiencies.

PLAs often include provisions to harmonize working hours, workdays, holidays, and starting times across trades. Sections from a New York PLA provide basic language for the harmonization of hours:

> **SECTION 1. WORK WEEK AND WORK DAY**
>
> Eight (8) hours shall constitute a normal workday's work between the hours of 8:00 am and 4:30 pm (with a half hour unpaid lunch break), five days a week, Monday through Friday. The Construction Manager can elect to work the first shift beginning at 7:00 am through 3:30 pm.

SECTION 4. HOLIDAYS

A. Schedule—There shall be 8 recognized holidays on the Project:
   New Years Day
   Labor Day
   Presidents Day
   Veterans Day
   Memorial Day
   Thanksgiving Day
   Fourth of July
   Christmas Day

   All said holidays shall be observed on the dates designated by New York State Law. In the absence of such designation, they shall be observed on the calendar date except those holidays which occur on Sunday shall be observed on the following Monday.

B. Payment—Regular holiday pay, if any, and/or premium pay for work performed on such a recognized holiday shall be in accordance with the applicable Schedule A.

C. Exclusivity—No holidays other than those listed in Section 4-A above shall be neither recognized nor observed.

Collectively bargained work rules may not be well-suited to some projects. In such instances, PLAs can be used to change local rules. For example, a local agreement that does not permit a second shift to be scheduled without a first shift may not fit a school project that requires all work to be done after the school day. Similarly, considerable highway work now takes place at night.

Language to accommodate the multiplicity of needs on construction projects can be found in a number of PLAs. The Mt. Vernon (N.Y.) School District PLA states:

> The parties agree that it may be necessary to perform rehabilitation work during periods when school is in session. In that case, the Local Unions agree that the first shift may begin at 4:00 pm and end at 12:30 am (With a ½ hours unpaid lunch period) each day, Monday through Friday.

In some instances, arranging the work week as four 10-hour shifts has advantages over the more traditional eight hours a day, five days a week. PLAs can be used to set aside premium payments required for working more than eight hours a day. A New Jersey PLA states:

> (2) Four Day Work Week: Monday-Thursday; four (4) days per week, ten (10) hours per day plus one-half hour unpaid lunch period each day. The establishment of a four-day workweek will require the prior consent of the Union(s), which represents the affected employees, such consent not to be unreasonably withheld.

Formal and informal work rules exist in all workplaces, construction included. A classic example from construction is bricklayers' informal limitation on the maximum number of bricks laid during a shift. Formal rules may include fixed times for coffee breaks and a minimum number of workers on crews. PLAs can incorporate language that explicitly sets aside particular rules. Because the PLAs are negotiated by union officials and provide gains for workers, provisions for eliminating restrictive practices and work rules are more likely to be effective than unilateral orders to cease such practices. Additional examples of existing PLAs are instructive in the flexibility they offer in the formulation of language that reflects the real conditions of the particular project. An Indiana PLA states:

Section 1. There shall be no limit on production by workers nor restrictions on the full use of tools and equipment. There shall be no restriction, other than may be required by safety regulations, on the number of employees assigned to any crew or to any service.

Section 7. The Union will not impose conditions, which limit or restrict production or limit or restrict the joint or individual working efforts of employees. The Construction Contractor may utilize any method or technique of construction, and there shall be no limitation or restriction regardless of source or location of machinery, precast tools, or other labor-saving devices, nor shall there be any limitation upon choice of materials and design.

The Toyota PLA for San Antonio, Texas states:

Section 1. There shall be no limit on production by workers nor restrictions on the full use of tools or equipment. There shall be no restriction, other than may be required by safety regulations, on the number of employees assigned to any crew or to any service.

The Harvard University PLA initially negotiated by the former U.S. Secretary of Labor John Dunlop is particularly thorough in addressing practices and rules than might reduce project efficiency:

Section 1. No rules, customs, or practices, which limit or restrict productivity or efficiency of the individual and/or joint working efforts of employees shall be permitted or observed. The Contractor may utilize any methods or techniques of construction consistent with the Contractor's agreement(s) with the Owner.

Section 2. Except as otherwise expressly stated in this Agreement and in the Project Contractor's agreement with the Owner, there shall be no limitation or restriction upon the Contractor's choice of materials or design, nor, regardless of source or location, upon the full use and installation of equipment, machinery, package units, pre-cast, pre-fabricated, pre-finished, or pre-assembled materials, tools, or other labor-saving devices. The Contractor may without restriction install or otherwise use materials, supplies or equipment regardless of their source. The on-site installation or application of such items shall be performed by the craft having jurisdiction over such work; provided, however, it is recognized that other personnel having special talents or qualifications may participate in the installation, check-off or testing of specialized or unusual equipment or facilities.

Section 3. It is recognized that the use of new technology, equipment, machinery, tools and/or labor-saving devices and methods of performing work will be initiated by the Contractor from time to time during the Projects. The Unions agree that they will not in any way restrict the implementation of such new devices or work methods. If there is any disagreement between the Contractor and the Unions concerning the manner or implementation of such device or method of work, the implementation shall proceed as directed by the Contractor, and the Unions shall have the right to grieve and/or arbitrate the dispute as set forth in Article VII of this Agreement.

Using PLAs to improve project coordination

There have been great advances in organizational structure in much of the economy over the last 30 years. This is particularly evident in manufacturing, where experiments with socio-technical systems and lean manufacturing have resulted in large changes in work and authority structures. While enumerating these approaches is beyond the scope of this paper,

some of the most important changes have involved the flattening of organizational structures and the greater integration of blue-collar workers in controlling production and decision making about production. These changes have yet to move into construction.

Despite the well-understood challenges and failures of current project management practices—challenges that arise from the organizational and task complexity of construction projects, coupled with a top-down decision structure—there has been little or no change in authority and decision-making structure of construction over decades. The lack of change in the face of these challenges reflects not only a comfort with traditional practices, but also a lack of resources needed to support experimentation of the type undertaken by the larger and better-financed manufacturing sector.

An important element in improving construction work practices is increased involvement of those engaged in the project. The central role of daily labor/management meetings that resulted in reduced injuries in the demolition of the World Trade Center in 2001 and 2002 is one example of the importance of engagement in construction projects. In addition, the use of joint labor/management meetings before the start of a project to resolve jurisdictional issues and consider specific problems are often cited by contractors and union officials as important to the smooth completion of a project because they lead to the prompt resolution of problems.

For example, the Illowa Construction Labor and Management Council (of Illinois and Iowa) has adopted an approach in which it is actively engaged throughout each construction project. If there is a labor issue on a project, the first person to be called is the executive director of the committee. The executive director hears the parties and makes a suggestion about how a dispute might be resolved. If the parties are dissatisfied with the suggested resolution, predesignated representatives are called to the site to hear the issue. This team is empowered to make a binding decision and, after hearing the parties, usually fashions a solution without having to impose a decision. The result of this process is that the owner of the project seldom needs to become involved in disputes. As a result of these outcomes, some PLAs include language establishing ongoing labor/management committees or mandating their role in the construction process at specific times. For instance, Section 8 of the Tappan Zee Bridge (N.Y.) PLA requires:

> **Section 1. SUBJECTS**
>
> The Project Labor Management Committee will meet on a regular basis to: 1) promote harmonious relations among the Contractors and Unions; 2) enhance safety awareness, cost effectiveness and productivity of construction operations; 3) protect the public interests; 4) discuss matters relating to manning and scheduling with safety and productivity as considerations; and 5) review Affirmative Action and equal opportunity matters pertaining to the Project.
>
> **Section 2. COMPOSITION**
>
> The Committee shall be jointly chaired by designees of the President of the NYS Council and the Construction Project Manager, and shall include representatives of the Local Unions and Contractors involved in the issues being discussed. The Committee may conduct business through mutually agreed sub-committees.

The Harvard PLA requires a pre-job conference to address, among other issues, work assignments:

> (a) The Contractor with responsibility for the performance and installation of the work shall make the specific assignment of the work, which is included in its contract, (the "Responsible Contractor"). All work assignments shall be disclosed by the Responsible Contractor (or the Project Contractor, or the responsible Contractor's General Contractor) at a pre-job conference held in accordance with industry practice. Responsible Contractors shall notify the Project Contractor and the affected Unions of the assignment before starting work to be

performed under this Agreement. The Plan for the Settlement of Jurisdictional Disputes in the Construction industry currently in effect, or its successor, shall serve as a guide for establishing jurisdiction at such meetings. Such assignment shall not be changed absent the written agreement of all parties to any dispute arising over such assignment, (including the Responsible Contractor), or pursuant to a decision issued by a permanent arbitrator appointed under this Agreement to hear and decide jurisdictional disputes. Should there be any formal jurisdictional dispute raised, the Project Contractor shall be promptly notified.

Using PLAs to experiment with change

As previously noted, workplaces and workers are governed by a combination of formal and informal rules. The workplace rules developed over time represent the employers and employees' interests in establishing standards of performance. The employees' desire is to create a work environment that is livable and predictable. As the formal and informal rules of the workplace are important to employees, the rules take on a life of their own.

PLAs are temporary agreements, and so they can be used to experiment with altering work rules and allow the workforce to determine how important or unimportant particular rules are. For example, it has been common practice to have project-wide morning and afternoon breaks timed to the arrival of a food and beverage wagon. Because of the time needed for workers to get to the wagon, wait for service, and get back to their work locations, scheduled breaks can reduce working time and productivity. Therefore, some PLAs explicitly eliminate scheduled breaks. Workers still have break time, and may bring food and beverages for the break to their work location, but working time is increased by eliminating the walk to and from a canteen truck and the wait in line.

In creating opportunities to work under different rules, with the assurance that the traditional rules will be maintained as a general framework, PLAs provide experience with alternative work rules. This can result in both improved productivity on the PLA project and, simultaneously, the experience needed to see if taken-for-granted norms are still valued by the workforce and essential to a labor/management relationship.

Using PLAs to change work rules

The discussion and examples of the development of PLA language that has been used to address pay adjustments, harmonization of conditions across trades, and work rule changes reveal four basic categories and reasons for the changes:

- requisite adjustment of the rules to fit a project,
- harmonization of the rules across trades to increase efficiency,
- elimination of rules that may reduce efficiency, or
- changes in compensation such as overtime rates or standards for overtime pay.

Many of the rule changes improve efficiency and reduce costs with little effect on pay or work load. Consequently, although the harmonization of rules benefits some trades while disadvantaging others, the net effect is generally neutral.

The question is, then, why would a particular union sign a PLA that may eliminate positions or reduce pay? One possibility is the quid pro quo for long-term employment on a large project. Just as permanently employed construction maintenance workers, such as those employed by universities, accept lower pay, craft workers on large construction projects who are employed for longer periods of time than those on shorter duration construction projects may also accept lower pay. In recognition of this, some unions may sign PLAs that ease some work rules or reduce premium pay. Likewise, easing the rules to provide cost reductions may induce owners to use a PLA. For a sufficiently large PLA, on balance, the large gains in hours of work justify such concessions.

Summary

Construction projects are complex undertakings that require a high degree of coordination between multiple trades, prime contractors and subcontractors, and managers and owners. Changes in the organization of construction, such as the movement from general contractors to construction managers, increase the challenge to provide successful coordination. PLAs can be used to improve organizational structures and to improve the efficiency of construction projects while lowering injury rates by harmonizing work rules across trades and adapting work rules to the needs of a project. In addition, by mandating activities such as pre-job conferences and regular meetings between the contractors and union representatives, cross-trade coordination can be improved and work issues can be resolved before they affect construction operations.

Designing PLAs to support communities

Governments and private organizations have struggled for more than a century to allow people from disadvantaged backgrounds to move into decent jobs. The federal Manpower programs of the 1960s, the Comprehensive Employment and Training Act programs of the 1970s and 1980s, and others have achieved only partial success. A critical ingredient missing in many of these programs has been the availability of regular employment for trainees. Both private and public training programs have trained people for occupations that did not have the capacity to absorb all new trainees or did not provide the linkages needed to move trainees into private employment.[22]

During the past 15 years, public PLAs have been used to create structures for moving individuals from disadvantaged populations into the construction labor force. Today, a number of PLAs are referred to as Community Workforce Agreements, since they explicitly attempt to engage local populations in PLA-covered projects. Because the construction projects for which PLAs are written tend to be large multiyear projects, they provide the connection between training and employment absent from many training programs. The success of community workforce investment PLAs on West Coast ports has encouraged the incorporation of provisions for social investment into a number of PLAs with public bodies such as the City of Los Angeles and its school district.

The scope and complexity of the community workforce provisions of PLAs varies with the size and duration of construction projects. Even small projects can support training through provisions requiring minimum ratios of apprentices to journeymen and setting aside limits on these ratios in collective bargaining agreements. Larger and longer projects can incorporate more elaborate structures. They can target areas with large disadvantaged populations, improving these populations' ability to qualify for apprenticeship training through pre-apprenticeship programs, requiring that a minimum number of apprentices and workers on the project be drawn from the targeted areas, and providing community involvement in the training and employment process. PLAs may also encourage minority and other small business utilization by exempting them from the provisions of the PLAs and including provisions to encourage them to participate in projects. PLAs used for school construction have engaged high school students and have increased their opportunities to enter apprenticeship programs.

Using PLAs for social investment

PLAs vary substantially in the purpose and sophistication of training provided. Even relatively simple PLAs may address training opportunities by setting aside work for apprentices and other trainees. For example, an Indiana PLA stated that apprentices and non-journeymen may make up "up to forty percent (40%) of a craft's workforce...unless the local collective bargaining agreement establishes a higher percentage." The more elaborate training systems, incorporating the full array of elements (discussed below) for bringing the disadvantaged into the workforce, are found on large public projects. The most extensive of these are related to port construction on the West Coast. The ports of Los Angeles/Long Beach, Oakland, and Seattle each provide extensive systems for social investment through PLAs.

A review of the literature on construction training for those from disadvantaged backgrounds suggests that six elements are needed for success: (1) a pre-apprenticeship program, which provides foundation skills and screens enrollees for their ability to handle the demands of construction; (2) a link from the pre-apprenticeship program to apprenticeship opportunities that provides reasonable assurance that those who complete the pre-apprenticeship program successfully will be enrolled in apprenticeships; (3) sufficient apprentice work opportunities so that those who are enrolled in the apprenticeship programs will complete those programs in a reasonable time; (4) continuing work opportunities that allow apprentices to readily move into journeyman status and move forward with their work lives; (5) oversight by representatives of stakeholders in the training and the project and the development of institutions that allow issues to be resolved without disrupting the training (stakeholders include the community from which the target population is drawn, the employers and locals that are party to the PLA, and the owner); and (6) development of close working relationships from the beginning between community groups and advocates and local building trades unions and councils in the development, crafting, implementation, and ongoing evaluation of these efforts.

These elements are not always easy for the stakeholders in such programs to agree to. Items 2 and 5 can be sensitive for the labor and contractor parties to PLAs, as these create additional oversight for apprenticeship programs. The final item, development of close working relationships between community groups and local building trades, is particularly important to the success of these projects. Conflict between the trades and community groups has occurred when members of communities have viewed the unions as standing between them and good jobs. Similarly, unions and contractors have viewed community groups as naïve about the requirements of construction. Early and ongoing communication between local union leadership, contract associations, and community groups is important to the success of these efforts. Communication is necessary to promote the understanding needed to resolve the differences between the perspectives of the two parties and to fashion workable solutions to the difficulties involved in moving disadvantaged groups into better jobs while protecting established work and skill standards.

A case study: the Port of Oakland PLA

The incorporation of social investment language into the Port of Oakland PLA during the negotiation of the agreement in 1999 reflects the previously limited success in bringing less-advantaged populations and minority-owned businesses into several large-scale, public construction programs (Sloan et al. 2001).

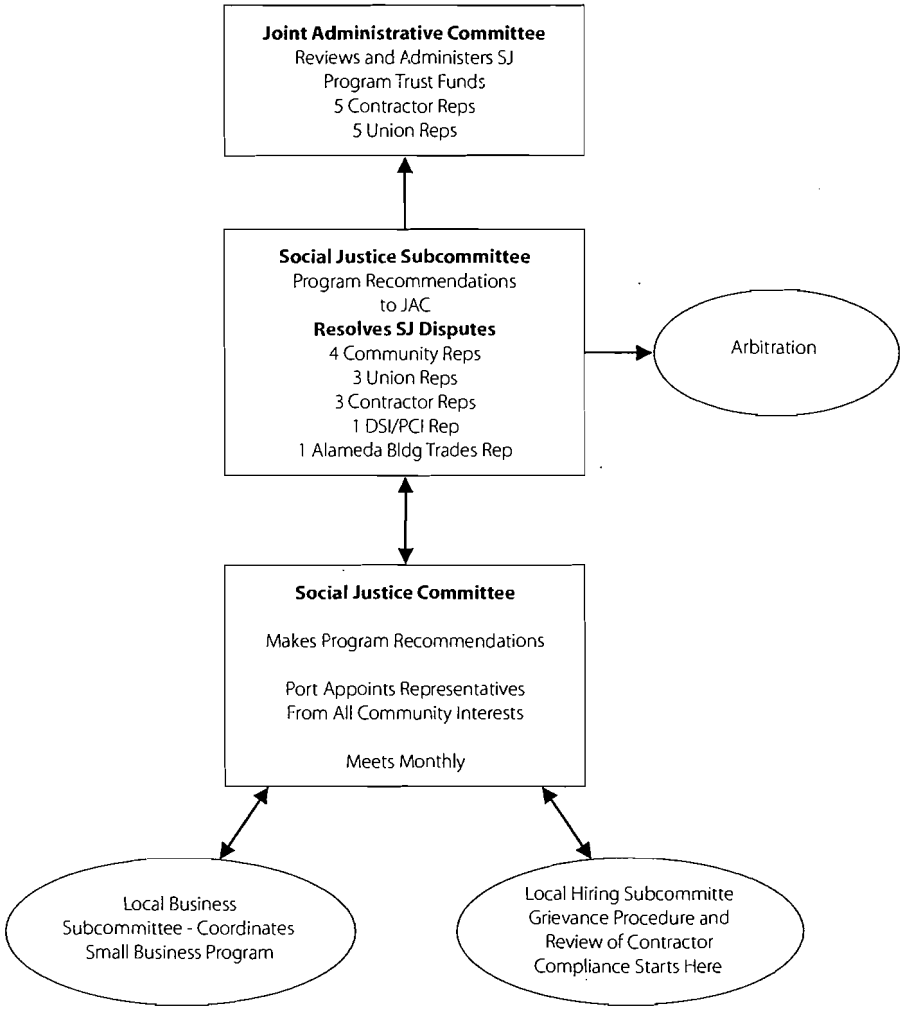
The Port of Oakland PLA included three goals with respect to disadvantaged populations: (1) the Port's commitment to existing community programs such as its Non-Discrimination and Local Small Business Utilization Program; (2) an effort to engage local firms, which historically had been excluded from large projects in favor of out-of-town contractors; and (3) an effort to involve disadvantaged residents, who had historically been excluded from both union and nonunion jobs on projects. A carve-out program for small businesses and a program to bring local residents from targeted areas into apprenticeship programs addressed these issues.

The carve-out program allowed up to $15 million of the value of the contract covered by the PLA to be excluded from the requirements of the PLA. The contracts covered by this program had to be less than $300,000 in value. Alternatively, a contractor's aggregate contractual value had to remain less than $300,000 to remain exempt from the PLA. In turn, unions agreed to refrain from work stoppages against these contractors. They also agreed that they would not take action against contractors on the Port of Oakland PLA for issues, such as nonpayment to benefit funds, that originated on work not covered by the Port of Oakland PLA.

The targeted construction labor force populations were geographically structured with a hiring requirement keyed to the local impact area (LIA) of the Port of Oakland. The LIA, which includes census tracts with 50% or more of the local population living below the poverty level, included Alameda, Emeryville, Oakland, and San Leandro. The PLA required that residents of the LIA perform 50% of labor hours on a craft-by-craft basis. In the event that there were not

FIGURE A

Port of Oakland PLA Social Justice Program



SOURCE: Johnston-Dodds (2001).

a sufficient number of workers living in the LIA to meet this requirement, the labor hours could be made up by residents of Alameda and Contra Costa counties.

The administration of the social investment terms was overseen by three committees: the Social Justice Committee (comprising community representatives appointed by the port), the Joint Administrative Committee (five union and five contractor representatives), and the Social Justice Subcommittee (four community representatives, three union members, three contractors, one Building Trades representative, and one port representative). A diagram reflecting the committee composition is shown in **Figure A**.

The roles of the Social Justice Committee included: (1) a review of monthly reports on social justice programs; (2) program and funding recommendations to further social justice goals of the PLA; (3) oversight of contractor compliance;

(4) referral of complaints about social justice violations to the social justice subcommittee of the joint administrative committee of the PLA; and (5) collaboration with the workforce development agencies to provide services to support workforce development efforts such as pre-apprenticeship programs. The social justice activities were supported by a $0.15 per craft hour contribution up to $1 million.

As the diagram shows, the structure of the social justice program links the Social Justice Committee and the Joint Administrative Committee, which oversees the funds produced by the hourly contribution, through the Social Justice Subcommittee. This creates a means for the stakeholders[23] in the social justice program to discuss issues and develop solutions without involving the community stakeholders or port in the administration of the apprenticeship program or contributed funds.

A critical issue in moving the social justice goals of the PLA has been to prepare prospective residents of the LIA for apprenticeships. Although almost 500 residents of the LIA had entered apprenticeship programs by mid-2001, the numbers of local hires and apprentices were considerably below the local hiring and apprenticeship goals. To address these needs effectively, the Bay Area Construction Sector Intervention Collaborative (BACSIC), a collaboration of community groups and the building trades, formed to provide basic construction skills and establish a central training site in Oakland. BACSIC provided fundamental educational and remedial resources, including "soft skills" development training in areas such as dependability, attendance, communication, and problem-solving; on-site pre-apprenticeship and trade-certified apprenticeship training; employer-based job training; on- and off-site supportive services (life skills training, housing, child care, transportation assistance, primary health care, mental health and substance abuse services, and domestic violence services); and job linkage services.

While issues remained for this particular PLA, it was more successful in meeting the social investment needs of the community than prior large public works projects and provided a foundation for the social investment provisions of other West Coast PLAs.

A case study: The Los Angeles Community Redevelopment Agency PLAs

In March 2008, the Los Angeles Community Redevelopment Agency adopted a policy that requires construction projects receiving a threshold level of subsidy to be completed under PLAs with provisions for the hiring of local and disadvantaged workers. The Los Angeles Community College District (LACCD), the Los Angeles Unified School District (LAUSD), and the City of Los Angeles each signed a PLA incorporating provisions required by the redevelopment agency.

Both the community college district and the school district had prior experience with PLAs and had incorporated pre-apprenticeship programs into them. Although provisions vary between these PLAs, each incorporates requirements or goals for the hiring of local residents from low-income areas as apprentices and for the employment of "at risk" former offenders and youths. The community college PLA covers $1.1 billion in construction; the city contracts $382 million. While the projects being built under these PLAs are ongoing, early results indicate a favorable effect on hiring targeted populations. A report from the UCLA Labor Center (2009) on the community workforce provisions of PLAs negotiated under the guidelines of the redevelopment agency reached nine conclusions:

1. Local hiring provisions in PLAs significantly increased the number of local hires. We base this on a comparison between one Los Angeles City project for which local hiring PLA provisions were not thoroughly applied and four similar projects for which these provisions were applied and followed.

2. Local hiring goals of 30 percent were met and exceeded on all three PLAs. In fact, local hires—including apprentices and, under some agreements, disadvantaged workers—typically were about 35 percent of all hires.

3. Compliance should be measured on a project-by-project basis. In our case studies, local hiring goals were applied to the specific building project as a whole, allowing some subcontractors to exceed local hiring goals and some subcontractors to fall short.

4. Large subcontractors and general contractors disproportionately assumed responsibility for meeting local apprentice and journey worker hiring goals. In analyzing Los Angeles City projects, we found that small subcontractors tended to have a lower percentage of local apprentices and local journey workers than did larger subcontractors and general contractors.

5. Apprentices on new construction came on the job later than journey workers. Construction projects have a ramp-up period followed by full construction and then a finishing-off period. Early in a project's lifecycle, contractors met local journey worker hiring goals, but not those for apprentices or local apprentices. Later, as the project hit its stride, apprentice and local apprentice goals under the PLAs tended to be met.

6. Contractors improved their local hiring attainments as they gained additional experience. Our analysis of LAUSD data concluded this to be true for LAUSD projects.

7. On LAUSD contracts, contractors on moderately paced contracts met local hiring goals more easily than did contractors on fast-tracked LAUSD projects.

8. Forty-one percent of apprentices, 39 percent of journey workers, and 23 percent of foremen on LAUSD projects were local hires. This suggests that contractors emphasized hiring local apprentices, a significant finding because one of the goals of local hiring is to encourage the entrance of local workers into the construction trades through apprenticeships.

9. The success of local hiring goals depends on the size of the local area from which hires will be sought. In the case of the LACCD, two local areas were defined: a small area that included only the zip code in which the project was being constructed, and a larger area that consisted of the overall LACC district. The nine LACCD projects we studied all met or exceeded the 30 percent local hiring goal established by the PLA. Typically, only about 5 points of these 30 percentage points came from the narrow definition of "local"—that is, the zip code area in which the project was being constructed. The remaining 25 percentage points typically came from the larger local area.

Both the Port of Oakland and the Los Angeles PLAs required extensive initial negotiation, complex institutional structures, and ongoing discussions between the stakeholders to keep the programs on track. It is doubtful that such an agreement or program would be possible absent unions and signatory contractors and the use of PLAs. The nonunion contractors lack the institutional structure needed to negotiate and oversee agreements that accomplish the ends of the Port of Oakland and Los Angeles PLAs. Nonunion training programs are generally not sufficiently developed to meet the training requirements of these programs. There is no obvious means for nonunion contractors to obtain the assent of the existing workforce to the substantial changes required by these agreements. Finally, while unions and signatory employers have hiring rules that provide a relatively structured and transparent system by which trainees can obtain employment once their apprenticeship is completed, there is considerably less assurance that trainees will be provided fair access to employment once a project is completed.

Using school PLAs to develop the construction labor force

It has not always been easy for the construction industry to recruit good high school students into apprenticeship programs. The best high school students are pointed toward college, and construction suffers from the perception—which is not completely untrue—that it is a difficult, dirty, dangerous, and cyclical industry. Nonetheless, construction needs

young people who have the work ethic and general skills to succeed in the industry. As Michael Crawford, in his recent best-seller *Shop Class as Soul Craft*, points out, skilled manual work requires a sophisticated understanding of physical systems and an ability to integrate this knowledge into action that produces the desired result in an efficient manner. Exposure to construction work has the potential to attract excellent students who would otherwise follow the college track. Exposure to this type of work might also persuade more high school counselors and teachers that skilled construction training provides a satisfactory alternative to college for students who are so inclined, even if they have the ability to succeed in college.

The San Jose Construction Academy

School PLAs have been used to provide high school students with construction experience and establish ongoing construction training programs for both blue-collar trades and white-collar professions. An example can be found in San Jose, Calif. In March 2002, voters in San Jose's East Side Union High School District approved a $300 million bond issue to be used for school construction and renovation. Virtually every high school in the district was to undergo comprehensive renovations, and several new facilities—such as adult learning centers, a gymnasium, and even a cable television and radio studio—were to be built at some of the schools. Although some work had already taken place, in 2004 the district entered into a PLA with the Santa Clara and San Benito Counties Building and Construction Trades Council.

The district decided on a PLA, in large part, because it saw the agreement as a mechanism to expand its vocational education programs into both the blue- and white-collar construction occupations. The district has a well-established vocational education program that is part of its career services approach to education. The East Side already had several vocational academies operating, and the district viewed the PLA as a means to establish a program in construction occupations. The novelty of the East Side PLA, and the sweetener that led to its signing, was a provision connecting work under the PLA with the establishment of a Construction Technology Academy that would offer pre-apprenticeship training, summer internships, and work in both the trades and white-collar construction occupations.

Thus, the East Side PLA is innovative in several ways. First, it is an example of a new form of PLA that attempts to find new areas of win-win in construction collective bargaining by bringing a new player to the table, the owner—in this case local school administrators and elected members of the school board. Second, it is an effort to recruit high school students into the construction industry through an institutionalized mechanism in order to better compete with other industries for talented labor. This aspect of the agreement directly addresses training problems posed by the retirement of the baby boom generation. Third, it is an effort to solve a school district's problem of creating meaningful education for those not bound for college, an education that provides the student with an awareness of possibilities, prepares the student appropriately for the demands of the labor market, gives the student experiences that will qualify him or her for advancement, and allows the student in this case to "test drive" a full range of blue- and white-collar opportunities within an entire industry. Finally, by requiring participating contractors to provide employment, through the auspices of the PLA, this particular institutionalization of a journey from school to work seeks to overcome the weakness of previous similar experiments by putting students to work rather than on job lists. Certainly, like other PLAs, this agreement was motivated by traditional concerns for work and the conditions of work on the part of unions and by the need to develop an adequate supply of skilled and qualified labor on the part of construction owners. However, these traditional motivations were not paramount. The novel and experimental motivations listed above were the fundamental reasons this PLA was signed. An appendix to the PLA contains the essential elements of the plan:

> The Parties have agreed to create a Construction Technology Academy ("Academy"), funded by the District, to carry out the training and employment objectives of Appendix B. The overall objectives are to (a) offer opportunities and skills necessary to enter post-secondary study [including construction apprenticeship programs as well

as college education] and to pursue lifelong learning within the broader context of the building trades industry and (b) develop and reinforce academic course content standards in order to maximize career opportunities and technical competency.

Sub-provision (b) recognizes that schools would do a better job if the school curriculum were tied more closely to industry needs and directions. In construction, unions as well as contractors pay close attention to technological trends and customer demands. Thus, connecting the school's curriculum to the knowledge held by contractors, unions, and joint apprenticeship boards was seen as an effective method of tying industry directions to the school curriculum in the case of construction. A 16-member steering committee was created by the PLA to oversee the academy. Membership on the committee includes representatives of the joint apprentice training councils, the building trades council, and the school district. In addition to the creation of a steering committee, which binds the school district, the PLA requires the unions and the joint apprenticeship training councils and contractors to give preferential consideration for admission to apprenticeship programs to graduates of the academy. The goals of the PLA are for students to obtain actual work as interns and then as apprentices. This is accomplished by placing 30 interns per year in a five-week rotation among the trades. First, students are taught about estimation, engineering, and legal aspects of construction. Then students are given internships, which take place when school is out and construction activity is at its peak. The internship program also qualifies as a pre-apprenticeship program, gives students priority for entering union apprenticeship programs, and provides a point of entry for a number of minority students into union employment. Even if a student does not become an apprentice, he or she has the opportunity to enter the workforce as a material handler or in another unskilled position.

More than five years of experience with the construction academy suggest that this model for providing training and work experience to high school students works. The academy has been successful in giving students a broad experience across a number of trades and placing some graduates in apprenticeships, while others have chosen to attend college. Despite the current state of the construction economy in California, the academy continues to offer outstanding training in construction and has provided a model for high schools throughout California. Experience with the academy also provided the experience and energy for the Building Trades to establish a summer program for K-8 science and math teachers to be exposed to the construction industry and develop curricula that incorporate material from the industry into their teaching. To some degree this involvement promotes the industry, but it also provides an immediacy and relevance in the curriculum that enhances students' interest.[24]

Using PLAs to create journeys from school to work in construction is a work in progress. However, the unions are helping with the creation of a solid pre-apprenticeship program that will enhance the students' ability to qualify for apprenticeships after graduation. A key and unique provision of the San Jose PLA was its requirement for internships, combined with language that ensured graduating students would get jobs either as apprentices or as material handlers. A major hurdle facing the union construction industry has been, in the view of one union leader, the lack of a means to move younger workers into the union workforce in the face of apprenticeship admissions standards and regulations that require nondiscrimination and fair access to these programs. The solution was the proviso in the PLA that requires participating contractors to provide graduating students with jobs, either as construction apprentices or as material handlers. This requirement means that students at least transition to non-craft material-handling jobs or qualify as experienced applicants to apprenticeship programs.

Experiments of this type are not limited to San Jose. A recent PLA in Buffalo, N.Y., also focused on school construction, provides another example of a pre-apprenticeship program provided to vocational high school students. The PLA maintains that the students "shall perform 'hands-on' work in the trades."[25]

Summary: gains and challenges for labor from social investment PLAs

As social investments, PLAs provide clear gains to construction stakeholders and the community. First, PLAs provide a greater opportunity than many prior public training programs for different populations to attain middle-class jobs. PLA-based programs provide not only the training and work experience required for a successful career in construction but also, for the successful trainee, a place in a system that offers ongoing access to employment. Second, PLAs create connections and opportunities for dialogue and understanding between the building trades and community groups that have not been present in the past.

An important issue in thinking about using PLAs to support community development is how large the PLA has to be for these efforts to be successful. The West Coast port projects are large, multiyear projects that involve hundreds if not thousands of workers. While such projects allow for the advancement of local residents through pre-apprenticeship programs into apprenticeship programs, and finally into journeyman status, smaller projects that involve less investment and fewer workers and shorter completion times may have more limited potential opportunities for social investment. Despite these issues, inclusion of community workforce provisions is common in public PLAs, particularly on the West Coast. According to one study, nearly three-quarters of the public PLAs in California contained goals or requirements focusing on underutilized or minority employees (Johnston-Dodds 2001, 36).

Experience in Canada with social investment PLA-like arrangements illustrate the potential for conflict between communities with regard to access to training and employment opportunities. The Canadian labor movement has shown foresight in creating pathways to careers in construction for First Nation members, but fractures between First Nation communities have led to disagreements about whether to recognize members of one community as qualified to participate in projects taking place within the territory of another.[26] Although parallel problems have not appeared in PLAs involving social investment in the United States, they need to be anticipated.

While other publicly supported construction training programs have in the past been used as vehicles for community development, PLAs are economically better for trainees, communities, and construction unions. Previous large-scale training programs have often failed to connect trainees with jobs and have spilled large numbers of partially trained workers into the labor force, often without regard to the demand for their skills. This excess supply of semi-skilled workers undercuts wages and benefits for similarly trained workers throughout the region. Further, because the employers of trainees have often tended to follow a low-skill/low-wage business model, trainees seldom receive the additional training required to move into better-compensated positions with good wages and benefits. By giving the building trades and signatory contractors a large role in the training structure, PLAs support the growth of a higher-skilled and higher-wage labor force that benefits the trainees and their communities. Although there are many difficult issues in social investment through PLAs, it is an opportunity to be grasped.

Finally, even though community workforce agreements can present difficult issues, building trades unions and employer associations have decades of experience in negotiating agreements. This experience can be put to use in assuring that all stakeholders move forward in good faith. It is not obvious how, absent collective bargaining, the complex mechanisms for community involvement and social investment can be established and maintained.

Designing PLAs to improve safety and health

The dynamic and complex nature of construction sites makes them among the more dangerous workplaces in the country. Approximately 1,200 construction workers lose their lives annually on construction sites, a rate equal to 12.3 fatalities per 100,000 full-time equivalent workers. In contrast, the fatality rate in manufacturing is between 2.3 and 3.3 per 100,000. Over a 35-year career, 0.4% of the construction workforce is expected to suffer a fatal accident. In addition, 6% of construction workers suffer a non-fatal injury each year.[27] While fatalities have declined dramatically in most industries, they have remained stubbornly high in construction over the past two decades, holding between 1,000

and 1,300 each year between 1995 and 2008; the number of fatalities varies with cycles in construction activity.[28] The stability of the fatality numbers indicates that little headway is being made, despite ongoing concern by the stakeholders in the industry.

While the nature of construction creates safety issues, the fundamental disorganization of construction sites makes improving safety particularly challenging. There may be dozens or hundreds of contractors on a site, and each with its own safety program. These programs vary greatly in effectiveness; some are well structured to improve safety while others are created to satisfy legal or insurance company requirements. As each firm's safety program potentially affects not just that firm's workers but other workers on site as well, the potential for confusion, trouble, and serious accidents is substantial on almost every construction site.

Research on safety and health on construction sites suggests that five elements are necessary for a safety plan to reduce injuries and fatalities:[29]

1. health and safety committees for the project as a whole (planning/oversight) and an active health and safety committee structure at the worksite that reflects the changing set of trades onsite over the course of the project;
2. an explicit training program for both apprentice and journeymen related to the site;
3. specific procedures to ensure a health and safety culture, e.g., regular morning meetings on training;
4. consistent tracking of workplace injuries and illnesses on the site and evaluation of "near-miss" situations; and
5. linking of health and safety to workers' compensation to provide cost savings for effective health and safety programs.

The World Trade Center demolition as a model for a safe construction worksite

A case study of the importance of labor involvement at all levels of safety programs can be found in the success of such programs in preventing fatalities and limiting injuries during the World Trade Center demolition. Demolition sites are particularly hazardous because of the instability of the structures and unpredictability of the kinds of materials being removed. The challenges of the World Trade Center were especially difficult because of the condition of the site and the amount of hazardous particulate matter, the number of workers onsite, the treatment of the site as a rescue operation rather than a demolition site, the stresses on the site because of the condition of the foundation, and the number of organizations involved in the operation.

Despite severe conditions, there were no fatalities on the World Trade Center demolition site, and not one of the 57 lost-time injuries was life threatening.[30] This record is particularly notable as more than 10,000 construction-related personnel were on the site between September 11 and the completion of the demolition. The success was achieved in large part because the parties to the demolition—federal, state, and local agencies; construction managers and contractors; union leaders and the craft workforce—took a cooperative approach to safety issues.[31] The parties agreed to five principles for administration of the site safety program: (1) mutual respect for all involved parties; (2) the right of workers and their unions to organize a structure that would give voice to their concerns and advance their interests; (3) a genuine commitment to health and safety that is reflected in the allocation of agency and contractor resources and staff; (4) a mechanism and commitment to communicate across government agencies and to coordinate all activities between agencies to ensure smooth operation throughout the site; and (5) immediate abatement of identified safety and health hazards (Grabelsky n.d.).

To implement the program, the Occupational Safety and Health Administration (OSHA) undertook a policy of "protection, not citation" and provided ongoing technical support to determine how best to protect workers from the multiple dangers on the site. In addition, contractors, unions and the CPWR–The Center for Construction Safety and

Research provided training for more than 2,000 workers who spent time on the site. Finally, a structure that involved all of the parties engaged in the demolition was established to monitor and address safety issues: Grabelsky writes:

> A two-tiered health and safety committee (LMHSC) involving both labor and management representatives were established to quickly identify and correct safety hazards. A Leadership Oversight Committee comprised of the chief elected union officials, key staff from the site contactors, as well as representatives of employer associations, OSHA, and the Department of Design and Construction of New York City. A site committee—comprised of union stewards and operations and safety staff, contractors and agencies—met once a week. The meeting was followed by a walk-through of the site by committee representatives to identify hazards and ensure they were immediately corrected. The committee produced a weekly Safety Bulletin that was widely distributed through a network of union stewards who met every week to identify safety hazards, propose safety interventions, and review health and safety issues for daily tool box talks with their members. OSHA sampling result summaries were also distributed and discussed weekly at these meetings, and again monthly with the Leadership Committee. (Grabelsky n.d., 6)

This joint structure required extensive communication between agencies, organizations, and individuals who do not typically work with one another on a project. The marked success of this effort is reflected in a lack of fatalities and the low incidence of lost-time injuries—an incidence that was well below construction industry standards. It points strongly to the importance of sharing of responsibility and authority on safety matters, and integrating the full workforce into the safety effort. Although the WTC demolition was not conducted under a PLA, the success of this project points toward the type of provisions needed in a PLA to improve safety performance.

The current state of safety and health provisions of PLAs

The majority of PLAs codify but do not alter existing safety programs. PLAs generally specify that the construction manager must establish a set of worksite safety rules in consultation with either a general labor/management committee or a safety-specific labor/management committee. Provisions related to drug and alcohol testing may be specifically included in a PLA. The PLA may also include a provision to adopt safety practices necessary as part of an Owner Controlled Insurance Program (OCIP), sometimes referred to as wrap-up insurance. In addition, provisions for emergency work across trade lines in the event of accident, fire, or "act of God" often appear in PLAs, although not necessarily in the health and safety section of the agreement. In short, health and safety language in PLAs can range from perfunctory to very detailed. Often, if a PLA has perfunctory language it is because there is a highly detailed health and safety program, which may include drug testing, in a separate document.

An example of safety language from the Rockland County, N.Y. Courthouse PLA states:

> **ARTICLE XIV – SAFETY PROTECTION OF PERSON AND PROPERTY**
>
> **SECTION 1. SAFETY REQUIREMENTS**
>
> Each Contractor will ensure that applicable OSHA requirements are at all times maintained on the Project and the employees and Unions agree to cooperate fully in these efforts. Employees must perform their work at all times in a safe manner and protect themselves and the property of the Contractor and Authority from injury or harm. Failure to do so will be grounds for discipline, including discharge.

SECTION 2. CONTRACTOR RULES

Employees covered by this Agreement shall at all times be bound by the safety, security and visitor rules as established by the Contractors and the Construction Manager for this Project. Such rules will be published and posted in conspicuous places throughout the Project.

Even this simple language improves on the baseline protections provided in the Occupational Safety and Health Act by making OSHA requirements enforceable under the dispute resolution procedures of the PLA and by establishing some common practices across contractors.

A case study: the safety success of the Boston Harbor Project

The Boston Harbor cleanup project, conducted between 1986 and 2001, involved 23 million hours of craft labor over the course of 15 years and expenditures of $3.6 billion. The lost-time incident rate was 4.1%, compared to a national average for heavy construction of 6.2% (Dunlop 2002; Armstrong and Wallace 2001). Further, the lost-workday incident rate was 134.7% for Boston Harbor versus a national heavy construction rate of 150.4%.[32] Later analysis indicated that the lost time incident rate was 40% below the heavy construction average for the 36 million exposure hours on the project (Armstrong and Wallace 2001, 15). Paralleling the World Trade Center, the success of the Boston Harbor Project in reducing injuries reflects both a serious dedication to worker safety and the embodiment of this dedication in contractual structures to provide a safe workplace. Different, however, from the World Trade Center project was the geographical scope and duration of the Boston Harbor Project, which make the project's success even more impressive.[33]

In contrast to many construction operations, the stakeholders in the Boston Harbor Project agreed that safety took priority over production and that potentially unsafe operations would be shut down until safety matters were resolved. The labor/management committees created under the PLA provided the means to create an ongoing awareness of safety among the workforce. They intentionally made information about safety matters available to stakeholder representatives; they conducted regular tripartite meetings to discuss safety issues and acted on the joint decisions; and they delivered safety decisions and information to the workforce. Craft workers met each week to discuss safety information disseminated by the project labor/management committee, and the conditions and practices that might affect the safety of their work. Information from these meetings was forwarded by stewards to the project labor/management committee for discussion and action. Regular labor/management meetings reviewed all safety incidents and information on safety matters forwarded from the craft worker meetings. The discussions were recorded and the decisions of this committee were quickly implemented. While Boston Harbor's strong record with respect to safety can be attributed to dedication of the stakeholders, structures created by the PLA were critical in turning this dedication into effective action. Similarly, programs have been adopted by other large projects built under PLAs in the Boston area, including the Central Artery Tunnel project (the "Big Dig") and the Logan Airport expansion. Not surprisingly, both had excellent records with respect to safety and health.

Safety provisions of other PLAs

Another example of a PLA that creates structures to improve project safety is found in a Washington PLA, part of which is reproduced here:

16.1 The parties to the agreement will participate in the Voluntary Protection Program....In the VPP, management, labor, and government establish a cooperative relationship at the workplace to address worker safety and health issues and expand worker protection....

16.2 The parties to this agreement will form a joint Labor/Management Safety Committee consisting of equal numbers of contractor and Union representatives, to be agreed upon by the parties, which shall be jointly chaired by the site representative of [the construction manager] and an official of the Building and Construction Trades Council....

16.3 The [construction management] team will develop a Project Safety Committee of contractors' employee representatives to address issues pertinent to activities onsite, plan and discuss future project work and review the current health and safety plan and procedures....

16.4 Formal safety and health training is required of all contractors for their employees....

16.5 It shall be the responsibility of each Contractor to ensure safe working conditions and employee compliance with any safety rules contained herein or established by the Owner, [construction manager], or the Contractor.

16.6 Employees shall be bound by the safety, security, and visitor rules and environmental compliance requirements established by the Contractor, [the construction manager], or the Owner....

16.7 The use, sale, transfer, purchase and/or possession of a controlled substance, and/or alcohol while on the Owner's premises at any time during the workday are prohibited. Contractors will implement a drug policy meeting [the construction management firm's] minimum standards for Drug-Free Workplace Program separately attached under Appendix D. [The construction manager] may conduct reasonable searches, as permitted under the law, including random searches, of all workers on site and may require and receive the results of a 7-panel drug screen test of any worker on site. Any worker found to possess or be under the influence of an article prohibited by the Standards, or refusing to be tested or consent to a reasonable search may, in [the construction manager's] sole discretion, be immediately removed from the project site and denied future access....

16.8 These procedures outline the safeguards set forth for the testing of employees for prohibited and controlled substance, adulterants, and alcohol. It is agreed, with respect to such test procedures, that: (i) no person referred from the Union hiring hall shall be allowed on-site as an employee until such person has completed and passed any test(s) required under the program; (ii) a person who is put to work immediately after having passed the tests shall be paid starting at the time he reported for the test(s); and (iii) where a contractor requests a person to report for purposes of pre-employment substance abuse and alcohol test, and does not intend to place him in an active work position on that day, the person shall receive four (4) hours or pay at the regular straight-time hourly rate if the test is negative.

16.9 The authorized [sic] use or possession of firearms, weapons, explosives, or incendiary material on or near the Project premises...is prohibited....

16.10 The parties acknowledge that the environmental and safety restrictions governing conduct at the Project site prohibit smoking at any time in any facility....

16.15 Violators of the [program] will be subject to termination for cause with the same conditions for rehire as established in Article IX [referral provisions].

As the Boston Harbor PLA and World Trade Center agreements demonstrate, the agreements have the potential to improve project safety. Concretely, the agreements can mandate safety programs and standards and establish structures in keeping with the five steps needed to improve safety. Realizing this potential requires that the parties to PLAs value safety and be willing to create the structures needed to provide it.

Potential cost savings through safety provisions in PLAs

The safety improvements established by PLAs can also serve to reduce project costs and improve the performance of the workers' compensation system. In mandating a single shared safety program, PLAs overcome the problem of coordinating the multiple safety programs that exist on most sites. Thereby, the consolidation of safety programs reduces costs. For example the Eastside Reservoir construction project in California, a $2 billion project begun in 1994 that required two dams and created a four-and-a-half-mile lake, utilized a PLA that allowed the parties to consolidate over 250 safety programs conducted by over 250 subcontractors and 20 general contractors. According to a representative of the project owner, the Metropolitan Water District of Southern California, this resulted in a savings of $30 million in insurance costs (Plemon 2004).

PLAs may also be used to improve worker performance and sometimes reduce costs. A number of states now allow for workers' compensation "carve-outs," the creation of a project- or industry-specific workers' compensation system that allows the use of alternative dispute resolution (ADR) systems, in place of litigation, for the resolution of conflicts. The use of ADR holds out the possibility of swifter and less-costly dispute resolution over workers' compensation cases. Early research by the California Division of Workers' Compensation (1996 & 1997) suggested that carve-outs reduced litigation, returned workers to work more rapidly, and reduced the cost of workers' compensation. A more recent and nuanced study, *Carve-outs in Workers' Compensation: An Analysis of the Experience in the California Construction Industry* (Levine et al. 2002) found that use of such systems improved injured workers' situations with regard to resolution of disputes but did not have a systematic effect on costs. The carve-outs remain an option that can be created through PLAs when the parties believe they would serve to improve performance of the workers' compensation system.

Summary

Safety remains a serious problem on many construction sites, where fatalities remain a reliable metric of the lack of adequate precautions. A number of steps can be taken to improve construction safety, but for reasons having to do with industry structure, culture, and knowledge, these steps are not implemented on most sites. PLAs offer a means of improving health and safety by establishing the structures that have been demonstrated to improve safety performance on construction sites.

Designing PLAs to resolve disputes

Labor disputes in construction are much less common today than they were 30 years ago, when the sector accounted for 5% of employment but a quarter of all strikes (Mills 1980). Nonetheless, the potential for work disruptions remains, and it deserves the attention of unions, contractors, and owners.

The importance of the issue was highlighted by the July 2005 Construction Users Roundtable's *Tripartite Initiative Report: Eliminating Work Disruptions and Jurisdictional Disputes.* Many of the recommendations in the report could be handled by a PLA and, in fact, a number of them are typically found in PLAs, including:

- Mandatory "pre-bid" conferences to "identify possible challenges of a particular project (jurisdictional assignments, jobsite issues, working conditions, sequence of work, schedules, etc.)."
- A requirement that employees sign a statement "acknowledging that work disruptions on the project are prohibited and that violators will not be eligible to re-employment...(an expedited grievance procedure should be available...)."
- Mandatory "pre-job" conferences for all contractors and subcontractors; "[a]dopt uniform pre-job procedures for all contractors and subcontractors on a project that require them to identify manpower requirements and proposed jurisdictional assignments."

- Frequent labor-management meetings at the project level.

The purpose of this section is to discuss a number of practices that are included in PLAs and are being used by labor and management to resolve disputes and assure the timely completion of projects.

Using PLAs to avoid disruptions

The Building and Construction Trades Department Model PLA. Most PLAs include several sections on dispute resolution to deal with issues ranging from job actions to grievances to jurisdictional disputes. The Building and Construction Trades Department (BCTD) of the AFL-CIO provides guidance on these matters through a model PLA, first developed in 1997 and revised twice in response to local conditions and experiences in contract administration. The 1997 model PLA included three separate dispute settlement procedures: (1) a "traditional" three step grievance/arbitration procedure; (2) a procedure for the settlement of jurisdictional disputes, and (3) an expedited arbitration procedure, included within an article on "Work Stoppages and Lockouts."

The first two dispute settlement procedures remain in the most recent model PLA. The expedited arbitration procedure concerning work stoppages and lockouts has been eliminated from the model PLA, but is still included in some actual PLAs. Further, in guidelines accompanying the 2008 BCTD model PLA, it is recommended that parties at the local level negotiate an expedited arbitration procedure for dealing with work stoppages and lockouts.

Article V of the revised model agreement offers strong language on strikes and lockouts:

- Section 1 contains a broad proscription on job actions: "...there shall be no strikes, picketing, work stoppages, slowdowns or disruptive activity for any reason by the Union...and there shall be no lockout by the Contractor."
- Section 2 allows for disciplinary action against employees who engage in a proscribed activity and stipulates that such individuals shall be ineligible for rehire for at least 90 days.
- Section 3 requires a general president to "use the best efforts of his office" to cause a local union to "cease violations of this Article."

As mentioned, the model agreement also contains a typical multistep grievance and arbitration procedure that may be used for "any questions or disputes arising out of and during the term of this Project Agreement." Jurisdictional disputes are specifically excluded from the grievance procedure, but are addressed in a separate article of the model agreement.

Step 1 of the grievance procedure allows for any employee, through his or her local union business representative or job steward, to present a grievance to the contractor's "worksite representative" within five working days of the occurrence of an alleged contract violation. The parties shall attempt to resolve the matter within three working days. Following any meeting with the union representatives, the contractor must issue a decision within 24 hours, and the union, if dissatisfied with the response, has 48 hours to proceed to Step 2.

The model agreement also allows unions and contractors access to the grievance procedure. In such cases, if the parties cannot settle their differences in three working days they may proceed to Step 2.

At Step 2, the contractor and an international union representative must meet within seven working days to attempt settlement. If settlement is not reached, the parties have seven days to request arbitration.

The model agreement suggests that the parties mutually select an arbitrator, but if unsuccessful they can turn to the American Arbitration Association for a list. Further language requires the strict interpretation of time limits and instructs the arbitrator to consider only the issues before him or her, and to avoid changing, amending, adding to, or detracting from the PLA.

Finally, the model PLA provides for the settlement of jurisdictional disputes with reference to the *Plan for the Settlement of Jurisdiction Disputes in the Construction Industry*. That is, all jurisdictional disputes should be settled in accordance with the requirements and procedures of the plan. The model PLA proscribes jurisdictional work stoppages. Pre-job conferences are also required as a means of forestalling jurisdictional disputes.

Language in actual PLAs

Some of the differences in dispute settlement procedures between actual PLAs and the BCTD model are minor and more procedural than substantive. For example, there are slight differences in the number of arbitrators named to handle expedited complaints; liquidated damages may be higher than $10,000; time limits in the grievance procedure sometimes vary; and the Federal Mediation and Conciliation Service or state agencies are sometimes named as sources for arbitrators rather than the AAA. The discussion below focuses on more substantive matters.

Procedures to deal with job actions

Beginning with the no-strike/no-lockout clauses, all of the agreements we reviewed contain some type of guarantee that the project will be free of work stoppages and lockouts. In most cases, such guarantees are broad and cover all types of possible disputes. In about one-third of the PLAs reviewed, however, there is an explicit exemption for work stoppages caused by an employer's delinquency in payments to joint trust funds. That is, even under the PLA, the unions reserve the right to strike if an employer falls behind or fails to make payments to health care or pension funds. It is also typical that when such a right is reserved, additional language requires the union to give an employer notice (five days, for example) before beginning a strike. As well, several of the agreements—including this example from Minnesota—state that the unions may withhold labor for nonpayment to funds "provided such withholding of services shall not be accompanied by picketing, hand billing, or advising the public of the existence of a labor dispute against a delinquent employer."

About half of the PLAs reviewed contain no expedited procedure for determining whether a proscribed job action occurred, nor any provision for the payment of liquidated damages. As mentioned above, expedited arbitration procedure concerning work stoppages and lockouts has been removed from the BCTD model agreement, perhaps due to its lack of popularity at the local level. In some of the PLAs lacking an expedited procedure a statement such as "...any aggrieved party may immediately commence an action for injunctive relief... " is included.

A number of PLAs have language for the continuation of local terms and conditions in the event of an impasse in bargaining; they often also have language for the retroactive application of any new conditions after settlement.

An issue with strike bans in PLAs is whether work stoppages over safety are covered by these bans. Stopping work to get serious safety issues addressed is common in construction and can be an effective means of resolving threatening problems promptly. Absent specific language in PLAs protecting such stoppages, they are likely banned by the language of PLAs. One possible solution to this problem is to allow stoppages over safety, but allow them to be reviewed by a neutral party to determine whether they are over safety conditions or instead a pretext for other issues.[34]

Grievance and arbitration procedures

Most PLAs reviewed for this research contain the three-step grievance/arbitration procedure contained in the BCTD model, either to the letter or with minor modifications for time limits, arbitrator selection, etc. Nearly one-quarter of the agreements, however, contain no special grievance/arbitration procedure, but state instead that grievances should be handled "per applicable local collective bargaining agreements." A few PLAs require—as does a Wisconsin PLA—that the parties use the procedures in local agreements but provide a dispute resolution mechanism "[i]n the event of a dispute arising under or concerning this Agreement, or if a local collective bargaining agreement does not contain a grievance/arbitration procedure." A Michigan PLA includes a grievance/arbitration procedure, but specifically exempts electrical

workers and sheet metal workers, in deference to their bipartite panels. A Connecticut agreement is completely silent concerning grievances and arbitration; one would assume that the parties turn to local procedures.

In most cases, the terminal step of the grievance procedure is a decision by a single arbitrator who is named in the agreement, chosen by American Arbitration Association or Federal Mediation and Conciliation Service procedures or referred by a state agency. In two cases the PLAs provide for a tripartite arbitration panel. A Pennsylvania PLA—unique among those we reviewed—states that a three-member arbitration panel shall include a union representative, a contractor representative, and a representative of the property owner. A PLA in Washington State specifically states that all prevailing wage disputes shall be referred to the director of the Washington Department of Labor and Industries.

A number of PLAs limit the arbitrator to awarding no more than 60 days of back pay. A typical clause requires the property owner, construction manager, or general contractor to be apprised of any grievance actions involving subcontractors.

Jurisdictional disputes

Every PLA reviewed makes some mention of jurisdictional matters being handled through the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry. The model PLA includes four sections on jurisdictional disputes; they direct that (1) work assignments are the contractor's responsibility and should be made in accordance with the plan (i.e., any past decisions or agreements); (2) if disputes arise they should be decided through plan procedures; (3) no job actions should occur over such disputes, and any individuals ceasing work are "subject to immediate discharge," and (4) contractors must conduct pre-job conferences, presumably to head off jurisdictional disputes.

Language in the scope-of-agreement clause may also be used to forestall jurisdictional disputes. This is done by stating which work and which employees are not covered by the agreement. For example, manufacturers' employees may be allowed to install certain equipment on a site without falling under the jurisdiction of the PLA.

A Washington PLA requires that each contractor and subcontractor develop a work assignment document 14 days before beginning any work. Competing unions may present evidence for their claims at a pre-job conference, and then have seven days to respond to any decisions of the contractor. Only after the local procedure is exhausted are disputes referred to the plan. An Ohio PLA allows for an arbitrator's decision if a dispute before the plan is not settled in 15 days.

A few PLAs contain language to handle jurisdictional disputes involving non-BCTD unions and/or employers who have not agreed to be covered by the plan. A Massachusetts PLA, for example, places such disputes before an arbitrator who has 14 days to hold a hearing and render a decision. The agreement specifically states that the arbitrator cannot assign work to a double crew, but may create a composite crew.[35] Nearly identical language is included in a New York and a Nevada PLA.

Summary

One of the more important purposes of a PLA is to assure that a project is as free of work disruptions as possible. PLAs accomplish this goal through broad no-strike language, fast and harsh penalties for violations of such clauses, the use of grievance and arbitration procedures to handle most problems, and highly developed methods to handle jurisdictional issues, such as pre-job conferences, detailed work assignment language, and methods for neutral settlement.

This brings us to the question of whether PLAs have, in fact, been successful in resolving disputes before work is disrupted. This is a difficult question to answer, since good data on work disruptions are scant and no database indicates whether a disruption has occurred on a project covered by a PLA. Based on analysis of the Lexis/Nexis database of newspaper and wire reports, approximately 50 strikes that have been significant enough to gain press attention have occurred around the country in construction during the past 10 years (including one involving nonunion ironworkers). These press reports mention four work stoppages that occurred despite a PLA, including three in the San Francisco area in 1999 and 2000 and one in Providence, R.I. in 1999. The latter involved picketing by rank-and-file union members

who were unaware of the no-strike provisions of a PLA; the picketing resulted in a nonunion firm leaving a worksite. The matter was resolved in one day.

The Lexis/Nexis database does not include any press reports after 2000 specifically concerning work disruptions on PLA-covered sites. There are a number of reports, however, which note work continuing on PLA projects despite strikes by area construction unions. For example, in May 2009, *The Plain Dealer* of Cleveland, Ohio reported on a Laborers Union strike in northeastern Ohio, but noted that "Local 310 members on several larger projects, including those at the Cleveland Clinic and University Hospitals, remain on the job because the union has project labor agreements prohibiting strikes or other job actions" (May 7, 2009, C2). Similarly, the *PR Newswire* reported in the spring of 2006 that a Laborers Union strike against over 200 employers in the Chicago area "is expected to affect most construction projects in Cook, Lake, DuPage, Will, Grundy, Kendall, Kane, McHenry and Boone Counties except for public works projects that are covered under multi-union project labor agreements." A *St. Paul Pioneer Press* article on a 2004 Ironworkers' strike in Minnesota noted, "Aside from bridge work, ironworkers also are crucial in the construction of commercial buildings. But most large commercial buildings are covered by so-called 'project labor agreements,' which prohibit walkouts by all construction unions" (May 28, 2004, C1). An Associated Press report of a 2002 carpenters strike in Connecticut pointed out that, "Striking carpenters were scheduled to meet Wednesday at 6:30 a.m. at their local union halls before fanning out to job sites across the state to picket. The strike will not affect construction jobs that have project labor agreements." In 2001, a *Boston Herald* report on a Sheetmetal Workers strike stated that, "The sheet metal workers on some high-profile jobs covered by project labor agreements are legally barred from walking off the jobs" (August 2, 2001, 33). The *St. Paul Pioneer Press,* reporting on a strike by six unions in 2001, noted, "But work on large construction projects—office towers and the like—shouldn't be affected by a work stoppage. That's because most major projects are covered by separate project labor agreements" (May 8, 2001, C3).

More research is needed to determine whether PLAs are effective dispute settlement tools. Such research should examine not only differences between projects covered by PLAs and those that are not, but also consider whether particular language or practices under differently worded PLAs afford better protections against work disruptions.[36] Until then, we must rely on press reports and other anecdotal evidence, which, to date, suggest that PLAs have generally been successful in preventing work disruptions.

Designing PLAs to deal with nonunion contractors

As discussed at the beginning of this report, the controversy over the use of PLAs on public projects accelerated with the growth of the nonunion sector in the construction industry. At one time, there were very few nonunion firms large enough to compete for work that would likely be covered by a PLA. That is no longer the case. Today, nonunion firms are able to compete for nearly all forms of construction work in nearly all parts of the country. In addition, as PLAs have come into more frequent use, they have been applied to smaller projects. While an atomic energy facility may have been the typical PLA project of the 1950s, today a local high school is just as likely to be built under a PLA.

PLAs affect both union and nonunion contractors. In assenting to a PLA, contractors agree to abide by collectively bargained terms and conditions. For union contractors, the major change is working under the somewhat different rules that might be called for by the PLA. But for the nonunion contractor, working on a PLA can be a substantial departure from normal operations. For one thing, meeting the terms and conditions of the local collective bargaining agreement often results in the contractor paying considerably higher wages and benefits. Higher wages and benefits can be a particular problem for nonunion contractors who use relatively large numbers of semi-skilled workers rather than follow the union model of smaller numbers of highly skilled workers. The lower productivity of semi-skilled workers is economical if they can be paid relatively low wages, but the arrangement may not be workable at union rates. Depending on the terms of the PLA, nonunion contractors may be required to hire some or all of their employees from a union hall. Differences in work rules regarding time keeping, persons allowed to do various types of work, and time off may

also make working under union rules challenging. Nonunion contractors may also be required to pay into funds to support apprenticeship training, safety programs, and other institutions common to organized employers.[37] A common complaint is that nonunion contractors may have to pay into both their firms' pension and health funds and into union programs, but evidence of double payments is scarce.[38]

Participation on PLA projects by nonunion firms

Nonunion contractors and their associations often call PLAs "union-only" projects. While most PLAs, including all public sector PLAs, allow participation by all qualified firms, the real question is whether the requirements of PLAs in effect preclude nonunion contractors from bidding or from operating successfully under the terms of the PLA. For example, a requirement that a nonunion contractor sign the local collective bargaining agreement for all of its work, whether covered by the PLA or not, would likely discourage most nonunion contractors from bidding. There has, however, been a tendency for nonunion contractors to treat projects under PLAs as union-only even when the agreement was written to allow open shop contractors to participate.

Language in PLAs can be more or less favorable toward nonunion participation, making it simpler or more complex for nonunion contractors to participate in a project. In some PLAs, nonunion contractors are required to use union referral systems, such as hiring halls, exclusively; in others they are able to bring part or all of their existing labor force onto a project. Similarly, some PLAs require contractors to sign the local collective agreement and become union contractors; others require only a letter of assent (i.e., an agreement to abide by the PLA) and do not require signing the local agreement. Decisions about the terms under which nonunion firms may participate in a project covered by a PLA are, in the end, part of the negotiation between the construction manager and the local building trades organization, subject to the applicable laws and regulations. These decisions affect the ease with which nonunion contractors can bid on a project and hence the willingness of such contractors to participate.

PLA openness to nonunion participation involves six issues: (1) whether nonunion contractors can bid on PLA work and whether the owner can accept their bid; (2) what the nonunion contractor is required to do with respect to the local collective agreement; (3) how the nonunion contractor obtains its labor force; (4) whether nonunion workers are required to join the union; (5) how nonunion workers are provided benefits and how benefit costs will be handled to assure the nonunion and union contractors a level playing field; and (6) how small and minority contractors can participate in a project covered by a PLA. Another issue is why unions and union contractors would negotiate a PLA that allows nonunion participation.

Can nonunion contractors bid on PLA work and can the owner select that contractor?

Today, all public and many private PLAs explicitly allow any contractors to bid on a project without respect to their union status. For example, Toyota's 2003 San Antonio, Texas PLA states:

> TMMTX and/or the Construction Contractor(s) have the absolute right to select any qualified, bidder for the award of contracts on this Project without reference to the existence or non-existence of any agreements between such bidder and any party to this Agreement.

Harvard University's 2009 PLA, the most recent of a series of agreements first negotiated in 1992, states:

> The Owner and Project Contractor have the absolute right to select any qualified contractor for the award of contract(s) on any covered Project.

Nonunion contractors regularly win bids on PLA construction projects. For example, in 1991 the GAO found that 86 of 286 contractors on an Idaho National Engineering Laboratory project covered by a PLA were nonunion (General Accounting Office 1991). A number of nonunion contractors participated in the Southern Nevada Water Authority (SNWA) project, the Boston Harbor Project, and the Big Dig. In testimony before Congress in 1998, Michael D'Antuono, president of Parsons Construction Company, said that six of 16 prime contracts and 26 of 70 both prime and subcontracts went to nonunion firms on the SNWA.[39] Reviewing results for the Boston Harbor Project at the request of John T. Dunlop, ICF Kaiser found that 55 prime contracts went to union contractors and 16 to nonunion contractors; of the 257 prime contracts and subcontracts, 155 went to union firms and 102 to nonunion firms (U.S. Senate 2000). Nonunion site preparation and concrete contractors worked on the Toyota assembly plant in San Antonio in 2004 and 2005.[40]

What is the nonunion contractor required to do with respect to local collective agreements?

All PLAs require that winning bidders sign a letter of assent, which requires that the contractor abide by the terms of the PLA. These will typically include the union agreement or the schedule of wages and benefits. Whether the bidding contractor is required to become signatory to the local agreement varies among PLAs. Some require that winning bidders do so. Others permit them to become signatory to the local agreement only for the work covered by the PLA. Still others require that contractors sign the assent agreement but do not require them to become signatory to the local collective agreement.

The range of language with respect to nonunion contractors is bracketed by the Harvard and Toyota San Antonio agreements. The Harvard agreement requires that the contractor become signatory, but also requires that the union sign an agreement with the contractor:

> The Owner and Project Contractor have the absolute right to select any qualified contractor for the award of contract(s) on any covered Project provided, however, that such Contractor is willing, ready and financially able to execute and comply with this Agreement; has or is eligible to and will sign the applicable local collective bargaining agreement(s) which form the basis for the Schedule A's; and that such Contractor executes, prior to commencement of work, this Agreement or the Letter of Assent. The Unions agree to sign such Contractors.

In contrast, the Toyota agreement does not require that the contractor do more than sign the assent agreement:

> TMMTX and/or the Construction Contractor(s) have the absolute right to select any qualified bidder for the award of contracts on this Project without reference to the existence or non-existence of any agreements between such bidder and any party to this Agreement; provided, however, only that such bidder is willing, ready and able to become a party to and comply with this Project Agreement, should it be designated the successful bidder.

Aside from the cases in which the contractor is required to sign the local agreement for all work, the impact of the PLA on the contractor depends on the PLA's terms with respect to the contractor's labor force and benefits payments.

How will a nonunion contractor obtain the labor needed for the project?

Some nonunion contractors participate in PLA work by operating "double breasted," i.e., by establishing or using a union subsidiary to do the project work. The contractor uses a union workforce, recruits according to union referral rules, and pays into union benefit funds. If the nonunion contractor chooses to participate in this fashion, the only further issue may be bringing key workers in from the nonunion side of the operation.

Where the PLA incorporates a core employee or "drag along" clause, nonunion contractors may bring their own nonunion employees onto the project. Core worker clauses usually require that these employees meet state licensing requirements, are able to work safely, and have worked for the contractor for some minimum time. For example, the contractor may only be able to bring employees who have worked for the contractor for 60 of the last 100 work days. Some clauses allow the contractor to bring as many employees as it needs; others allow the employer to bring in its existing employees in a fixed ratio to the total hired. Under the latter arrangement, a contractor might be allowed to bring one existing employee on for every three hired.[41]

Often, however, the nonunion contractor is required to hire from union sources if it is not able to bring current employees onto the project.[42] The related provision in the Toyota San Antonio PLA states:

(a) Execution contractors who are not signatory to a current local collective bargaining agreement with a Union having jurisdiction over the affected work may employ core employees, as defined in paragraph (b) below, who are San Antonio residents, as defined in Section 3(b) of this Article, without following the referral in Section 3.

a. For purposes of this Agreement, a "core" employee shall:

i. possess any license required by state or federal law for the Project work to be performed;

ii. have been on the execution contractor's payroll for at least sixty (60) of the one hundred (100) working days prior to the date the execution contractor received the contract award; and

iii. have the ability to safely perform the basic functions of the applicable trade.

iv. Upon request of the Union having jurisdiction over the affected work, the execution contractor shall furnish a representative of the Owner with satisfactory evidence of an employee's qualification as a "core" employee.

The provision for core employees found in the Tappan Zee PLA, often used throughout New York, allows nonunion and out-of-area contractors to bring key workers onto the project:

B. A Contractor may request by name, and the Local will honor, referral of persons who have applied to the Local for Project work and who meet the following qualifications as determined by a Committee of 3 designated, respectively, by the applicable Local Union, the Construction Project Manager and a mutually selected third party or, in the absence of agreement, the permanent arbitrator (or designee) designated in Article 7:

(1) possess any license required by NYS Law for the Project work to be performed;

(2) have worked a total of at least 1000 hours in the Construction craft during the prior 3 years;

(3) were on the Contractor's active payroll for at least 60 out of 180 calendar days prior to contract award;

(4) have demonstrated ability to perform, safely, basic functions of the applicable trade.

No more than 12 per centum of the employees covered by this agreement, per Contractor by craft, shall be hired through the special provisions above (any fraction shall be rounded to the next highest whole number).

The provision of shop fees, minimum periods, and wage and benefit scales varies. Whether core employees have to pay agency shop fees is controlled by state law. Most PLAs are silent about the provision of evidence that employees have been employed for the minimum period or that wages and benefits in keeping with the union scale are being provided to employees. However, these requirements are likely enforceable under the dispute resolution provisions of the PLA.

Are nonunion workers required to join the union?

Under the National Labor Relations Act's so-called "construction industry provisos," unions and employers may agree to require "as a condition of employment, membership in [a] labor organization after the seventh day following the beginning of employment or the effective date of an agreement, whichever is later."[43] Depending on state law and the terms of the PLA, nonunion workers may be required to pay union dues or agency fees. In almost all cases, nonunion workers will take home more in wages and benefits than they would from working on projects not covered by a PLA, even after paying agency fees.[44] Where religious beliefs preclude an individual from paying dues to a union, there are established protocols for equivalent contributions to charities.

An example of a dues provision that covers nonmembers is found in Article IV of the PLA for the Suffolk County (N.Y.) Center Building:

> **SECTION 5. UNION DUES**
>
> All employees covered by this Agreement shall be subject to the union security provisions contained in the applicable Appendix A Agreement, as amended from time to time, but only for the period of time during which they are performing Covered Work and only to the extent of rendering payment of the applicable monthly union dues uniformly required for union membership in the Signatory Union which represents the craft in which the employee is performing Covered Work. No employee shall be discriminated against at the Project because of the employee's union membership or lack thereof. In the case of unaffiliated employees, the dues payment will be received by the Signatory Union as an agency shop fee.

How will nonunion contractors' employees be provided with benefits? How will nonunion and union contractors be provided a level playing field with respect to the cost of benefits?

Nonunion contractors' benefit plans are typically not as comprehensive, generous, or expensive as those of union contractors. This raises issues about how the employees of nonunion contractors obtain benefit plan coverage while working under a PLA and how the playing field for benefit costs is leveled between union and nonunion contractors. Nonunion contractors have a cost advantage relative to union contractors because of their lower benefit costs. Leveling the playing field, and adhering to the terms of the PLA, requires that nonunion contractors' benefit costs be the same as those of union contractors.

The historic solution to this matter has been to require that nonunion contractors pay into joint labor/management benefit funds. Some nonunion contractors have objected to this system, arguing that, in effect, they are paying twice for their employees' benefits, since they must maintain their own benefit plans while paying into the joint plans. Further, although nonunion workers may benefit from participating in union health insurance plans, there is little gain from short-term enrollment in pension plans. There is also some anecdotal evidence that nonunion employees take advantage of access to the superior coverage provided by union health funds to obtain medical treatments that are not covered or are more costly under their own insurance. Despite considerable discussion of the issue of double payment of benefits (see, for example, Northrup and Alario 1998), actual instances of double payments by open shop contractors working under PLAs are not well documented. This may be, in part, because many nonunion contractors do not provide benefits or do not contribute to those plans. For example, in 2006 only 48% of nonunion construction workers report having health

insurance through their employer; less than 26% report participating in an employment-based retirement plan (CPWR 2009, sections 26 and 27). A survey of larger construction employers by the Associated General Contractors in 2000 found that, although 75% of contractors reported having a 401(k) plan, only half contributed to it (Johnston-Dodds 2001, 37). A 1991 study by the GAO of the Idaho Labs project of the Department of Energy found that, despite many nonunion contractors' stated position that they would not participate in PLA projects, 30% of the 286 contracts for the project went to nonunion contractors (General Accounting Office 1991). Two of the 86 nonunion contractors documented making double benefit payments, and a third was being sued in federal court over a failure to pay at the time the report was issued. Although some instances of double payment of benefits have no doubt occurred since the 1980s, the lack of documented cases in more recent literature suggests that it is uncommon. It is possible that open shop employers are deterred from bidding on PLA projects because, depending on their benefit program and the PLA, they believe that they would have to make double benefit payments.

There are two different methods for administratively leveling the playing field and providing appropriate payments to nonunion workers. The first is that some PLAs require nonunion employers to put the difference between their hourly benefit costs and those paid by signatory contractors into a trust for their employees. The nonunion employee can then draw on the trust to pay insurance premiums, co-pays, and other expenses. The second approach is to put the difference between nonunion and union total compensation into the nonunion employee's paycheck. Both methods level the playing field in terms of benefit costs and avoid the administrative issues (including additional costs) associated with having nonunion workers temporarily participating in joint benefit plans.

Can PLAs be written to allow small and minority businesses to participate in the project?

Carve-outs or exemptions from the terms and conditions of PLAs are found in some agreements. For example, the Port of Oakland PLA, negotiated in 2000, permits small contractors (those receiving less than $300,000 in aggregate payments from the project) to be exempted from the terms of the PLA; the total amount of exemption for small and minority businesses was limited to $15 million (Johnston-Dodds 2001, 43). Such provisions are rare in private sector PLAs. The report *Constructing California: A Review of Project Labor Agreements* shows that only 10% of private sector PLAs had provisions encouraging the participation of small and minority businesses compared to 48% of public sector PLAs. The unions agreed to this provision in the Port of Oakland PLA in part because it was part of a broader program to develop participation from the local low-income community in the area of the port. In this context, the unions were willing to carve out small business exceptions and even extend some valuable privileges to these businesses.

Why would unions agree to provisions that facilitate open shop participation?

Generally, state and local bidding laws require that public projects be open to all qualified bidders. But beyond the legal requirement, unions may also be open to provisions facilitating nonunion participation in situations where they do not have all the capacity required for a project or where the owner desires the participation of specific contractors who are not signatory to the union agreement. Still, agreeing to nonunion labor or minority and small business carve-outs in a PLA is controversial because it may require that some trades sacrifice while others do not. This can create conflict among building trades locals.

Summary

All public and many private PLAs allow any contractors to bid on work without regard to their union status. Successful bidders on covered projects are required to sign the assent agreement and maintain union terms and conditions. They may be required to become signatory to the appropriate local collective agreement. Core worker clauses in PLAs allow nonunion contractors to bring qualified employees on their payrolls onto projects. Differences in benefit costs can be addressed by having nonunion contractors pay the difference between union and open shop compensation into a trust

fund for the use of their employees or pay it directly to their employees in their paychecks. Carve-outs can be used to encourage small business and minority participation in PLAs; they are most often found in PLAs with extensive provisions for community development and social investment.

Negotiating PLAs

PLAs are negotiated by local unions representing the trades involved in a project and the owner or the owner's representative. Because many owners lack experience negotiating contracts, and because of legal requirements as to whom a signatory to labor agreements can be, owners usually delegate the job of negotiating the agreement to the general contractor or construction manager for the project.

Although this arrangement works well in most cases, getting the full value of PLAs for the public requires that the parties to the negotiations be knowledgeable about what can be achieved with PLAs and interested in providing the best outcome possible for the public. Often, however, PLAs are modest documents that do little more than ban work stoppages and commit unions to the prompt provision of labor.

As stated in prior sections, PLAs work best when there is understanding and buy-in from the parties involved in the project. For the same reasons that nationally dictated PLAs do not always elicit the support from local unions needed to address difficult issues, PLAs that only involve some of the parties working on the project may not be as effective as those that bring all parties together. Since parties on both sides of the table may not be well informed about PLAs, bringing in expertise to facilitate the negotiation may be important to attaining the full value from a PLA.

Owners: bringing expertise to bear

The sophistication of the parties varies widely with prior experience with PLAs, and some regions of the country have much more experience than others. In the New York, San Francisco, and Los Angeles metropolitan areas and the Tennessee Valley, long experience has provided unions, contractors, and owners with a depth of experience that allows them to fashion PLAs that address each stakeholder's concerns and provides substantial value to public and private owners. Similarly, when owners like Toyota have long experience with PLAs, they are able to develop sophisticated agreements. Agreements in regions with less experience with PLAs are typically more basic and achieve less than might have been realized. For example, a 2009 PLA at a university in the Midwest did not include language harmonizing working hours or holidays across trades, forgoing the virtually costless gains from such clauses. For those with less experience, simply turning negotiations over to a construction manager is not always the best solution, since not all construction managers are equally versed in PLAs. Further, the owner and construction manager's interests may not be completely aligned, and any differences need to be considered.

No good general reference currently exists on PLAs and PLA language, although several are being developed. By now, however, thousands of PLAs have been negotiated around the country, and they are a good source for model language. Large private-sector operations (e.g., Toyota and Harvard) and public sector projects (e.g., Boston Harbor and the New York State Thruway) may be particularly valuable. The Federal Mediation and Conciliation Service also offers useful resources and expertise.

Contractors: using a multi-craft labor/management council to develop and promote PLAs

Because PLAs are typically the product of negotiations between a construction manager and a local building construction trades council, they afford little or no voice for most contractors, particularly specialty contractors. Interviews with contractors and contractors' representatives revealed somewhat ambivalent feelings about PLAs (Belman, Bodah, and Philips 2007, 36-43). That is, contractors saw the benefits of PLAs for scheduling, safety, and training, but they

voiced concern that PLAs were often conceived with little or no input from them. These contractors were then left to worry that PLA terms and conditions could ultimately change or erode provisions of their own agreements. While some unions and union workers have the same essential concerns, they are at least represented at the bargaining table through their BCTC.

One approach to involving contractors is through using a multi-craft labor/management council (LMC). LMCs are typically associations of representatives of unions and union contractors who meet to discuss issues facing their industry and to work together to promote union construction. The activities of these councils vary greatly from region to region. In some areas the councils meet only when issues arise, while others have extensive ongoing activities such as the TRICON labor/management council's *Better Built* in the Peoria, Ill. area. The LMC council can, working with the BCTD's model PLA, create an area model PLA that would provide the general structure for individual PLAs. Of course, like the BCTD's model, the area model should be flexible enough to account for the unique characteristics of each project.

A case study: the Illowa Construction Labor and Management Council's IMPACT Agreement

Currently, there are scores of construction industry labor/management councils in the U.S., many with a presence on the Internet. A good example of an LMC that has developed and promotes PLAs is the Illowa Construction Labor and Management Council. The Illowa LMC was formed in 1985 to promote union construction in nine counties in Illinois and Iowa. The board of the Illowa LMC has 20 members representing labor and management equally. In 1989, the Illowa LMC created the IMPACT Agreement for use on projects in its region. Over the past 20 years, this agreement has been used on over 230 projects (Belman, Bodah, and Philips 2007).

Among the more important provisions of the IMPACT Agreement, which was developed by labor *and* management, is Article V mandating pre-bid jurisdictional conferences. The purpose of the article is to allow the unions potentially involved to determine work assignments according to craft jurisdiction and to quickly notify bidders of their decisions. The article also provides for a method of dealing with situations where "specialty assignments are made to trade crafts that are not substantially represented by local contractors."[45] Further, Article VIII standardizes holidays and the rate of pay on holidays, which otherwise may differ across collective bargaining agreements. Similarly, Article XI standardizes normal work time and overtime rates, while allowing flexibility in scheduling by mutual agreement. Article X waives all subsistence, travel, and mileage pay. Article XIV requires adherence to local hiring hall provisions, but allows a contractor to hire labor "from any source" if a union is unable to furnish labor within 48 hours of a request. The other provisions of the IMPACT Agreement, such as its strong no-strike/no-lockout clause, are typical of most PLAs.

Starting and maintaining an LMC

There are essentially two models for multi-craft LMCs. One relies strictly on the voluntary participation of labor and management. Financial support for such councils comes by way of voluntary contributions or dues paid at the organizational level by participating unions, contractors, and contractor associations. The second model is a Taft-Hartley labor/management cooperation trust. Such trusts, which are authorized under 29 U.S.C. § 186 (c) 9 and 29 U.S.C. § 175a(a)(1), allow the parties to negotiate for per capita assessments to support an LMC.

In neighboring jurisdictions in New England, both models are in successful use. The Connecticut Construction Labor-Management Council (CCLMC) is an example of an organization established through a trust agreement and supported through a per capita assessment of $.10 per hour on covered employment. Seed money for the CCLMC came from a grant from the Federal Mediation and Conciliation Service. Build Rhode Island (Build RI) is a voluntary association of contractors, contractors' representatives, and unions that relies on contributions from members and not a per capita assessment on work. Both organizations have been successful in developing and promoting PLAs in their areas and in achieving results favorable to public and private owners in their jurisdictions.

PLA item checklist

Although there is still no comprehensive guide to negotiating a PLA, the following checklist could help parties considering the development of a PLA.[46]

1. Purpose
   - If there is a specific date by which the project must be completed, and is it included?
   - Is the need for harmonization of hours and the stabilization of wages mentioned?
   - Is the need for the maintenance of labor peace mentioned along with a dedication to the mutual resolution of disputes?
   - Does the clause contain a no-strike/no-lockout statement?

2. Scope of agreement
   - Is it clear that the PLA is intended only to cover construction work?
   - Is work that is not included clearly stated?
   - Are the various projects and geographic parameters of the site well defined?
   - Does language address site preparation and/or dedicated offsite work?
   - Does the clause clearly state that all contractors, of whatever tier, must accept and be bound by the agreement through a letter of assent?
   - Does the agreement clearly state that the property owner's employees are not covered and the PLA does not create joint-employer status?
   - Is there a supremacy clause stating that the PLA supersedes all other agreements?

3. Union recognition
   - Are the signatory unions recognized as the sole and exclusive representatives of all craft employees?

4. Management's rights
   - Is management specifically given the right to hire, promote, transfer, lay off, or discharge employees, subject only to the provisions of the agreement?
   - Is just cause protection granted?
   - Are restrictions on output, crew size, or the introduction of technology prohibited?

5. Referral of employees
   - Do signatories agree to use the referral procedures maintained by the unions?
   - Is there a provision for unions that do not have an established referral system?
   - Is there a nondiscrimination clause in the agreement?
   - Is there a period (e.g., 48 hours) after which contractors may seek labor from other sources if the union is unable to fulfill a request?
   - Is there language relating to the appointment of foremen?
   - Does the agreement allow for testing or evaluation for those who require special skills?
   - Is there a "key man" or core personnel provision?
   - Is there a clause that prohibits the union from reassigning project employees to another site?
   - Is there a provision for the reemployment of individuals who quit or are terminated for cause, e.g., ineligibility to return to the site for 90 days?

6. Apprentices and trainees
   - Is there language about the employment of apprentices?
   - Does the PLA allow for a uniform journeyman/apprentice ratio?

- Are helpers, trainees, or other sub-journeymen allowed on the project?
- Is the ratio of these other trainees defined?
- Are apprentice or trainee wages defined in the PLA?
- Does the PLA establish any special program for the recruitment or training of apprentices or other trainees, such as minority or female targeting, or a school-to-work program?

7. Wages and benefits
   - Does the PLA contain any direct concessions on wages?
   - Does the PLA contain any direct concession on overtime pay?
   - Does the PLA limit forms of premium pay, such as travel time, high time, etc?
   - Does the agreement limit the joint funds to which contractors must contribute?
   - Does the agreement limit amounts to be contributed to straight-time wages?

8. Work rules
   - These are unique to each project, but may include such matters as rules on the use of equipment, smoking, absenteeism, etc. Often this section is used as a residual category for items that do not fit easily into other sections.

9. Work stoppages and lockouts
   - Is there strong language prohibiting strikes and lockouts, as well as other types of job actions, e.g., slowdowns?
   - Is striking allowed over certain matters, such as delinquency in payments to joint funds?
   - If striking is allowed, is it limited in any way (e.g., must not be accompanied by picketing, hand billing, etc.)?
   - Is notice required for striking?
   - Is there a procedure for determining if a proscribed job action has occurred, and for enforcing the no-strike/no-lockout clause?

10. Grievances and arbitration
    - Does the agreement contain a grievance and arbitration procedure?
    - Are arbitrators named in the PLA?
    - If not, is the source of arbitrators (e.g., AAA, FMCS) defined?
    - Does the agreement define the types of disputes or grievance that are subject to the procedure?
    - Are exceptions made to the grievance/arbitration procedure for industries that have their own settlement procedures?
    - Is the procedure, including the number of steps and individuals involved, clearly defined?
    - Is the employer allowed access to the grievance procedure?
    - Are limits to the arbitrator's authority defined?

11. Jurisdictional disputes
    - Does the PLA reference the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry?
    - Is a provision made for parties that are not stipulated to the plan?
    - Are pre-job conferences required to work out jurisdictional issues?

12. Union security
    - Is there a requirement to join the appropriate union within the statutorily defined period?
    - Is there a maintenance of membership provision?
    - Is an exception made if the project is in a "right-to-work" state?

13. Union representation
    - Is provision made for access to the project by union officials?
    - Are the rules for union access defined?
    - Are rules governing stewards defined?

14. Hours of work
    - Is the workday defined?
    - Are hours of work standardized across crafts?
    - Are break times defined?
    - Are any statements about overtime or overtime distribution included?
    - Are there provisions for shift work and/or flex time?
    - Are uniform holidays specified?
    - Are rules concerning the celebration of holidays that fall on weekends defined?
    - Is there a provision for make-up time?

15. Subcontracting
    - Is subcontracting restricted to those willing to sign a letter of assent?

16. Safety and health
    - Are any special safety programs or safety committees specified in the agreement?
    - Are employees required to receive special safety training or be certified in particular safety procedures?
    - Is a drug and alcohol abuse monitoring or prevention program specified?
    - Is immediate dismissal allowed for safety violations?

17. Saving clause
    - Does the clause preserve the contract if any particular provision is voided by a court of law?
    - Does the clause require the parties to negotiate a substitute agreement for any provision voided under law?

18. Term of agreement
    - Are the start and end dates of the project clearly defined?
    - Is there a provision for rework or a contractor's subsequent involvement with the project?

Summary

PLAs have historically been an agreement between unions and owners, with contractors only becoming involved in the PLA when they win a project bid. An alternative is for unions and contractors to develop a standard PLA that is then used as the foundation for a final PLA that is negotiated with owners. An advantage of this latter approach is that it is in keeping with the deepening of labor/management cooperation in construction and serves to promote the use of PLAs. Further, as demonstrated in the case of the Illowa Construction LMC, contractors will often use the PLA as a means of marketing their services. Finally, in addition to promoting efficiencies, a model PLA created by unions and contractors may provide a foundation for dispute resolution through an LMC.

Conclusion

Although PLAs have been around for years and used on some of the most famous construction projects in American history, their use has become controversial as the nonunion sector of the construction industry has grown and as PLAs have been applied to relatively small projects. Critics argue that PLAs place nonunion contractors at a disadvantage in bidding on projects and raise overall project costs. PLA opponents are particularly critical of the use of PLAs on public projects. They argue that such usage violates the spirit of public bidding statutes by putting the adherence to collectively bargained terms and conditions ahead of best price as a condition for winning a contract.

If designed properly, PLAs can help projects meet deadlines by guaranteeing a steady supply of highly skilled labor and by reconciling the various work routines of the many trades. PLAs also help to assure timely completion by keeping projects free from disruptions resulting from local labor disputes, grievances, or jurisdictional issues. Language in PLAs can be written to advance important policy goals, such as improving training and recruiting members of disadvantaged communities into high-paying jobs in construction.

We hope that this report can move the PLA discussion beyond a debate about whether PLAs are good or bad and toward a more constructive discussion regarding how to create PLAs that help deliver better projects for owners, contractors, workers, and communities.

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Endnotes

1 See *Federal Register* 75(70): 19168-79.

2 For further discussion of this issue, see Weil 2005.

3 This is a growing but not a recent problem; see, for example, Business Roundtable 1982.The main trade journal for the construction industry, *Engineering News-Record*, has carried many articles on this topic during the past two decades. The small size and low graduation rates of nonunion apprenticeship programs have been documented in several studies, including Government Accountability Office 2005, Belman 2005, Argyres and Moir 2008, Bradley and Herzenberg 2002, and Londrigan and Wise 1997.

4 See the series, Unemployment Rate - Construction Industry, Private Wage and Salary Workers Labor Force Status: Unemployment rate: LNU04032231, Bureau of Labor Statistics, U.S. Department of Labor (www.bls.gov).

5 See the series, Unemployment Rate, LNU04000000, Bureau of Labor Statistics, U.S. Department of Labor (www.bls.gov).

6 See USDL-10-0886, Bureau of Labor Statistics, U.S. Department of Labor, and http://www.bls.gov/iag/tgs/iag23.htm.

7 For example, despite a 30% growth in employment in construction jobs from 1997 to 2008, real earnings (earnings adjusted for inflation) were unchanged at the median. Over this period, nominal current dollar earnings grew by less than 0.5% annually at the median (employment data from Employment, Hours and Earnings series CES2000000006; Consumer Price Index Series CUUR0000SA0 and CUUS0000SA0 and 1977 and May 2008 *Occupational Employment Statistics for Construction and Extraction Occupations;* all data from www.bls.gov). It is important to note that, because many of these immigrants are not documented, they are not in a position to request the help of public authorities to enforce labor and contracting laws and so are particularly vulnerable to exploitation by unethical contractors.

8 These interviews were begun as part of the research, supported by Electri International, that resulted in the Belman, Bodah, and Philips (2007) study. This report provides a summary of many of the interviews along with excerpts from some. The interviews, which are part of the authors' ongoing work on PLAs, have included public and private owners and their representatives; the staff of local, national, and international construction firms; local, regional, and national staff and officials of building trades unions; the staff of employer associations; construction consultants; and construction workers. Regulations regarding research with human subjects preclude us from identifying those interviewed.

9 For example, work under a PLA at the San Francisco Airport was reported to be 40 days behind schedule in 1999 because of winter storms in 1997 (see L. Fernandez, "Fewer Stay Out of Work on Day 2 of Strike at SFO," *San Francisco Chronicle*, May 22, 1999).

10 See Belman, Bodah, and Philips 2007, 27-28. Additional interviews not included in this report substantiate this point.

11 For discussions of delays in projects related to skilled labor shortages, see, for example, *The Beige Book: Summary*, Federal Reserve Board, August 11, 1999; "Craft Labor Shortage Provokes More Studies of Pay and Safety," *Engineering News-Record*, August 20, 2001, p. 11; "Worker Gaps in South Push Up Costs; Ramped-Up Katrina and Power Markets Spur New Labor Alliances," *Engineering News-Record*, October 2, 2006, p. 34; "Attracting and Maintaining a Skilled Construction Workforce," Construction Industry Institute Research Report, 2001; "Needed: Skilled Tradespeople," *Sun-Sentinel*, December 19, 1999; and "Refinery and Petrochemical Plant Construction Costs Reach New High," Cambridge Energy Research Associates, 2007, available at www.cera.com/aspx/cda/public1/news/pressReleases/pressReleaseDetails.aspx?CID=9074.

In combination with the commitment to the speedy provision of skilled labor, ready access may not always work to the immediate advantage of the local trades workers. Drawing labor from outside a local's jurisdiction will reduce the labor hours available to area tradesmen. At the least, these provisions reduce local unions' ability to bargain over the use of outside labor.

12 No references were found in a Lexis-Nexis search conducted in August 2009 to work stoppages occurring on projects built under any PLA from 2000 to 2009. However, there were several articles indicating that work on PLA projects continued through trade-wide work stoppages associated with the renegotiation of contracts over this period. This research is discussed in greater detail in the section on dispute resolution. The authors are aware of a disruption of work on a Trump project in Chicago in 2006. In this instance, laborers left the project on a Friday because there was an area-wide work stoppage associated with the renegotiation of the collective agreement. The disruption was not sanctioned by the local union, and local union leadership attempted to get the employees back to work. No other trades left their work, and the site was not picketed. The workers returned to the site on the next workday. The Chicago Building and Construction Trades Council has taken corrective steps to assure that workers are better informed of their responsibilities under a PLA (phone conversation with T. Villanova, president, Chicago Building and Construction Trades Council).

13 Building trades workers working on airport construction struck to express dissatisfaction with a recently ratified contract on May 21, 1999. Union officials were able to end the work stoppage and get workers to resume work in less than 24 hours. Airport officials indicated that the PLA provided a faster and less expensive means of ending the strike than was otherwise available (see L. Fernandez, "Carpenters at Airport Protest Against Union Leadership," *San Francisco Chronicle*, May 21, 1999; "Arbitrator Orders California Carpenters To End Wildcat Strike, Return to Work," *Construction Labor Report*, May 26, 1999; and R.L Blagenorth, "PLA(ing) with the Truth," Op-Ed Column, *Orange County Register*, July 30, 1999.)

14 Problems of coordination of work time and practices across contractors and trades are present throughout construction and are not a feature unique to unionized construction.

15 See, for example, Hill International's estimate of the savings associated with using a PLA on the New York State Thruway Project.

16 See interviews with the Illowa Construction Labor and Management Council members in Belman, Bodah, and Philips 2007.

17 A construction professional at the airport maintained that airlines have been known to sell tickets for departures out of gates yet to be completed.

18 Construction unions have ongoing arrangements that, when locals have certified there is work beyond that which they can handle, workers from other locals will be informed of the need for additional workers. Workers seeking employment benefit by access to work, and contractors benefit because they can quickly find workers with appropriate skills. The arrangements also allow for the transfer of pension and benefits funds to the workers' "home" welfare trust and allow for traveling apprentices to continue their training and earning of work-hour credits on the project.

19 Approximately 60% of the pipe trades' work was covered by PLA agreements at this time.

20 Even parties strongly opposed to PLAs have difficulty finding examples of PLAs that were not completed on time because of labor issues. The Associated Builders and Contractors often cites the delay in the completion of the Milwaukee Stadium as a PLA gone awry, but the description omits important details. The project was initially delayed by the need to reweld improperly constructed roof sections. These sections had been fabricated in Asia and brought to the stadium site, where the improper welds were discovered. Rewelding placed the project behind schedule. The stadium was further delayed when a crane lifting roof sections collapsed during a high wind. Three ironworkers were killed, and there was extensive damage to the stadium because it was struck by the crane and a roof section. A review of the accident revealed that the ironworkers had requested that work be delayed because of high winds but the work was ordered to proceed. Had the ironworkers request been respected, the fatalities might have been prevented, and the stadium might have been completed on time. The delay had nothing to do with the use of a PLA.

21 See Lepatner 2007, 34-49 for a recent discussion of this issue.

22 A discussion of the interconnectedness between greening the economy and moving disadvantaged groups into the middle class through construction is found in *Rebuilding Our Economy and Rebuilding the Middle Class: A Building and Construction Trades Perspective on Critical Issues of Social Equity, Economic Justice, Environmental Sustainability, Labor Standards, and Workers' Rights* (January 2, 2009).

23 Stakeholders include the port representatives, the community, the unions, and employers.

24 Interview with Neil Struthers, CEO, Santa Clara and San Benito Counties Building and Construction Trades Council, August 3, 2010.

25 The trades included are carpentry/drywall, taping, interior finishes/painting, electrical, plumbing, communication and low voltage cabling, masonry, HVAC, finish carpentry work, and fire protection. A discussion of the training provided to students through the PLA can be found in "Funding Delay in Buffalo School Project Jeopardizing Union Apprentice Program," *Construction Labor Report*, November 19, 2003.

26 Based on a 2008 discussion with officers of the Saskatchewan Building Trades Council.

27 See http://www.bls.gov

28 See http://bls.gov/iif/ for data from 2003 to 2008. Prior data may be obtained from CPWR 2007.

29 This list of elements was suggested by Prof. David Weil of the Kennedy School of Government at Harvard University.

30 This outstanding record with respect to fatalities and injuries associated with accidents stands in stark contrast to the respiratory illness suffered by WTC rescue and construction workers. These illnesses were caused by breathing in the cloud of toxic materials at and around the WTC site. The most severe exposures occurred immediately following the collapse of the WTC, when the most particulates were airborne. The assurances of the Environmental Protection Agency that the site was safe with regard to respiratory conditions, as well as the failure of other federal and state agencies to identify the well-established dangers of breathing toxic materials at demolition sites, resulted in many workers believing that there were no respiratory hazards.

For example, the first paragraph of an EPA press release on September 13 said that the EPA was "taking steps to ensure the safety of rescue workers and the public at the World Trade Center and Pentagon disaster sites...." (EPA press releases are available at http://www.epa.gov/wtc/releases.htm). This was reiterated in third paragraph:

> EPA's primary concern is to ensure that rescue workers and the public are not exposed to elevated levels of asbestos, acidic gases or other contaminants from the debris....
>
> EPA is taking steps to ensure that response units implement appropriate engineering controls to minimize environmental hazards, such as water sprays and rinsing to prevent or minimize potential exposure and limit releases of potential contaminants beyond the debris site.

Having taken responsibility for monitoring toxic materials at the World Trade Center site, the EPA continually assured the public and rescue crews that hazards were minimal and appropriate steps were being taken to address those hazards. For example, EPA Administrator Christie Todd Whitman is quoted in a September 18 EPA press release:

> We are very encouraged that the results from our monitoring of air quality and drinking water conditions in both New York and near the Pentagon show that the public in these areas is not being exposed to excessive levels of asbestos or other harmful substances....

On September 21, an EPA press release again quoted Whitman reassuring the public:

> As we continue to monitor drinking water in and around New York City, and as EPA gets more comprehensive analysis of this monitoring data, I am relieved to be able to reassure New York and New Jersey residents that a host of potential contaminants are either not detectable or are below the Agency's concern levels....Results we have just received on drinking water quality show that not only is asbestos not detectable, but also we can not detect any bacterial contamination, PCBs or pesticides.

The established hazards of working on a demolition site, particularly those caused by inhaling highly base concrete dust laced with a variety of toxic materials, were not discussed; the main emphasis was the effect of dust on aggravating asthma:

> ...EPA's primaty concern has been to ensure that rescue workers and the public are not being exposed to elevated levels of potentially hazardous contaminants in the dust and debris, especially where practical solutions are available to reduce exposure. EPA has assisted efforts to provide dust masks to rescue workers to minimize inhalation of dust. EPA also recommends that the blast site debris continue to be kept wet, which helps to significantly reduce the amount of airborne dust which can aggravate respiratory ailments such as asthma. On-site facilities are being made available for rescue workers to clean themselves, change their clothing and to have dust-laden clothes cleaned separately from normal household wash.

The early failure to inform workers about the well-established hazards of demolition sites and to provide appropriate protection to those working on the site complicated later efforts to implement programs to provide respiratory protection. By the time safety programs were implemented, many of those on the site were resistant to use of appropriate protections. This reluctance may have reflected some fear on the part of rescue and demolition workers to admit, given their high level of exposure, that they may already have suffered respiratory injury.

31 This discussion is drawn from "Prevention Efforts and Protection of Worker Health and Safety at the World Trade Center Emergency Project," an unpublished manuscript by Grabelsky (n.d.), and from Colletti, Malloy, Grabelsky, and Platner 2002.

32 In contrast, Opfer, Son, and Gambatese (n.d.) found little evidence of a safety effect when examining the Southern Nevada Water Authority (SNWA) project. They compared the recordable incident rate and the lost-workday case incident rate between the construction industry as a whole, the SNWA project, and rates reported by the Construction Industry Institute. While the safety statistics comparing the project with the national construction average looked favorable, the same was not true when the Construction Industry Institute figures were used. The authors suggest that the safety record on the project was not good when one accounts for Kaiser's experience and size and the nature of the project. The differences in the findings between these studies are not surprising. The PLAs had very different emphases on safety and safety language. While the Boston Harbor Project and its PLA provided specific safety language and created safety programs, the SNWA project did little more than reference contractors' existing programs. The differences in outcomes then likely reflect a difference in the importance accorded safety.

33 Information on the safety and health program for the Boston Harbor Project and the role played by the Boston Harbor PLA were provided by Joseph Dart, former president of the Massachusetts Building Trades Council, and Joseph Nigro, the lead safety and health representative for the council. The Boston Harbor Project included two large underground and underwater tunnels, one of which extended 9.5 miles offshore, as well as extensive facilities to move waste to the Deer Island Treatment Plant (see Armstong and Wallace 2001, 3-4.

34 Such issues are unlikely to arise when provisions in the PLA or local agreement create a structure, such as standing safety committees, in which safety issues can be addressed expeditiously.

35 For example, if a job requires four workers and is being disputed by carpenters and laborers, an arbitrator may assign the work to two carpenters and two laborers (or any combination equaling four), but may not require four carpenters and four laborers.

36 Researchers at Suffolk University's Beacon Hill Institute recently studied whether the lack of PLAs on federal government projects during the Bush administration resulted in delays in construction. They could find no evidence of delays during this period (Tuerck, Glassman, and Bachman 2009).

37 Union work rules also limit nonunion contractors ability to use independent contractors and restrict their classification of employees.

38 As discussed later in this section, the GAO (1991) reports that three of 86 nonunion contractors on Idaho Labs projects made double payments into benefit funds. Other reports discuss the possibility of this occurring, but do not document cases when it occurred.

39 Testimony before the Small Business Committee, U.S. House of Representatives, Hearing Transcript 105-63, August 6, 1998, Washington D.C.: U.S. Government Printing Office.

40 Discussion with Giz Kaczarowoski, director of field service, Building and Construction Trades Department, AFL-CIO (2009), and Mike Haller, Walbridge Construction (2008).

41 These clauses are useful both to nonunion contractors and out-of-area union contractors who need to bring key workers onto a project.

42 In contrast to its San Antonio PLA, Toyota's 2007 PLA for Blue Springs, Miss. has a core worker provision that allows nonsignatory contractors to bring five current employees who live in the area of the project, or 50% of their workforce, onto the job without regard to use of the union referral system. The union referral procedure must be used for any additional employees.

43 Section 8(f)(2) of the National Labor Relations Act. Subsequent court cases have made such union shop clauses difficult to enforce to their fullest extent. See, for example, *NLRB v. General Motors Corp.* 373 US 734 (1963) and *Plumbers Local 141 v. NLRB* 675 F.2d. 1257 (1982).

44 Nonunion workers might be worse off economically on projects covered by state prevailing wage laws in states in which the prevailing wage is set to collectively bargained wages and benefits. However, work by Allen Smith (e.g., "Benefits Fraud on Prevailing Wage Jobs: Apprenticeship, Health and Welfare, and Pension," presentation for the CPWR Construction Economics Research Network, 2009) reveals pervasive underpayments in open shops of the benefits required under prevailing wage laws. The enforcement procedures incorporated into PLAs better assure that open shop workers receive full wages and benefits.

45 Specialty assignments may occur where the installation of specialized machinery or construction techniques that are unfamiliar to local workers requires bringing in out-of-area employees.

46 This checklist also appeared in Belman, Bodah, and Philips (2007).

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Executive Summary

Project labor agreements (PLAs) are prehire collective bargaining agreements that establish the terms and conditions of employment on one or more construction projects. PLAs are typically the product of negotiations between a group of unions, usually represented by a building, construction trades' council and the representative of a construction user, most often a construction management firm. Unlike local construction collective bargaining, contractors and contractor associations have little or no role in such negotiations. PLAs require all contractors working on a project to adhere to collectively bargained terms and conditions of employment, whether they are normally union or nonunion contractors. PLAs have undergone considerable evolution over the years. Once used almost exclusively on very large projects that were either extremely isolated or that overwhelmed the capacity of the local construction labor market, PLAs are now used on a variety of private and public projects.

The use of PLAs in the public sector has raised questions about possible conflicts with state or local bidding regulations. As a result, all branches and levels of government have become involved in the controversy, which, in turn, has drawn both media attention and spurred a fair amount of research. However, as our review shows, most of the research is of low quality and little use in determining whether PLAs actually affect bidding behavior, wages, construction costs, etc.

The current report is possibly the broadest ranging and most detailed study of PLAs conducted to date. While prior studies have focused on a particular PLA project and addressed one or two narrowly defined issues, in this study we examine a large number of projects using a variety of techniques, including archival research, interviews, case studies and the statistical analysis of original data.

We ask a number of questions, including the following: What is a PLA? How do PLAs differ? What does prior research tell us about the effects of PLAs on construction projects? How do individuals with experience with PLAs view these agreements? How do PLAs affect the outcomes of construction projects? In what ways can PLAs be used to address the strategic needs of a project?

There are several central findings of this study. Perhaps most important, we find that there is no substantial evidence that PLAs decrease the number of bidders or change the costs of construction projects. Although our findings run contrary to prior research, we believe that most previous studies failed to account for important influences on construction costs. Therefore, effects were falsely attributed to PLAs that actually belonged to unobserved variables.

We arrived at our conclusions on bidding behavior by studying two adjacent school districts in San Jose, California. Both began extensive school construction in 2002. In 2004, one school district

signed a PLA, while the other did not. While the number of bids per bid opening decreased after the PLA in the former district, they also decreased in the district that did not sign a PLA. The decrease in bids was better predicted by an increasingly busy construction market than the existence of the PLA.

To examine cost effects, we studied 108 school projects in New England. We found that such variables as the building's size, the need for a new boiler, the construction of an auditorium, the construction of library and where the school was located had positive effects on construction costs. There is no evidence that a PLA either raised or lowered the costs of the projects studied.

We argue that if PLAs are cost neutral, then other reasons for using or not using PLAs must be examined. Through interviews and case studies, we found that users favored PLAs to reduce some of the uncertainty inherent in large scale construction projects. Obviously, no one can control the weather, and material shortages are always a concern. But construction users felt a PLA would ensured a steady flow of highly qualified labor. The flow of labor was guaranteed by the nationwide referral systems maintained by unions; the steadiness of the flow was buttressed by no-strike agreements, which are a nearly universal item in PLAs. Construction users told us that PLAs were particularly attractive on large projects that needed to be completed on a tight schedule. PLAs can be used to harmonize hours and holidays across the trades and to modify shifts and work schedules to meet the needs of construction users.

Although we lack good data on safety outcomes, interview evidence suggests that safety inputs are greater on PLA projects. Often PLAs include language establishing labor/management committees that deal specifically with safety and health issues.

PLAs may also be crafted to achieve wider social ends, such as increasing minority employment and participation on projects by minority business enterprises. As in a case study of the East Side Union High School district in San Jose, PLAs may also be used to create highly developed structures for training and recruiting young workers into the building trades, a critical need in light of the reported looming skills shortage in the industry.

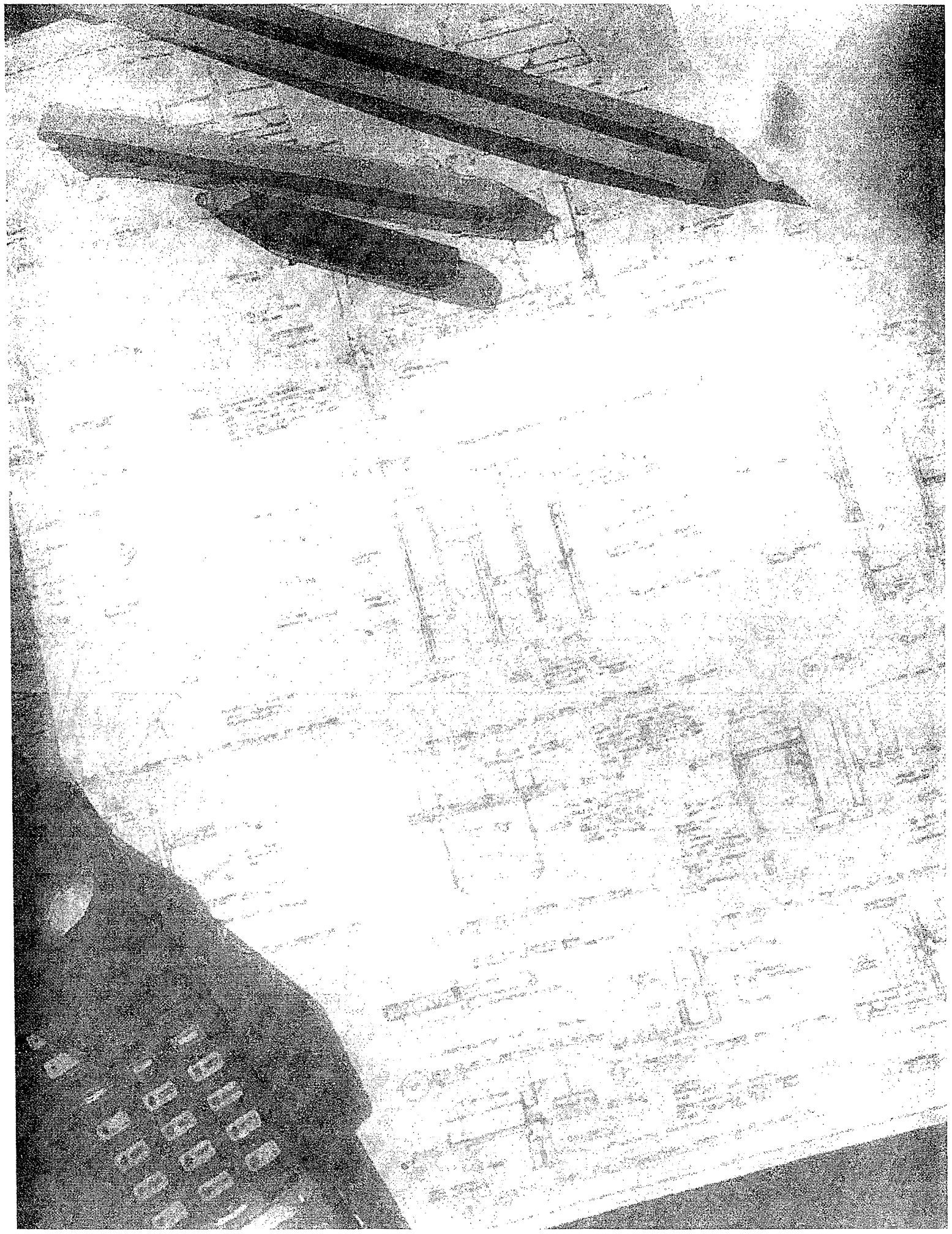
A possible downside of PLAs is their effect on local labor relations. Some interviewees told us that power relations at the bargaining table may be skewed when too much work is covered by PLAs and their accompanying no-strike/no-lockout clauses. With workers protected from job actions, compromises in local bargaining may be harder to affect, leading to unusual settlements and protracted negotiations.

Another problem with PLAs is the general lack of contractor participation in bargaining. This sometimes leads to the needs of an industry not being addressed in an agreement. One complaint of local electrical industry representatives is that most PLAs do not allow them to use their longstanding, bipartite system of dispute resolution.

A possible solution to the problem, and one that is used in many areas, is to develop model PLA language through standing labor/management committees, which can be established as Taft-Hartley trusts and supported through per capita assessments on work. Typically, contractor organizations have high levels of participation on such committees.

Most interviewees agreed that PLAs are not suited to every project in every location. In considering whether to use a PLA, owners usually consider the importance of scheduling, the size of the project, the need for skilled labor, whether there are a sufficient number of union contractors in the major trades needed for the project to support competitive bidding and whether the work is likely to be done by union contractors with or without the PLA. In general, larger and more complex projects, for which scheduling is important, are good candidates for the use of a PLA.

PLAs are valuable tools for the construction industry because they can be used to create the conditions needed for a superior construction project. More than one hundred PLAs were reviewed for this study. The provisions of those agreements varied widely. The most sophisticated agreements had been crafted to address project specific issues such as local hiring, scheduling, work rules, employment of minorities, or the staffing of projects. We also found many bare bones PLAs that were little more than no strike/no lockout agreements. Based on our review of these agreements, and the findings of this research, we believe that there is great potential, much of it unrealized, for using PLAs to improve construction projects and promote union construction. Realizing this potential will require the education of contractors, construction users, and union officials on how PLAs can be crafted to promote the interests of all parties and provide better construction outcomes.



Introduction

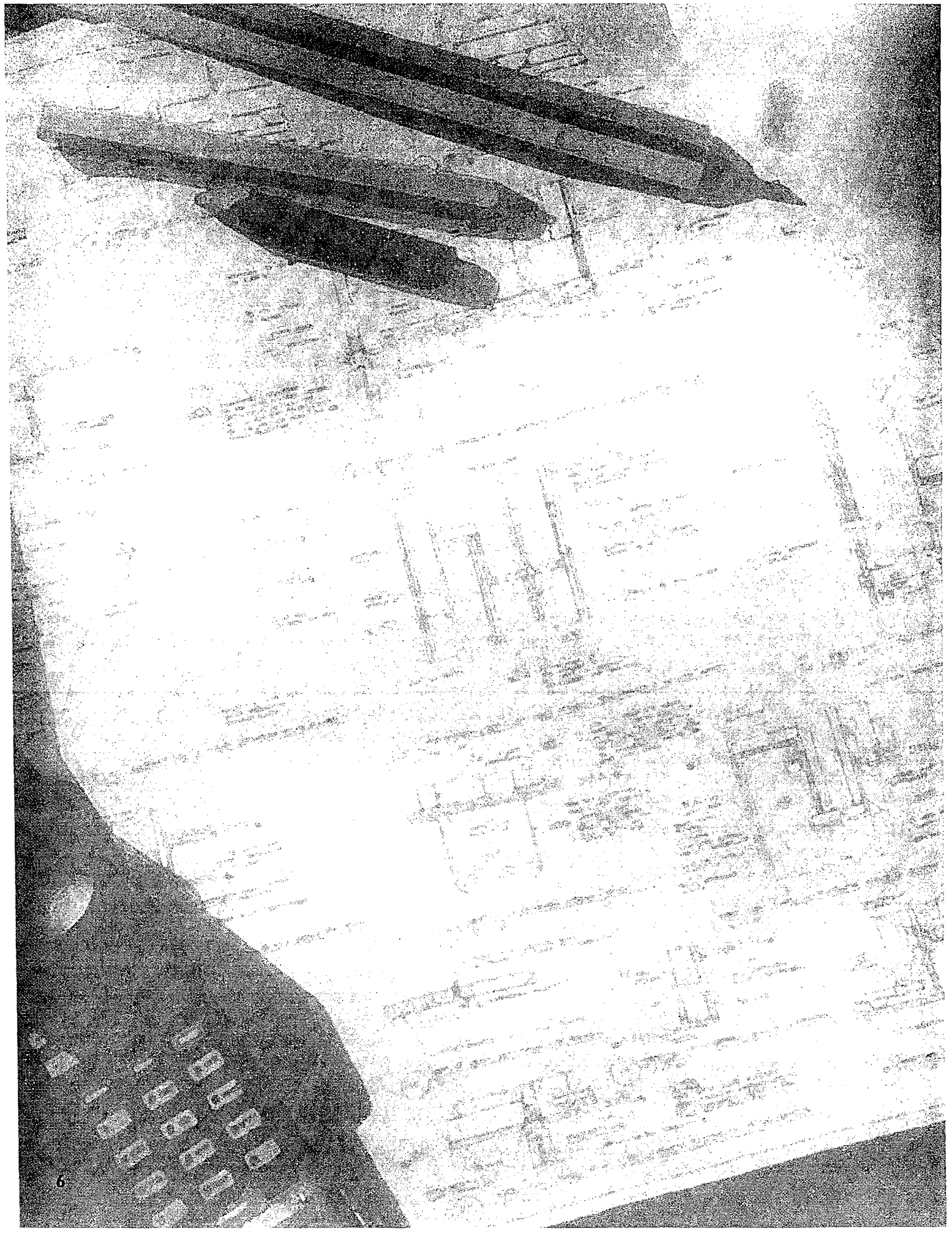
PLAs are nothing new. McCartin[1] noted that something like a modern PLA was used during WWI when the War Department worked out a compromise between the American Federation of Labor (AFL) and defense contractors who were building cantonments. All workers would be paid union scale in exchange for dropping a demand for a closed shop.

The use of PLAs increased during WWII. Dunlop[2] writes of the stabilization agreement between the Office of Production Management and the Building and Construction Trades Department (BCTD) of the AFL. The agreement provided for uniform overtime rates of time-and-one-half, standard shifts at regular rates and declared that there shall be "no stoppage of work on account of jurisdictional disputes or for any other cause."

Until the 1980s, PLAs were used in both the private and public sectors with little notice. So why have PLAs become so controversial? Why have virtually all branches and levels of government been dragged into the fight over PLAs? We explore these questions in this study. Moreover, we examine the contents of PLAs, present comments from interviews with stakeholders concerning PLAs, assess the economics of PLAs and provide details of the strategic use of PLAs from several case studies of actual projects.

Using archival sources, interviews and both qualitative and quantitative methods, we try to determine how Project Labor Agreements affect construction costs, scheduling, safety, training and minority employment.

- **Chapter One** of this report defines PLAs, discusses the reasons for the controversy over PLAs and gives an overview of previous PLA research.
- **Chapter Two** presents and analyzes the contents of PLAs. The results are based on a review of nearly one hundred agreements from all parts of the country.
- **Chapter Three** discusses the comments of several dozen stakeholders concerning PLAs. Interviews were conducted with, among others, construction users (both public and private), contractors, construction managers and union officials. Interviews were held in southern New England, the sorthern Midwest and the West.
- **Chapter Four** examines the economics of PLAs through original research. It presents findings of bidding behavior based on evidence from two adjacent California school districts and research on PLAs and school construction costs in New England.
- **Chapter Five** presents several case studies of PLAs, including a highway project in Utah, an automobile plant in Texas, an airport terminal in Rhode Island and a set of school projects in California. Chapter five tells how PLAs can be used to address specific needs on a project.
- The end of this report contains a list of principal findings.



I. Background

What is a PLA?

Project labor agreements are primarily agreements, so we need to know what is being considered and agreed upon and by whom. PLAs are project-specific, collectively-bargained labor agreements regarding wages, benefits, hours of work and other terms and conditions of employment. On the one side of the agreement is a collection of construction unions perhaps under the leadership of a local construction labor council or some other form of multicraft organization. On the other side of the agreement is usually a project or construction manager representing the interests of the construction user. This contrasts with typical collectively bargained labor agreements in construction where separate craft unions bargain with their corresponding contractor associations about wages and working conditions. Traditional collective bargaining has no specific construction project in mind, and no one at the table controls upcoming work. In PLA bargaining, unions bargain as a group with someone who controls upcoming work.

In typical construction collective bargaining, the electricians might look over their shoulders to see the outcome of the plumbers' negotiations, and the laborers are going to keep in mind what the carpenters are getting. But there is no formal structure or binding agreement in traditional, craft-separated collective bargaining to ensure that the various contracts signed in a local area by the various crafts and contractor groups will have similar holidays, similar hours of work, similar drug testing provisions, etc. or even similar contract expiration dates. A PLA provides the legal structure whereby everyone can (if they so choose) get on the same page regarding all of the issues.

The fact that through the project manager the construction user is on the other side of the table also makes PLAs different. In traditional collective bargaining in construction, contractors are on the other side of the table. Users have something to bargain with that contractors do not have. Users have the work: they have the project under consideration. Individual contractors have to bid to win work. Contractors as a group have a higher prospect of someone in their group winning the project, but if the economy turns sour, chances of getting the job diminish. As long as the project goes forward, the construction user has the work, and on large projects that work could last for years. Through traditional collective bargaining, users bring something of value to the table, something worth bargaining over.

With PLAs, construction users can (and often do) bargain their control of work in exchange for union concessions relative to the existing set of local labor agreements. Rarely do these concessions involve lower wages and benefits. More commonly, in an effort to harmonize the terms and conditions of work across trades, some trades have to make concessions to mirror terms and conditions in another trade's contract. The fact that the user has the work and is willing to provide it in exchange for such concessions may motivate a trade's willingness to compromise on working conditions. Sometimes a user may convince all the trades to make an across-the-board concession in exchange for the job. In one

case, a bridge contractor signed a PLA with the various relevant trades for long term work on a major bridge reconstruction project in exchange for altering all the unions' overtime provisions, so the project could proceed without overtime pay in off hours to avoid backing up traffic. Under traditional collective bargaining with no specific consideration to a specific project, such a concession would not make much sense to any union and to obtain this concession across all unions would be impossible. A PLA made it happen.

In one sense, all PLAs are across-the-board concessionary contracts because, universally, all PLAs have no-strike clauses in effect through the entire duration of the project. For long-lasting projects, these no-strike clauses are meaningful because inevitably in a two or three year period, one or more traditional union contracts will expire, leading to the possibility of a negotiation stalemate and a strike. PLAs take the user's work off the traditional collective bargaining table and insulate it from strikes. This can be very important to the user who has a vital completion date. So the construction user comes to the PLA bargaining table ready to exchange work for harmonized working conditions, occasional project-tailored terms and conditions, and a guaranteed uninterrupted labor supply through the duration of the project. Only PLAs can get all of this done with multiple craft unions, multiple contractor associations and differing contract expiration dates. In short, PLAs bring new players to the table and thus create the possibility of bargaining to new win-win solutions.

What is in a PLA for unions besides various possible concessions? In a word: work. PLA projects tend to be large and long-lasting. In private sector PLAs, the work is what the unions bargain for, and that is what they get because private sector PLAs typically restrict bidding to union contractors. On public sector work, restricting bidders to union contractors usually violates public procurement rules. Nonunion contractors are allowed to bid on public PLA jobs. Nonetheless, when working on a covered project, all contractors (including nonunion contractors) agree to abide by the terms of the PLA as well as any provisions of local agreements that are specifically referred to in the PLA or not limited by the PLA. The means of assuring this compliance by all contractors is a letter of assent the PLA requires.

The following letter of assent comes from a Missouri PLA and is typical:

Pursuant to Article II, Section 1, Paragraph 3, of the above-referenced Agreement, the undersigned contractor hereby agrees that it will be bound by and comply with all terms and conditions of said Project Labor Agreement, and any amendment thereto for this Project only.

This Letter of Assent will remain in effect for the duration of the Agreement, and any extensions, after which this understanding will automatically terminate, except as provided in Article II, Section 6 [concerning repairs and rework] of the Agreement.

As a practical matter this means that all contractors usually agree to use union referral mechanisms (e.g. hiring halls), pay union scale, contribute to jointly administered (i.e. union sector) benefit programs and, in general, operate as union contractors while on a project—whether or not they are usually union contractors. Sometimes PLAs have key worker provisions that allow nonunion contractors to use a limited number of key nonunion workers. Occasionally, nonunion

workers are permitted to apply to the project manager for work rather than go through the union hall. But the basic point is this: through PLAs, unions exchange concessions for work. If the PLA cannot deliver at least most of the work, the construction user has nothing to bargain with.

There are two players not at the PLA bargaining table—the union contractor and the nonunion contractor, both of whom might end up working on a public PLA project. From the perspective of traditional collective bargaining, PLAs are a topsy-turvy world. Usually the union agrees with the contractor, and then the contractor goes out and finds the work. Under a PLA, the unions, as a group, go out and find the work. Wages and benefits are set. Then, on private jobs, union contractors bid for the project and, on public jobs, all contractors willing to abide by the terms of the PLA bid on the project. Union contractors get a level playing field, but that is all.

The other absent player is the nonunion contractor willing to pay the PLA wage rates and abide by the terms and conditions of the PLA. These participating nonunion contractors stand on the sidelines along with the union contractors until the project is let out for bid. Technically, PLAs are prehire agreements because the terms and conditions of work are agreed upon prior to the hiring of workers. But, effectively, PLAs are usually also prebid agreements because the terms and conditions are set prior to any bidding on the project.

And, of course, there is one absent non-player—contractors unwilling to bid on the project because of the terms and conditions of the PLA. These, typically nonunion contractors, may not be able to compete with the higher labor productivity called forth by the PLA wages. They may not wish to expose their key workers to union workers. They may not wish to have their non-key workers go through the hiring hall to get work. They may philosophically object to PLAs. They may have other reasons for not participating. In any case, nonunion contractors' nonparticipation may lower the number of contractors who bid on a PLA project. Alternatively, the presence of a PLA may attract contractors who otherwise might not bid on the project. The effect of PLAs on the number of bidders is an open empirical question that chapter four addresses.

Because PLAs set wages and benefits close to or at the local union rates, PLAs probably encourage contractors to shift towards capital intensive and high skill construction strategies. PLAs may also alter the composition of contractors shifting towards more heavily capitalized firms. Some public entities, restricted in their ability to pre-qualify contractors by public procurement regulations, may be attracted to PLAs, in part, due to the way PLAs probably sort through potential bidders shifting the mix towards more established, capital intensive and skill oriented contractors.

Thus, PLAs are first of all agreements where unions, as a group, bargain for work from construction users in exchange for concessions on strikes and working conditions. Until the PLA is signed, contractors sit on the sideline. Once signed, union contractors know that even their nonunion competitors will have to pay the same wages and benefits. Nonunion contractors may be excluded entirely from private projects but on public works they are still players. Some, however, will withdraw not wanting to agree to the terms of the PLA. Both union and nonunion high-wage/high-skill contractors are likely to be attracted. Whether ultimately PLAs discourage more bidders than they attract is an empirical issue, but some public construction users may be partially attracted to PLAs based on what type of contractor is attracted and what type of contractor is repelled by PLAs.

How are today's PLAs different?

Old-School PLAs

From the first major use of PLAs to around 1980, PLAs were generally restricted to a particular

and relatively unusual type of construction project—the large, long-lasting, typically complex and often rural construction project. Construction users bringing these projects to market faced three problems. First, if the project was rural (such as a hydroelectric dam located where the water was or a coal-fired power plant located where the coal was), the size of the project was likely to overwhelm the capacity of the local construction industry and labor market. By having a PLA, the construction user could create regular and known wages and working conditions needed to attract workers from far away.

Second, if the project was specialized and complex (such as a nuclear facility), the skill requirements of the job might overwhelm the local labor market even in a non-isolated area. A PLA would provide ready access to distant union workers again by establishing appropriate wages and conditions and by invoking the union system of using skilled traveling workers.

Third, if the project was long-lasting (say three or more years), and schedule and completion were important to the user, a no-strike provision in a PLA would insulate the project from labor/management conflict during the bargaining between local craft unions and their corresponding contractor organizations. Whatever work stoppage or lockout might occur through the normal operations of collective bargaining would not affect a PLA project. In short, bargaining impasse would not interrupt the PLA project.

So PLAs for many years were a specialized and relatively rare construction contract designed to obtain a ready and qualified supply of labor to large, complex and long-lasting projects.

Stop-Loss PLAs

In the 1980s, PLAs took on a new role. The downturn in construction in the 1980s was very sharp. Price competition (as opposed to quality or scheduling competition) is most intense when an economy slows and customers are more price-conscious and less concerned about timeliness or even quality. This environment favored nonunion contractors. But in order to keep some of the union sector's biggest and best industrial customers and stop the loss of jobs, PLAs were written that contained wage and benefit concessions. American manufacturers facing severe overseas competition on both price and quality terms needed quality infrastructure built at the lowest price possible. PLAs became a way of delivering quality work at low prices to demanding customers. These PLA-based wage cuts were partially offset by the promise of steady work for an extended period of time during a period when construction work was anything but steady. The PLAs in the 1980s traded lower wages for longer work. Thus, it was possible, in part, because the agreement was with a user who had work to exchange for concessions in wages and conditions.

Market-Share PLAs

In the 1990s, however, the construction economy improved, leading to a decade long boom that has recently slowed but not collapsed. Union workers were working; local union unemployment rates were low, and the attractiveness of trading hourly wages for more assured work faded. But PLAs did not fade. In fact, they proliferated primarily in areas where construction unions were relatively strong but even in areas where union coverage was low. And the new PLAs were often used on more modest projects, such as schools and court houses, and cover renovations as well as new construction.

Two economic conditions (other reasons will be discussed below) converged to lead to the proliferation of PLAs. First, construction labor markets were becoming increasingly tight. Not only was unemployment down, but also apprenticeship training was down. As the nonunion sector proliferated in the 1980s, union apprenticeship programs reduced their enrollments or even in a few

instances shut down. The nonunion sector did not fill the gap, in part, because they were happily harvesting union-trained workers in need of jobs, and because the nonunion sector had not been able to find a viable alternative to collective bargaining to finance apprenticeship training. So construction users were hungry for available and qualified craft construction workers. The Business Roundtable, a group of large construction users, stated in an analysis of skill shortages in construction, "The union sector has always excelled in craft training through the joint labor/management apprenticeship programs...the open shop, as a whole, has not supported formal craft training to the extent necessary." [3]

Second, while the construction economy had recovered and construction union membership was growing, the union share of the construction labor market was either still declining or merely stabilizing, depending on the area. PLAs emerged as a new key instrument for both providing users with an uninterrupted supply of qualified workers and in helping unions to stabilize or expand their share of the construction market.

But why the controversy?

Old-school PLAs were used with little controversy in both the private and public sectors throughout the postwar period—a period during which much of the construction sector was highly unionized. With strong unions, there was a great desire on the part of construction users and contractors to avoid labor disputes and to gain the best economic deal possible relative to local agreements. The climate changed, however, when union market share dropped and construction users and the nonunion sector became better organized.[4] In the new environment, with large nonunion contractors able to compete for all types of work in virtually every state and with the growing strength of a nonunion contractors' association, Associated Builders and Contractors (ABC), challenges to

Two state court cases

To give two examples of state court decisions, in the consolidated case of New York State Chapter, Associate General Contractors v. New York State Thruway Authority (666 NE 2d 185, 151 LRRM 2891, N.Y. Court of Appeals, March 28,1996) the New York Court of Appeals upheld the use of a PLA on the renovation of the Tappan Zee Bridge, but overturned the one attached to the construction of dormitories at the Roswell Park Cancer Institute. In Associated Builders and Contractors of Rhode Island v. Department of Administration (787 A2d 1179, 170 LRRM 2054, R.I. Supreme Court, January 4, 2002) the Rhode Island State Supreme Court overturned a PLA for a new sports facility at the University of Rhode Island.

In the former case, the court held that New York law does not prohibit nor absolutely permit PLAs but does require that there be an adequate reason to apply a PLA to a project and further requires that sufficient analysis be done to determine whether a PLA advances the purposes of the state's competitive bidding statute. For the Tappan Zee Bridge, the Thruway Authority had determined that the need for quick completion and labor peace supported the use of a PLA. The authority also found that it would save over $6 million by using a project agreement (as opposed to operating under local contracts). However, in the dormitory case, the state agency had already begun the project without a PLA. Later, it attached one to the project without doing any serious analysis of

the benefits. The court voided that PLA stating that the agency had failed to "consider the goals of the competitive bidding statute."

The facts of the Rhode Island case are somewhat similar to those of the New York dormitory case. The University of Rhode Island had already begun construction of a $73 million basketball and ice hockey facility. Work on the project involved 34 separate bid packages. Six bids had been awarded with no mention of a PLA. But in the fall of 2000, more than one year into the project, a PLA was signed. Immediately thereafter, fourteen additional packages went out to bid requiring adherence to the new agreement. The Rhode Island Supreme Court found that the PLA violated state law. The court wrote (170 LRRM at 2060):

[We] are of the opinion that an awarding authority may include a PLA as a bid specification in a public contract, but the awarding authority may do so only after it has established that (1) the size and complexity of the project are such that a PLA supports the goals and objectives of the state purchases act, and (2) the record demonstrates that the awarding authority has conducted an objective, reasoned study using reviewable criteria in determining that the adoption of a PLA helps achieve the goals of the state purchases act.

Since the sports facilities were nearly complete, the court let the project go forward and did not award any damages to the plaintiffs.

PLAs became more common. In the past decade, all branches and levels of government have been dragged into the PLA debate.[5] It is probably not an exaggeration to say that ABC has challenged nearly every large public sector PLA that has been proposed during the past ten or twelve years.

However, not all challenges have resulted in the outcome sought by PLA opponents. A watershed event was the 1993 United States Supreme Court decision in the so-called Boston Harbor case.[6] Although the case dealt with the narrow question of whether local public sector PLAs should be preempted by the National Labor Relations Act, the unanimous court decision allowing a Massachusetts water resources board to go ahead with its PLA bolstered the efforts of proponents to seek agreements on a wide range of public projects.

Viewing market-share PLAs as a threat to their members' market position, the ABC and its state affiliates have mounted intensive national and local campaigns to oppose the use of PLAs. This effort has included numerous court cases, media campaigns and lobbying efforts.[7] Most of the legal action since Boston Harbor has concerned bidding statutes and ordinances and if PLAs, since they place conditions on successful bidders and arguably limit the number of bidders, violate either the letter or the spirit of such laws. Court decisions have been mixed.[8] In a number of cases, state courts have refused to overturn PLAs, while in other cases they have found that a particular PLA did violate a bidding statute.

The situation at the federal level, however, is different. One of President George W. Bush's first actions in office was to reverse altogether a Clinton administration's policy encouraging PLAs. On February 21, 2001, the President issued Executive Order 13208 prohibiting the federal government or a construction manager acting on its behalf from placing in its bid specifications any language that denotes the following:

(a) Require or prohibit bidders, offerors, contractors, or subcontractors to enter into or adhere to agreements with one or more labor organiza-

tions on the same or related projects

(b) Otherwise discriminate against bidders, offerors, contractors or subcontractors for becoming or refusing to become or remain signatories or otherwise to adhere to agreements with one or more labor organizations, on the same or related construction projects

The President amended the order on April 6, 2001 to exempt agreements that had already been entered into. And Executive Order 13208 allows successful bidders to enter into PLAs voluntarily, but it prohibits the mandatory acceptance of a PLA as a condition of bidding. The result is that PLAs are not currently being applied to most federally funded projects. This has not, however, slowed their use in the private sector nor on public projects that use only state or local funds. It is not possible to determine precisely how many PLAs are in effect at any time, nor how many are public sector and how many are private sector. However, based on findings in previous research, it is likely that at least three-quarters of PLAs are private sector.[9] Therefore, Executive Order 13208 may have only a small effect on the overall use of such agreements. Nevertheless, market-share PLAs are controversial because they involve a struggle between union contractors, high-wage nonunion contractors and low-wage nonunion contractors over market share in the public sector.

What do we know about the effects of PLAs?

The controversy over PLAs has spurred research on the effects of PLAs on a variety of issues, including the number of bidders on a project, labor costs and final bid price. Unfortunately, much of the research is of low quality and has originated from organizations or individuals with a clear prior position. This research typically relies on anecdotes and spurious comparisons. For example, ABC's Union Only Project Agreements: The Public Record of Poor Performance discusses eighteen projects on which there were cost overruns. Of these, six are described as union only projects but are not PLAs. No attempt is made to compare a sample of PLA and non-PLA projects.[10]

Some of the research, however, is a bit more sophisticated. Two important topics that have been examined by researchers are the effects of PLAs on the number of bidders on a project and the ultimate effect of a PLA on project cost.

PLAs and bidding

The research on bidding can be divided into three categories: studies that compare the number of bidders on PLA and non-PLA projects, those that look at the union/nonunion mix of contractors on PLA projects and those, based on survey research, that gauge the likelihood of nonunion contractors bidding on PLA projects.

The Empire State Chapter of ABC, in studying construction at the Roswell Park Cancer Institute in New York concluded that packages put out to bid without a PLA stipulation received 21% more bids than projects with a PLA attached.[11] Andrews, the General Accounting Office (GAO); and Opfer, Son and Gambatese all examined participation by nonunion contractors on PLAs.[12] Andrews studied the Boston Harbor project and found that nonunion participation was lower than reported by the construction manager. He also found that less than half of the nonunion contractors were supplying construction services, with the remainder involved in material supply or professional services. A study of a project run by the South Nevada Water Authority, Opfer, Son and Gambetese concluded that between 16% and 33% of contractors were nonunion and one percent to 27% of the volume work was done by nonunion contractors. The authors interviewed representatives of two nonunion firms that had worked on the SNWA project but indicated that they would not work on

PLA projects again. Among the problems cited by the firms were jurisdictional disputes among unions, poor performance by union workers and obligations to support union sector benefits funds. The GAO's study found that 86 of 286 contracts on the Idaho National Engineering Laboratory were awarded to nonunion contractors, despite eight of eleven nonunion contractors telling the GAO that they would not bid on the project because of the PLA provisions.

All of the studies cited above have problems. For example, the ABC study failed to account for differences in the types work covered and not covered by PLAs at the Roswell facility, and Andrews's sample is much too small to produce valid, statistically significant results. However, a more important question is the relationship between the number of bidders and project cost. In two studies in New York State, Carr found that project costs fall between 3.2% and 3.8% for each additional bidder.[13] However, Carr's statistics show that his model accounts for only 11% of the variance in project costs, suggesting that a number of possibly critical variables are not included in his analysis. If important variables are excluded, effects may incorrectly be attributed to the number of bidders that when, in fact, other causes are at play.

PLAs affect on bid price

One stream of research simply looks at the direct effects of PLAs on bid price regardless of the number of bidders. Research conducted by the Beacon Hill Institute (BHI) at Suffolk University in Boston has been widely reported. In 2003, BHI conducted two studies of school construction projects in the Boston area. In 2004, it replicated its research in Connecticut. In all of the studies, BHI reported substantial cost premiums associated with PLAs. In the original Boston study, the researchers found that PLAs increased school construction costs by 17.3% or about $31.74 per square foot. A follow-up study on a larger sample pegged the estimate at 14% or $18.83 per square foot. The Connecticut study estimated that PLAs added about thirty dollars per square foot to costs.[14]

More detail resides in later sections; however, in brief, the BHI team did an insufficient job at controlling for variables that affect construction costs. Hence, much of what was attributed of the presence of a PLA is actually explained by other variables, such as project location (e.g. the inner city) and building amenities (heating systems, swimming pools, etc.).

PLAs and human resource outcomes: compensation, strikes, safety and minority employment

Two studies examine the impact of PLAs on wages. In the GAO paper on the INEL project, researchers found that wages on the project were 17% to 21% higher than the Davis-Bacon prevailing wage rates for the area. In a 1997 article, Lyons argued that the executive memorandum issued by President Clinton to encourage the use of PLAs on federal construction projects would raise federal construction costs between 2.3% and 7.2%.[15] In the GAO piece, however, most of the difference was accounted for by the travel allowances included in the agreement, and the critical problem with Lyons's calculation is that he used the national average construction wage as a proxy for the Davis-Bacon rate.

Several studies have addressed the complaint by nonunion contractors that PLAs force them to pay into the union sector benefits funds while maintaining their own pension and health care plans.[16] Lund and Oswald point out, however, that this argument may be more theoretical than actual, since many nonunion workers lack any benefit coverage.[17] Either their employers do not offer coverage, or the short tenure of nonunion workers precludes their participation in benefits' programs. It is also the case that participation would be gov-

erned by the PLA and could vary from agreement to agreement (see, for example, the Toyota agreement discussed in Chapter Five).

A central feature of PLAs is the inclusion of a no-strike/no-lockout clause. In research done by Johnston-Dodds in California, 26 of 59 reviewed PLAs contained blanket no-strike provisions, while the remaining 33 allowed strikes only in the event of contractor delinquency in payments to joint funds.[18] PLA proponents champion such provisions as an important element in raising certainty on construction projects.

Opponents discount such provisions on several grounds. First, they note that no-strike provisions have been violated (though proponents counter that dispute settlement procedures have been highly effective in quickly resolving problems). Second, PLA opponents point to the generally low strike rates in construction today. And, finally, they note that such disruptions are rare on nonunion worksites.

Available research on safety is, for most part, restricted to two case studies: work done by Dunlop on the Boston Harbor project and Opfer, Son and Gambatese's work on the SNWA project.[19] Dunlop found that lost time incident rate on the Boston Harbor Project was 4.1 while the national average for heavy construction was 6.2. Further, the lost workday incident rate was 134.7 for Boston Harbor versus a national heavy construction rate of 150.4. Opfer, Son and Gambatese, however, found contrary evidence when examining the SNWA project.

Finally, the research on minority (including female) employment is also sketchy and primarily anecdotal. PLAs have been opposed by a number of minority contractor associations. However, membership in such associations is likely dominated by nonunion firms. In additiong, ABC argues that the emphasis placed on minority employment by PLA proponents is designed to "deflect criticism of unionized construction emanating from minority and women's groups."[20] Johnston-Dodds provides perhaps the most interesting description of a minority employment program in her description of the Port of Oakland, California PLA.[21] The agreement included a small/local business utilization program and a local hiring program, which provided for set-asides and targets for minority contractor and worker participation. The PLA also called for a social justice committee to oversee implementation of the minority hiring provisions. The social justice components of the PLA were supported by a contribution of up to $1.15 per hour for all work done under the PLA. Although some difficulties were mentioned in meeting some of the PLA's goals, the report does not contain an analysis of the overall effectiveness of the program.

Conclusions

A PLA is an agreement between a multicraft set of labor unions and a construction user represented by the project manager or some other agent qualified to sign a labor agreement. Bringing new parties to the table—a user who controls work and a combination of unions who can collectively harmonize their local labor agreements—creates new bargaining possibilities, and new win-win solutions become possible. PLAs fall into three historical categories.

Old School PLAs were dominant from WWII to around 1980. They were large, long-lasting, often technical or rural projects that needed to draw workers from long distances and proceed uninterrupted by strikes in an environment with widespread unionization. PLAs set the wages, conditions, traveling arrangements and no-strike clauses that made these goals possible.

Stop-Loss PLAs emerged in the 1980s in response to stagnation in the construction labor market and loss of work to the nonunion sector. These concessionary PLAs granted primarily to large industrial owners discounted local union wages and benefits to preserve work. Neither PLA was particularly controversial for its time except for

those union members who objected to the concessions embedded in Stop-Loss PLAs.

Modern Market-Share PLAs are applied to a wide range of private and public projects attracting owners based on new win-win possibilities associated with a new bargaining table. Market-Share PLAs are controversial because these contracts serve as weapons in the struggle between union and some nonunion contractors (those who cannot or will not compete for PLA work) over market share.

While most PLAs are on private work, the controversy over PLAs is focused on public work: if a private owner wishes to sign a PLA, there is no public policy that would stop the owner doing so. Consequently, the debate is over whether PLAs are good for the public sector. Thus far, most of the debate has been on whether PLAs raise public construction costs. Analytically, this is a delicate argument to make because most Market-Share PLAs exist where unions are strong and public works require prevailing wages and those wages (and benefits) tend to correspond to the wages and benefits required by PLAs. So the argument must be that PLAs restrict bidders, thus reducing competition and raising prices. The problem with this argument is one need only about half a dozen bidders to get the full effect of bidding competition on prices. Furthermore, research to date only looks at whether nonunion contractors are discouraged and not whether union or high wage nonunion contractors are attracted by PLAs. In short, we do not know whether or to what extent PLAs discourage bidding. Nonetheless, some research has argued that PLAs raise total costs on prevailing wage jobs by around 15%. This is not only a surprising result because it cannot be derived from increased wages, but also because labor costs as a percent of total costs typically is around 30% in construction.

Readers should not be dismayed at the preliminary, incomplete, and often inadequate results of research on PLAs. This field of research is young, and from the heat of current controversy there may yet emerge information. Some of the problems with prior work simply reflect the inherent difficulties with this type or research (e.g. getting adequate data, comparing very different projects). In other cases, results are compromised by low quality research, including poor statistical modeling. Perhaps the most disheartening weakness is that some studies simply attempt to support a previously held position, with findings merely leading to a foregone conclusion. Nonetheless, this research literature will mature, become more sophisticated and solve some of its methodological problems, and thoughtful conclusions will drive out preconceived notions. This study is an attempt to contribute to that maturation process.

2. The Content of PLAs

Before analyzing the effects of PLAs, the contents require explanation. There are two model agreements adopted by the AFL-CIO's Building and Construction Trades epartment and approximately one hundred actual PLAs covering projects in 17 states.

Two categories of PLA provisions are clearly designed to promote cost savings on projects. The first category primarily includes compensation concessions on wages, benefits, premium pay and pay for time not worked (e.g. breaks). The second type of provision seeks to contain cost by enhancing productivity by relaxing work rules, minimizing crew sizes and restricting the introduction of new technology, among other things.

Cost containment provisions

Wages

Direct wage concessions in PLAs are rare. Most PLAs simply incorporate the wage schedules from local collective bargaining agreements. These are usually called Schedule A agreements, with Schedule A being the first contract appendix. However, a PLA occasionally will call for a trades' more favorable wage schedule to be used (e.g. residential rates on a commercial project). Less common is a separate wage schedule with different pay rates and different timings for pay increases.

Though rare, across-the-board wage concessions are possible and were more common during the recession of the early 1990s. A PLA for a building project at a private college in Rhode Island, for example, stated that "All employees covered by this agreement shall be classified in accordance with work performed and paid at the rate of eighty percent (80%) of the base hourly wage rates for those classifications..."

A more common concession is a wage freeze for the life of a project. A Connecticut PLA read, "The wage rates will be frozen as of September 1, 1998 for the remainder of the project. Fringe benefits shall not be frozen during this period."

Premium pay

PLAs often limit the types of premium pay available on a project. A New Jersey PLA allowed for reporting and call back pay but otherwise held "there shall be no premiums, bonuses, hazardous duty, high time or other special payments of any kind." Similarly, overtime may be limited. A Connecticut PLA called for time-and-one-half to be paid after "ten hours worked in a day or forty hours worked in a week." Area agreements required premium pay after eight hours of work.

Benefits

We discovered two approaches in PLAs to limiting benefits' costs. Most common, PLAs restrict the payments required of contractors to those funds that directly benefit employees. An Oregon agreement stated that "The employer shall pay only fringe benefit funds for employees (such as pension, health and welfare, vacation, apprenticeship and the like) that have been legally negotiated and established by the applicable collective bargaining agreement...This expressly excludes any and all Industry Promotion Funds, Contract Administration Funds, Contractor-Union Management Funds, Craft of

Industry Alliance of Associations."

A clause in a New England PLA limited premium contributions (for most trades) to the straight time rate, regardless of whether work was being performed at straight time or premium rates.

Pay for time not worked

A clause from a New York PLA stating, "There will be no rest periods, organized coffee breaks or other non-working time established during working hours" is typical. Some PLAs specifically allow workers to bring beverage containers to their workplace for brief individual pauses. Except for lunch breaks, pay for time not worked is often limited by PLAs.

Work rules

PLAs generally include broad proscriptions on practices that would, in any way limit productivity. Consider the following two sections from an Indiana PLA:

Section 1: There shall be no limit on production by workers nor restrictions on the full use of tools and equipment. There shall be no restriction, other than may be required by safety regulations, on the number of employees assigned to any crew or to any service. ...

Section 7: The Union will not impose conditions which limit or restrict production or limit or restrict the joint or individual working efforts of employees. The Construction Contractor may utilize any method or technique of construction, and there shall be no limitation or restriction regardless of source or location of machinery, precast tools, or other labor-saving devices, nor shall there be any limitation upon choice of materials and design.

Provisions effecting scheduling

As the interview portion of this research reveals, one of the primary reasons that construction users agree to PLAs is their effect on scheduling. It is particularly significant when a project has a tight deadline, such as completion before the start of a school year or sports' season. Nearly all PLAs include in the preamble some mention of the need for timely completion. This mention may be general or very specific.

As well, PLAs usually reconcile the often disparate work schedules of the trades. PLAs specify standard start, quit and break times, and most PLAs note a uniform set of holidays. The following language is from a Minnesota PLA and addresses a number of scheduling issues.

Article VIII
Hours of Work, Overtime, Shifts and Holidays

8.1 The regular forty (40) hour work week will start on Monday and conclude on Friday. Eight (8) consecutive hours, exclusive of a one-half (1/2) hour lunch period, between 7:00 a.m. and 5:00 p.m. shall normally constitute a work day. The starting time of the Work may be changed within these hours by the Employer upon notification to the Union to take advantage of daylight hours, weather conditions, shift, or traffic conditions. It is understood that all work performed in excess of eight (8) hours per day shall be considered overtime. Starting time may be adjusted up to one (1) hour prior to 7:00 a.m. with mutual consent of the Union and Employer.

8.2 At the scheduled starting time, all employees will be at the place where they pick up

their tools or receive instructions from their foreman. They shall remain at their place of work under the supervision of the Employer until the scheduled quitting time. There shall be no practices that result in starting work late in the morning or after lunch or in stopping work early at lunch time or prior to the scheduled quitting time. Coffee breaks will be limited to ten (10) minutes and shall be taken in close proximity to the Employee's Work Station. The parties are in accord that the intent of the Agreement is a "fair day's work for a fair day's pay" and Work should be managed in such a manner to enable the Employer to maintain and increase efficiency consistent with fair labor standards.

8.3 When employees leave the Work on their own accord at other than normal quitting time, it is their responsibility to notify the Employer. Employees will be paid only for actual hours worked.

8.4 The Employer shall determine the recording devices, checking systems, brassing or other methods of keeping time records on the Work.

8.5 An effort will be made to keep overtime work to a minimum but when such is judged necessary it will be worked at the direction and discretion of the Employer.

8.6 All overtime to be paid at time and one-half except on Sunday and Holidays which will be paid as specified in Local Union Bargaining Agreements

8.7 All employees shall be paid for actual time worked. The Employer shall have sole responsibility to determine availability of work due to weather conditions.

8.8 Shift work may be performed at the option of the Employer. In the event the second or third shift of any regular work day shall extend into a holiday, employees shall be paid at regular shift rates. Shift work shall be paid as specified in local collective bargaining agreements. When so elected by the Employer, multiple shifts of a temporary basis, shall be worked the number of consecutive days required by the Local Union Bargaining Agreement.

8.9 Uniform holidays for the Agreement are as follows: New Year's Day, Good Friday, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, the Friday after Thanksgiving, Christmas Eve Day and Christmas Day. If any of these holidays fall on a Saturday or Sunday, the preceding day, Friday, or the following day, Monday, shall be considered to be a legal holiday. A holiday shall be a 24-hour period commencing with the established starting time of the day shift on the date of the holiday.

8.10 When work is to be performed in controlled areas, the Employer may elect to have the employees take two (2) one-half hour breaks instead of two (2) ten minute coffee breaks and a one-half hour lunch period.

No-strike/no-lockout and dispute settlement provisions

Perhaps most importantly, PLAs insulate work on a project from disruptions that might occur because of labor relations issues or grievances.

Some no-strike/no-lockout provisions are very broad and preclude all types of actions. Others provide a narrow exception that allows striking if a contractor is delinquent in its payments to benefits' funds. The BCTD model PLA allows for disciplinary action—including ineligibility for rehire for ninety days—for any individual who violates the no-strike provision.

To ensure that disruptions do not occur or are dealt with swiftly, PLAs often contain several types of dispute settlement mechanisms. First, many PLAs, following the BCTD model, have a three step grievance procedure ending in binding, neutral third-party arbitration. This procedure handles typical complaints of contract violations. Second, PLAs often have some method of resolving jurisdictional disputes. Most PLAs simply refer matters to the BCTD's plan for the settlement of jurisdictional disputes in the construction industry. Some, however, contain their own procedures for resolving such disputes, particularly for cases where a non-BCTD union or employer who does not agree to use the plan is involved. Clear language in the scope of work provision and requirements for pre-bid or pre-job conferences are also ways of avoiding jurisdictional problems.

Many PLAs also have expedited procedures to handle job actions if they do occur. Typically, an arbitration hearing is held quickly with an immediate finding as to whether a job action has taken place. If one has, injunctions are authorized and penalties may be handed out to the offending individuals, unions or employers.

Safety, training and minority employment

All of the PLAs reviewed for this research mention the need to adhere to safe work practices. In some cases, these are fairly brief statements calling for adherence to contractor's safety rules and OSHA or state safety regulations. Drug testing policies are also a nearly universal item.

It is not uncommon, however, for safety clauses to be much more highly-developed and include, among other things, labor/management committees and mandatory testing on safety protocols. Rather than being included in the PLA itself, a project safety plan is often a separate document altogether.

Since PLAs typically cover large projects that last for several years, they provide excellent opportunities for training initiatives. Changes in the journeyman/apprentice ratio, the inclusion of pre-apprenticeship programs and even programs to set aside a portion of worksite for training are possibilities. An Indiana PLA, for example, stated that apprentices and non-journeymen may be "up to forty percent (40%) of a craft's workforce...unless the local collective bargaining agreement establishes a higher percentage."

A New York PLA provides a good example of a pre-apprenticeship program. In this case, pre-apprentice opportunities were provided to "students of the City of Buffalo's Vocational High Schools." The PLA stated that students "shall perform 'hands-on' work in the following trades: carpentry/drywall, taping, interior finishes/painting, electrical, plumbing, communication and low voltage cabling, masonry, HVAC, finish carpentry work and fire protection.

An extraordinary training program was part of the PLA for British Columbia's Island Highway. The centerpiece of the effort was the Hindoo Creek project, a section of highway built by trainees. As reported by Cohen and Braid, "Time spent on the job was strictly on actual production. 'I wasn't just pushing barrels around from one side of a training yard to another,' one trainee explained, 'I was doing real work.'" [22]

The Hindoo Creek project was part of an effort to recruit women and minorities into construction.

Targets and local hiring initiatives are also means of increasing minority participation under PLAs. A Connecticut PLA, for example, required that local residents be given first hiring preference, followed by those in neighboring communities. A New Jersey PLA stated that "up to 50% of the apprentices placed on this project shall be first year, minority, women or economically disadvantaged apprentices as shall be 60% of the of the apprentice equivalents..."

Critical miscellaneous provisions

Several other distinctive aspects of PLAs deserve mention. The Scope of Agreement provisions are highly detailed in PLAs. In order to avoid conflicts over what work the PLA covers and does not cover, the PLA project must be well defined. The following is an example from the Boston Harbor project.

The Management Rights clause in nearly all PLAs includes the rights to "hire, promote, transfer, layoff or discharge for just cause." The latter part of the provision bears special notice, since many local agreements in the construction industry do not include a just cause provision. However, these are typical in PLAs and balance with the dispute settlement procedures as a means of resolving just cause issues.

PLAs generally require all contractors on a project to use the referral system that is specified in the PLA or those included in local agreements. Some PLA referral mechanisms allow nonunion contractors to bring some of their own workers onto a project. These are called core personnel, key man or drag along provisions. For example, a western New York State PLA provides an illustration. It read, "In addition, the Contractor may hire, per craft, five (5) journeypersons referred by the affected trade or craft and may the hire one (1) core employee as a journeyperson who has been regularly employed by that Contractor for a reasonable time."

Such Project is generally described as the construction of the following:

1) Primary, secondary and residual wastewater treatment facilities on Deer Island
2) Head works on Nut Island
3) A tunnel under Boston Harbor from Nut Island to Deer Island
4) An outflow tunnel eastward in the Atlantic Ocean from Deer Island, including the installation of diffusers
5) Related facilities, which include, as necessary the following:
a. Site preparation, demolition and/or rehabilitation of facilities now located on the site
b. Designated materials and personnel loading and unloading and staging sites dedicated to the Project
c. Transportation systems in and around the Harbor for personnel and materials
d. Installation of materials necessary for the Authority's Deer Island facilities, not otherwise undertaken by public or private utility organizations, in the town of Winthrop
6) The interim and permanent sludge treatment plants at FSRA
7) New construction/rehabilitation work for the Authority's current operating facilities on Deer Island and Nut Island awarded after the effective date of this agreement

Finally, the term of agreement or duration clause is critical. Such clauses are much more complex in PLAs than in local agreements. Rather than the typical three or four year termination dates, PLAs must have detailed language concerning a project's completion. Without such language, disputes may arise as whether subsequent work is covered by the PLA. The following illustration comes from a Nevada PLA and shows the detail of such clauses:

ARTICLE XVIII
DURATION OF AGREEMENT

The Project Labor Agreement shall be effective on the date approved by the [owner], the Union and the General Contractor and shall continue until final acceptance, as defined in Section 1(b) of this Article, of the Project construction work described in Article II hereof.

Section 1:

(a) Turnover. Construction of any phase, portion, section or segment of the Project shall be deemed complete when such phase, portion, section or segment has been turned over to the Owner by the Contractor and the Owner has accepted such phase, portion, section or segment. As areas and systems of the Project are inspected and construction tested and/or approved by the Construction Manager and accepted by the Owner or third parties with approval of the Owner, the Agreement shall have no further force or effect on such items or areas, except when the Contractor is directed by the Construction Manager or Owner to engage in repairs or modifications required by its contract(s) with the Owner or Construction Manager.

(b) Notice. Notice of each final acceptance received by the General Contractor and/or Contractor will be provided to the Union with a description of what portion, segment, etc. has been accepted. Final acceptance may be subject to a 'punch list', and in such case, the Agreement will continue to apply to each such item on the list until it is completed to the satisfaction of the Owner and Notice of Acceptance is given by the Owner to the General Contractor and/or Contractor.

(c) Termination. Final Termination of all obligations, rights and liabilities and disagreements shall occur upon receipt by the Union of a notice from the General Contractor or the Owner saying that no work remains within the scope of the Agreement for the General Contractor or its successor.

(d) Releases/Waivers. Any and all releases and/or waivers shall be provided to the Owner.

A PLA checklist

The following table provides a comprehensive checklist of items for negotiators of PLAs. However, the list should not be a substitute for the important needs on a specific project. As chapter five states, the strength of PLAs is the ability to address these needs. The initial questions negotiators should ask are: What are the important issues on this project (e.g. cost, scheduling, safety, etc.)? How can the PLA be structured to handle these issues?

Table 1: A PLA Item Checklist

1. Purpose

- If there is a specific date by which the project must be completed, is it included?
- Is the need for harmonization of hours and the stabilization of wages mentioned?
- Is the need for the maintenance of labor peace mentioned along with a dedication to the mutual resolution of disputes?
- Does the clause contain a no-strike/no-lockout statement?

2. Scope of agreement

- Is it clear that the PLA is intended only to cover construction work?
- Is work that is not included clearly stated?
- Are the various projects and geographic parameters of the site well-defined?
- Does language address site preparation and/or dedicated off-site work?
- Does the clause clearly state that all contractors, of whatever tier, must accept and be bound by the agreement through a letter of assent?
- Does the agreement clearly state that the property owner's employees are not covered and the PLA does not create joint-employer status?
- Is there a supremacy clause stating that the PLA supersedes all other agreements?

3. Union recognition

- Are the signatory unions recognized as the sole and exclusive representatives of all craft employees?

4. Management's rights

- Is management specifically given the right to hire, promote, transfer, lay off or discharge employees, subject only to the provisions of the Agreement?
- Is just cause protection granted?
- Are restrictions of output, crew size or the introduction of technology prohibited?

5. Referral of employees

- Do signatories agree to use the referral procedures maintained by the unions?
- Is there a provision for unions that do not have an established referral system?
- Is there a non-discrimination clause in the agreement?
- Is there a period (e.g. 48 hours) after which contractors may seek labor from other sources if the

union is unable to fulfill a request?

- Is there language relating to the appointment of foremen?
- Does the agreement allow for testing or evaluation for those who require special skills?
- Is there a "key man" or core personnel provision?
- Is there a clause that prohibits the union from reassigning project employees to another site?
- Is there a provision for the reemployment of individuals who quit or are terminated for cause (e.g. ineligibility to return to the site for 90 days)?

6. Apprentices and trainees

- Is there language about the employment of apprentices?
- Does the PLA allow for a uniform journeyman/apprentice ratio?
- Are helpers, trainees, or other subjourneymen allowed on the project?
- Is the ratio of these other trainees defined?
- Are apprentice or trainee wages defined in the PLA?
- Does the PLA establish any special program for the recruitment or training of apprentices or other trainees (such as minority or female targeting, a school-to-work program, etc.)?

7. Wages and benefits

- Does the PLA contain any direct concessions on wages?
- Does the PLA contain any direct concession on overtime pay?
- Does the PLA limit forms premium pay, such as travel time, high time, etc?
- Does the agreement limit the joint funds to which contractors must contribute?
- Does the agreement limit amounts to be contributed to straight time wages?

8. Work rules

- These are unique to each project, but may include such matters as rules on the use of equipment, smoking, absenteeism, etc. Often this section is used as a residual category for items that do not fit easily into other sections.

9. Work stoppages and lockouts

- Is there strong language prohibiting strikes and lockouts, as well as other types of job actions (e.g. slowdowns)?
- Is striking allowed over certain matters, such as delinquency in payments to joint funds?
- If striking is allowed, is it limited in any way (e.g. must not be accompanied by picketing, handbilling, etc.)?
- Is notice required for striking?
- Is there a procedure for determining if a proscribed job action has occurred and for enforcing the no-strike/no-lockout clause?

10. Grievances and arbitration

- Does the agreement contain a grievance and arbitration procedure?
- Are arbitrators named in the PLA?

- If not, is the source of arbitrators (e.g. AAA, FMCS) defined?
- Does the agreement define the types of disputes or grievance that are subject to the procedure?
- Are exceptions made to the grievance/arbitration procedure for industries that have their own settlement procedures?
- Is the procedure, including the number of steps and individuals involved, clearly defined?
- Is the employer allowed access to the grievance procedure?
- Are limits to the arbitrator's authority defined?

11. Jurisdictional disputes

- Does the PLA reference the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry?
- Is a provision made for parties that are not stipulated to the Plan?
- Are pre-job conferences required to work out jurisdictional issues?

12. Union security

- Is there a requirement to join the appropriate union within the statutorily defined period of time?
- Is there a maintenance of membership provision?
- Is an exception made if the project is in a "right-to-work" state?

13. Union representation

- Is provision made for access to the project by union officials?
- Are the rules for union access defined?
- Are rules governing stewards defined?

14. Hours of work

- Is the workday defined?
- Are hours of work standardized across crafts?
- Are break times defined?
- Are any statements about overtime or overtime distribution included?
- Are there provisions for shift work and/or flex time?
- Are uniform holidays specified?
- Are rules concerning the celebration of holidays that fall on weekend defined?
- Is there a provision for make-up time?

15. Subcontracting

- Is subcontracting restricted to those willing to sign a letter of assent?

16. Safety and health

- Are any special safety programs or safety committees specified in the agreement?
- Are employees required to receive special safety training or be certified in particular safety procedures?
- Is a drug and alcohol abuse monitoring or prevention program specified?
- Is immediate dismissal allowed for safety violations?

17. Saving clause

- Does the clause preserve the contract if any particular provision is voided by a court of law?
- Does the clause require the parties to negotiate a substitute agreement for any provision voided under law?

18. Term of agreement

- Are the start and end dates of the project clearly defined?
- Is there a provision for rework or a contractor's subsequent involvement with the project?

3. Interviews

It was essential to hear from individuals with experience with PLAs. The research team interviewed approximately forty people who shared a variety of thoughts. It spoke with both public and private construction users, contractors, contractor association representatives, labor union officials and two labor/management committee executive directors. Interviews were conducted in southern New England, the northern Midwest, and the West (mainly California). To comply with rules for research including human subjects, the names of the interviewees are not revealed. Below we discuss positive and negative comments about PLAs, suggestions for when a PLA should or should not be used and ideas for improving PLAs.

Positive comments

Favorable comments about PLAs came mainly through questions about how PLAs affect costs, scheduling, safety, training and minority employment.

Scheduling

Interviewees seemed most convinced that the greatest benefit of a PLA was in assuring timely completion of a project. Foremost, PLAs nearly guarantee a steady flow of qualified labor. A New England contractors' association representative (who was generally ambivalent about PLAs) said, *"If a nonunion contractor needs labor, he will have to put an ad in the paper and hope he gets people to apply. But the unions have a national network of referral and hiring halls, and a contractor can nearly always get qualified labor."*

"Anything above five to eight million dollars we will go to a project labor agreement because we find it a more effective management tool...Basically it's the labor pool, the supply of labor, the quality of the workmanship. In my experience we have had some jobs that had both union and nonunion contractors on them and from the point of view of the lump sum delivery of the job it was tough to manage. So from an owner's perspective it's a more effective management tool."

The construction manager of an Ivy League university

Similarly, the construction manager for an Ivy League university stated:

Anything above five to eight million dollars we will go to a project labor agreement because we find it a more effective management tool...Basically it's the labor pool, the supply of labor, the quality of the workmanship. In my experience we have had some jobs that had both union and nonunion contractors on them and from the point of view of the lump sum delivery of the job it was tough to manage. So from an owner's perspective it's a more effective management tool.

In my experience, on our union (i.e. PLA) jobs we have never missed an opening date, and it is all driven by the academic schedule...We need to deliver this building by May 2006, and I get a better level of assurance building with a PLA.

The manager also noted that scheduling depended not only on getting qualified workers, but on keeping them working. Hence, the dispute settlement provisions of PLAs are also important. He added, *"The only [job] action we had*

where we had a problem was on an open shop job. Generally PLAs will protect us from that type of action."

The director of a hospital in the Midwest also noted the advantages of getting a quality workforce and being free from work disruptions:

Having an IMPACT agreement [i.e. a PLA] gave us peace-of-mind throughout all phases of the project. A new facility was a dream of our volunteers, board members and staff for many years. The planning phase was lengthy and thorough. Once we entered the construction phase, time was a crucial issue. The IMPACT agreement assured us of the full cooperation of the building trades. There were no work stoppages, and job harmony made for a project completed in a timely manner.

In the West, a public sector owner also commented on the scheduling advantages of a PLA, while noting the cost advantages of assuring quality:

With the PLA, we finish on time, no interruptions or delays associated with disputes. It isn't just the dollar figure. When I put up a building, I stand back and take pride in it. When I see lousy work, I get angry. It isn't a question of it costing us five dollars an hour more. My community wants their school buildings put up properly, and they want them to last and not to have to come back and fix things because somebody was not properly trained. The PLA saves us money on the final cost, which matters more than the bid price.

"The PLA saves us money on the final cost, which matters more than the bid price."

A Western public sector construction user

Adding some detail to concerns about scheduling, a public sector construction user in New England talked about assuring a proper flow of work on a project:

Delays in the project are what cause some of the most significant issues because it put trades out of schedule. They may have to go to another job. Then when you throw them off, you throw off the others...So in order to have the right order and to have people in the different trades, when they look across, say 'we know they do good work. If somebody is falling a little bit behind, let's work with them. Let's figure out a way we can move on, and let's resolve any issues.' That aspect of PLAs was very appealing to the building committee.

"The biggest advantage is knowing that once a job starts it's going to stay working. It's not going to be affected by these external things that, for example, could affect you in local negotiations."

Training and minority employment

Several interviewees remarked that PLAs enhanced training and fostered minority participation in the trades. A Boston area union official told us:

We have made provisions for intake of certain people from communities into our programs to give them a direct access. It could be a project where the school committee says, 'any chance our young people might have a shot of getting into the training programs?' and we will write something in...One thing we talk about in the PLA is getting the kids and actually putting them in our training program, so in three or four or five years they're actually a journeyperson, as opposed to just throwing them on the job site for a few months, and then they're gone, and

"You can't have delays [on school projects], and one of the things that PLAs give you is the ability to get the workforce."

The thoughts of two New England union officials

they don't learn anything... We give them more of a committed career path as opposed to just giving them a part-time job for the summer.

[On one project] there was an agreement in order to take in minority, women, disadvantaged kids into the industry, the building trades set up a pre-apprentice program... They put 200 or 300 kids through the program every year. It's a six month program, so they do two a year. Those kids are then moved into the apprentice program if they want... The six month program is really to give them a sense of what construction is as a career. But those that want to pursue it, they go into the apprentice programs, and they're off and running from there.

A New Haven area union official added:

[The city] had done a lot of projects without PLAs, but the PLA projects invariably came in on time and on budget and, two, they demonstrated, as contrasted with the non-PLA jobs, a clear superiority in numbers in terms of [city] residents and minorities...and they still came in few cents per square foot cheaper than the other jobs.

For the larger cities, it's important to them that they get local residents and minorities and women, and we demonstrate to them the successful programs that we've implemented within PLAs in other areas. The state projects, and even a lot of the local projects, it's important for them to understand that the PLA is the only way you can really guarantee a local workforce. In the public sector any person can bid, and the successful bidder can bring his workforce from wherever he so chooses, and we've seen people coming in from Arkansas, Texas and Maine. The PLA doesn't prevent anyone from bidding the project. All it says is that the successful low bidder is going to employ local building trades people. And we've done things in those agreements to give local residents a first off the bench hiring preference. We guaranteed one community ten apprentices into the trades during the building project.

Safety

Even some of the skeptics we interviewed said that PLA covered jobs were marked by a heavy emphasis on safety. Some, like the following interviewee, linked safety performance to the labor/management committees found in many PLAs:

Under the PLAs, more so than absent a PLA, there is usually more emphasis on safety and more so, there is more emphasis on joint participation around safety. On almost all the agreements, we insist there be a joint safety committee formed for this project so that on a regular basis, once a month, the agents get together with the stewards and contractor and talk about safety related issues. Now, on the private side, something like this is very demanded, and it is starting to come more and more from the owners, even if we had [started] it initially. On the public side it's asked for less often by the construction manager, but we think it is an advantage.

A contractor's representative stated: *"A contractor can't say 'I can't afford to buy a harness' or lanyard or whatever on a PLA project. The costs are built into the bid process, since they are required on the PLA."*

> *"Under the PLAs, more so than absent a PLA, there is usually more emphasis on safety, and more so, there is more emphasis on joint participation around safety."*
>
> *A Boston area labor official*

Costs

Since concessions on compensation are rare in today's PLAs, few interviewees made mention of direct cost savings. Rather, savings were implied through better scheduling, higher quality, etc. One interviewee, a union official, commented:

You know time is money, too. I think the PLA jobs—at least the one hundred percent union jobs—are better scheduled and usually come out ahead of schedule, and I think because of that there is a lot of value added.

An interviewee in the West offered an interesting take on PLAs and costs:

When the union brought the PLA to me, I didn't like it. I don't like anybody dictating what the terms of my project should be. But after I stepped back and talked with other people and after rereading the PLA, I saw the pony in the coral. Low ball bids are not necessarily a great deal. A way-low bid probably means somebody missed something. With the PLA we now have in place, we have a more experienced group of bidders providing a much closer range of bids compared to the mom and pop organizations that were bidding on our projects previously. By law, we have to accept the lowest responsive and responsible bid. [The] mom and pop organizations come in thinking they can take on a major project, and they lose their shirts. Contractors have left. Contractors have been fired. Contractors have gone broke on our projects. Those are things we don't want to get into.

The traditional low-bid approach to awarding public school jobs rewards stupidity. Let's say a project entails three parts—A, B and C. Everybody bids on A, B and C except Stupid. Stupid is stupid, so he doesn't see the third part. So Stupid bids only thinking about A and B. Guess who's the lowest bidder? Stupid! Now Stupid starts the work. The summer goes along. School's coming and the project has got to be completed. Now Stupid sees the third part of the project, but Stupid doesn't have the money to get it done. So Stupid comes to me and asks for change orders. Now he has no business asking for change orders. We could fire him; we could sue him; we could go after his bond. But like I said, school's coming. The kids have to have somewhere to go. So we bite the bullet and pay Stupid his change order. We reward Stupid for being stupid. It's stupid! PLAs cut through this crap by either chasing Stupid out of the game or getting him to pay attention.

"The traditional low-bid approach to awarding public school jobs rewards stupidity...PLAs cut through this crap by either chasing Stupid out of the game or getting him to pay attention."

A Western public sector construction user.

General comments

Construction users in a Midwest city offer a couple of comments that do not easily fit in a category are offered by construction users in a Midwestern city. In the area, a labor/management committee developed a model PLA known as an IMPACT agreement. A hospital and museum official offered us the following comments on the advantages of using the agreement:

Having an IMPACT agreement facilitated a positive partnership between [the medical center] and the subcontractors who worked on our 7th Street campus project. It gave us the assurance of quality workmanship with stringent safety and production standards. We had confidence in a stable, reliable workforce that completed the project on schedule. We were very pleased with the teamwork on our campus and with the benefits gained from our IMPACT agreement.

At [this organization], we know that success is found in uniting the talents of many and building strong relationships. Our IMPACT agreement has been a critical relationship in our effort to build the institute and advance the cardiovascular health of our community. We take pride in being the Quad City's very own health system. Relying on the talents of local people who share a stake in the Quad Cities

only makes sense and has always brought us tremendous results.

The $14 million construction of the museum's IMAX Theater created numerous challenges as we nestled a 38,000 square foot addition between two existing facilities, while continuing to invite the public to participate in a full range of educational programs and exhibitions on Museum Hill. There is no question in my mind that the IMPACT agreement enabled us to achieve our construction time line.

The successful presentation of IMAX films requires a high degree of precision and attention to detail in the construction process. The complex includes a 270 seat auditorium with its centerpiece of a five story-high, seven story-wide flat screen. The talents and dedication of the highly competent workers employed through the IMPACT agreement enabled us to prepare the building to accept the highly technical IMAX equipment. We are assured that the Quad Cities will have one of the finest large format theaters in the nation.

The men and women who worked on this project took pride in their work and shared the excitement of bringing this spectacular new attraction to the region. We look forward to seeing them come back to enjoy the product they created for all of us to enjoy for many years to come. The IMAX Experience will be another point of pride for everyone in the Quad Cities.

Negative comments

Not all comments about PLAs were positive. And, in fact, nearly all interviewees had some criticisms of their use or overuse.

The effect of PLAs on local labor relations

The strongest negative comments about PLAs were not about their impact on construction outcomes, but rather on how PLAs affect local labor relations. Three respondents from a large Midwestern city told a similar of how PLAs had emboldened building trades unions to seek larger than normal bargaining settlements. Since a majority of workers in the area were covered by the no-strike/no-lockout provisions of various PLAs, they did not fear the consequences of a job action and were not, therefore, as willing to compromise their bargaining position. The result was, in the opinions of our interviewees, an overgenerous settlement with electricians that then spread to other trades.

Subsequent negotiations with the plumbers and pipefitters resulted in strike, under local agreements, of seven weeks. Although work continued on PLA projects, it slowed as traveling workers—at the first hint of labor troubles—left the area, making it difficult for the union to staff PLA jobs. Although the owner and employers were able to find sufficient labor, in part by shifting labor from less urgent work, the situation was viewed as burdensome and not in keeping with the commitments made by labor in the PLA.

The interviewees believed PLAs covered too much work in one area. This, in turn, led to greater worker militancy arising from a lowering of the consequences of such militancy. More expensive and more difficult local area settlements resulted.

It should be noted that interviewees mentioned a considerable evolution in labor relations in the area since that problem. The plumbers and pipefitters and Mechanical Contractors Association agreed to use a dispute resolution procedure in place of a strike in future negotiations, and there has been a general mending of relations.

A New England contractors' association representative also noted problems in local labor relations caused by PLAs. His particular complaint was with unions using the grievance/arbitration mechanisms in the PLAs to make gains that might not have been possible at the bargaining table.

An example he gave was of shacks provided to

workers on worksites. A practice had developed in the area of contractors providing such shacks in which workers would take breaks, change clothes, etc. However, the shacks were not guaranteed by the local collective bargaining agreements. When contractors balked at providing a shack on a particular PLA project, a grievance was filed and, an arbitrator determined that the contractors must provide a shack in accordance with established past practice. Our interviewee was convinced that this decision would be used as precedent on future projects.

Since his industry relies on a bipartite employer/union panel, not neutral, third-party arbitration, he feared the imposition of an outside voice on industry practices. The problem would be most pronounced when a majority of work in an area was covered by PLAs.

We've got a lot of nonunion shops that do really good work. I wouldn't be doing the community a service if I excluded the nonunion contractors. Sixty percent of our contractors tend to be union contractors. We don't have any problem with unions; we're happier with their work but not with the price. We have to get through our scope of work with very limited funds."

A Western construction user

The effect of PLAs on bidding and costs

A few respondents indicated that they did believe that PLAs raised the costs of projects, particularly by limiting the number of bidders.

A public sector construction user in Connecticut, though generally happy with his PLA-covered project, noted that only one bid had been received on drywall contract and that the job had to be put out to bid a second time.

Two Western respondents seemed most concerned about the effects of PLAs on bid activity and costs. A public sector user stated:

We've got a lot of nonunion shops that do really good work. I wouldn't be doing the community a service if I excluded the nonunion contractors. Sixty percent of our contractors tend to be union contractors. We don't have any problem with unions; we're happier with their work but not with the price. We have to get through our scope of work with very limited funds.

A traditionally nonunion general contractor in a western state, who had just become a signatory contractor, agreed that PLAs reduce or at least change the number of bidders on a project; although, he was more optimistic about their ultimate effects:

Any conditions or restrictions you place on a

Table 2: Positive and Negative Aspects of PLAs

Positives	Negatives
Ensure a steady flow of highly qualified labor	May interfere with local labor relations
Promote on-time completion	May interfere with established methods of dispute resolution
Enhance safety	May result in fewer bidders under certain circumstances
Aid targeted hiring	
Promote training	
Address a range of project needs	

bid will decrease the number of bidders. If you prequalify your contractors, that will reduce the number of bidders. If you go design-build, that will reduce the number of bidders. If you require a certain [workers compensation] experience modification rate to influence safety on the job, that will reduce the number of bidders on your job. And a PLA will reduce the number of bidders on your job. Anytime you reduce the number of bidders on your job, you will increase the [accepted] bid price. But in the absence of a PLA, prequalification, etc. you increase the possibility that you'll get an irresponsible contractor. That means excessive change orders, litigation as the architect and the contractor fight, scheduling problems, inferior work, and increased construction management costs. PLAs are like insurance. An increased bid price is buying insurance against downstream costs.

When is a PLA appropriate?

Most interviewees agreed that PLAs are not appropriate for all types of work. The regional vice president for construction operations for a large, northeast-based, construction management firm, who often counsels clients in PLA use, said that size and scheduling were the two main factors he urged clients to consider when contemplating a PLA. Moreover, he implied that considering the nature of the work was important. In parts of the Northeast, for example, it is difficult to find nonunion contractors capable of doing certain types of work (e.g. site excavation and iron work). When, on a large project, it is inevitable that much of the basic work would go union, this construction manager advises clients that a PLA makes sense.

Although a PLA would require all contractors to operate in accordance with collective agreements, problems that might arise by having both union and nonunion contractors on a site will be forestalled, and the construction user might, along the way, gain some important concessions. A contractor's association representative also offered that there is "too much conflict on hybrid jobs" to make them worthwhile on large projects where most of the work will go union anyway.

A midwestern respondent offered that PLAs are not a good idea when there are not a sufficient number of union contractors capable of performing the required work in an area. The danger of receiving too few bids under such circumstances is too great.

Although different interviewees suggested different parameters, generally PLAs start to make sense when projects are at least in the five to ten million dollar range. Further factors include the complexity of the work, how tight a schedule the construction user is on and how high the likelihood of essential work going union anyway. According to our interviewees, when such conditions exist, PLAs make sense. Otherwise, the recommend open bidding and construction under area agreements.

Improving PLAs

Now that PLAs have reached a level of maturity and, to an extent, standardization, interviewees did not offer many comments on how PLAs could be improved. But not surprisingly, contractors and contractors' association representatives saw the most room for improvement. The improvements they sought were principally in the ways most PLAs are negotiated. Currently, contractors usually have no formal role in negotiations, which are conducted between the building trades unions and a representative of the construction user, generally a construction manager. As mentioned, the construction manager must be a construction employer under the definitions of the National Labor Relations Act, but most prime and subcontractors, as well as their associations, have no role at the table.

Occasionally, it is clear that the contractors have had input into the process. A Michigan PLA, for example, excluded grievances arising in the electrical and sheet metal industries from the PLA's grievance/arbitration machinery in deference to the bipartite arbitration panels in those industries.

The improvements interviewees sought were principally in the ways most PLAs are negotiated. Currently, contractors usually have no formal role in negotiations, which are conducted between the building trades unions and a representative of the construction user, generally a construction manager.

Where such exclusions do not exist, however, contractors and particularly association representatives are put in a bind. First, their members are clearly bound by the provisions of PLAs. However, since the contractors' associations are not signatory to the PLA, they do not have standing in the grievance/arbitration process and cannot offer full representation to member contractors as a party to the agreement. A further problem is that some PLAs exclude per capita payment to the types of administrative funds that support the involvement of associations in the process.

One possible solution is the development of PLAs through multicraft, multiemployer labor/management associations similar to the National Maintenance Agreements and the IMPACT agreement mentioned above. In fact, in a number of areas, labor/management committees are the main vehicle for developing and promoting PLAs. In such cases, the contractors have a forum to make sure that their concerns are brought into any PLA negotiations.

4. Bidding and Costs

The bidding research compares projects in the East Side Union High School district of San Jose, California with the San Jose Unified School district. The former used a PLA on a series of school construction projects while the latter did not. The research on costs examines 108 school construction projects in New England.

We find that the use of a PLA neither lowers the number of bidders nor increases costs when other important variables are taken into account.

The results show the use of a PLA neither lowers the number of bidders nor increases costs when other important variables are taken into account.

Bidding behavior

The East Side Union High School district in San Jose is responsible for the education of 24,000 high school students. A neighboring district, the San Jose Unified School district, enrolls 32,000 students ranging from kindergarten through high school. In March 2002, voters in both districts approved bond issues for school construction, repair and renovation. The East Side vote allowed the district to borrow up to $300 million. In San Jose, the vote capped borrowing at $429 million. In 2004, the East Side district entered into a PLA with the Santa Clara and San Benito Building and Construction Trades Council. The San Jose district chose to build without a PLA.

The different decisions of the districts with regard to a PLA provided the perfect ingredients for a naturally occurring experiment. We can compare bidding behavior with the East Side district before and after the implementation of the PLA, and we can compare across districts.

There were 21 projects in the East Side district bid under the PLA and 35 projects bid during the same period without a PLA in the San Jose district. Also, there were 12 projects bid prior to the PLA agreement in the East Side district and 96 projects in the San Jose district during the same period. In sum, there were 164 projects, 21 of which were built under a PLA.

The East Side and San Jose districts are adjacent and, therefore, within the same construction market. The time is also the same. However, there are two potentially important differences. The East Side projects were, in dollar value, approximately two to three times larger than the San Jose projects both before and after the use of PLAs. Also, the two districts employ different bidding procedures. The East Side district favors hiring a single prime contractor, who then seeks its own subcontractors, while the San Jose district treats specialty contractors as individual prime contractors.

Statistics indicate that the East Side district received, on average, fewer bidders per bid opening than the San Jose district (approximately 4.5 versus approximately 4.0). This result would be consistent with the findings of those who argue that PLAs reduce the number of bids on a project, except that the result holds for both before and after the implementation of the PLA. In fact, the difference between the two districts decreases after the acceptance of the PLA. Further, there was a drop in the number of bidders across both districts over the

time period. This decrease may be associated with an increase in construction activity in the area at the time. Bureau of the Labor Statistics data for the San Jose-Sunnyvale-Santa Clare area show more employment in construction during 2004 than in 2003. Assuming that this statistic reflects more construction activity, fewer contractors would be willing to bid the projects than if they were experiencing a slack period.

The small difference in the number of bidders both before and after the PLA across districts is likely tied to the differing methods of construction management. The San Jose district favors separate prime contracts on specialty work. Since there are more specialty than general contractors in most construction markets, that fact alone may account for more bidding activity.

One way to find out what the effects of all these possibilities are is to place a number of variables in a multiple regression model.[23] In doing so, the only statistically significant variable that predicts bidding behavior is business cycle. In the period that construction activity increased, the number of bidders per bid opening decreased. Most notably, the results of the study indicate that the presence of a PLA has no statistically significant effect on the number of bidders per bid opening.

Costs

Whether PLAs increase or decrease the number of bidders is probably of little interest to those who ultimately pay for construction projects. What is of keen interest is whether PLAs increase, reduce or have no effect on project costs. In examining 108 school projects in New England, ten of which were built with PLAs, the presence of a PLA does not have a statistically significant effect on the final cost of a project. The research on costs is modeled closely after several studies done by the Beacon Hill Institute (BHI) at Suffolk University in Boston. In 2003 and 2004, BHI produced reports on the effects of PLAs on school construction costs in the Greater Boston area and in Connecticut. Their original study found that PLAs increased construction costs by 17.3% (or $31.74 per square foot) in the Boston area. A subsequent study, which corrected several problems in the first, lowered the estimate to about 12% (or $16.51). In extending the research to Connecticut, the researchers found a PLA premium of $30.00 per square foot.[24]

Similarly, the research includes a model, predicting costs on 108 school projects in New England. Studying schools has several advantages. First, there are more schools than, say, power plant projects in an area, which allows us to have enough observations within a relatively homogenous construction market. Further, while by no means identical, schools are enough alike to provide a basis for meaningful comparison. Finally, there are both public and private schools, which allows us to examine both private and public construction.

Returning to the BHI studies, there were a number of problems with the research. But the main complaint is with the presumption stated in the following paragraph:

> Clearly, other factors also influence the cost of construction—the exact nature of the site, the materials used for flooring and roofing, the outside finish, and the like. As a practical matter, collecting viable information at this level of detail for all 126 projects, would be impossible. Thus, our equation necessarily excludes these unobservable variables. However, this does not undermine our finding of a substantial PLA effect. For the PLA effect shown here to be overstated, it would have to be the case that PLA projects systematically use more expensive materials or add more enhancements and "bells and whistles" than non-PLA projects. Our conversations with builders, town officials and architects suggest that PLA projects are not systematically more upscale.[25]

The BHI researchers dismiss the possibility that PLA projects have more amenities or are more complex than non-PLA projects. Such factors, however, determine why projects are built with PLAs in the first place. To hold otherwise is to ignore prevailing public policy. In many states—particularly in New England—court decisions require public owners to establish the need for a PLA before using one. The size of a project, its complexity and the need for timely completion are all variables that must be considered.

Since the BHI researchers do not believe that PLA projects are "systematically more upscale" they included very few variables in their models that could affect construction costs. Other than whether a PLA had been used, they controlled for little more than the size of the project in square feet, whether a project was new construction or a renovation and, in the Connecticut study, the number of stories and if the project involved an elementary or high school. The methodological problem with such a lean specification is that effects are attributed to the presence of a PLA when they actually result from some unobserved variable or variables.

Finding detailed information for a large number of construction projects is very difficult work. However, we were able to find information—through speaking with architects, construction managers, school department officials, etc.—on thirty variables across the 108 projects in New England.

The descriptive statistics alone tell us that PLA-covered projects are inherently different than non-PLA projects. For example, the average square footage for a PLA school is approximately 157,000 while a non-PLA school is close to 118,000. PLA schools average more than three stories while non-PLA schools average fewer than three. All the PLA projects required prior demolition work, while less than half of the non-PLA schools required such work.

Using the data we assembled, we created a multiple regression model.[26] The dependent variable is the logarithm of the final cost of a project. Using the logarithm of final cost rather than final cost itself allows us to interpret the effects of the independent variables in percentage terms.

When we enter all the variables in a regression equation, we find that significant positive effects are associated with the size of a project (i.e. square footage), whether the building is an elementary school, the construction of an auditorium, cafeteria or kitchen, whether the roof includes both low and steep pitches, and whether the project was located in an urban area. While our model suggests that a PLA adds 7.8% to project costs, the result is not statistically significant. In fact, the PLA variable is so weakly predictive, that the actual effect could range anywhere from -14.4% to 29.9%.

The inherent difficulties in this type of research—identifying the labor relations practices on projects, gathering information on building amenities, materials and aspects of design, etc.—make it unlikely that large samples can ever be used. But small samples, such as the ones by BHI and this one, have a number of problems. Perhaps the main problem is that they can be very sensitive to outlying values. One or two projects that are very different from the majority can skew results. Therefore, results need to be interpreted with caution.

Nonetheless, our conclusion is that the additional costs observed on PLA projects by previous researchers likely have little to do with the PLA itself, but result from the additional amenities or requirements that are inherent in large, complex jobs, which are more likely to be covered by PLAs. We find no strong evidence that PLAs affect final costs either positively or negatively.

To conclude, if PLAs are, in fact, cost neutral, then more attention must be paid for other outcomes that can be achieved with PLAs, such as timely completion, better safety outcomes, training opportunities and industry recruitment. The next chapter investigates some of these issues through case studies of four projects, each of which had distinctive requirements.

5. Case Studies

The following case studies demonstrate how PLAs can be used to address different essential needs. Here, four projects take focus: Route I-15 in Salt Lake City, the Toyota plant in San Antonio, an airport terminal in Rhode Island, and a series of high school projects in San Jose. As we will see, each project was distinctive, with the PLA used in a creative way to address a specific need.

- The Route I-15 project was a critical highway reconstruction needed to support the 2002 Winter Olympics in Salt Lake City. The challenges included getting the project done on time in an area with a very tight labor market. Political concerns over the use of a PLA also had to be addressed.
- Although nonunion at nearly all of its American parts' and assembly plants, Toyota uses PLAs for its construction. This fact, however, proved controversial in San Antonio, where construction is so lightly unionized. Extremely unusual for a private sector PLA, the Toyota San Antonio PLA includes strong accommodations for nonunion contractors and workers.
- In the mid-1990s, the State of Rhode Island replaced the outdated terminal at T.F. Green Airport, which services Providence. A key challenge was completing the project while keeping the airport in full operation. With the help of creative scheduling options in the PLA, the terminal was completed ahead of schedule.
- The East Side Union High School District in San Jose features many specialized vocational academies and programs. With the approval of the $300 million school construction bond issue, the district saw an opportunity for experiential learning and, through a PLA, created the Construction Technology Academy.

Route I-15 in Utah

On Friday, June 16, 1995, Salt Lake City was selected to be the site of the 2002 Winter Olympics.[27] For the games to begin, much had to be done, not the least of which was the complete reconstruction of a seventeen mile freeway bisecting the Salt Lake Valley.[28] Olympic organizers and state officials agonized over the traffic tie-ups associated with a reconstruction project that would rebuild 130 freeway bridges, demolish and rebuild the main freeway interchange in the city connecting I-15 with I-80 and "chop up and replace every cubic inch of asphalt and concrete" for seventeen miles in the heart of the urban Salt Lake area.[29] Worse than a traffic nightmare, many

Worse than a traffic nightmare, many feared not being done in time. The Utah Department of Transportation (UDOT) estimated that the reconstruction of I-15 could not be completed until after the Olympics in 2002 and probably would not be done until 2004. Then-Governor Mike Leavitt later recalled: "I told [Tom Warne, Executive Director of UDOT], 'Tom, we've got to find a way to do this faster. We cannot have this community torn up for nine years.'"

feared not being done in time. The Utah Department of Transportation (UDOT) estimated that the reconstruction of I-15 could not be completed until after the Olympics in 2002 and probably would not be done until 2004.[30] Then Utah Governor Mike Leavitt later said, "I told [Tom Warne, Executive Director of UDOT], 'Tom, we've got to find a way to do this faster. We cannot have this community torn up for nine years.'"[31]

UDOT's solution to this dilemma was to invoke an innovative form of construction—design build—which would hopefully allow the reconstruction project to be completed prior to the 2002 Olympics without completely shutting the I-15 corridor for years. Using design-build meant that construction could begin prior to a complete and detailed design and specification of the overall project. UDOT engineers would provide general guidance, but competing contractors would be free to develop their bids using innovative materials and procedures aimed at speeding construction and reducing costs.[32] At the time, estimates of the cost of the I-15 reconstruction project were at one billion dollars indicating that UDOT thought the design-build approach would save about ten percent on total costs along with cutting construction time by about two years.[33]

Under design-build, construction could be scheduled to begin in early 1997. Contractors would be expected to work around the clock, six or seven days per week. There would be limits on how many lanes could be closed at any given time as well as how many interchanges could be closed.[34] Design-build was particularly cost-effective on large projects but some felt that inevitably out-of-state contractors would be awarded the project. Local contractors were not equipped to handle the scope of work proposed, particularly the engineering required of contractors on a design-build project. However, Warne said that contract language for the I-15 project would stipulate that Utah construction companies would be named as subcontractors.[35]

In September 1996, UDOT prequalified three contractors from a field of ninety that responded to the announcements in March. By September, the project had expanded to include an additional interchange at the north end of the reconstruction project and the relocation of some railroad tracks near the project. The official cost estimate had risen to $1.36 billion due to these additions and other considerations. On March 26, 1997 UDOT announced that Wasatch Constructors (a consortium led by Kiewit Constructors of Omaha and which included several Utah companies) had won the bid.

With design-build, the lowest bidder does not always win the project. UDOT was using a "best-value" approach that combined cost considerations with technical and quality considerations to receive the best bang for the Utah taxpayer's buck.[36] Warne later said that the "I-15 design-build contract was given to the best overall proposal, not the lowest bid."[37] However, Wasatch Constructors had coincidentally come in with the lowest bid.

Wasatch officials indicated they planned to begin immediately. "You have to remember this job isn't even designed yet," said Conway Narby, principal on site for the winning consortium.[38]

With groundbreaking coming within a month of the bid opening and a project-completion deadline of August 2001, this 17 mile reconstruction was a fast-track project. If Wasatch could complete its work on-time and complete it to UDOT's satisfaction, Wasatch stood to win up to $50 million in bonuses. If Wasatch exceeded UDOT's deadline of November 2001, just before the 2002 Winter Olympics, the company risked paying UDOT up to $100 million in fines. Also, Wasatch had to guarantee its work. According to the contract, UDOT could take a default one-year warranty on the project or force Wasatch to cover all road maintenance for ten years for a fee of $27 million. UDOT reasoned that this potential warranty at UDOT's option would focus Wasatch Constructors on qual-

ity as well as speed. In short, Wasatch had won because it had the experience to do what it said it would do including designing on the fly while building on time and within budget.

Ed Mayne, president of the Utah AFL-CIO, was very pleased that Wasatch had won the bid. He felt that Wasatch was the most union-friendly of the three pre-qualified bidders. Indeed, prior to bidding the project, Wasatch had secretly signed a PLA with six local unions agreeing to a uniform set of wages, benefits and work rules that largely corresponded to local union collective bargaining agreements. This agreement was not made public prior to the bid opening because the PLA was part of Wasatch's bidding strategy. Building a fast-track project under design-build, in a tight labor market, with substantial performance awards and penalties in play, involved considerable risks for Wasatch. The PLA was one means of controlling some of those risks—the ones associated with the supply and quality of labor.

Mayne felt the PLA provided another advantage. Just as it was politically wise to require outside general contractors to partner with local subcontractors, it was also politically sensible to encourage local employment on the biggest public project ever financed by Utah tax dollars. Mayne anticipated that the consortium would hire seventy to eighty percent of its workforce locally despite Utah's 3.1% state unemployment rate at the time of the bid award. Narby, the person who signed the PLA for Wasatch, agreed that eighty percent local hire was possible particularly if participating nonunion contractors hired locally.[39] The PLA did not prohibit nonunion contractors, and ten percent of the value of the work was exempt from the provisions of the PLA. But if nonunion contractors from out of state brought in their traveling labor force, the amount of local hiring would go down. Union contractors both in-state and out-of-state were required by the local collective bargaining agreement to give preference to local workers over travelers. However, local labor shortages loomed as a problem for all contractors.

By early 1997 when the project was to begin, the Utah construction industry had been booming for seven years (since 1990). While construction accounted for just under four percent of total Utah state employment in 1990, by 1996 construction accounted for 6.5% of all state civilian, nonagricultural employment. Furthermore, construction employment had been growing in absolute terms at over ten percent per year for each year from 1990 to 1996. While Utah's construction's growth rates peaked in 1994, its share of total state employment would not peak until 1999. I-15 was going to be rebuilt during a period of labor shortages and Wasatch Constructors saw that coming.

The *Salt Lake Tribune* reported at the beginning of the I-15 project that:

> *[Wasatch Constructors] has to find some 1,000 to 1,500 skilled highway construction workers in a state where the unemployment rate is so low that even unskilled jobs in hamburger joints go begging to be filled. "It is hard to say where they are going to find the workers," says Ken Jensen, chief economist for Utah Job Service. "I am not aware of any bunch of workers out there standing in line waiting to climb up on earth movers."*[40]

Estimates of the needed workforce varied. The *Deseret Morning News* estimated 600-1,000 hourly craft workers and 100-150 salaried employees. The *Salt Lake Tribune* estimated 1,000 to 1,500 workers.[41] Several other road construction projects were underway at the time or scheduled to begin, including a light rail project running along the same corridor as I-15. Local highway contractor Richard Clyde, whose firm W.W. Clyde was part of the losing consortium, Salt Lake Constructors, noted that heavy construction workers were already in high demand and stated, "I still do not see where [Wasatch] are going to get all the workers they need without bringing in a lot from out of state."[42]

Having won the contract, Wasatch Constructors announced its PLA with the six key trade unions that were going to complete the project. These unions were the operating engineers (heavy equipment operators), laborers, plasterers-cement finishers, carpenters, iron workers and teamsters (truck drivers). The contract these unions signed with Wasatch was a variant of the heavy-highway construction project agreement used around the country by various highway contractors in conjunction with (typically) these unions—namely the unions that do most of the heavy and highway work. The contract stated in part:

> It is the intent of the parties to set out uniformly standard working conditions for the efficient prosecution of the new construction herein; to establish and maintain harmonious relations between all parties to the Agreement; to secure optimum productivity, and to eliminate strikes, lockouts or delays in the prosecution of the work undertaken by the employer...
>
> The greatest advantage in working with the Unions is the ability of the Employer to acquire an immediate and continuous source of skilled applicants. Within the Unions there exists the capability to activate a recruiting network throughout the United States to ensure a steady flow of skilled applicants to meet project schedules.
>
> The Employer may name hire any individual who has previously worked for the Employer (or any of the individual joint venturers thereof)...[as long as] those hired from "other lists" shall not exceed forty percent of each craft's work force.

This last provision meant that contractors (union or nonunion) could bring onto the project up to forty percent of their own workers (either union or nonunion). In practice, the percentage would likely be smaller because this forty percent limit was applied craft by craft and contractor by contractor. Thus, while one out-of-state nonunion contractor might bring in forty percent outside workers for each craft, an in-state union contractor might name hire few, if any, workers simply taking workers in order from the union hiring hall. Another out-of-state union or nonunion contractor might bring in his skilled crew but take lesser skilled workers from the hall. So the forty percent rule gave contractors flexibility to respond to particular cases but also made it likely that, on average, less than twenty percent of the workers would come from out of state. The unions, in turn, agreed not to discriminate against nonunion workers seeking to be sent out from the hiring hall in this right-to-work state.

> The Unions represent that their local unions administer and control their referrals in a non-discriminatory manner and in full compliance with Federal, state and local laws and regulations which require equal employment opportunities and non-discrimination.
>
> The Unions agree to engage in active recruitment of minority and female applicants...

The unions also agreed to cooperate jointly with management in enhancing productivity on the job and to forswear any work stoppage:

> The Employer and the Unions recognize the need to continually explore ways and means to increase productivity to enhance the competitive position of the signatory contractors and thereby increase job opportunities for members of the Unions. To this end, signatory contractors and local unions are encouraged to establish Project Productivity Committees to deal with problems affecting job schedules, construction technology, recruitment and similar matters...There shall be a labor-management committee whose purposes are to foster labor-relations communications and to explore ways and means to improve safety, quality and productivity at the jobsite.

> The Parties agree that there is an absolute prohibition against any and all strikes, work stoppages, slowdowns, picketing, sympathy strikes, handbilling or any other forms or types of interference of any kind...There shall be no lockout by the contractor.

An expedited grievance procedure was established for any violation of the no-strike, no-lockout clause. The contract also established uniform work rules, hours, shifts, overtime pay and holidays, including time off for July 24th, a local Utah holiday. Pay scales, including wages and benefits, were set for all craft classifications and these were to be reviewed yearly in July. A section on apprentices stated:

> Recognizing the need to maintain continuing support of programs designed to develop adequate numbers of competent workers in the construction industry, the Employer will employ registered apprentices in the respective Unions. The combined employment of apprentices shall not exceed thirty-three and one-third percent of the individual Union work force...

This meant that the local tax dollars financing the I-15 rebuild would also finance a rebuilding of the skills of the local construction labor force. Finally, subcontractors also were to be covered by this agreement except "the Employer may subcontract up to but not exceeding ten percent cumulative of the final Prime Contract amount to subcontractors...[not] signatory to this agreement or local labor agreements..." Also women and minority subcontractors need not be signatory to the agreement. Thus, the PLA was designed to provide contractors with flexibility permitting contractors to bring in up to forty percent of their own worker while at the same time creating a structure that would likely generate around eighty percent local hiring. The contract required most subcontractors to adhere to its provisions but allowed ten percent of the work to go on outside the requirements of the PLA.

Wastach's Greg Brooks explained part of the rationale for Wasatch signing this agreement: "What we are basically doing is taking Mayne at his word [that he can provide the qualified local labor]. Mayne said, "There is no doubt that we are going to be scrambling, but the seventy to eighty percent [local hire] figure is certainly doable. Each of the major craft unions in the state probably have 100 to 200 apprentices in training as we speak. [Out-of-state skilled workers] are part of the equation. But we are committed that most of these Utah jobs will go to Utah workers."[43] Brooks indicated that Wasatch's policy was: "We'll hire locally and buy our supplies locally. Any time we can't, we'll bring whatever we need in from other sources in the region. If that's not enough, we'll go further out."[44]

Ground broke on the I-15 project on April 15, 1997, but the political ground began to break out from under the PLA almost immediately thereafter. On May 2, under the headline "Does the I-15 Union Deal Violate Utah Law?" the *Deseret Morning News* reported that Republican Governor Mike Leavitt was asking his Democratic Attorney General Jan Graham for a legal opinion on whether the PLA violated Utah's right-to-work law.[45] The *Deseret Morning News* reported:

> Nonunion workers can apply and get Wasatch jobs, and they can do so without dealing with any union. But the reality is most applicants will go through union hall doors to get those jobs, and they will certainly be solicited to join the union in the process. And that is what worries some conservative lawmakers who don't want any Utahns pressured to join a union in order to get an I-15 job.[46]

In actuality, there were several avenues besides union hiring halls for obtaining work on I-15. Anyone who had worked for any contractor working on the project could work for that contractor again by applying to that contractor directly, assuming the forty percent threshold of workers

not coming from hiring halls had not been breached. Nonunion contractors were exempt from the provisions of the contract for ten percent of the work while additional nonunion workers could come with their nonunion contractor under the provisions of the PLA. However, Utah legislators were deeply concerned.

State Transportation Commission chairman, Glen Brown, brother of Utah House speaker, Mel Brown, stated, "We're hearing people saying 'We can't live with [the hiring aspects of the PLA].'" Speaker Brown, himself, stated that if the attorney general's opinion found conflict between the PLA and Utah's right-to-work law, "there is significant support to renegotiate the [labor hiring] part of the contract." But the Deseret News reported that several Republicans worried that the attorney general would side with the unions rather than interpret the right-to-work law as prohibiting the agreement.[47] Senate Majority Leader Craig Peterson indicated that it might be necessary to call a special legislative session to revise state law to prohibit this type of contract. Legislative Attorney Gay Taylor said lawmakers could refine existing law to prohibit unions from having a monopoly in specified situations perhaps forcing Wasatch to renegotiate its contract. Governor Leavitt, stating that "Two heads are better than one," sought legal opinion from lawyers not in the attorney general's office.[48] Senate President Lane Beattie argued:

> *We may not be able to change [the current agreement]. But we can act to make sure this will never happen again. Unions may think they have manipulated the system and made a great step forward. But we are not a union state and won't become one, and they may have just ended up taking a great step backward.*[49]

Wasatch defended itself by restating its belief that the agreement was the best way to ensure the project was completed on time and done well, while focusing hiring on local construction workers. Narby said:

> We work in other right-to-work states like Arizona and Florida under these same kind [of agreements]. Perhaps it was naive of us, but we wanted to ensure enough quality, skilled craftsmen to build this job. And in (other states) working through the unions provided that. Also, we wanted Utahns on this job, and this is a way to do that.[50]

In a clarification of the contract, Wasatch and the six unions agreed that workers could apply directly to Wasatch for employment or to Utah Job Services, the state labor market agency. The state directed UDOT to audit hiring practices specifically monitoring local hiring policies. Furthermore, UDOT would appoint ombudsmen to handle complaints associated with hiring on the I-15 reconstruction.

Senate President Beattie said he was satisfied with this arrangement and would not try to have the legislature called into special session:[51] "You can go through the [union] halls to get a job, but you won't have to. There will be another way," Beattie declared.[52]

At this point, the attorney general's office bowed out of the dispute: "It looks like they've settled all disputes," said Reed Richards, chief deputy attorney general. "If both sides are happy, and my understanding is that they are, then there's no point for us to continue."[53]

With daunting logistical and engineering tasks in front of it and significant economic carrots and sticks at stake, Wasatch Constructors began the demanding task of operating and rebuilding I-15 at the same time, with the design of the project being a work in progress, and with the clock running. Almost immediately labor shortages loomed. "Utah is a tight labor market, no doubt about it," Brooks said. He said, however, that the I-15 project was attractive because it had plenty of work, and it paid union wages to union and non-union workers alike.[54]

Wasatch Project Manager, Bill Murphy, said, "The magnitude [of the project] does get to me sometimes, [but] I-15 will be built, on time and on budget. I have no doubt." Narby, the top Wasatch executive on the I-15 site, said "I know people, and I know what they can do. I only worry about what I cannot control: the weather, for example. Please give me three mild winters."[55] The fact that the PLA required both union and nonunion contractors to pay union wages gave Narby and Wasatch a degree of control over their labor challenges in a tight construction labor market. Scheduling might be pushed back by weather or other factors Wasatch could not control, but the PLA made labor a more reliable and controllable construction input.

Wasatch's PLA labor strategy and UDOT's design-build strategy began to pay off for the contractor and the state within six months of ground breaking. UDOT's first project evaluation covering essentially the first six months of work, April 15 to October 31, 1997, led to the decision to grant Wasatch $2,490,133 of the possible $2,500,000 in bonuses for this stage of the project. The *Deseret Morning News* reported:

> In announcing the award amount Friday morning, UDOT officials had nothing but good things to say about the contractor. And Wasatch officials were obviously pleased that they had earned the bulk of the money they were shooting for.[56]

UDOT inspected the I-15 project on a daily basis, using dozens of UDOT employees and consultants as monitors. Each month, UDOT and Wasatch jointly reviewed the daily inspections and a score was assigned to each category of evaluation. UDOT's Warne said:" This is a lot of money, and because of that, there is a very rigorous process in place [for evaluating Wasatch's work] that we've developed over the last six to eight months. The process was reviewed by a task force established by Governor Leavitt, [Senate President] Lane Beattie and [House Speaker] Mel Brown."[57]

As the reconstruction progressed, Wasatch continued to score well in UDOT's semi-annual evaluations. At the end of the next six month review period, Wasatch received the full $5 million bonus possible for that period. Warne said: "The full award fee for Wasatch during this period is a reflection of what we've been saying all along—that they are ahead of schedule, they are on budget, the quality is good and they have the management system in place to deliver the project...I certainly think that the first couple of periods are the most challenging, while they're getting up and running and putting their organization together. I think this is a good indication they might just win or earn all or most of the award fee [of $50 million for the entire project]."[58]

UDOT, however, was careful to point out that these bonuses were actually Wasatch's possible profit on the project. Essentially, Wasatch won the bid by not including any (or much) profit in their bid price anticipating that by doing the project right they would earn UDOT's bonuses and that would be most, if not all, of their profit.[59]

Wasatch continued to meet UDOT's goals and continued to receive almost all of the potential bonuses available under the contract. In May 2000, the *Salt Lake Tribune* reported:

> Wasatch Constructors continued breezing through its Interstate 15 construction schedule last year and lost only $14,000 of a possible $5 million profit for the six month period ending in October [1999]...The contractor lost money for overlooking incorrectly placed beams that needed to be replaced on a 400 South bridge abutment in Salt Lake City, and for an incident last August when a drainage grate on the road popped loose and caused a multi-car accident. The award means that in its first 2? years on the job, Wasatch took home roughly $22.4 million of a possible $22.5 million [in awards]."[60]

With I-15 very close to completion in April of 2001, ahead of schedule and well ahead of the

Winter 2002 Olympics, John Bourne, UDOT project director said, "We believe we've got very good quality. We'll see some little dings and nicks that will be replaced," but he expected these problems to be resolved by the completion of the project. With seven of the nine award-fee evaluations completed, Wasatch had received from UDOT 99.6% of the possible bonuses from the timely completion and successful inspection of its work.

According to the original contract Wasatch had to guarantee the quality of its work for up to ten years after completion with the state paying $27 million for this insurance.[61] But UDOT had the option of declining the insurance if it thought the quality of the project was sufficiently solid that the anticipated ten-year maintenance costs would be less that $27 million. That was the dilemma UDOT managers faced in the Spring of 2001 as the project came to completion.[62]

In April of 2002, the I-15 reconstruction was declared the top civil engineering achievement of the year by the American Society of Civil Engineers (ASCE). "The I-15 project contributed greatly to Salt Lake City's ability to stage a successful 2002 Winter Olympic Games and will continue to serve the area for years to come," said ASCE President H. Gerald Schwartz, Jr. "The Interstate exemplifies the ideals of innovation, technical excellence and community benefit."

Warne concluded, "We've been out there day in and day out. We've inspected all their work and felt very good about the quality." He predicted that some work would need to be redone, but there were none of the classic signs of poor quality. UDOT therefore decided to decline paying $27 million for 10 years of maintenance guarantees because Warne concluded, "We anticipate spending perhaps half that much on maintenance."[63] Kay Lin Hermansen, Wasatch spokesperson, said, "It's kind of a compliment to us because the [guarantee] provision was put into the contract to protect the state and the people, and we've obviously delivered a very quality project."[64]

In April of 2002, the I-15 reconstruction was declared the top civil engineering achievement of the year by the American Society of Civil Engineers (ASCE): "The I-15 project contributed greatly to Salt Lake City's ability to stage a successful 2002 Winter Olympic Games and will continue to serve the area for years to come," said ASCE President H. Gerald Schwartz, Jr. "The Interstate exemplifies the ideals of innovation, technical excellence and community benefit."[65]

The primary reason I-15 was completed on time was because the project was bid design-build. This allowed the reconstruction to begin prior to the completion of a full set of engineered specification for the work. The greatest threats to the timely completion of the project were factors that could not be brought under the contractor's control. Weather, therefore, was a major concern. Labor supply in tight labor markets was also a concern. But Wasatch brought that factor under control through the implementation of a PLA. This meant that all work on the project whether by Wasatch on any of its many subcontractors would be relatively attractive to workers within a growing and tightening construction labor market. I-15 construction contractors and subcontractors would have their pick of the labor market. It was a labor market version of guaranteeing three mild winters.

Also, the PLA meant that the majority of workers would be local hires so that the benefit of the higher wages would primarily redound to Utah citizens. Given that Utah tax payers were paying for most of the bill for the project, this local hire component had a feeling of fairness about it. Also, there was a certain symmetry with the explicit requirement that the general contractor partner with local construction companies. Significantly, these benefits clearly did not come at additional costs to Utah taxpayers.

The fact remains that Wasatch Constructors was the low bidder on the project. The alternative

two construction consortiums were not intending to use PLAs. They, therefore, may have been intending to pay their workers less than local union rates, and their bids may have reflected that. Wasatch calculated that even though they might have higher hourly wage rates than their competitors, the ability to lure the cream of the crop out of a competitive labor market would facilitate on-time scheduling at a lower (or at least equivalent) cost and with fewer construction defects. Salt Lake Constructors came in only one percent above Wasatch, so it is difficult to claim that the I-15 PLA substantially lowered the project's cost. But the PLA clearly did not raise the cost.

Many studies attempting to assess the effects of PLAs on construction costs compare project costs on two or more different projects. While informative, these studies always must confront the problem of comparing apples to oranges. Very few construction projects are exactly alike. Cost differences might easily be due to something other than whether or not the project has a PLA. But in the case of I-15, we have a true apples-to-apple comparison. Wasatch was going to use a PLA. In fact, prior to bidding on the project, Wasatch had signed a preliminary agreement with the local unions. Salt Lake Constructors and Lake Bonneville Constructors bid on the project without having arranged for a PLA. All three companies were bidding on the same project, and the PLA contractor came in lowest. Wasatch's lower bid may in part have been due to superior engineers, better previous experience or other factors. But implementing a PLA was part of their game plan—namely controlling the supply and quality of labor in order to enhance the contractor's ability to deliver a quality product on time.

Toyota assembly plant in San Antonio

Much of the current controversy over PLAs concerns the public sector. PLA use in the private sector goes largely unnoticed because there are far fewer legal issues and usually less politics than with public projects. For the most part, private construction users can attached whatever stipulation they chose to their projects. However, the fact that so many large private firms, which exist in competitive business environments and are, therefore, very cost conscious, choose to build with PLAs perhaps says something about their benefits.

Toyota is among the leading worldwide automotive manufacturers. During the past forty years, it has moved from being a domestic Japanese firm to a global producer of automobiles and trucks with a substantial presence in North America. In 2004 it produced almost 2.3 million autos and trucks in North America and had a cumulative North American investment of $16.6 billion.

Much of its success has come from its development and implementation of the Toyota manufacturing system.[66] This method, the original lean production model, has become the standard for producing high quality products at low unit costs. Now nearly all successful manufacturers emulate the kanban (pulled production) and kaizen (continuous improvement) methods pioneered at Toyota. The success of the system is reflected in the high consumer satisfaction with Toyota products and a pattern of repeat purchases. The rising demand for Toyota products in North America has lead the company to build four assembly and six parts plants in the United States, Canada and Mexico since 1986. The assembly plants are located in Kentucky, Indiana, Ontario and Texas. The parts plants are in West Virginia, Alabama, British Columbia, Missouri, California and Baja California. There is a joint venture assembly operation between Toyota and General Motors in Fremont, California, the so-called NUMMI (New United Motor Manufacturing, Inc.) plant. With the exception of the NUMMI plant, Toyota production employees are not represented by unions.

Despite the lack of union presence within the firm, all of the Toyota manufacturing facilities in

the United States have been built under PLAs between Toyota, the AFL-CIO's Building and Construction Trades Department and the local unions within whose jurisdictions the projects have taken place. In all, 36 million work hours have been done under the Toyota PLAs. The success of the relationship between Toyota and the building trades unions, and the utility of the PLAs, is reflected in the completion of numerous green field projects and expansions of those projects on time, without interruption and without even a single arbitration decision in the nineteen years in which Toyota has used the agreements.

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A closer look at the dynamics of the Toyota PLA illustrates how it has developed and been adapted to the needs of various projects. We focus on the most recent green field Toyota plant in San Antonio. This plant, which is scheduled to begin yearly production of 150,000 Tundra pickup trucks in 2006, has a projected cost of $800 million and has been the highest valued construction project in Texas for the past two years. The project will require 2,100 construction workers at its peak. The project has six prime contractors and as many as 300 subcontractors. Project management is being provided by a joint venture between Waldbridge-Aldinger, a Detroit firm with considerable experience in the construction of automotive facilities and Bartlett Cocke General Constructors, a San Antonio company.[67]

The San Antonio project presented a number of issues in adapting the PLA to local conditions. First, Texas's right-to-work law is particularly unfavorable to organized labor. The law prohibits both union membership and agency fee payment as a condition of employment, and it also disallows maintenance of membership clauses, which prohibit resignation from a union during the life of a contract. Texas law holds that union members may resign at any time.

A second issue was a requirement to employ a substantial number of individuals from the San Antonio metropolitan area, Bexar County and the surrounding ten counties. Although Toyota's $133 million public subsidy was smaller than that provided for other recent automotive manufacturing plants in the South, a substantial share came from the City of San Antonio and regional bodies. The local subsidies included $15 million for a rail spur to the plant, $27 million for job training and $24 million for site purchase and preparation. In exchange for the subsidies, Toyota agreed to employ local residents on the construction project. As the San Antonio area has relatively low union density in construction—by some estimates 95 percent of construction workers are nonunion—the use of a PLA required balancing the need to use local workers with the use of union labor (not unlike the Utah project described above).[68]

Finally, and also related to the modest union presence in San Antonio, the local construction industry actively lobbied against the PLA. For example, Doug McMurty, the executive vice president of the San Antonio chapter of the Associated General Contractors (AGC), said:

> It's very early and there have been a lot of rumors circulating. But what we're most concerned about is that Toyota will discriminate against nonunion firms. Our concern comes from the fact that 95 percent of the workforce here has chosen to be nonunion. I don't know that Toyota fully understands that yet, and I can't believe it would be their intention to discriminate against 95 percent of the workforce in San Antonio.[69]

The AGC and individual construction firms requested that city and county authorities broker meetings between Toyota and area general contractors to discuss the use of a project agreement. At various times it appeared that Toyota had decided against using a PLA for the project.[70] But despite such rumors, Toyota negotiated a PLA adapted to the conditions in San Antonio, and the agreement was signed on June 18, 2003. Jim Wiseman, vice president of external affairs for Toyota Motor Manufacturing North America stated:

> Toyota has been using this type of agreement on all its U.S. construction projects since the late 1980s. Those projects have been very successful, been completed on time and within budget, and we wanted to do it in Texas.[71]

The Toyota PLA was adapted to the needs of the Texas project with modifications that favored the employment of San Antonio residents by making it easier for nonunion firms to bring their core workers onto the project and by altering the benefits payments language to eliminate the possibility of double obligations.

A major issue for the project was the promotion of local hiring. Under the Toyota PLA, local unions are given 48 hours to refer a qualified resident of the San Antonio area. If they are unsuccessful, a contractor may hire its own local resident, who would then register with the union hiring hall. If the contractor is unsuccessful in locating an area resident within 48 hours, the union could refer any qualified worker without regard to the residency requirements. If the union were unsuccessful in referring a worker within 48 hours, the contractor could hire from any source.

A second issue was providing conditions, which made the project attractive to nonunion contractors. A frequent complaint by nonunion contractors is that they must use the union referral system and cannot bring their own workers to a PLA-covered project. This disrupts their organization and reduces their efficiency. To address this concern, the Toyota PLA specifically allows nonunion employers to use core employees who are San Antonio area residents without referral by a union. Core employees must possess necessary state or federal licenses for their work, have been on the contractor's payroll for sixty of the one hundred working days prior to the contract date for the Toyota project and have the ability to safely perform the basic functions of their trade. Employers are required to provide a Toyota representative satisfactory evidence of qualifications of core employees at the request of the union having jurisdiction over the work. Additional employees used by nonunion employers are hired in accordance with the referral process outlined above. This type of arrangement, sometimes referred to as a drag-along clause, allows nonunion employers to retain their core workforce while protecting the unions' interests in seeing their own members hired.

A further complaint about PLAs by nonunion contractors is that they require double payments of benefits: The nonunion contractors must support their own healthcare and pension plans while, at the same time paying into the union sector's joint funds for work on PLA-covered projects. The Toyota PLA allows nonunion contractors to divert the benefit payments required under the PLA into their own firms' pension, retirement, annuity, health and welfare, vacation or apprenticeship programs. To qualify, the employee for whom deductions are being made must be a core employee and must elect this option. Also, the plan must be a bone fide benefits plan that has been in effect for the preceding twelve months. Finally, the employee contribution must be the actual cost of the benefit, and the employee must have been a participant in the plan at the time of initial employment on the project. To ensure that nonunion employers do not realize a competitive advantage from this arrangement, any difference between the costs of the nonunion employer's plan and the benefit payments under the PLA go to a funds established by

the parties to benefit directly covered workers on whose behalf the benefit is paid. Again, this arrangement addresses the double payment issue while maintaining equality in labor costs between union and nonunion contractors and assuring that the diverted payments benefit the nonunion employees.

Discussions with individuals involved in the Toyota project suggest that, although there was more nonunion participation in the San Antonio project than most Toyota PLAs, participation was generally limited to site and concrete work. This is not surprising as a central purpose of a PLA is to obtain ready access to a skilled union labor force.

Although not intended to address any issues specific to the San Antonio project, the Toyota PLA includes an unusual arrangement with regard to wage increases. The agreement adopts the applicable local wage rates (which is typical for PLAs), but it also allows for negotiated increases so long as rates do not exceed the average percentage increase in journeymen's rates for in the South Central region. This limitation is referred to as the cap.

The cap acts to mitigate any effects of the Toyota project, which is an unusually large project drawing large numbers of workers, on regional wage increases, while allowing for the effects of labor market conditions in a region which is sufficiently large that the Toyota project will have only a modest effect on settlements.

The Toyota PLA is an example of how PLAs can be successfully adapted to specific conditions. As with the other Toyota projects, the San Antonio plant is headed for on-time completion and has gone forward without significant disputes or disruptions. Further, the working out of the alternative arrangements appears to have been accomplished without substantial difficulties, reflecting the long-standing good relationship between Toyota and the Building and Construction Trades Department (BCTD).

T.F. Green Airport terminal

T.F. Green Airport, which serves Providence, Rhode Island, was for many years a very small operation. It is the nation's first state-owned airport, and it opened in 1931. It did not break the two million passengers per year mark until 1990, and it stayed approximately at that level until 1996. However, in 2004, the airport experienced the second busiest year in its history (2001 was the busiest), serving approximately 5.5 million travelers.[72] As the consulting firm of Landrum & Brown noted in a report on the airport, "Since [1996], the airport has become a low fare gateway to southern New England, and offers a congestion-free alternative to [Boston's Logan Airport] for many travelers."[73]

The recent success of T.F. Green is very good news for the State of Rhode Island, which invested $208 million in the construction of a new airport terminal in the early 1990s.

Prior to the construction of what is now called the Governor Bruce G. Sundlun Terminal, the last major renovation of T.F. Green's facilities was in 1981. The small building, which opened in 1960, had only nine gates and one baggage carousel and resembled an old bus terminal more than a modern American airport. Understanding the need to improve the facilities, the state's voters approved a $29 million transportation bond issue in 1988, which called for upgrading the existing terminal building.[74]

However, in 1990, with the state mired in a deep recession, businessman Bruce Sundlun won the governor's office, defeating a Republican incumbent. Sundlun was a WWII pilot who eluded capture after being shot down over Belgium; a businessman who made a fortune in broadcasting (among other ventures), a member of JFK's administration; and socialite with connections to the rich and mighty (he once flew planes with Jordan's King Hussein). He was not one for small projects. After becoming governor, Sundlun managed to circum-

vent both the legislature and the state's voters, and by executive action convert his predecessor's less ambitious renovation proposal into an approximately $200 million total reconstruction project. His plan was to use the earlier approved $29 million as seed money, get the airlines to agree to tripling their rents at the airport and receive most of the balance in federal funds.[75]

The governor's ambitious plan engendered immediate opposition. Residents of the City of Warwick (where the airport is located) and their elected officials opposed the terminal plan, as they do every project that might increase airport traffic. But so did many other legislators, politicians and ordinary citizens. Some of the sniping was purely political, but much of it was motivated by a genuine concern about the state's ability to pay for such a project. After all, this plan was being discussed during one of the deepest economic recessions in recent memory. Consider that the governor's first official act, on the day of his inauguration, was to order the state's credit unions closed to head off a banking collapse; that public employees faced involuntary furloughs because state government could not meet its payroll; and that the transportation department was turning off street lights to save money. In addition, at least one consultant's report found even the more modest plans proposed by Sundlun's predecessor were probably not worth the money at such a small airport.[76] Needless to say, in this environment, an expensive new airport terminal was not an easy sell.

However, by the time the terminal officially opened on the first day of autumn 1996—after Sundlun had lost his bid for a third (two-year) term—all the arguing and acrimony seemed forgotten. As the Providence Journal reported:

> During the [opening] ceremonies, speaker after speaker praised the terminal project and former Governor Bruce Sundlun for envisioning it.
>
> Warwick Mayor [later U.S. Senator] Lincoln Chafee said 'What stands before us is a near-miracle, a government project that came in on time and on budget. For that we congratulate all the many men and women who accomplished this while also maintaining the highest quality workmanship.'[77]

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Mayor (later U.S. Senator) Lincoln Chafee

Unlike the projects in Utah and Texas described above, the PLA at T.F. Green Airport was, in itself, not controversial and received no major press coverage at all. In fact, the only large controversy during the construction phase was a proposal to spend close to $800,000 on what derisively became known as a cloud machine, a terrarium-like art installation that was to have emitted a vapor sending clouds around the terminal's ceiling. The installation had been recommended by a committee in charge of spending the mandated set aside for public art but became fodder for many of the terminal's critics. The idea was scrapped in favor of cheaper and more conventional sculptures and the like.[78]

The lack of debate over the PLA no doubt reflects the reality of construction in Rhode Island, where nearly all large, transportation-related construction is done by union contractors. The agreement was, however, not a typical PLA but had a number of distinctive features.

No doubt, Gilbane Building Company, the construction manager, felt enormous pressure to contain costs. In 1991, Governor Sundlun complained about the price tag of the project, which, at the time, was $135 million. His concern arose from a comparison he made with a similarly styled and recently built terminal at the Rochester, New York

airport. The governor noted that the Rochester project cost $41 million less than the projected costs for T.F. Green. In a memo to his transportation director, the governor wrote:

> *We need to get a very detailed cost breakdown on the T.F. Green project, and I can tell you ahead of time that I am not going to accept a $41 million difference between T.F. Green and the Rochester project. Would we not do much better to go forward on a strictly competitive bid basis? What does it take to review and terminate the construction management contract?*[79]

The Gilbane Building Company is headquartered in Providence, but is one of the larger construction companies in the country. During the past ten years, it has carried out airport projects at O'Hare, Logan and the El Paso International Airport.[80] Over the years, Gilbane has done many jobs in Rhode Island and was awarded the construction management contract for T.F. Green on a no-bid basis by Sundlun's predecessor. Despite the governor's concern, Gilbane's contract was not terminated. By July 1993, the projected cost of the facility had risen to $200 million, but most of the funding puzzle had been put together, including the airlines' agreement—after the creation of an independent airport corporation—to pay increased rents and the Federal Aviation Administration's pledge to cover about half of the project's cost. Gilbane also agreed to take a substantial risk: for an additional $3.8 million fee, it guaranteed the bottom line cost of the project.[81] That fact was, no doubt, on everyone's mind when the PLA was negotiated in the fall of 1993.

The PLA covered construction of the new terminal, demolition of the old terminal, construction of a temporary terminal, improvements to the airfield (particularly taxiways and drainage), the construction of roadways and parking facilities, and the building of a system to capture and isolate ethylene glycol (used in deicing) before it enters the storm drains.

A very unusual aspect of the agreement was a wage and benefit schedule unique to the project. While most PLAs simply state that wages and benefits shall be paid in accordance with Schedule A (i.e. local) agreements, the T.F. Green PLA included its own wage and benefit rates for 21 different occupations from Asbestos Workers to Tile Finishers/Helpers. Where applicable, differentials were provided for building and road work. The length of the wage/benefit agreements varied across trades, from approximately one to four years, with an agreement to reopen negotiations for wages and benefits after dates specified in the PLA. An expedited interest arbitration clause was included to handle impasses that might occur over the negotiations of new wage and benefit rates.

But perhaps the most important provisions of the agreement concerned scheduling and premium pay. As a prominent Rhode Island labor official said:

> *We couldn't get on the airport at certain times. We were able to get on at times that on other jobs...say after 4:30 pm or after normal quitting time...you would be looking at a time-and-a-half situation or maybe a double time situation if it was a weekend. We took that into account knowing that if we were looking for that [premium pay] on that job it would blow the budget there, and you wouldn't end up with any agreement.*

The PLA contained several relatively standard sections on work time and premium pay. One section calls for an eight hour workday, with time and one-half paid for the first two hours of overtime, and double time paid for ten or more hours of work. Double time was also to be paid for Sundays or holidays.

The agreement also allowed Gilbane to schedule "all or part" of the workforce to work second or third shifts. Second shift workers would work seven

hours for eight hours of pay, and third shift workers 6 ? hours for eight hours pay. The agreement also stated that "the parties...recognize that construction work covered by the terms of this Agreement shall be performed in a manner that will cause the least disruption of the continuing operation of the airport, and therefore to achieve that goal a second (2nd) and/or third (3rd) shift may be established without the scheduling of any previous shifts..."

However, the centerpiece of the scheduling provisions was a Flex Time clause, which the parties agreed to with the understanding that the airport needed to maintain "efficient operations...while complying with...noise mitigation requirements, all federal and state requirements, and...[attending to] the needs of the traveling public." The Flex Time arrangements allowed for several possibilities: a staggered work week of seven days on and two days off; four ten hour days; and eight hour days with adjusted start and quit times. The PLA also allowed for "any other mutually agreed upon alternative work schedule."

The project was completed several months ahead of schedule and, in 1997, received an award for construction management from the Associated General Contractors. Simultaneous with the new terminal's opening, Southwest Airlines selected T.F. Green as its access point to the Southeastern New England/Boston market. Southwest is now the airport's leading airline and the main reason for the airport's current success. Certainly, factors other than the PLA—not least a mild winter in 1995—contributed to the early and within-budget delivery of the terminal. But the project remains a source of pride for all those involved in its construction and is frequently cited as an example of the ability of PLAs to accommodate the specific needs of a construction user and produce a favorable outcome on a public project.

East Side Union High School District

In March 2002, voters in San Jose's East Side Union High School District approved a $300 million bond issue to be used for school construction and renovation. Virtually every high school in the district was to undergo comprehensive renovations, and several new facilities—such as adult learning centers, a gymnasium, and even a cable television and radio studio—were to be built at some of the schools. Although some work had already taken place, in 2004, the district entered into a PLA with the Santa Clara and San Benito Counties Building and Construction Trades Council. The district decided on the PLA, in large part, for a rather distinctive reason: it saw it as a mechanism to expand its vocational education programs into both the blue collar and white collar construction occupations. The district has a well-established vocational education program that is part of its overall career services approach to education.

East Side already had up and running several vocational academies and other programs, including the Oracle Internet Academy, an electronics academy, a teaching academy and specialized programs in biotechnology, computer-assisted design and health care. The district viewed a PLA as a means to establish a program in construction occupations.

Hence, the novelty of the East Side PLA and the sweetener that led to its signing was a provision connecting work under the PLA with establishment of a Construction Technology Academy. The Academy would offer pre-apprenticeship training, summer internships, and jobs in both the trades and white collar construction occupations.

An appendix of the PLA contains the essential elements of the plan:

> *The Parties have agreed to create a Construction Technology Academy ("Academy"), funded by the District, to carry out the*

training and employment objectives of Appendix B. The overall objectives are to (a) offer opportunities and skills necessary to enter post-secondary study [including construction apprenticeship programs as well as college education] and to pursue lifelong learning within the broader context of the building trades industry; and (b) develop and reinforce academic course content standards in order to maximize career opportunities and technical competency.

East Side already had up-and-running several vocational academies and other programs, including the Oracle Internet Academy, an electronics academy, a teaching academy, and specialized programs in biotech, computer-assisted design, and health care. The district viewed a PLA as a means to establish a program in construction occupations.

This point (b) recognized that schools would do a better job if the school curricula were tied more closely to industry needs and directions. In construction, unions as well as contractors, pay close attention to technological trends and customer demands. Thus, connecting the school's curricula to the knowledge held by contractors, unions, and joint apprenticeship boards was seen as an effective method of tying industry directions to school curricula in the case of construction.

A sixteen member steering committee was created by the PLA that would oversee the Academy. Membership on the committee included representatives of the joint apprentice training councils, the building trades council and the school district.

One task of the steering committee was to oversee a summer internship program. described in the PLA.

In addition to the foregoing, which bound the school district, the unions and the joint apprenticeship training councils together, the PLA required contractors on East Side's work to provide jobs for graduates of the district's Construction Technology Academy. The PLA's goal was for students to actually obtain jobs as interns, apprentices or in other unskilled positions.

This novel approach to project labor agreements remains experimental. Nonetheless, those involved with East Side's vocational education program are, thus far, very happy with the PLA. One East Side official familiar with the PLA and its internship program stated:

> The PLA says that contractors working on projects will provide thirty internships of five weeks duration every summer. In the first two weeks our students are introduced to construction and rotated through the trades. They also spend five hours a day at the various apprenticeship training facilities with exposure to classroom and benchwork training. Also our students can intern with the contractors with exposure to estimation, engineering and the legal aspects of construction. We have a four year construction and construction engineering program, and the PLA allows us to connect our vocational education to the world of work. It's a perfect fit. We want our contractors working on our schools in the summer when we are out of session and that's just when the students are available for summer internships. This way the district gets double use out of its construction dollars. We have fifteen vocational education programs from aerospace to office clerical. This construction program connected to the PLA is our most exciting effort because it's not just a partnership with an individual or a company. It's a partnership with a whole industry. Our program is considered a pre-apprenticeship program, and its graduates have priority entering into union apprenticeship programs. And it makes sense for the unions too because first of all, a lot of our students are minority students, and the unions are always trying to recruit minorities.

And second of all, our students have exposure to construction. They know what they're getting into. So the unions know these applicants to their apprenticeship programs are serious.

Because the PLA is new and the Construction Technology Academy program takes four years to

PLA language on the East Side district's construction academy

In order to facilitate the goals of the Academy, the [School] District and [Building Trades] Council agree to create a steering committee, which will conduct meetings at least once a month during the district academic year to develop the goals of the Academy; plan for the presentation and content of training lectures to facilitate employable skills in the construction trades; develop a summer schedule for training; organize and develop summer internship positions; assist in planning curriculum scope and sequencing; design co-curricular activities; identify sources for educational and financial support; and otherwise initiate steps to carry out the goals of the Academy. The committee shall consist of sixteen (16) members, of whom five members shall represent the trade JATC's [Joint Apprenticeship Training Councils], three members of the Building Trades Council, six members from the district, including one member who shall be from district management and one member from a community college district. The district management representative shall be the presiding officer of the steering committee. The steering committee shall make recommendations to the district administration. The Academy Steering Committee, in coordination with the district's career services representative, shall develop and implement a plan for annual assessment of the goals and objectives of Appendix B in order to maximize the employability of the summer interns described below.

1) Annual Training Summer Sessions. Annual summer intern training sessions developed by the Academy Steering Committee shall be made available for qualified district students nominated by the district.

a) Purpose of Summer Training Sessions. The purpose of the summer intern training sessions is to teach the interns employable skills in the construction trades. The skill sets to be taught by the District shall, in part, include materials taken from a curriculum known as "SCANS," which identifies and teaches such general employability skills as dependability, responsibility, working with other people, active listening (i.e., receiving and responding to instruction), organizing work tasks and utilizing technology. The other skill sets shall include the proper use of tools of the construction trades in addition to practical application of skills in the construction trades. The sessions shall include classroom and job visit components.

b) Number of Interns. The goal for the summer program of 2003 shall be twenty (20) internships available for students nominated by the district. For the second year of the contract, the goal for internships available shall not exceed thirty (30) per calendar year.

c) Number and Scope of Training Sessions. For the first year, the number of summer training sessions shall not be less than eight (8) in number. The scope of the training sessions, and the presenters, shall be developed by the Academy Steering Committee. For subsequent years, the scope

and presenters of the training sessions shall be as developed by the Academy Steering Committee. All training sessions shall be hosted by the Trade JATC's according to the scope developed by the Academy Steering Committee.

2) Employment of Interns. Beginning July, 2003, the Building Trades Council shall make arrangements for contractors working under the Project Labor Agreement to employ up to twenty (20) interns selected by the Academy Steering Committee. The interns shall be paid no less than $10.00 per hour for on-the-job training but not for periods of time attending the classroom training sessions. The sessions shall occur over a minimum of four and a maximum of five weeks for summer internship positions beginning in July 2004, the Program Manager agrees to endeavor to employ or make arrangements for the employment of up to thirty (30) paid intern positions of students selected by the district for the same time and rate of pay as for July, 2003. Each year thereafter, the goal shall be to employ up to thirty (30) interns at the same rate and for the same duration unless otherwise agreed to by the district and the council. The employment shall be practical and relevant to the apprenticeship requirements for the building trades, with emphasis on at least five major crafts selected by the Academy Steering Committee for each year of the contract. Due to safety, prevailing wage and related issues, the interns shall not be employed directly on the public works projects that are the subject of the Project Labor Agreement and this Appendix B.

3) Intern Program and Priority on California Apprenticeship Council Approved Program Apprenticeship Lists.

a) Establishment of an Intern Program through the Academy and Program Manager. An intern program for construction trades careers shall be developed by the Academy Steering Committee to help facilitate placement into a California approved apprenticeship program upon successful completion of the classroom coursework and the summer intern sessions.

b) Priority on Apprenticeship List. The training and employment program of the interns shall be developed by the Academy Steering Committee such that graduating interns shall possess the skills, training, and educational background to help the graduate achieve priority on the lists of the Building Trades Apprenticeship Programs for those which maintain a list and direct entry for those programs where direct entry is possible. It is recognized that the Apprenticeship Programs operate according to existing Standards approved by the Division of Apprenticeship Standards of the State of California Department of Industrial Relations and the standards set forth in the collective bargaining agreements for each building trade. Therefore, in order to maximize the opportunity that graduates may achieve a priority standing on an apprenticeship list or direct entry to an apprenticeship program, the Academy Steering Committee shall develop a plan for an annual assessment of the goals and objectives set out in this appendix B and in so doing, shall coordinate with the District's Career Services representative. The annual program assessment by the Academy Steering Committee shall follow the completion of each summer internship program.

complete, the success of this program in eventually landing these students in apprenticeships or in white collar occupations with contractors has yet to be tested. The unions cannot guarantee entry into apprenticeship programs. All they can do is help create a solid pre-apprenticeship program that will enhance the student's ability to qualify for these post-high-school apprenticeships.

The language of the PLA also establishes a limit on the number of interns at thirty per summer. This reflects the unions' concern that they not promise more downstream work than will be available. The PLA is silent on the number of interns after the second year of the contract. This reflects a reality of this innovative contract—the parties are feeling their way along a new path, and they are not sure whether the program can grow, will remain steady or will have to shrink over time.

Another possible issue is how evenly students get spread across the different trades involved on East Side projects. If all thirty students decided they were interested in only electrical work, the electricians' apprenticeship program might feel unduly burdened. These sorts of potential problems underscore that using PLAs to create journeys from school to work in construction is a work in progress.

On the other hand, there is considerable evidence that the construction labor force is aging. The baby-boom generation is retiring, and the need to adequately train and replace the existing skilled construction labor force is unusually problematic in this period. A recent report by the Construction Labor Research Council concluded:

> Labor shortages during the boom period of the late 1990's and early 2000's, as well as greater focus on the aging work force in the United States, have increased awareness in the construction industry of the importance of attracting new entrants...The years 2005 through 2015 will require large numbers of new entrants into the construction trades. Annual new entrants of craft workers into the construction industry are estimated to be 185,000 persons. Needs will be almost evenly divided between growth and replacement. Like other industries, construction will be significantly affected by an increasing number of older workers leaving the labor force. Available to replace them will be young workers whose numbers will be little changed throughout the period. As this, too, affects all industries, the construction industry will be challenged in attracting an adequate supply of qualified new entrants.[82]

This view of the future is shared by the Santa Clara Building Trades. In a report prepared for the U.S. Department of Labor by the Silicon Valley Workforce Investment Network and the Santa Clara Building Trades, entitled Extending the Ladder, the unions and local construction users state:

> We have seen the average age of an apprentice in the Trades rise to almost 30 years of age. At the same time, we have seen the average age of a journeyperson rise to almost 40 years of age, and last but most significant is the fact the average retirement age is now closer to 50 than 60. These statistics represent two very significant realities: (1) the construction industry is on the precipice of a crisis in the availability of skilled trades people, and (2) an enormous opportunity for youth wishing to pursue a skilled career currently exists.[83]

This concept paper—pitched to the U.S. Department of Labor in the hope of receiving a federal grant—grew out of the experience of the Santa Clara Building Trades with the East Side PLA and proposed to extend this model to other school districts:

> At the core of this proposal is a partnership led by employers, labor, high school and community college districts, and the Silicon Valley Workforce Investment Network (SVWIN) Board. These parties have come together to pur-

> sue a unique and creative way to address the needs of the construction industry and youth through a partnership that leverages State and local construction bond dollars to place graduating high school seniors and community college students into full-time, high-wage jobs in the Construction Trades.

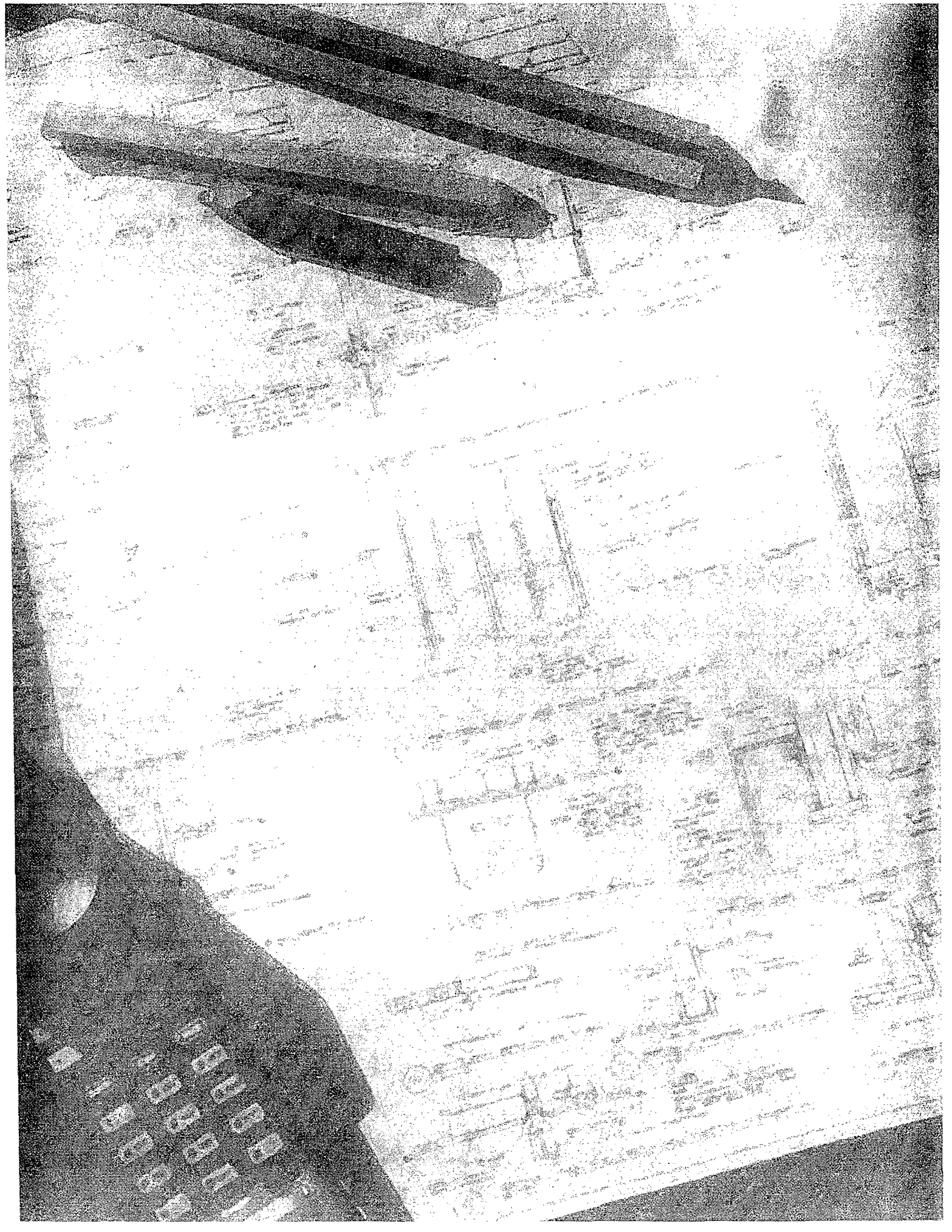
A local union leader involved in the creation of the East Side PLA and the establishment of the East Side Construction Academy explained the key unique provision of the PLA was its requirement for internships combined with language that ensured graduating students would actually get jobs either as apprentices or as material handlers. He argued that the unions were motivated by the need to "get back into the high schools" in order to recruit a qualified pool of younger workers to replace an experienced but aging union work force. The key problem, in his view, was to facilitate effectively the movement of younger workers into the union workforce in the face of apprenticeship admissions regulations that require nondiscrimination and equal and fair access to these programs. He indicated the solution was in the PLA proviso that required participating contractors to provide graduating students with jobs either as apprentices or material handlers. This requirement meant that students would at least transition to non-craft material handling jobs from which their additional experience would give them a leg up on admissions to apprenticeship programs. He stated:

> We all recognized the need to get back into the high schools and the current practice of begging the districts to allow us to talk to students for an hour or hold a career fair was not going to turn the tide. We needed to get back into the schools in an institutional manner.
>
> We realized that previous programs that were providing training/assistance to youth and others in the community to gain them knowledge and experience that would hopefully get them into an apprenticeship were not always successful. In fact some were creating unrealistic expectations on behalf of both the applicants and the programs. Upon graduation/completion there was no job available and they became just another name on the out-of-work list.
>
> We saw the opportunity that this PLA could serve in getting back into the schools in a meaningful way that could also solve the problem created by economic uncertainty we had previously experienced with other programs. By contractually binding, through the PLA, contractors to participate in the academy by requiring them to hire individuals that had graduated from the program, we could overcome the downfall of other programs.
>
> However we knew that we faced some traditional hurdles if we were thinking of circumventing long-established and heavily-regulated apprenticeship placement policies/criteria. So we proceeded to sit down with all the [Joint Apprenticeship Training Councils] to find out what they believed would work to make this happen. With their help, we crafted language that met the needs of the program and yet did not ask JATCs to violate their own selection criteria or placement policies. We achieved this by understanding that most graduates of the academy would do well on the entrance exams and interviews, but some may not score at the very top, which would be needed if they were to seamlessly enter into the apprentice program of their choice. So we worded the agreement to accommodate this by requiring contractors to provide jobs that although not apprentice positions were jobs that the student could easily transition into an apprenticeship with that same employer. It is common, for example, for a material handler which is not an apprenticable occupation, to receive an apprenticeship by virtue of their experience and work history.
>
> The important thing was that we were breaching the obstacle that all other programs could

not. We were putting people into jobs and not onto lists. And by putting people directly to work in the industry of their choice upon graduation, we have achieved something that to the best of our knowledge has not yet been previously done.

Thus, the East Side PLA is innovative in several ways. First, it is an example of a new form of PLAs, which attempts to find new areas of win-win in construction collective bargaining by bringing a new player to the table—the construction user. Second, it is an effort to solve a union problem—getting back into the high schools in an established, institutionalized fashion in order to better compete with other industries for talented students in the context of the worker replacement difficulties posed by the retirement of the baby boom generation. Third, it is an effort to solve a school district's problem of creating meaningful education for the non-college bound, an education that provides the student with an awareness of possibilities, prepares the student appropriately for the demands of the labor market, gives the student experiences that will qualify the student for advancement and allows the student in this case to test drive a full range of blue and white collar opportunities within an entire industry. This is what the East Side vocational education official meant when saying that the advantage of the Construction Technology Academy was that it created a relationship not with an individual or a company but "a partnership with a whole industry." Finally, by requiring participating contractors to provide employment, through the auspices of the PLA, this particular institutionalization of a journey from school to job seeks to overcome the weakness of previous similar experiments by putting students to work rather than putting them simply on job lists. Certainly, this PLA, like other PLAs, was motivated by traditional concerns for work and the conditions of work on the part of unions and an effective supply of skilled and qualified labor on the part of owners. But in the case of this PLA, these traditional motivations were not paramount. The novel and experimental motivations listed above were the fundamental reasons for the signing of this PLA.

A local union leader involved in the creation of the East Side PLA and the establishment of the East Side Construction Academy explained the key unique provision of the PLA was its requirement for internships combined with language that insured graduating students would actually get jobs either as apprentices or as material handlers.



Principal Findings

■ Project Labor Agreements (PLAs) have been used for many years, perhaps as early as World War I. However, the use of PLAs has changed over the years. Once reserved for very large, isolated or specialized projects, today PLAs are used on a wide range of projects.

■ PLAs are prehire collective bargaining agreements that cover the terms and conditions of employment on a specified construction project or set of projects. PLAs require that all contractors on a project, whether typically union or not, abide by collectively-bargained terms and conditions of employment, including paying union scale, using union referral systems, etc.

■ An essential difference between PLAs and area agreements is that the principal parties in most negotiations are the building trades' unions and representatives of construction users, rather than unions and contractors.

■ The use of PLAs on public sector projects has become increasingly controversial over the past 15 years. All levels and branches of government have been brought into the PLA dispute. Court cases during the period have generally been over the issue of whether a PLA violates state or local bidding laws or regulations.

■ The controversy over PLAs has spawned a number of studies on the effects of PLAs on the bidding behavior of contractors, construction costs, construction wages and several other issues. However, much of this research is flawed because of inherent difficulties in conducting such research, poor methodology or predetermined conclusions.

■ Our research on bidding behavior and costs finds that PLA neither decrease the number of bidders on a project nor increase or decrease a project's cost when other important variables are taken into account. However, previous studies that have found a strong positive effect of PLAs on project cost failed to account for other important variables and, as a result, inflated the presumed impact of a PLA.

■ Assuming cost neutrality, other aspects of PLAs should be considered. Interview and case study evidence finds high satisfaction with PLAs by stakeholders and suggests that PLAs can be used to improve scheduling, safety, training and minority employment.

■ A problem with PLAs in many areas is a lack of contractor participation in negotiations, which can lead to the needs of a specific industry being ignored. One solution, which is used in a number of jurisdictions, is the development of a model PLA through a standing labor/management committee.

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Project Labor Agreements' Effect on School Construction Costs in Massachusetts

DALE BELMAN, RUSSELL ORMISTON, RICHARD KELSO, WILLIAM SCHRIVER, and KENNETH A. FRANK*

This paper investigates the impact of Project Labor Agreements (PLAs) on school construction cost in Massachusetts. Although simple models exhibit a large positive effect of PLAs on construction costs, such effects are absent from more completely specified models. Further investigation finds sufficient dissimilarity in schools built with and without PLAs that it is difficult to distinguish the cost effects of PLAs from the cost effects of factors that underlie the use of PLAs.

Introduction

CONSTRUCTION INDUSTRY PROJECT LABOR AGREEMENTS (PLAs) are collectively bargained pre-hire labor contracts negotiated between property owners and building trades unions. The essential features of PLAs are that successful bidders—even those operating non-union—must adhere to requirements for union referral, union security, and collectively bargained compensation. In exchange, unions assure timely access to labor and typically agree to harmonize work scheduling provisions among the trades, forego certain types of premium pay or pay increases, and give up the right to strike for the duration of the project. Building trades unions have increasingly used PLAs to protect and expand their position in construction markets. Open shop contractors and their trade organizations have responded with legal and political challenges to many publicly funded PLAs such as the Boston Harbor and New York State Thruway projects. The debate over PLAs has focused on project timeliness, quality, safety, training,

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minority employment, employee benefits, and labor peace; however, the central issue has been their effects on public construction costs. The zigzags in federal policy on PLAs over the last 20 years reflect the intensity of this debate.[1]

The current research investigates the effect of PLAs on the cost of new school construction in Massachusetts between 1996 and 2002. Using models with few explanatory variables, prior research on school construction found that PLAs increased bid price between $12.91 and $25.67 per square foot, or 14–17 percent in the Greater Boston area (Bachman et al. 2003). A concern with leanly specified models is that the PLA variable may proxy omitted characteristics that also influence construction costs. To correct for this, the current authors collected unique data on new school construction in Massachusetts. Using these detailed data, we develop a more complete model of school construction costs incorporating information on features such as swimming pools, mechanical systems, non-classroom space, and athletic facilities that architects and engineers use to estimate project costs. Our initial estimates suggest that (1) much of the PLA effect is attributable to the higher costs of building within the city of Boston and (2) although PLAs are associated with substantially higher costs in leanly specified models, there is not a statistically significant relationship between the PLAs and construction costs in more complete models.

Although more completely specified models are preferred in establishing the *ceteris paribus* effect of PLAs, our research finds substantial multi-collinearity between the PLA variable and measures of school characteristics in the more complete models. This is a product of the relationship between project complexity and the decisions to use a PLA; more complex and expensive projects are more likely to use PLAs. In combination with the relatively small number of observations in construction data sets, this precludes accurate estimation of cost effects of PLAs in an adequately specified model. In essence, using extant data it is not possible to estimate the effect of PLAs *holding all else equal.*

Background and Research on PLAs

Although nascent PLAs date to World War I, PLAs came into widespread use following World War II on atomic energy, defense, and space projects

[1] PLAs were widely used as a federal contracting tool from the 1950s on. President George H. W. Bush barred use of PLAs on new federal or federally funded projects immediately prior to the 1992 election (Executive Order 12818). President Clinton revoked 12818, restoring the prior status quo, in early 1993 (Executive Order 12836). This was augmented in 1997 with a memorandum providing criteria for use of a PLA and the minimum terms to be incorporated into an agreement. President George W. Bush banned the use of PLAs on federal projects shortly after taking office in 2001 (Executive Order 13202). In turn, President Obama revoked 13202 and restored the use of PLAs in federal contracting on February 6, 2009.

(Dunlop 2002; McCartin 1997). These agreements banned work stoppages and provided uniform premium pay, shift, and holiday provisions across trades. Project owners and contractors operating in the densely organized industrial and heavy construction sector favored PLAs as they banned contract and jurisdictional strikes and often provided more favorable terms than local agreements (Belman, Bodah, and Phillips 2007). This began to change with the increasing capacity of the open-shop sector in the 1970s and 1980s (Allen 1988; Linder 1999). Non-union contractors viewed PLA requirements as an impediment to competing for work. Working through the Associated Builders and Contractors, the open-shop sector has mounted legal, political, and media challenges to public sector PLAs. The legal strategy foundered when the U.S. Supreme Court (1993) allowed public bodies to sign PLAs in their role as construction owners in its *Boston Harbor* decision. Parallel decisions by New York and Massachusetts courts have upheld the right of public bodies to use PLAs where they can be shown to provide advantages.

Conflict over PLAs then moved into the political arena of administrative and legislative bodies. There, public debate has centered on the effect of PLAs on construction costs. Opponents of PLAs argue that the requirement to follow union employment practices raises costs by compelling open-shop contractors to pay higher wages and benefits and adopt inefficient labor practices. PLAs are also theorized to raise bid costs by reducing the number of competitors bidding on projects when open-shop firms decide not to compete for work. Proponents argue that PLAs improve projects' timeliness and reduce costs by providing access to skilled labor on a timely basis, by improving labor productivity by harmonizing hours of work across trades, providing favorable overtime rates, replacing strikes with dispute resolution procedures, and sometimes providing wage concessions. These are theorized to reduce costs by shortening time to completion, avoiding delays, and reducing labor input. The effects are especially important on time-sensitive projects such as airports, hospitals, and manufacturing facilities. Timely completion allows projects to begin earning revenues sooner and avoid logistic problems such as those that occur when schools are not completed on time.

The Current Research

The current research is not, in construction parlance, a greenfield project. Prior research found PLAs raised school construction costs by 14–17 percent in the Greater Boston area (Bachman et al. 2003). These results were obtained from leanly specified models: the favored specification included only a PLA indicator, a measure of project size, and whether the project was a new

construction or a renovation.[2] The current research extends this work by measuring the cost impact of PLAs within a more complete model of school construction costs, enlarging the area under study from Greater Boston to all of Massachusetts, limiting the sample to new construction, using final cost rather than bid price, and investigating the relationship between project complexities, use of PLAs, and cost measures. In developing a more complete model of school construction costs, we explore the claim made by Bachman et al. (2003) that PLA and non-PLA schools are similar and little is to be gained from extensive control for the characteristics of construction (Bachman et al. 2003: 8).

The principal source of data for project-based construction research has been the F. W. Dodge Construction Reports. Dodge Reports include virtually every project with a bid price of over one million dollars, with several reports issued during the course of a construction project. All provide the project name, location, type, size, owner, architect and, after the contract award, the general contractor. Depending on when a report is issued, successive reports will also provide an architect's estimate of project costs, the low bid, or the final offered cost. Although the Dodge Reports have long been used by contractors, they can be inadequate for construction research. The specification information is non-uniform and incomplete. Dodge Reports do not include the final cost of the project when completed or information on how the project changed after the final cost offer. The cost measures available from Dodge are then noisy proxies of completed cost—the true measure of concern to the public.[3]

Given these deficiencies in Dodge construction information, we identified factors believed to affect school construction costs from estimating guides and discussions with construction professionals.[4] The basic unit of a school is the classroom, which occupies the majority of school space and accounts for the bulk of school costs. In addition to classrooms, cost is affected by other types of spaces—including offices, libraries, cooking and dining areas, and athletic facilities. Gymnasiums and auditoriums are more costly than classrooms, and exterior appurtenances such as playing fields add to the bottom line. Site preparation, such as demolition and abatement, also increase project costs, as does

[2] Other models included measures of whether the school was an elementary school, the number of floors, and the distance from Boston. The basic model was also estimated by type of school (elementary/non-elementary) and project size (Bachman et al. 2003).

[3] As the primary Dodge audience uses reports to learn about opportunities to bid on projects, timeliness, rather than absolute accuracy, is an overriding concern. Comparisons of Dodge square footage with final size reported to our survey found that the Dodge Reports were within 1000 square feet for thirty-nine of the seventy schools, between 1000 and 5000 feet off for seven schools, between 5000 and 10,000 feet off for four schools, between 10,000 and 20,000 feet off for five schools, and more than 20,000 feet off for six schools.

[4] See *Square Foot Costs* (R.S. Means Co. 2001) and *Building and Renovating Schools* (Macaluso, Lewek, and Murphy 2004).

extensive grading and foundation work. Mechanical systems typically comprise about 15–20 percent of project costs, and systems, such as boilers for heating and water-fed coolers for air conditioning, are more expensive than others. The number of floors in a building has an impact on cost, as does the quality of the construction materials selected. Finally, the educational level of the school is an important determinant of cost as high and middle schools include expensive amenities, such as science and computer laboratories, as well as more elaborate library facilities and auditoriums.

Given our focus on final cost, we used Dodge Reports to identify completed projects from the Dodge List of 2001–2002 starts as well as projects included in prior research. Our study was limited to new construction and projects where the costs of new construction could be separated from the cost of renovations.[5] We contacted architects, contractors, and school officials and, using a consistent list of potential school characteristics, surveyed these parties about project features including the final cost, type of school, type of contract, number of stories, roof pitch, particulars of each project (library, science labs, athletic fields, etc.), site grading, type of mechanical system(s) installed, materials used, and bidding process, and whether there was a liquidated damage clause in the school construction contract. Our survey obtained information on seventy of the seventy-five new schools in Massachusetts for which construction was completed by fall 2003.[6] Information regarding the presence of PLAs was obtained from the Massachusetts Building Trades Council.

Characteristics of PLA and non-PLA Schools

Of the seventy schools in our sample, nine, or 12.9 percent, were built under a PLA (Table 1). PLA schools were larger than non-PLA schools, 172,000 feet against 118,000 square feet; taller, 3.3 against 2.6 stories; more likely to have vocational classrooms, 77.8 vs. 24.6 percent, and more likely to have science classrooms, 100 vs. 65.6 percent. Every PLA project involved demolition work against only half of the non-PLA schools. All nine schools built under a PLA-installed chillers against 45.9 percent of the non-PLA schools. Non-PLA schools were more likely to have tennis courts, 16.4 vs. 0.0 percent. PLA schools also had higher total final costs, $26.8 million against $17.4 million, and cost per square foot, $164.91 against $147.86. Given these

[5] Renovation projects were excluded because of their inherent heterogeneity and problems in defining and measuring key data such as the physical area of the renovation.

[6] We were unable to get responses from contractors or architects for five of the schools on our list.

TABLE 1

VARIABLE NAMES, DEFINITIONS, AND MEANS BY PROJECT LABOR AGREEMENT (PLA) STATUS, MASSACHUSETTS

Variable	Description	Minimum	Maximum	Mean all	Mean w/PLA	Mean non-PLA
PLA	Project built under a PLA	0	1	0.129	1	0
Dodge total cost	Total cost, Dodge Reports	$2.6 mil.	$42.0 mil.	$17.5 mil.	$24.4 mil.	$16.5 mil.
Dodge area (sq. ft.)	Square foot area from Dodge Reports	20,000	284,000	125,337	172,093	117,955
Dodge cost per square foot	dodgetotalcost/ dodgeareaft2	$82.76	$1099.54	$155.34	$141.67	$157.40
Adjusted total cost	Survey total cost, 2002 prices by Engineering News Record Cost Index	$2.9 mil.	$47.0 mil.	$18.6 mil.	$26.8 mil.	$17.4 mil.
Area (sq. ft.)	Survey square foot of the project	23,000	284,000	127,109	162,724	121,855
Cost/square foot, adjusted 2002	totalcostadjusted2002/areaft2	$96.68	$293.15	$150.05	$164.91	$147.86
Elementary	Elementary school	0	1	0.486	0.444	0.491
Other	Other type of school	0	1	0.171	0.333	0.148
Private	Private school dummy	0	1	0.043	0.000	0.049
Story	Number of stories	1	4	2.686	3.333	2.590
Basement	Basement in school	0	1	0.071	0.111	0.066
Demolition	Demolition performed	0	1	0.557	1.000	0.492
Boiler	Boiler installed	0	1	0.971	1.000	0.967
Chiller	Chiller installed	0	1	0.529	1.000	0.459
Central air	Central air installed	0	1	0.386	0.222	0.410
Unit ventilators	Unit ventilators installed	0	1	0.629	0.667	0.623
Ground-coupled heat pump	Ground-coupled heat pump installed	0	1	0.043	0.000	0.049
Unitary package	Unitary package installed	0	1	0.214	0.333	0.197
Steep	Roof pitch—steep	0	1	0.157	0.000	0.180
Low	Roof pitch—low	0	1	0.500	0.889	0.443
Combination	Roof pitch—combination	0	1	0.343	0.111	0.377
Swimming pool	Swimming pool erected	0	1	0.029	0.111	0.016
Cafetorium	Cafetorium erected	0	1	0.614	0.333	0.656
Bandroom	Band room erected	0	1	0.800	0.667	0.820
Auditorium	Auditorium erected	0	1	0.386	0.889	0.311
Elevators	Elevators installed	0	1	0.957	1.000	0.951
Gymnasium	Gymnasium erected	0	1	0.929	0.889	0.934
Kitchen	Kitchen erected	0	1	0.886	1.000	0.869
Library	Library erected	0	1	0.971	1.000	0.967
Science labs	Science labs erected	0	1	0.700	1.000	0.656
Vocational rooms	Vocational shops and labs	0	1	0.314	0.778	0.246
Extensive grading	Leveling of hills, filling of valleys, or similar-scale work	0	1	0.543	0.333	0.574
Normal grading	Clearing urban site, grading a corn field, or similar	0	1	0.457	0.667	0.426
Athletic	Athletic field(s) created (football, soccer, track, etc.)	0	1	0.686	0.667	0.689
Tennis courts	Tennis courts erected	0	1	0.143	0.000	0.164
Boston	Boston School District	0	1	0.057	0.333	0.016

differences, distinguishing the effect of differences in characteristics from the cost effects of a PLA *per se* is central to this research.

Estimation Strategy and Results

We begin by comparing estimates of PLA effects from leanly and more fully specified models using both linear and log cost models. The second section investigates the sensitivity of estimates to controls for construction in the city of Boston as well as difficulties, related to multi-collinearity and over-determination, in distinguishing the effect of PLAs on school costs from the effects on cost-affecting factors that also affect the adoption of PLAs. Finally, we compare the current research with that of Bachman et al. (2003).

Final Cost Models. We estimate our final cost models with two dependent variables: final cost per square foot and log of total cost. Cost per square foot is widely used in construction research but requires costs to be proportional to project size. Although appropriate for characteristics such as classrooms, other features, such as athletic fields and demolition, may not be proportional. Log total cost models estimate the percent increase in total cost associated with a feature.

Cost Per Square Foot Models. Our initial specification is similar to prior work with cost per square foot determined by area in square feet, area-squared, and an indicator that takes a value of one when a school is built under a PLA (Table 2, Model 1). Project size has a negative convex relationship to cost per square foot. Larger projects cost less per square foot but the decline attenuates as project size increases. PLAs are estimated to increase construction costs by $28.57 per square foot; the null of no PLA effect is rejected in better than a 5-percent, one-tailed test. This model accounts for 24 percent of the variation in school costs.

Model 2 adds five characteristics that our interviews suggested should have a large effect on school costs: the number of stories, whether the school was an elementary school, a private school, had a basement, or involved demolition work. Elementary schools cost $25.85 less per square foot, the coefficient is significant in any conventional test. Basements add $13.46 per square foot to school cost, the coefficient is significant in a 10-percent one-tailed test. The private school, story, and demolition coefficients are correctly signed but are not individually statistically significant. r^2 increases, from 24.1 percent in Model 1 to 35.1 percent in Model 2. An F-test for the significance of the

TABLE 2

ESTIMATION OF MASSACHUSETTS SCHOOL CONSTRUCTION COST, ACTUAL COST PER SQUARE FOOT

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coefficient	*t*	Coefficient	*t*	Coefficient	*t*	Coefficient	*t*	Coefficient	*t*
Project Labor Agreement	28.57	2.18	24.10	1.53	23.28	1.19	13.80	1.18	13.88	0.81
Area (sq. ft.)	−0.0008	−2.30	−0.0010	−4.31	−0.0006	−1.19	−0.0011	−4.63	−0.0008	−1.59
Area-squared	2.02*E*–09	2.20	2.42*E*–09	3.68	1.11*E*–09	0.71	2.76*E*–09	4.00	1.75*E*–09	1.12
Elementary			−25.85	−3.17	−26.90	−2.15	−27.10	−3.33	−29.88	−2.45
Private			−20.97	−0.54	9.10	0.30	−39.34	−0.82	−12.45	−0.35
Story			6.16	0.89	−1.73	−0.24	7.92	1.12	−0.31	−0.04
Basement			13.46	1.29	10.34	0.76	7.81	0.65	5.02	0.32
Demolition			5.47	0.74	−0.22	−0.02	3.69	0.50	−1.67	−0.18
Boiler					69.68	2.22			70.85	2.34
Chiller					9.11	0.95			6.76	0.72
Central air					1.56	0.21			0.39	0.05
Unit ventilators					0.38	0.04			1.26	0.13
Ground coupled					10.57	0.75			12.17	0.74
Unitary packaged					4.58	0.38			−0.34	−0.03
Steep					17.23	1.23			16.89	1.23
Combination					10.41	1.27			11.97	1.34
Swimming pool					33.02	1.85			19.02	1.23
Cafetorium					1.90	0.23			0.44	0.05
Band room					−3.04	−0.21			−7.56	−0.53
Auditorium					14.80	1.45			14.92	1.43
Elevators					12.51	0.84			13.68	0.89
Gymnasium					−53.07	−2.56			−55.81	−2.57
Kitchen					11.05	0.62			8.99	0.48
Library					29.70	0.74			42.30	1.01
Science labs					1.21	0.12			−1.93	−0.18
Vocational rooms					−10.94	−0.92			−9.73	−0.81
Extensive grading					0.56	0.04			1.63	0.12
Athletic					−3.01	−0.28			−0.05	0.00
Tennis courts					18.02	1.01			16.51	0.91
Boston							34.11	2.10	39.65	2.78
Constant	197.51	7.57	213.23	9.22	132.17	2.21	219.57	9.27	140.25	2.22
r^2	0.2409		0.3513		0.6259		0.3878		0.6512	
F-statistic-1/ *p*-value	3.11/0.0156		3.39/0.0001		3.39/0.0001		8.59/0.0043		17.02/0.0000	
F-statistic-2/ *p*-value			2.73/0.0017		4.40/0.0407		7.74/0.0075			

NOTES: All models are estimated with seventy observations. *F*-test-1 tests the current model's specification against Model 1. *F*-test-2 tests the current specifieation against the immediately prior specification. For Models 4 and 5, the prior specification is the model omitting the Boston variable. Estimates allow for random error components by school district where there is more than one projeet in a district and for heterogeneity in the error term with the Huber–White correction. Costs are deflated using the *Engineering News Record* construction cost index for Boston.

additional variables rejects the null of all of the coefficients being zero in better than a 1-percent test.[7] With the addition of these variables, the effect of PLAs declines to $24.10 per square foot and is only significant in a one-tailed, 10-percent test.

Model 3 provides a more comprehensive model of school costs with the addition of school and project characteristics. With few exceptions, coefficients are correctly signed and are of moderate magnitude. For example, swimming pools, a particularly expensive amenity, are estimated to add $33.01 per square foot whereas auditoriums add $14.80 per square foot. Many variables are not statistically significant of themselves, but r^2 rises to 62.9 percent; an F-test that the coefficients on the additional variables are all equal to zero rejects the null in better than a 1-percent test. The PLA coefficient is smaller in Model 2 and is no longer significant in conventional tests.

Models 4 and 5 add a control for construction in the Boston School District to Models 2 and 3, respectively. Four schools were built in the Boston School District during the period under study; three were public schools built under PLAs and one was a private school. Urban construction is typically more expensive than construction in suburban or rural areas because of the difficulties of working in urban areas. For example, marshalling yards have to be established away from the construction site. Renting yards is costly in itself; moving materials and equipment from yards to the construction site also consumes time and resources. In addition, the more rigorous building standards of central cities also increase costs, as does the need to guard against theft and damage.[8]

Our estimates suggest that construction in Boston adds between $34.11 (Model 4, Table 2) and $39.65 (Model 5, Table 2) to the square foot cost of a school, the null is rejected in a 5-percent test in Model 4 and a 1-percent test in Model 5. Addition of the Boston variable improves the fit of the model; r^2 increases to 38.8 percent in Model 5 and 65.12 percent in Model 6. The Boston variable causes a marked decline in the PLA coefficient, from $23–$24 per square foot in Models 2 and 3 to $13.80–$13.90 in Models 4 and 5, the PLA coefficient is not significant in conventional tests. These results suggest that the PLA coefficient was proxying for the effect of construction in Boston in the leaner models.

[7] We provide two F-tests for group significance. As the ordering of the addition of variables to Model 1 is arbitrary, the upper test in Table 2 compares the specification for the column with Model 1 specification. The lower F-test is a comparison with the immediately previous specification. As we allow for non-independence and heterogeneity in our error structure we only calculate r^2 and do not calculate $\bar{r}^2$.

[8] The 24-hour protection of public building sites in Boston add about $3.00 per square foot to costs.

Log Total Cost Models. Estimates from the log total cost models, Table 3, parallel those in the cost per square foot models, but the effect of PLAs is statistically weaker in all but the first specification. Results are consistent with the form of the model: total cost is convex in project size; there are economies of size in construction. An additional thousand square feet is estimated to increase school costs by 1.39 percent for a 50,000-square-foot school, by 1.26 percent for a 100,000-square-foot-school, and by 1.1 percent for a 150,000-square-foot school. Given the parallelism between the models, we focus discussion on the PLA measures.

In Model 1, which controls only for the size of the construction project, PLAs are estimated to increase the cost of construction by 16.6 percent, the coefficient is significant in better than a 5-percent, one-tailed test. Addition of controls for the type of school, ownership, and features including story, basement, and demolition (Model 2) reduces the magnitude of the PLA effect to 12.5 percent; it is no longer significant in even a 10-percent one-tailed test. The PLA coefficient declines to 9.7 percent in Model 3, the null hypothesis that PLAs do not affect school construction costs is not close to rejection in conventional tests.[9] Models 4 and 5 add the Boston variable to Models 2 and 3, respectively. The coefficient of Model 4 on PLA is 6.4 percent and that of Model 5 is 3.3 percent. Neither is close to statistical significance. In both these models, schools in Boston are estimated to have a large positive effect on school construction costs.

In summary, the large effects associated with PLAs in the leanly specified Model 1 are a consequence of omitted variable bias. Consistent with this explanation, the size, and particularly the statistical significance of the PLA variable decline in both sets of estimates as we move toward a specification that is more in keeping with that suggested by architects and engineers. There is however evidence of both multi-collinearity and over-determination in the more complete models. Despite the higher r^2 and the results of the F-tests, many of the variables in Models 2–5 are not individually statistically significant. The decline in the PLA coefficient in the cost per square foot model is smaller than the increase in the standard error of the coefficient. Given the relatively small sample, there is reason to be concerned that over-controlling for characteristics, and the consequent increase in standard errors, is the cause of the decline in the impact of the PLA variable.

[9] Some coefficients seem large, notably those on boiler and library. We suspect that they proxy for omitted characteristics associated with these features. In both cases, few schools were built without these features. The only school without a library was a private religious school for low-income students built at a low cost per square foot. The library indicator may proxy for all of the low-cost features of this school.

TABLE 3

ESTIMATION OF MASSACHUSETTS SCHOOL CONSTRUCTION COST, LN(TOTAL COST), ACTUAL COST

	Model I		Model 2		Model 3		Model 4		Model 5	
	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t
Project Labor Agreement	0.1539	2.38	0.1181	1.20	0.0928	0.76	0.0620	0.77	0.0313	0.29
Area (sq. ft.)	1.52*E*–05	6.29	1.11*E*–05	5.95	1.25*E*–05	3.69	1.05*E*–05	5.48	1.11*E*–05	3.35
Area-squared	–2.58*E*–11	–3.60	–1.60*E*–11	–2.96	–2.15*E*–11	–2.18	–1.41*E*–11	–2.56	–1.74*E*–11	–1.79
Elementary			–0.0988	–1.90	–0.0897	–1.23	–0.1056	–2.05	–0.1092	–1.56
Private			–0.5083	–2.30	–0.2317	–1.46	–0.6083	–2.23	–0.3728	–2.09
Story			0.0651	1.44	0.0038	0.08	0.0747	1.62	0.0131	0.28
Basement			0.0270	0.59	0.0705	0.73	–0.0038	–0.07	0.0356	0.32
Demolition			0.0444	0.90	0.0295	0.49	0.0347	0.70	0.0201	0.32
Boiler					0.4749	2.24			0.4826	2.38
Chiller					0.0358	0.59			0.0204	0.34
Central air					–0.0203	–0.36			–0.0280	–0.49
Unit ventilators					–0.0019	–0.03			0.0039	0.07
Ground coupled					0.0362	0.29			0.0467	0.34
Unitary packaged					0.0390	0.44			0.0068	0.08
Steep					0.1278	1.44			0.1255	1.43
Combination					0.0541	1.02			0.0643	1.08
Swimming pool					0.2234	2.06			0.1317	1.48
Cafetorium					0.0440	0.82			0.0345	0.60
Band room					–0.0544	–0.57			–0.0840	–0.91
Auditorium					0.1548	2.17			0.1556	2.14
Elevators					0.0865	0.75			0.0942	0.78
Gymnasium					–0.2742	–2.39			–0.2922	–2.45
Kitchen					0.0595	0.49			0.0461	0.36
Library					0.5024	1.72			0.5849	2.01
Science labs					0.0413	0.58			0.0208	0.30
Vocational rooms					–0.0957	–1.22			–0.0879	–1.10
Extensive grading					0.0287	0.35			0.0357	0.43
Athletic					–0.0243	–0.36			–0.0049	–0.07
Tennis courts					0.1041	0.96			0.0942	0.86
Boston							0.1856	1.98	0.2597	2.93
Constant	15.1747	156.0	15.3622	81.35	14.5063	34.70	15.3967	80.68	14.5592	33.74
r^2	0.8849		0.9015		0.9421		0.9055		0.9461	
F-statistic-1/ p-value			3.46/0.0088		7.42/0.0000		3.03/0.0127		13.47/0.000	
F-statistic-2/ p-value					5.45/0.0000		3.94/0.0524		8.66/0.0050	

NOTES: All models are estimated with seventy observations. F-test-1 tests the current model's specification against Model 1. F-test-2 tests the current specification against the immediately prior specification. For Models 4 and 5, the prior specification is the model omitting the Boston variable. All estimates allow for random error components by school district where there is more than one project in a district and for heterogeneity in the error term with the Huber–White correction. Costs are deflated using the *Engineering News Record* construction cost index for Boston.

Issues with Estimates

The prior estimates bring out two distinct issues: the effect of controlling for construction in the city of Boston and over determination. With respect to the Boston variable, we need to determine whether its apparent impact on the PLA coefficient is due to attributing special properties to one-third of our sample of PLAs. With respect to the issue of over-determination, we face a trade-off between sufficient specification and reducing the degrees of freedom for standard errors and statistical significance (Johnston 1984: 259–264).

Control for Construction in Boston. Although central city construction is more expensive than other construction, Boston construction costs may be particularly high as projects may require pilings; much of Boston is built on fill, and requires 24-hour security. Boston Public Schools are also more expensive than their suburban counterparts as they are permanent buildings.[10] The small data set and the complexity of the interaction between public schools, PLAs, and construction in Boston make separating the effects of PLAs from those of construction in Boston challenging. Three of the nine PLAs in our data are Boston schools. The only non-PLA school built in Boston was one of three private schools in our sample. To better distinguish the effects of location and PLA, we estimate two additional versions of the models that include Boston variables: one with a Boston Public School variable but without the Boston variable and one with both a Boston Public School and Boston variable. We estimate these models for the specifications of the cost per square foot and log total cost for Models 1, 2, and 3 (Table 4). Although these models will not be able to distinguish a Boston Public School and Boston School PLA effect, it will measure PLA effects outside Boston.

Considering the models with just the Boston Public School variable, the PLA coefficient in Models 1′, 2′, and 3′ is about half the size of the estimate obtained in models reported in Tables 2 and 3 and is never statistically significant. The decline in significance is not the result of an increase in the standard error of PLA. The PLA coefficient is estimated with greater precision, a smaller standard error, in models including the Boston Public School variable, but the decline in the standard error is smaller than the decline in the PLA coefficient. Estimates of the PLA effect in models with both the Boston and Boston Public School variable—the lower half of Table 4—are qualitatively similar to models with just the Boston Public School variable. In all models the cost of Boston Public School construction is substantially higher than other schools. In sum, these

[10] Because of these differences, Boston schools, fire stations, and police stations are designed by a city bureau.

TABLE 4

PROJECT LABOR AGREEMENT (PLA) EFFECTS OF CONTROLLING FOR BOSTON PUBLIC SCHOOL CONSTRUCTION

	Model 1′		Model 2′		Model 3′	
	Coefficient	*t*	Coefficient	*t*	Coefficient	*t*
Model with PLA and Boston Public School indicator						
Cost per square foot						
PLA	12.00	0.94	8.34	0.88	8.40	0.47
Boston Public	50.51	2.42	48.37	6.66	48.69	4.16
log total cost						
PLA	0.079	0.92	0.027	0.40	0.0158	0.14
Boston Public	0.228	1.63	0.2779	5.67	0.2521	2.94
Model with PLA, Boston and Boston Public School indicator						
Cost per square foot						
PLA	12.24	0.95	8.11	0.86	5.50	0.29
Boston	−30.77	−0.98	−9.71	−0.15	−47.73	−0.82
Boston Public	81.90	2.14	58.03	0.91	95.24	1.69
log total cost						
PLA	0.083	0.99	0.025	0.36	0.032	0.27
Boston	−0.463	−2.26	−0.097	−0.28	0.269	0.69
Boston Public	0.700	2.81	0.375	1.08	−0.104	−0.03

models indicate that PLAs do not affect school costs outside the Boston area, but it is not possible to distinguish between the Boston Public School cost effect and any effect that PLAs have on the cost of Boston Public Schools.

Sorting Out Multi-Collinearity and Over-Determination. There is evidence of multi-collinearity and over-determination in our more complete specifications. Although the R^2 for the models are reasonable, and F-tests consistently reject the null that additional coefficients are zero, many coefficients are not significant in t-tests and some effects seem large. The variance inflation factor for PLA for Models 2 and 3 were 1.73 and 3.19, respectively, suggesting multi-collinearity between the PLA and other variables. Further, the loss of degrees of freedom in models with large numbers of explanatory variables may inflate standard errors (Johnston 1984: 259–64). The concern then is that the decline in the significance of the PLA coefficient in more complete models is driven more by collinearity and the reduced degrees of freedom in a regression with a modest-sized data set than by the elimination of omitted variable bias.

Although even our most complete model would be viewed as inadequate by a contractor bidding on a school project, the statistical issue differs from such concerns. Our goal is to determine whether a more completely specified model improves our PLA estimates. As our direct approach, adding a reasonable set of variables, has proven problematic, we explore the data by defining a set of

PLA and non-PLA schools that are sufficiently similar that we can compare their costs with few controls.[11] This is implemented using a two-stage propensity score methodology. We first estimate a discrete dependent variable model of the factors determining the use of a PLA on school projects. This model generates the predicted probability, $\ni(Z)$, that the school will be built with a PLA and this is used to weight the second-stage cost regression.[12] Schools that are almost certain to use or not use a PLA have propensity weights of 1, weights for schools for which there is less certainty about using a PLA are larger. In essence, schools that are strongly dissimilar in their likelihood of using a PLA, are given less importance than those that, but for the PLA, are reasonably similar. The latter schools form the "region of common support" (Morgan and Harding 2006).

The first stage was estimated with a logistic model. An issue in estimating discrete choice models on small data sets is that explanatory variables may predict success or failure perfectly, and the perfectly predicted observations are removed from the estimate. For example, as only non-PLA schools were built without demolition, the demolition variable predicted not having a PLA perfectly for thirty-one schools and these observations were eliminated. We initially used the very complete set of explanatory variables for our estimates but, because so many variables were perfect predictors, this specification eliminated all observations. Shorter specifications were also tried with a similar outcome. Finally, we used our prior logistic models to remove variables that were perfect predictors from the logistic model and were able to estimate a model which retained all observations.[13] Even in this greatly simplified model, sixty-two of the seventy observations were predicted perfectly, having probabilities of 0 (non-PLA) or 1 (PLA). Of the eight remaining, only one PLA school had a probability lower than that of some non-PLA schools. PLA and non-PLA schools are then strongly dissimilar and there is no region of common support.

Although this approach did not obtain a set of weights useful for second-stage estimates, it provided insights into the limits of the regression models. PLA and non-PLA schools have different and largely non-comparable characteristics. As the characteristics of PLA and non-PLA schools tend to cluster, there is inherent multi-collinearity and, at least in small data sets, regression

[11] See Rosenbaum and Rubin (1983), Morgan and Harding (2006), Hirano and Imbens (2001), or Robins (1987).

[12] The weight, known as a propensity score, is $100/\ni(Z)$ for schools with PLAs, $100/(1-\ni(Z))$ for non-PLA schools.

[13] The explanatory variables included in this logistic model were size in square feet, story, elementary school unit ventilators, unitary packaged, combination, cafetorium, band room, vocational shops, labs, extensive grading, athletic, ibctype2a, ibctype2b. Comparison of this list with the variable list in Table 1 shows that, once features uniquely associated with PLAs were eliminated from the model, the remaining variables tended to be less important construction characteristics.

analysis cannot distinguish the PLA effect on costs from the effect of characteristics that affect both whether a PLA is used for a school and school costs. It is not possible to make a PLA/non-PLA comparison *other things equal* without expanding the size and variability of the data.[14]

Our results are consistent however with emerging legal doctrine on the use of PLAs. The New York Court of Appeals and the Rhode Island Supreme Court have required that there be an adequate reason to apply a PLA to a project and that sufficient analysis is done to determine whether a PLA advances the purposes of the state's competitive bidding statute. Our finding that PLA projects are fundamentally different from non-PLA projects is consistent with this requirement, countering the view that PLAs are used principally to exclude competitors.

Comparison with Prior Research

How do our results compare with that of Bachman et al. (2003)? Bachman considers the effect of PLAs on the bid price for school construction for 126 schools built in the Boston area between 1995 and 2001 allowing for the effects of project size, the number of stories, and whether the project was a new construction or a renovation. The study was limited to schools with a construction price of at least $5 million and between 40,000 and 400,000 square feet. Seventeen percent of the 126 construction projects were bid with PLAs.[15] Regressing Dodge cost per square foot against area, whether the project was a new construction, and whether the school was built under a PLA, PLAs were estimated to increase the cost of school projects by $18.83 per square foot (Table 5). This estimate suggests that the typical PLA project of 132,000 square feet would cost $2.6 million, 14.0 percent, more than had it been built without a PLA. Models limited to the eighty-five new schools in

[14] The problem may be illustrated with an example from our cost estimates. In some of our work we estimated Model 2 in two stages, first adding elementary and private and then story, basement, and demolition variables. Contrary to expectations by our experts, a referee, and ourselves, it was not possible to reject a null of zero coefficients in an F-test of the latter three variables; two out of three of the coefficients were not close to significant individually. Nevertheless, addition of these variables to Model 2 caused a substantial decline in the coefficient on PLA, from about $32 to $24 a square foot. In models that omitted demolition, story and basement had large positive coefficients. The logistic estimates indicate that each of these variables is, in our data set, strongly related to whether a school adopts a PLA. In the final version of the model, story had a coefficient of 6×10^{23}, indicating a strong relationship with adoption of a PLA. There is then an issue of "fundamental" multi-collinearity; our problem in getting clear estimates is not caused by chance correlations but rather by underlying causal relationships.

[15] Bachman et al. report that PLA projects averaged 151,000 square feet against 134,000 square feet for non-PLA projects. PLA schools cost $152 per square foot against $134 for non-PLA schools. The average bid price was $22.92 and $16.95 million for PLA and non-PLA schools, respectively.

TABLE 5

COMPARISON OF BACHMAN ET AL. WITH SIMILARLY SPECIFIED MODEL USING CURRENT DATA

Variable	Bachman et al. Preferred model	Bachman et al. New school sample	Current research Dodge bid cost sample
Project Labor Agreement	18.83 (4.79)	14.90 (significant at 1 percent)	16.77 (1.32)
New	−17.89 (6.6)		
Square feet (100,000s)	−12.36 (2.5)	a	−30.0 (1.24)
Sq. ft.-squared (100,000)		a	7.87*E*–09 (1.20)
Constant	138.7 (28.0)	a	358.70 (2.03)

NOTES: [a]Variable included but estimates not reported.
SOURCE: Bachman et al. 2003. *Project Labor Agreements and the Cost of School Construction in Massachusetts.* Boston: Beacon Hill Institute; http://www.beaconhill.org/BHIStudies/PLApolicystudy12903.pdf

the sample find that PLAs increase the cost of construction by $14.90 per square foot (Table 5, column 2).

How do our estimates compare with these? The PLA coefficient in the most comparable model in our research, Model 1 in Table 2, is $28.77, twice that of Bachman et al. However, our dependent variable is final cost, not bid cost. Substituting costs from the Dodge Reports for final cost for the sixty-one schools for which we have this data, we find that PLAs increase cost per square foot by $16.77, similar to Bachman et al.'s new school estimates.[16] These results provide reasonable assurance that the differences between our work and that of Bachman et al. is not driven by differences in samples or estimation techniques; our finding on the conflation of PLA effects with those of school characteristics associated with the use of PLAs in lean specification extends to prior research.

Conclusion

The effect of PLAs on the performance of school construction has become increasingly controversial. Prior work has found that PLAs substantially increase the cost of school construction. The current research extends this earlier work by examining the effect of more complete specifications and considers the interaction between school characteristics, adoption of PLAs, and distinguishing the cost of characteristics from the cost of PLAs. Our estimates suggest that, although lean specifications find that PLAs raise the cost of school construction, this does not characterize more complete specifications that better fit the data. However, the more complete specifications suffer from

[16] The estimated effect of the PLA variable for the final cost of new schools is $23.28, about $5.00 per square foot lower, in the sample of sixty-one schools for which we have the Dodge bid price.

multi-collinearity and over-determination. Detailed analysis of the data suggests that the measured PLA effect is because of the three public schools in Boston and that PLAs do not affect school costs outside of the Boston School District. Further, propensity analysis suggests it is not possible to disentangle the effect of PLAs on school costs from the effects of school characteristics that underlay the decision to adopt a PLA. Although it should be possible to disentangle these cost effects with a substantially larger data set, assembling such a data set would be challenging.

This study does not provide a certain answer to the question "why PLAs?" Belman, Bodah, and Phillips (2007) suggest that PLAs are often used where there are hard deadlines for the completion of projects, where the success of a construction project depends on timely access to qualified labor, and where delay has large costs.[17] It may then be that PLAs are neutral on direct construction costs, but are advantageous to owners for whom timeliness is paramount.

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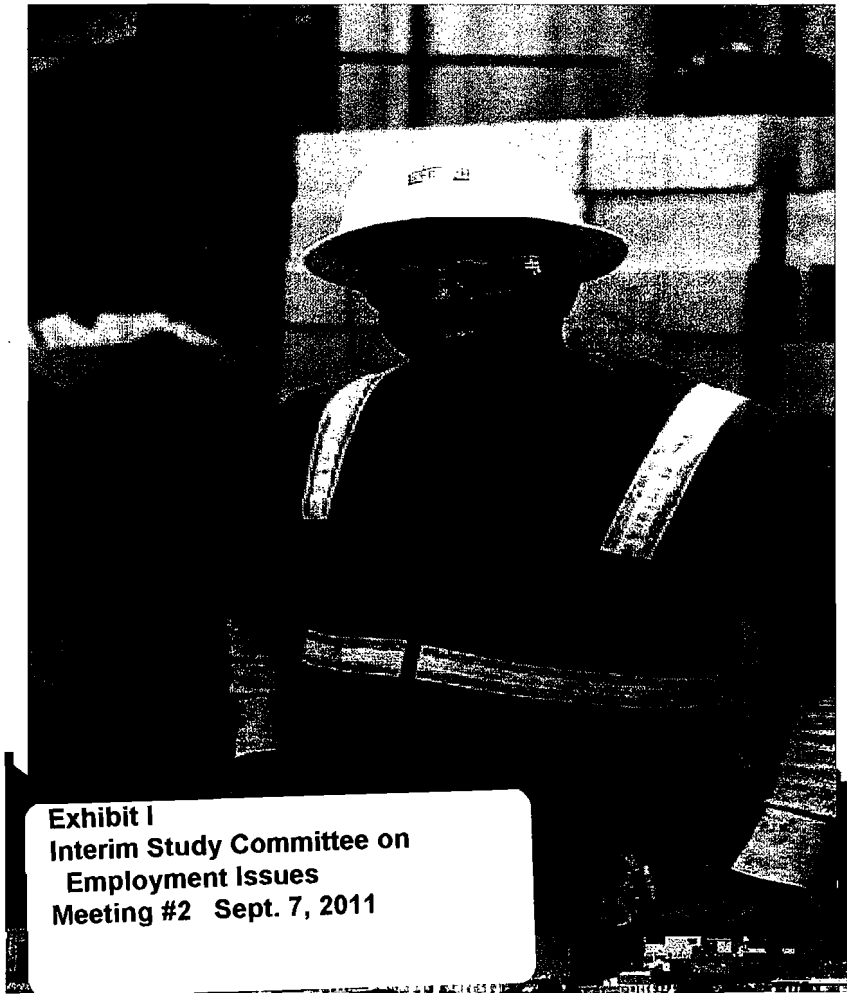
[17] Toyota has used PLAs on all of its major construction projects, more than 38 million hours of construction labor, since the mid-1980s.

Using Project Labor Agreements (PLAs)
The City of Los Angeles Perspective



City of Los Angeles

Department of Public Works

Bureau of Contract Administration (BCA)

John L. Reamer, Jr.

Inspector of Public Works

September 2011

Exhibit I
Interim Study Committee on
Employment Issues
Meeting #2 Sept. 7, 2011

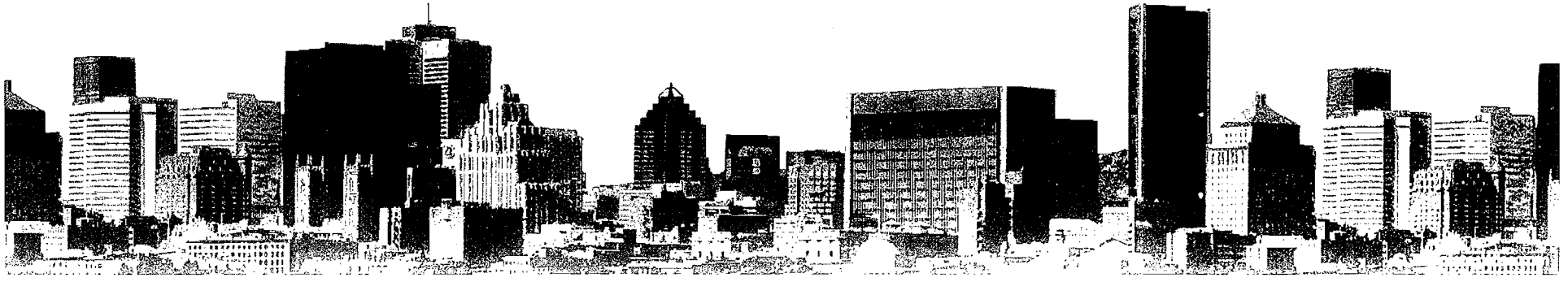
TemplatesWise.com

Bureau of Contract Administration (BCA)
Core Missions

"Building with Quality Today for a Better Tomorrow"

"Quality, Opportunity, Compliance"

"Quality does not cost, it Pays"



How PLAs Complement BCA's Core Missions

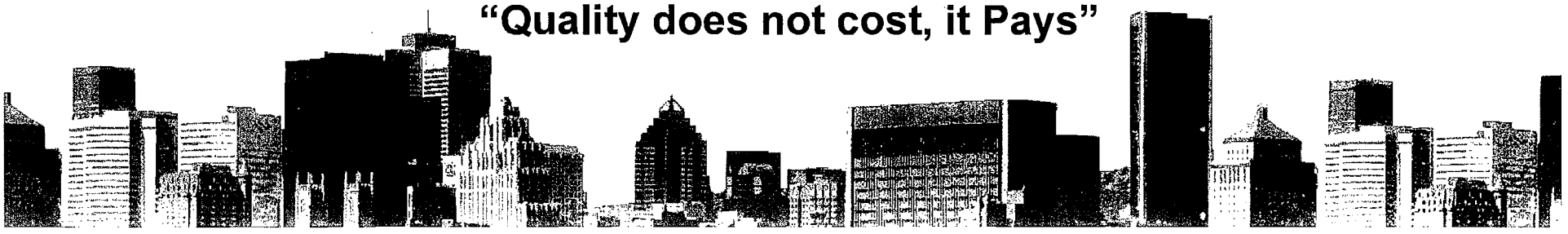
"Building with Quality Today for a Better Tomorrow"

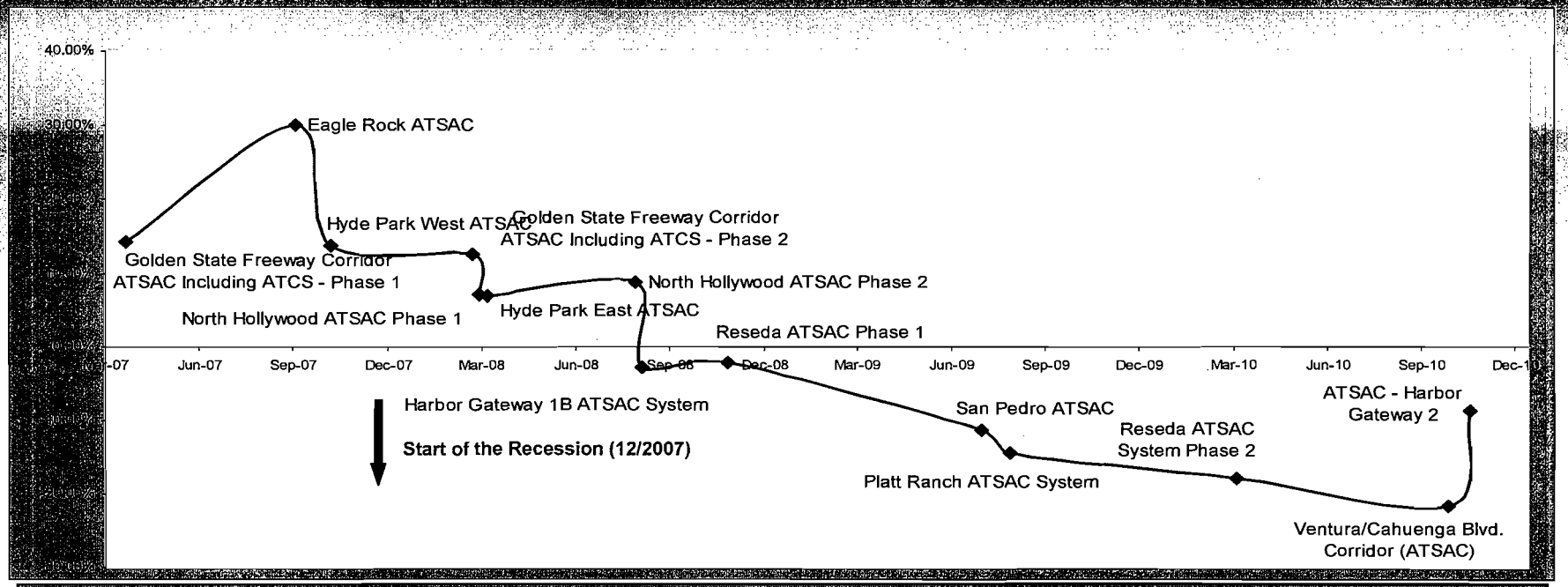
Through

"Quality, Opportunity, Compliance"

- Pledge to work towards a mutually satisfactory completion of construction projects.
- Disruption free work environment due to no strike, no work slowdown, no lockout, no picketing and no sympathy strikes clauses
- Greater access to a pool of skilled craft workers.
- Furthers the commitment of all contractors to pay proper hourly wage rates for those classifications.
- Provide construction employment and training opportunities in ways calculated to mitigate the harms caused by poverty and unemployment.

"Quality does not cost, it Pays"

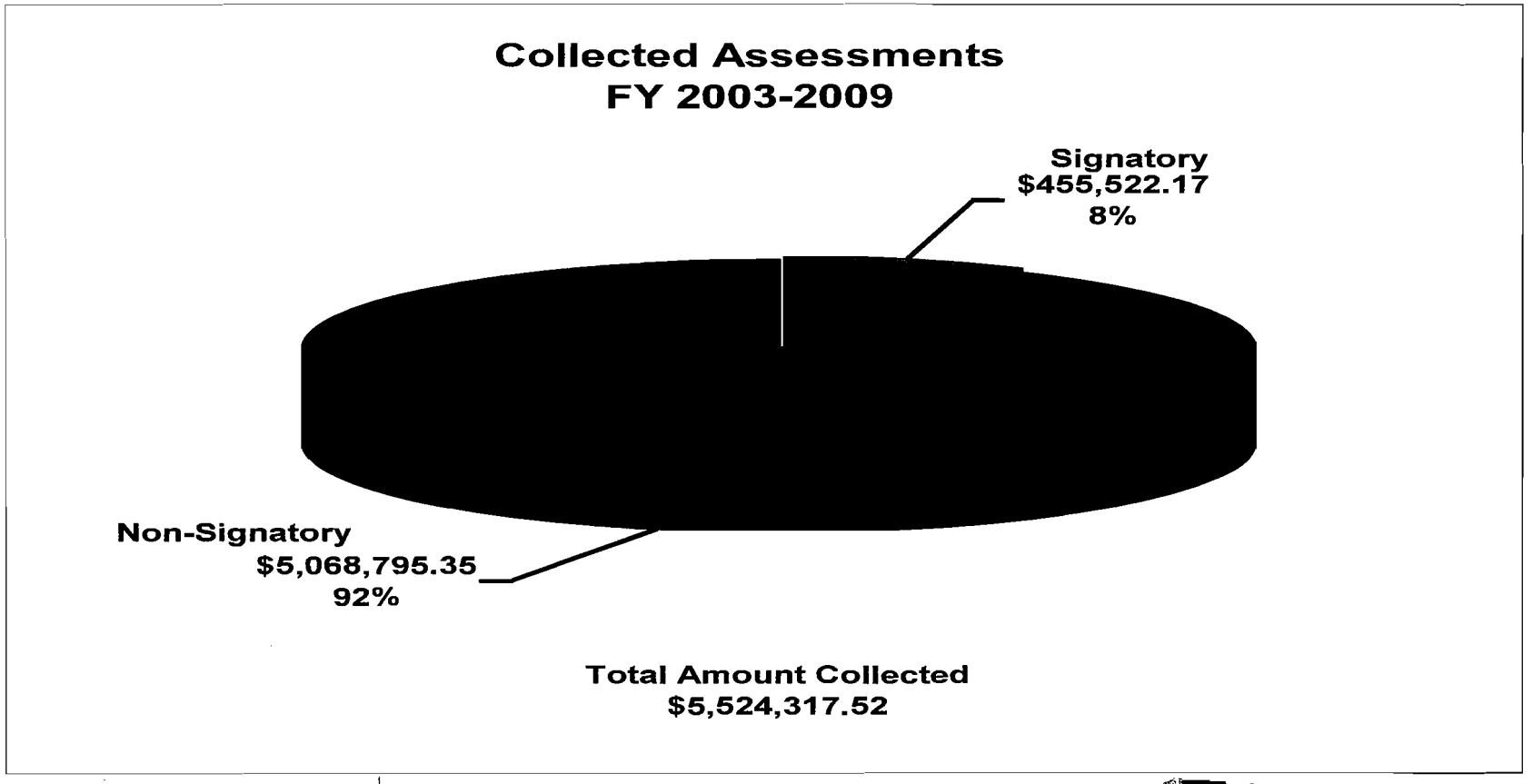




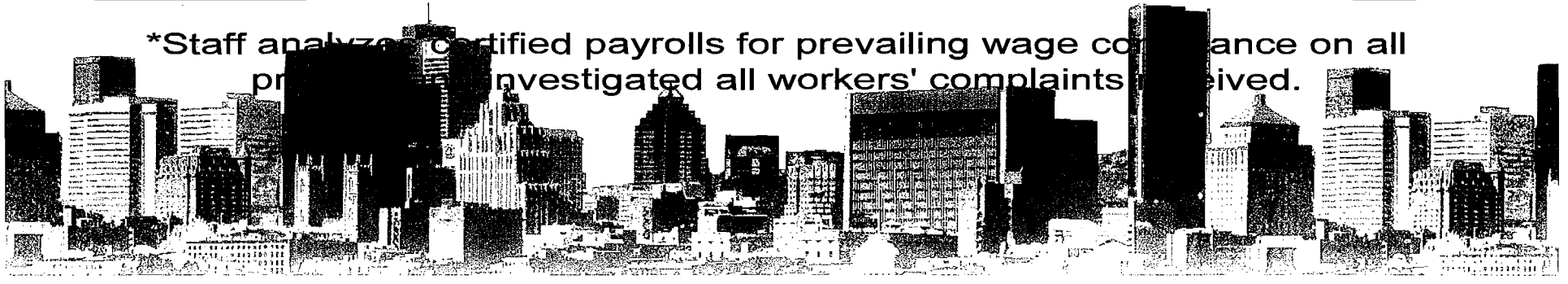
Bid Date	PLA?	Project	Engineer's Estimate	Bid Average	% of Estimate
3/21/2007	N	Golden State Freeway Corridor ATSAC Including ATCS - Phase 1	$6,682,400.00	$7,632,316.33	14.22%
9/5/2007	N	Eagle Rock ATSAC	$4,972,600.00	$6,464,580.17	30.00%
10/10/2007	N	Hyde Park West ATSAC	$5,832,800.00	$6,628,527.33	13.64%
2/27/2008	N	Golden State Freeway Corridor ATSAC Including ATCS - Phase 2	$9,962,500.00	$11,215,606.80	12.58%
3/5/2008	Y	North Hollywood ATSAC Phase 1	$6,102,600.00	$6,539,131.20	7.15%
3/12/2008	Y	Hyde Park East ATSAC	$5,109,600.00	$5,468,373.00	7.02%
8/6/2008	Y	North Hollywood ATSAC Phase 2	$9,197,500.00	$9,999,079.00	8.72%
8/13/2008	Y	Harbor Gateway 1B ATSAC System	$9,823,500.00	$9,553,799.50	-2.75%
11/5/2008	Y	Reseda ATSAC Phase 1	$9,000,000.00	$8,815,300.00	-2.05%
7/15/2009	Y	San Pedro ATSAC	$9,621,200.00	$8,532,969.29	-11.31%
8/12/2009	Y	Platt Ranch ATSAC System	$5,110,600.00	$4,375,244.25	-14.39%
3/24/2010	Y	Reseda ATSAC System Phase 2	$6,813,600.00	$5,598,417.33	-17.83%
10/20/2010	Y	Ventura/Cahuenga Blvd. Corridor (ATSAC)	$2,273,800.00	$1,782,520.53	-21.61%
11/10/2010	Y	ATSAC - Harbor Gateway 2	$8,573,100.00	$7,826,801.25	-8.71%

This table lists the various ATSAC PLA projects that have been awarded in the past 3 fiscal years. The above graph indicates that after the PLA was implemented, the bids for the most part started to trend closer or lower than the engineer's estimate. The bid amounts appear to be more of a function of the state of the economy of the construction industry.

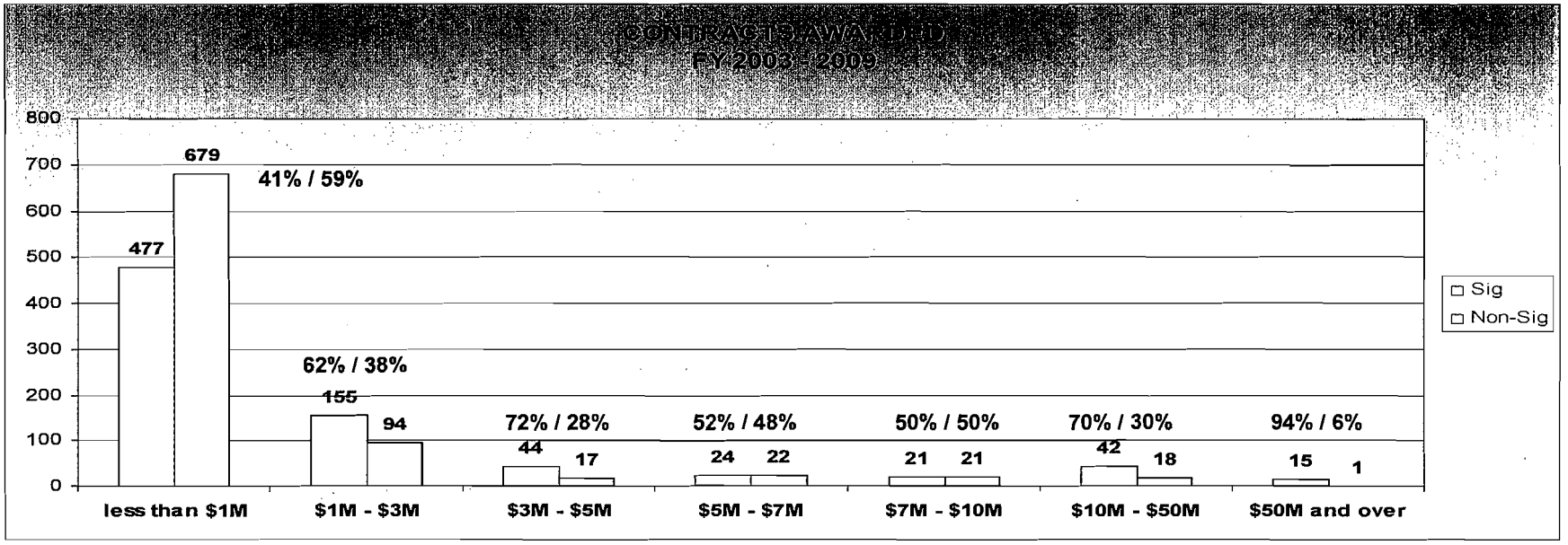
City of Los Angeles Wage Assessments for FY 2003-2009

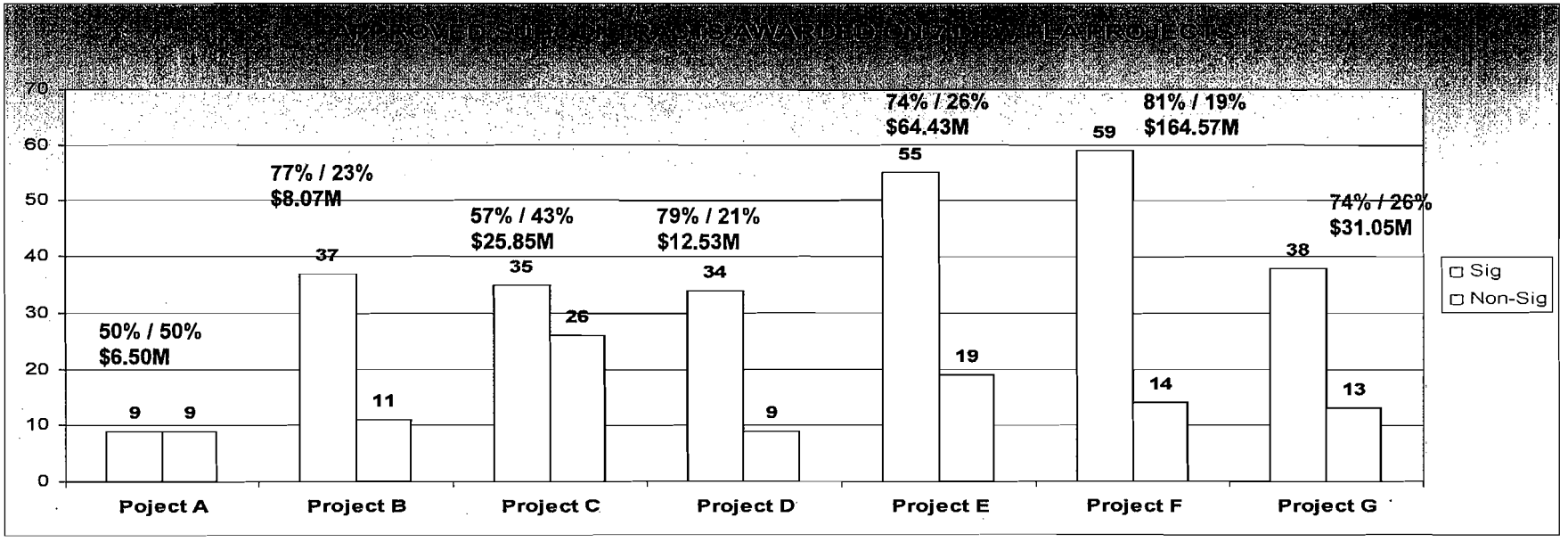


*Staff analyzed certified payrolls for prevailing wage compliance on all projects, investigated all workers' complaints received.

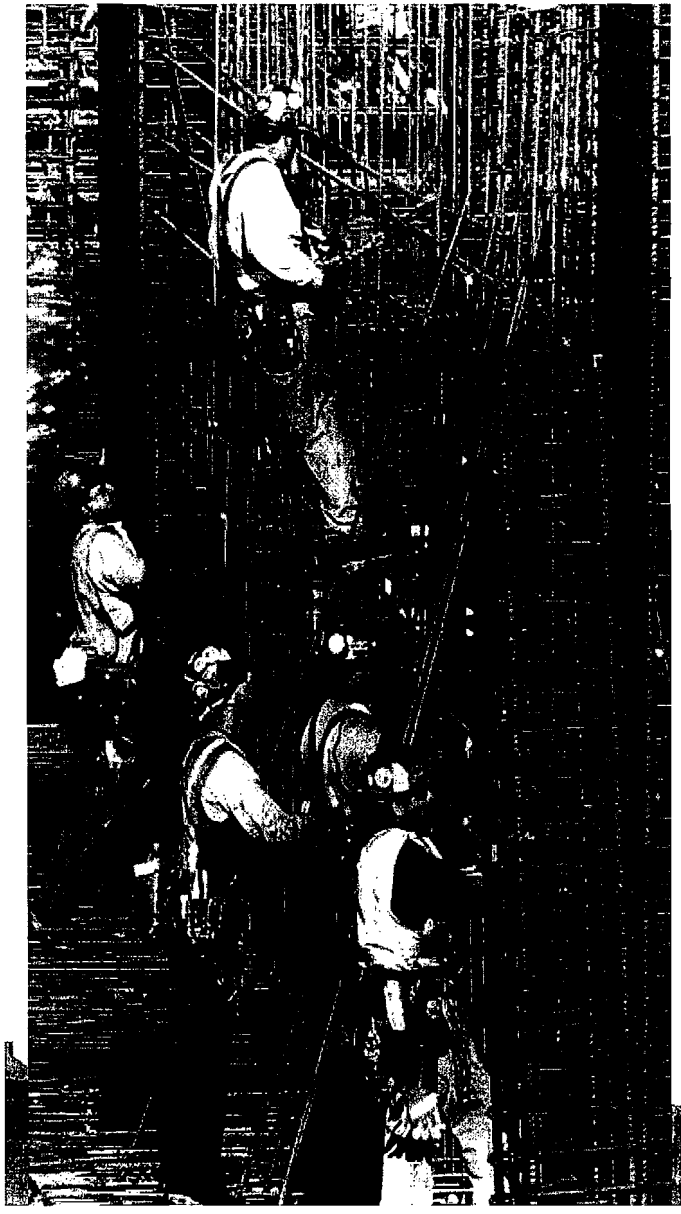


Do PLAs Compromise Competition?





Do PLAs Facilitate Stewardship of Public Funds?



- **Apprenticeship training for underrepresented population to facilitate a viable career path**
  - LA City Hall Seismic Retrofit
- **On time, on budget, high quality**
  - East Central Interceptor Sewer (ECIS)
- **Accountability to preserve credibility with the community**

City Of Los Angeles L.I.G.H.T. Program

(Lifting Individuals Giving Hope Today)

- Leveraging contracts
- Interceding on behalf of others
- Galvanizing our communities through 30/20/10 countdown to success
- Hosting strategic partnership
- Transforming lives

Leveraging Contracts

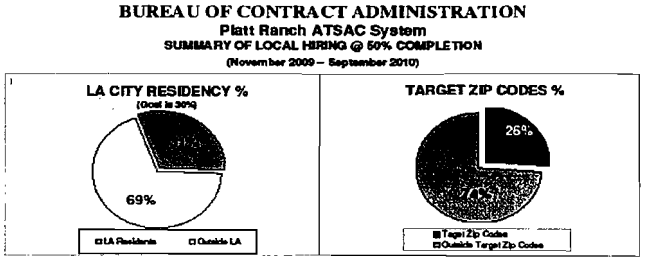
City of LA Public Works awarded over $1billion in construction contracts with targeted hiring requirements:

Local Worker
Apprentice
Disadvantaged Worker

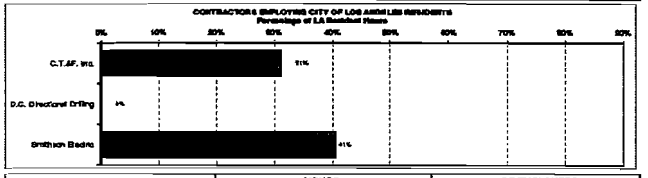
"*Capacity* created by increasing the number of projects that have targeted hiring goals."

Interceding on Behalf of Others

- **Transparent monitoring by City staff**
- **Quarterly reports to the Board of Public Works**
- **Monthly project updates posted in the Bureau's website (http://bca.lacity.org)**



MONTH/YEAR	HOURS				HOURS			
	LA Residents	Outside LA	Total	LA Residents %	Target	Non-Target Zip	Total	Target Zip %
Nov-09	0	20	20	0%	0	20	20	0%
Dec-09	395	785	1,180	31%	328	832	1,160	28%
Jan-10	922	2,298	3,220	30%	824	2,436	3,260	25%
Feb-10	1,106	2,464	3,572	31%	968	2,613	3,572	27%
Mar-10	1,082	2,322	3,404	32%	922	2,482	3,404	27%
Apr-10	925	2,012	2,937	31%	782	2,155	2,937	27%
May-10	1,427	3,310	4,737	30%	1,120	3,617	4,737	24%
Jun-10	1,166	2,441	3,601	32%	944	2,657	3,601	26%
Jul-10	1,266	3,006	4,321	30%	1,003	3,228	4,321	25%
Aug-10	1,118	2,352	3,470	32%	958	2,512	3,470	28%
Sep-10	964	1,998	2,962	33%	816	2,146	2,962	26%
TO DATE	10,428	23,016	33,443	31%	8,746	24,698	33,443	26%



CONTRACTOR	HOURS				# OF EMPLOYEES			
	LA Residents	Outside LA	Total	LA Residents %	LA Residents	Outside LA	Total	LA Residents %
C.T.J.F. Inc.	10,228	22,603	32,829	31%	9	30	39	23%
D.C. Directional Drilling	0	119	119	0%	0	2	2	0%
Smithson Electric	200	295	497	41%	2	7	9	22%
Total	10,428	23,016	33,443	31%	11	39	50	22%

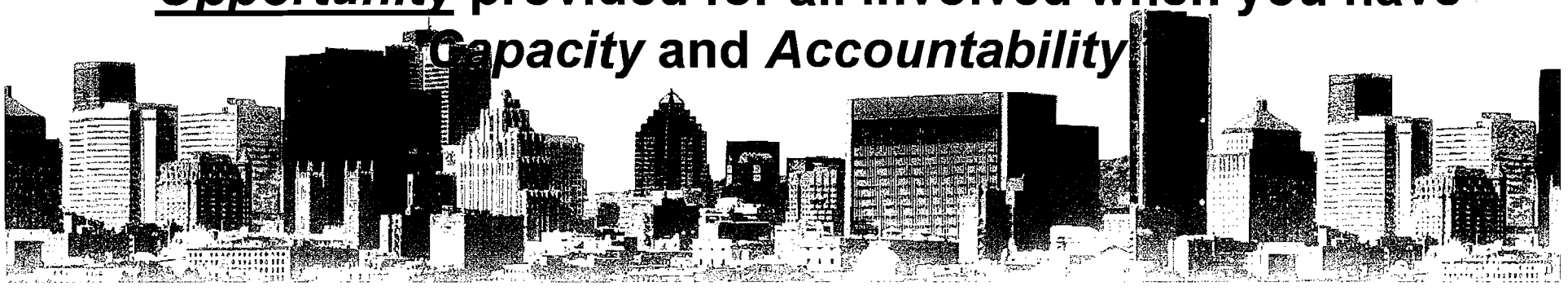
Data: Certified Payroll Reports

"***Accountability*** achieved through consistent and active monitoring, compliance enforcement and timely reporting"

Galvanizing Our Communities Through 30/20/10 Countdown To Success

- **30% of total hours worked performed by local residents**
  - **32.84% local hire participation (1.09 million hours)**
- **20% of total hours worked performed by apprentices**
  - **23.70% apprentice participation (788,000 hours)**
- **10% of total hours worked performed by disadvantage workers. (May count towards the other goals above.)**
  - **594 Step-One apprentices employed**

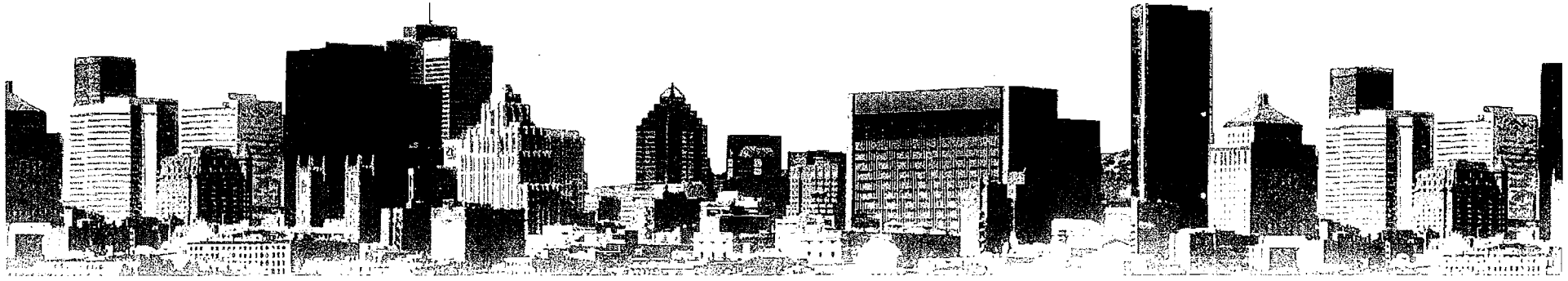
"*Opportunity* provided for all involved when you have *Capacity* and *Accountability*"



Hosting Strategic Partnership Meetings

- Partner with City Work Source Centers, Faith and Community Based Organizations and other non-profit agencies:
  - Develop a 'pipeline' of qualified local workers
  - Clarify expectations
  - Establish effective working relationships

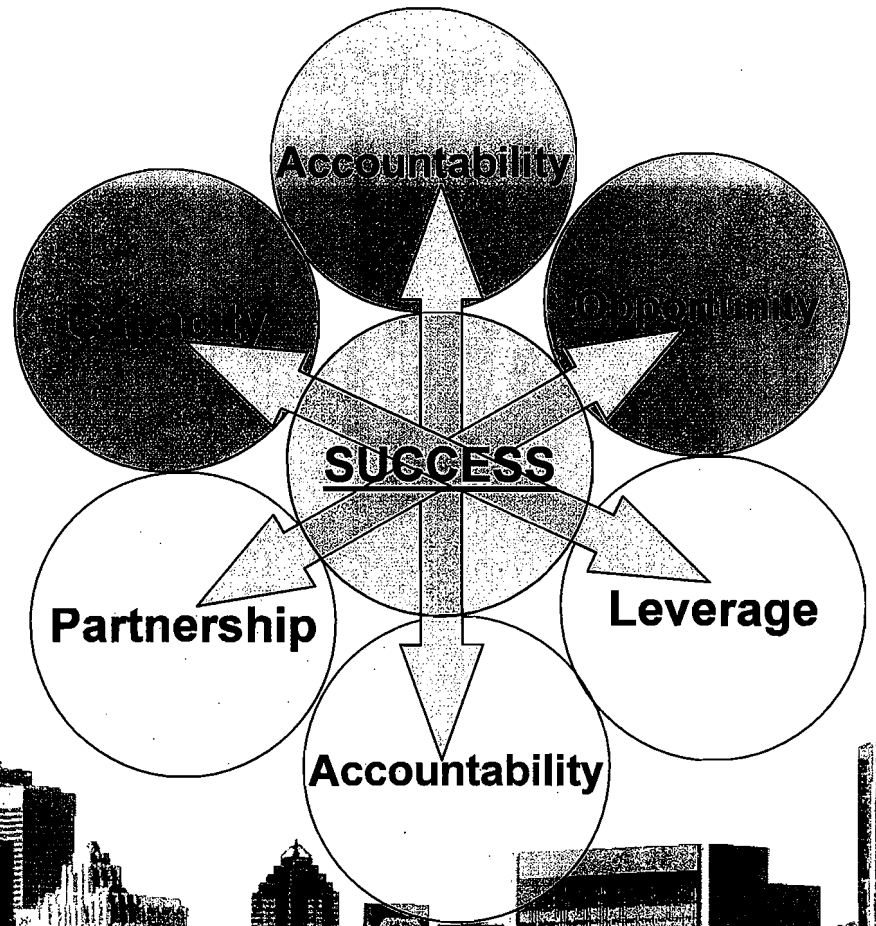
- 70+ Joint Administrative Committee, Pre-construction, Pre-job, Community Outreach meetings in the past few years

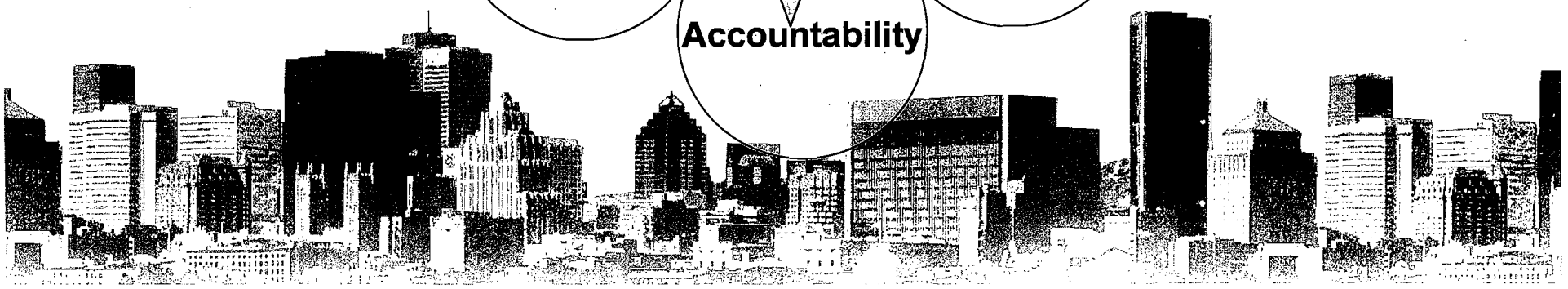


Transforming Lives

- 10,972 total construction craft workers employed on Public Works PLA projects
- 3,052 local resident workers employed
- 594 total Step-One apprentices employed
- 3.32M +/- total worked hours paid at prevailing wage rates
- $38.69M +/- wages and benefits paid to local workers
- $79.12M +/- wages and benefits paid to non-local workers

Capacity, Accountability and Opportunity with Partnership, Leverage and Accountability Can Bring About A Successful Local Hire Program





Lessons Learned

- Vigilance, attention and open communication to address issues
- Ongoing education of all stakeholders is essential
- Job readiness of local and disadvantaged workers is critical for their success in the construction career path
- Implementation, monitoring, compliance and accountability are crucial
- LAS[illegible] a to a L[illegible]l Hire P[illegible]

CITY OF VALPARAISO

Office of the Mayor
JON COSTAS
mayorcostas@valpo.us

Embrace the Journey from Good to GREAT

166 Lincolnway • Valparaiso, Indiana 46383
Phone: (219) 462-1161 • Fax: (219) 464-4273
www.valpo.us

Members of the Interim Study Committee on Employment Issues
September 6, 2011
Statement by Jon Costas, Valparaiso Mayor

Greetings from Valparaiso!

It is my understanding that one of the issues you will be considering is the prohibition against the use of Project Labor Agreements similar to that proposed in the last legislative session.

While the City of Valparaiso has chosen not to use PLAs under my administration, there may be unique circumstances where we might conclude that it would be advantageous to enter into such an agreement on a specific project. Not having this option under such circumstances could put an important project or the taxpayers at risk.

Most economic development happens within cities, and allowing the mayors and councils of Indiana cities to act boldly and decisively on behalf of their communities is good for the entire state. Every limitation on home rule has a cumulative effect of limiting the options of cities and counties to grasp opportunity and adjust to a challenging fiscal environment.

We have seen limitations on annexation and tax increment financing in recent years that have added to this burden. So each limitation, on its own seems justified, but the total burden can weigh down on local governments and act as shackles that inhibit progress.

I have been a proponent of the property tax caps and I applaud the legislature for adding that financial limitation to our Constitution. While the tax caps have created short term financial challenges for local governments, in the long run they will serve our citizens well and create a stronger economy. However, we should be mindful that limiting the ability of local government to chart its own course through continued reduction of home rule can make it even more difficult to deal with new fiscal limitations. While we owe our taxpayers accountability and good value for their tax investment, in most cases local government is most accountable to its taxpayers and certainly most accessible.

Thank you for hearing my concerns. I am confident you will weigh all testimony and act in the best interests of Hoosiers. And thank you for serving our citizens in the state legislature.

Jon Costas
Mayor, City of Valparaiso.

Exhibit J
Interim Study Committee on Employment Issues
Meeting #2 Sept. 7, 2011

PROJECT LABOR AGREEMENTS: GOVERNMENT SHOULD RETAIN RIGHT TO MAKE FREE MARKET CHOICES

Introduction

Any effort by the local or state governments to prohibit the use of Project Labor Agreements on public works projects would improperly restrict the government's discretionary powers. A prohibition on the use of PLAs would contradict free market principles that the government should have the right to determine what tools best serve its needs on a construction project. The merits of PLAs, on selected projects, have been demonstrated in Indiana on numerous significant public and private sector projects.

In addition to being poor public policy, government restrictions on the use of PLAs are unlawful. The Ohio Supreme Court, which is the only state Supreme Court to address this issue, found that restrictions on the use of PLAs were preempted by the National Labor Relations Act.

PLAs and the Free Market

PLAs do not violate the concepts of the "free-market". On the contrary, those who advocate restricting a local government's choice to use a PLA are truly tearing at the fabric of the free-market system. When purchasing construction services, local governments should have the same opportunity as those in private business without being hamstrung by restrictive legislation. Private developers in Indiana, as in other parts of the country, have the right to survey the market-place and determine whether a PLA would best serve their construction needs. That choice is a free market decision based not only on the unique challenges facing a particular project, but the overall challenges facing the construction industry.

Probably the best analysis of PLAs and the free market system was delivered in a unanimous decision by the U.S. Supreme Court in the Boston Harbor case[1]. In that case the Associated Builders and Contractors (ABC) sued to prevent the Massachusetts water agency from implementing a PLA that had been negotiated with Kaiser Engineering. The Supreme Court ruled that a public entity should have the same opportunity as the private entity when purchasing construction services - that is the same right to negotiate and implement a PLA. Advocates of a PLA ban inexplicably want to take away this free market right away from the local or state government.

[1] Associated Builders & Contractors v. Massachusetts Water Resources Auth., 507 U.S. 218 (1993)

History

If PLAs violate the principles of the free-market system, then the question must be asked, "Why do so many private enterprises in the free market choose PLAs to meet their construction needs?" Below are just some businesses in Indiana that have chosen to use PLAs on their projects:

- Subaru-Isuzu America Factory – Lafayette
- Toyota Truck Assembly Plant – Gibson County
- Qualitech Steel Mill – Pittsboro
- Combustion Turbine Peaking Station - Indianapolis
- Wabash Coal Gasification Project – Terre Haute
- Heartland Steel – Terre Haute
- Indiana Downs Horse Track – Shelbyville
- Conrad Hilton Hotel – Indianapolis
- Congressional Medal of Honor Plaza – Indianapolis

Many important public works projects of the past, such as Indianapolis' Circle Center Mall, Conseco Field House, the Indiana State Museum, the NCAA Headquarters and the Indianapolis Airport Mid-Field Terminal, were successfully performed under PLAs. In fact, the Indiana Attorney General, in Official Opinion 97-07, stated that Project Labor Agreements do not violate Indiana's public works bid statutes and may be utilized on public works projects.

PLAs Make Good Sense on Certain Projects

PLAs are chosen by construction managers and developers to ensure timely and on-budget completion of their projects.

- The PLA also gives all site contractors and sub-contractors access to the union building trades apprenticeship programs. In the state of Indiana there are currently 6,973 apprentices registered in Union Building Trades' Apprenticeship programs. By comparison, in the state there are only 932 apprentices registered in the Associated Builders and Contractors programs. (Source: U.S. Department of Labor, Bureau of Apprenticeship and Training)
- The PLA gives the project access to the Indiana Plan for Equal Employment. The Indiana Plan is a pre-apprenticeship training program sponsored by the Indiana State Building and Construction Trades Council. The Plan is a minority outreach program designed help all applicants become apprentices with a construction apprenticeship program certified with the Bureau of Apprenticeship and Training.
- The PLA ensures that the common construction wage and benefits will be paid to all craft personnel on the project.

- The PLA states that all jurisdictional disputes will be resolved through the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry.

- The PLA contains "no-strike" and "no-picketing" provisions. If the collective bargaining expires during the construction of the project, the unions and workers will continue work on the project.

- Uniform work schedules, holidays, start-times, work-day, work-week duration are required.

- There is an agreed drug testing program for all craft personnel on the project.

- Joint labor-management pre-job conferences will be required keeping all parties fully apprised of the Project's progress, safety, schedule, contracts awarded, and promoting labor/management harmony.

The Proposed PLA Ban is Preempted by the National Labor Relations Act

Under the doctrine of federal preemption, attempts by state or local governments to regulate matters of national law under the National Labor Relations Act have been found illegal. The Ohio Supreme Court addressed this issue of preemption rather decisively. The Ohio Supreme Court found that the National Labor Relations Act preempted a state law that prohibited public authorities from entering into PLAs.

Conclusion

To ensure that local and state governments have the same opportunity to utilize all the tools available to those in private industry, when it comes to construction services, no restrictive legislation should be adopted. Government should have the same option as private industry to either accept or reject the use of a Project Labor Agreement on a job by job basis.

INDIANA'S
BUILDING TRADES UNIONS
Value on Display. Every Day.

Lies about Project Labor Agreements-and the Truth

The ABC contends . . .	The Truth is . . .
PLAs increase costs *for* contractors *and taxpayers.*	**Just the opposite is true.** The record shows that PLAs improve efficiency and productivity. They eliminate costly labor-related delays and shortages of skilled workers. They provide mechanisms for avoiding and resolving disputes, and for ensuring the project proceeds smoothly. PLAs also save millions of dollars in health and safety costs through workplace standards that are viewed as "best practices" in the industry.
Ending PLAs would create jobs.	**Nonsense.** That's exactly what they said about NAFTA, trade with China, Wall Street deregulation and tax cuts for the rich; we've seen how false that was.
PLAs shut out nonunion contractors.	**Absolutely not.** On public works projects, all contractors, union and nonunion, are invited to submit bids. In fact, the Lucas Oil Stadium project had 31% non-union contractors, while the Indiana Convention Center Expansion project had 34% non-union contractors.
PLAs restrict competition.	**Public works projects require that all contractors, union and nonunion, pay the common construction wage.** PLAs are a free-market tool for project management. They create a level playing field for all contractors by standardizing labor conditions on a particular project.
PLAs discourage contractors *from bidding on projects.*	**Wrong.** Many contractors prefer to work under PLAs. PLA have actually been shown to increase the number of bidders. One reason is that MBE/WBE goals encourage small minority and woman-owned enterprises to submit bids.
PLAs let unions pick who they want to *get construction jobs,* based *on things like union membership and seniority. They discriminate against nonunion* workers *and against minority* workers.	**Not true.** Federal law requires nondiscriminatory referral of workers, union and nonunion. Often called Community Workforce Agreements, many public PLAs are crafted to address specific needs of the community, with provisions for local hiring, minority and at-risk targeted training programs, minority-owned small businesses and apprenticeship ratios. Some engage community groups and schools in connecting people from low-income neighborhoods with training and careers in the building trades. Secondly, the Building Trades do not recognize seniority; productivity of the worker--as determined by the contractor--always trumps seniority.

For more information visit: www.PLAsWork.org

INDIANA'S
BUILDING TRADES UNIONS
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What Are Project Labor Agreements (PLAs)?

Project Labor Agreements (PLAs) are collective bargaining agreements between building trade unions and contractors. They govern terms and conditions of employment for all craft workers-union and nonunion-on a construction project. PLAs have been used for generations on successful public and private construction projects.

PLAs are designed to benefit everyone involved.

• Union and nonunion workers benefit because their wages and benefits are defined and protected at local standards.

• Union and nonunion contractors benefit from the assurance of a level playing field and a guaranteed skilled workforce.

• Lenders and insurance companies benefit because with skilled workers and protection from delays due to labor disputes, their investments are safer.

• Communities benefit because many PLAs provide recruiting, hiring and training for disadvantaged workers and local residents.

• But construction owners and the taxpayers benefit the most because PLAs eliminate costly delays due to labor conflicts or skilled worker shortages. They ensure a steady flow of highly trained construction labor guaranteed by nationwide referral systems, they include no-strike agreements, and they establish mechanisms for avoiding and resolving disputes. Public and private PLA construction projects are known for coming in on time and on budget.

PLAs have been used successfully for generations.

• PLAs have been used in the public and private sectors for nearly a century.

• PLAs first were used on the big public works projects of the 1930s. Grand Coulee Dam, Hoover Dam and Shasta Dam all were built using PLAs. Project managers saw the need to avoid a long series of labor negotiations as one contract after another came up for renewal, causing expensive delays and a steady threat of work disruptions. The elegantly simple solution to the problem was to put all workers under a single, umbrella contract providing for uniform hours, holidays (unpaid) and working conditions that applied to all trades throughout the specific project.

• Driven primarily by cost efficiency, use of PLAs in the private sector has grown even more than on public projects. Leading Fortune 100 and 500 companies, including Toyota, Walt Disney, ConocoPhillips, Southern Company and the World Trade Center have used PLAs successfully. PLAs have been used in the public and private sectors for so long because they work.

• For almost 20 years, PLAs have been subject to partisan attacks by Republican presidents and protection by Democratic presidents. President George H.W. Bush issued an Executive Order in 1992 that barred PLAs on federally funded construction projects. President Clinton rescinded that with a 1993 Executive Order, but President George W. Bush reinstated the ban in 2001. In 2009, President Obama restored PLAs for large federal and federally assisted construction projects.

Why PLAs work:

• While protecting workers' wages and working conditions, PLAs ensure that project owners have access to reliable local sources of highly trained, highly skilled construction craft workers.

• Through no-strike agreements and alternative dispute resolution provisions, PLAs prevent delays resulting from labor disputes.

• By harmonizing work rules and schedules, and requiring regular worksite labor-management meetings, PLAs ensure the job proceeds smoothly. All of this reduces costs.

• PLAs support a massive network of labor-management training and apprenticeship programs that enables workers to gain skills they need to get good middle-class jobs-while ensuring a flow of skilled workers into the construction trades. Joint labor-management programs spend about $800 million a year ($28 million in Indiana) on private training, supporting more than 1,700 training facilities and 10,000 certified instructors. In Indiana, these programs account for almost 90 percent of all graduates from construction apprenticeships.

Why Are PLAs Under Attack?

• Corporate-backed anti-worker politicians hold the majority in our state legislature, and they're attacking our jobs, pay and unions. In fact, they're doing the bidding of the notoriously anti-union Associated Builders and Contractors (ABC) by trying to outlaw Project Labor Agreements. ABC is known for opposing such basic workers' rights as the 40-hour workweek, fair pay measures, prevailing wages, protection from being cheated of overtime pay through misclassification, and enforcement of workplace safety laws.

For more information visit: www.PLAsWork.org

An Analysis of Project Labor Agreements and the Construction Industry in Indiana

THE INDIANA UNION CONSTRUCTION INDUSTRY
Skilled On Principle. Union By Choice.

CENTRAL INDIANA BUILDING & CONSTRUCTION TRADES COUNCIL

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PROJECT LABOR AGREEMENTS IN CENTRAL INDIANA

Project Labor Agreements (PLAs) have a long and rich history in Indianapolis as well as other areas of our State. Mayor Stephen Goldsmith negotiated and utilized PLAs on the Circle Centre Mall Project, the Conseco Fieldhouse, the RCA Dome renovation and Phase IV expansion of the Convention Center. Private owners across Indiana have also taken advantage of the benefits of PLAs by utilizing them on such prominent projects as the Subaru-Isuzu Plant, the Toyota Truck Assembly Factory, the Conrad-Hilton Hotel, and the Congressional Medal of Honor Plaza (See appendix A for a more complete listing).

PLAs are contractual arrangements unique to the construction industry. They are negotiated to meet the needs of the owner and construction manager. Entering into a PLA is business decision based not only on the unique challenges facing a project, but the overall challenges facing the construction industry.

Acute skill shortages are the construction industry's number one problem as noted in many national studies and the recent Indiana Construction Roundtable study[1]. Construction is a highly skilled, labor intensive business that requires intricate planning and coordination of multiple trades and specialty crafts. This means that the quality and availability of skilled labor can make or break complex, fast track projects. Through PLAs, the source and training of workers in the construction industry are addressed ensuring the supply needed for successful completion of the project. (See Appendix B for more information on craft training in Indiana)

The use of PLAs on public works projects has been tested both in state courts and the U.S. Supreme Court. In the landmark Boston Harbor case[2], the U.S. Supreme Court ruled unanimously that local and state governments may utilize PLAs on publicly funded construction work. Additionally, the Indiana Attorney General, in 1997, issued an Official Opinion 97-07 regarding the use of PLAs on two State projects – the State Museum and the NCAA headquarters. That opinion stated that PLAs do not violate our state bid laws. Notwithstanding the Attorney General's opinion and the U.S. Supreme Court ruling, the Associated Builders and Contractors (ABC) brought suit to stop the use of the PLA on the NCAA project. The ABC lost the case and the project was completed as planned.

As the issue of PLAs moved from the courts and into the arena of politics, the truth has become difficult to separate from the myth. The ABC, having lost in virtually every state court and the U.S. Supreme Court, has turned to a public relations campaign against PLAs. (See Appendix C for more on the ABC). This campaign distorts the legality and

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[1] The 2004 study is available at the Indiana Construction Roundtable website: http://www.indianaconstruction.org/

[2] Building and Construction Trades Council v. Associated Builders and Contractors of Mass./R.I., 507 U.S. 218 (1993)

successful history of PLAs in Indiana and around the country. Just a few of the myths surrounding PLAs are listed below:

Myth: A Project Labor Agreement shuts out non-union labor from bidding on a construction project.

Reality: Project labor agreements are not "union-only" projects. It is illegal to discriminate on public works construction project based on union or nonunion status. Nonunion contractors can bid, and have won bids, on projects constructed with PLAs. For example, the Marion County Library Board recently awarded work at the Central Library to two non-union contractors under a PLA bidding process. These two contractors were low bidders and were, therefore, awarded the work.

Myth: For taxpayers, PLAs mean higher project costs and typically higher taxes or fees to pay for the effort.

Reality: On public works projects, the wages incorporated in a PLA have already been determined under Indiana's Common Wage Law. A PLA merely incorporates those wages into the agreement.

Myth: Non-union contractors would be required to sign collective bargaining agreements with local building trades' unions.

Reality: Wrong. Although in the past non-union contractors would sign a "project only" collective bargaining agreement with the union, recent PLAs specifically state that no contractor would be required to sign any local union's collective bargaining agreement.

Myth: PLAs would require union membership of all those employed on the project.

Reality: Under federal law, it is illegal to require union membership.

Myth: A Project Labor Agreement excludes medium and small construction companies.

Reality: Project Labor Agreements actually assist small and medium construction companies through strict Minority Business Enterprise/Women Business Enterprise participation requirements. In addition to the benefits offered small contractors, PLAs open opportunities for minorities and females to take advantage of careers provided by apprenticeship programs.

The use of PLAs dates back to the 1938 construction of the Grand Coulee Dam in the state of Washington. NASA used PLAs in the construction of Cape Canaveral, Fl, during the 1960's. PLAs were also used on the Trans-Alaska Pipeline and Disney World. In Indiana, PLAs have been successfully used for the past 19 years, on billions of dollars of both public and private construction projects. The only vocal opponent to the use of PLAs is a small group of contractors calling themselves the ABC. In reality almost every major construction alliance in the state of Indiana endorses the use of PLAs.

The use of PLAs in Indiana has been endorsed by the following organizations:

1. The Indiana chapter of the Associated General Contractors
2. The Indiana chapter of the National Electrical Contractors Association (NECA)
3. The Indiana chapter of the Sheet Metal and Air Conditioning Contractors' National Association (SMACNA)
4. The Indiana Chapter of the Mechanical Contractors Association (MCA)
5. The Central Indiana Construction Industry Progress Council
6. Indiana State Building Trades

The most recent endorsement of Project Labor Agreements came in the form of an Executive Order issued by President Obama on February 6th, 2009. This Executive Order encourages executive agencies to consider requiring the use of project labor agreements in connection with large-scale construction projects in order to promote economy and efficiency in Federal procurement.

In summary, PLAs offer a valuable tool for construction managers and owners to ensure timely completion of large complex and time sensitive projects such as the Stadium and Convention Center Expansion.

- PLAs provide insulation against strikes and other labor disruptions.
- Uniform work schedules, holidays, start-times, work-day, work-week duration are required.
- There is an agreed drug testing program for all craft personnel on the project.
- There is no uniformity among PLAs so than any criticism that may be made about one agreement will not be valid for all agreements.
- Project labor agreements are not "union-only" projects. It is illegal to discriminate on public works construction project based on union or nonunion status. Nonunion contractors can bid, and have won bids, on projects constructed with PLAs. If non-union contractors do not bid, they do so by choice, not by exclusion.

Appendix A

PROJECTS IN INDIANA BUILT UNDER PLAs

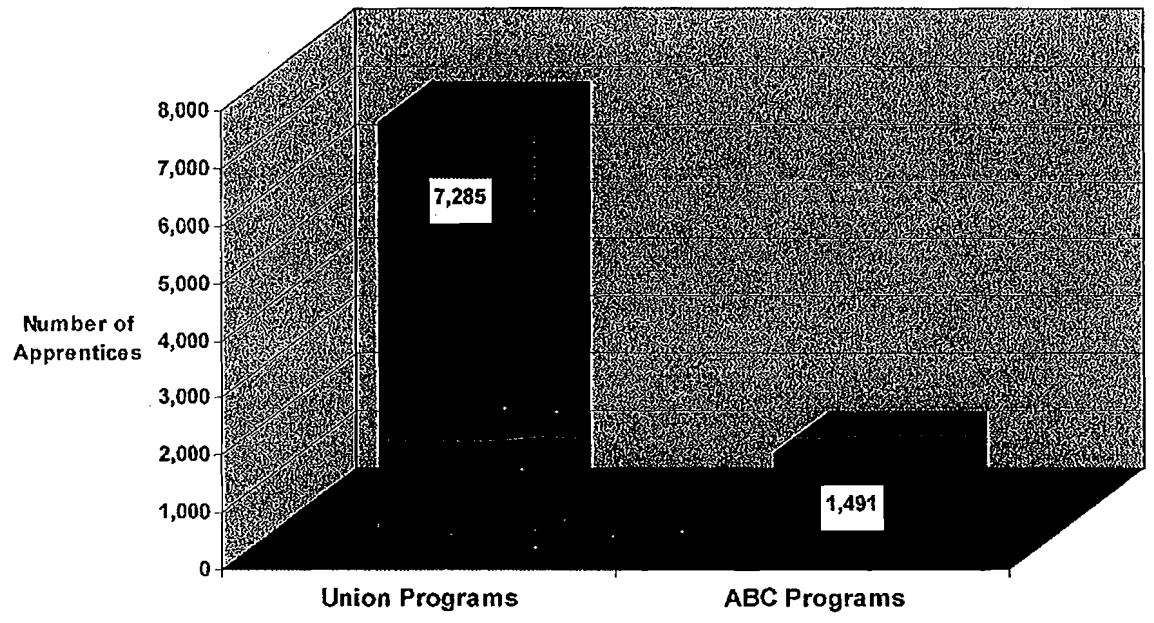
1. Subaru-Isuzu Factory: Lafayette ($500 million dollar project)	2. Circle Centre Mall: Indianapolis ($500 million dollar project)	3. Toyota Truck Assembly: Plant Gibson County, Indiana ($250 million dollar project)
4. Conrad Hilton Hotel: Indianapolis ($90 million dollar project)	5. Conseco Fieldhouse: Indianapolis ($185 million dollar project)	6. Special Bar Quality Mini Mill: Pitsboro ($148 million dollar project)
7. New Castle Correctional Facility ($120 million dollar project)	8. Indianapolis Marion County Central Library ($102 million dollar project)	9. Montpelier Generating Project: Northeastern Indiana ($80 million dollar project)
10. Indiana State Museum: Indianapolis ($55.2 million dollar project)	11. Phase IV Expansion of Convention Center: Indianapolis ($45 million dollar project)	12. (NCAA) National Headquarters: Indianapolis, ($30.2 million dollar project)
13. Combustion Turbine Peaking Station Project: Indianapolis ($30 million dollar project)	14. Dupont Hospital: Northeastern Indiana ($20 million dollar project)	15. RCA Dome Renovation: Indianapolis ($20 million dollar project)
16. Destec Engineering Wabash Coal Gasification Repowering Project: Terre Haute	17. PSI Wabash River Coal Gasification Project	18. AK Steel Facility Southwestern Indiana
19. Enron Power & Industrial: Lawrence County	20. Hammond City Schools	21. Bev Pak: Monticello,
22. Congressional Medal of Honor Plaza: Indianapolis	23. Indiana Downs HorseTrack: Shelbyville,	24. Ivy Tech – Columbus Learning Center: Columbus
25. Hartland Steel, Inc.: Terre Haute ($80-100 million dollar project)	26. Sullivan Elementary School: Sullivan ($10 million dollar project)	27. Sugar Creek Project: Terre Haute ($250 million dollar project)
28. United States Penitentiary: Terre Haute ($200 million dollar project)	29. Power Generating Station: Washington, Indiana ($100 million dollar project)	

Appendix B

APPRENTICESHIP TRAINING IN INDIANA

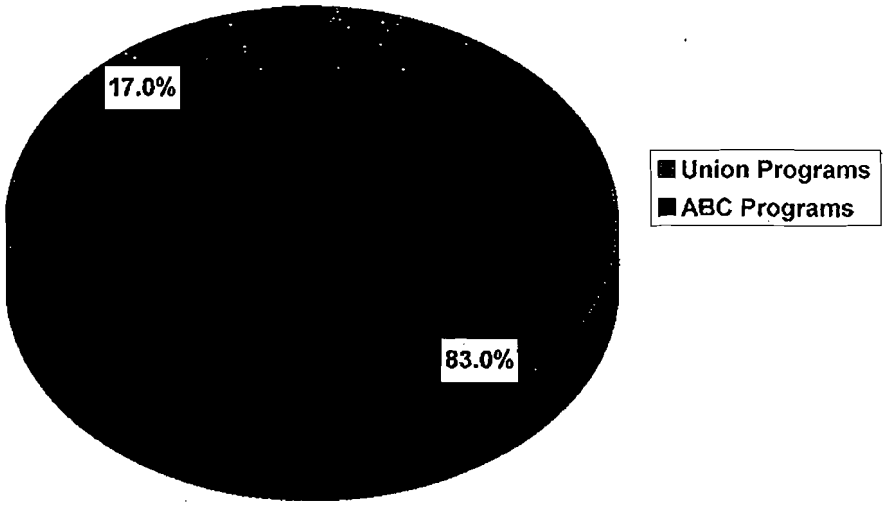
These graphs represent the apprenticeship numbers that were released by the Department of Labor's Bureau of Apprenticeship and Training through a Freedom of Information Request. A full report was prepared by the IU Labor Studies Department in 2004 and can be found at the following website: www.topnotch.org.

Figure 1 Number of Apprentices by Type of Program



Source: U.S. Department of Labor Bureau of Apprenticeship and Training

Figure 2 Proportion of Apprentices by Type of Program



Source: U.S. Department of Labor Bureau of Apprenticeship and Training

A more detailed analysis of the numbers reveal that in 16 of the 27 major construction crafts, the ABC had ZERO apprentices in training in 2004.

Table 2 Number of Enrolled Apprentices by Occupation

Occupation	Total Number of Apprentices	Union Programs		ABC Programs	
		Number of Apprentices	Percent	Number of Apprentices	Percent
Boilermaker	242	242	100.0	0	0.0
Bricklayers	307	304	99.0	3	1.0
Carpenters	1,395	1,167	83.7	228	16.3
Cement Mason	113	106	93.8	7	6.2
Construction Craft Laborer	266	266	100.0	0	0.0
Electrician	2,300	1,484	64.5	816	35.5
Elevator Constructor	55	55	100.0	0	0.0
Floor Layer	56	56	100.0	0	0.0
Glazier	112	112	100.0	0	0.0
Heating & Air Cond. Inst./Service	144	*	*	144	*
Insulation Worker	133	128	96.2	5	3.8
Lather	1	1	100.0	0	0.0
Millwright	160	160	100.0	0	0.0
Operating Engineer	224	211	94.2	13	5.8
Painter (Construction)	325	325	100.0	0	0.0
Pipefitter	305	295	96.7	10	3.3
Plasterer	56	56	100.0	0	0.0
Plumber	729	550	75.4	179	24.6
Residential Carpenter	71	71	100.0	0	0.0
Residential Wireman	45	45	100.0	0	0.0
Roofer	406	397	97.8	9	2.2
Sheet Metal Worker	469	392	83.6	77	16.4
Sprinkler Fitter	294	294	100.0	0	0.0
Structural-Steel Worker	369	369	100.0	0	0.0
Telecommunications Tech	104	104	100.0	0	0.0
Tile Setter	26	26	100.0	0	0.0
Tuckpointer, Cleaner, Caulker	69	69	100.0	0	0.0
Total	8,776	7,285	83.0	1,491	17.0

Source: U.S. Department of Labor Bureau of Apprenticeship and Training

Appendix C

WHO DOES ASSOCIATED BUILDERS AND CONTRACTORS REPRESENT?

For years, the Associated Builders and Contractors (ABC) have made the unchallenged claim that they represent 80% of the construction industry. In reality, an analysis of the ABC's own website and statistics published by the United States Department of Labor reveals that the ABC represents less than 3% of the construction industry.

As stakeholders in the construction industry, you are charged with the oversight of the industry as a whole. To ensure you are making informed decisions, it is important to understand that the majority of construction firms in the state of Indiana do not belong or subscribe to the ABC.

THE ABC OF INDIANA

The website[1] of the Indiana chapter of the ABC claims a statewide membership of 481 companies. According to the U.S. Bureau of Labor Statistics[2], there were 17,406 construction establishments in the State of Indiana during the year 2008.

This means the ABC actually represents only 2.8% of the industry in the State of Indiana.

In reality, this 2.8% number is even smaller due to the large number of non-construction related firms in the ABC's membership. For example, there are at least 71 firms listed that are not construction firms but instead are law firms, accountants, car dealerships and golf tour companies.

This same percentage can be applied to all facets of the industry. If the ABC represents 2.8% of the industry in the State of Indiana, they are only recruiting 2.8% of the workforce, they are only training 2.8% of the workforce and they are only completing 2.8% of the projects in the state of Indiana. This is a far cry from serving as the "silent majority" of the industry.

To highlight the relative insignificance of the ABC in the construction industry in Indiana, just three of the 15 Building Trades Unions in Indiana have a total 1,952 signatory contractors. The Laborers District Council of Indiana has 787 union signatory contractors. The Regional Council of Carpenters has 749 union signatory contractors. And Plumbers and Steamfitters of Indiana has 416 union signatory contractors. Just these three unions alone represent 11.25% of the construction industry in Indiana.

Granted, the ABC is a voice in the construction industry, however, it is a very small voice that represents only a small percentage of the industry. The ABC officially incorporated in the state of Indiana in 1973. That means they have been in business for 36 years. Thirty two long years when they have appeared in newspapers, television and mailings attempting to recruit membership to their organization, yet they are still only able to muster less than 3% of the construction industry.

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[1] http://www2.abc.org/crs/crsmain.cfm
[2] http://www.bls.gov/cew

INDYSTAR.COM

Rain? No problem for convention center expansion

By Bruce C. Smith

Posted: May 19, 2010

Expansion of the Indiana Convention Center continues on schedule and on budget, Indiana Stadium and Convention Building Authority officials said Tuesday.

The $275 million project, which will increase the convention center in size from 725,000 square feet to more than 1.2 million square feet, is about 75 percent complete, said Lori Dunlap, the authority's deputy director.

Rainy weather this week isn't slowing progress on the work, which is now mostly within walls and under roof. This fifth expansion of the Downtown convention and meeting facility is still expected to be substantially complete by December, in time for the first scheduled event next February.

Making connections

Lucas Oil Stadium and the Indiana Convention Center will be linked through an all-weather pedestrian connector, allowing crowds to walk easily through a bright, well-lighted and airy tunnel between the buildings.

Opened for a news media tour for the first time Tuesday, the 30-foot-wide walkway is about 75 percent complete, according to Rob Butcher of construction management firm Shiel Sexton.

About 400 feet of the connector is at ground level, extending from the south side of the convention center and continuing under an elevated section of the CSX and Amtrak railroad tracks. Event-goers will walk or take an escalator two stories down into a tunnel under South Street and the plaza around Lucas Oil Stadium, finally entering it below ground.

Sparkling entrance

The glass cube that will form the 60-foot-tall entrance is taking shape on the east side of the building with tons of structural steel welded in place and 13,000 square feet of panels being installed. Work on the cube's glass construction is about 65 percent complete.
Visitors will approach the entrance along Capitol Avenue by walking past three frosted glass walls.

Openings in the roof are designed to let in light, air and even the rain, which will be collected in another layer of glass under the ceiling.

The view

"The window walls on the south side and along the connector will give an excellent view between the convention center and Lucas Oil Stadium," Butcher said.

Linking the buildings means they can be joined for large conferences and conventions, and the connecting tunnel will provide additional exhibition and display space that can be seen by passing crowds.

"If you are walking south from the center, you can look up through windows and see the stadium, so you know where you are headed. It will seem so close, like you're almost there," he said, of the 1/8-mile connector between the buildings.

More windows on the new east side look out onto other landmarks, including Pan Am Plaza, Union Station and the Crowne Plaza hotel.

INDYSTAR.COM

January 24, 2010

An ailing process?

Critics say labor deals on projects such as Wishard's inflate costs, but experts say they have merit

By Ted Evanoff
ted.evanoff@indystar.com

J.R. Gaylor says the public loses big bucks on major government building projects because they shut out nonunion contractors.

Experts disagree.

At the heart of the issue is the decades-old use of project labor agreements that require contractors on most major projects to negotiate with union officials, recognize union benefits and generally abide by collective-bargaining agreements.

Gaylor has been opposing PLAs for years as president of Associated Builders and Contractors, an Indiana trade group representing nonunion firms.

He is raising his voice a little louder this year as officials prepare to award contracts for the $754 million Wishard Memorial Hospital complex in Indianapolis under such an agreement.

Gaylor and other nonunion contractors argue that the agreements limit competition and drive up construction costs.

As evidence, Gaylor points to the fact that earlier this month only five contractors bid for the contract on the $30 million parking garage planned for Wishard.

For Gaylor, the fact that only a handful of contractors bid during a recession that is starving the construction industry for work shows a bid process gone awry.

"By limiting competition, you don't get the competitive bids," Gaylor contends.

Ten or 12 bidders could drive down the price, Gaylor argues, but the bid process thwarts competition and, he claims, costs taxpayers millions of dollars on expensive projects.

Several experts on the nation's construction industry say no data support Gaylor's contention that PLAs drive costs higher.

"There is real waste in construction, but anyone who wants to focus on labor costs or unions is misguided and doesn't understand the inefficiencies of this industry," counters New York real estate lawyer Barry LePatner, author of the 2007 book "Broken Buildings, Busted Budgets: How to Fix America's Trillion-Dollar Construction Industry."

An extensive study by the U.S. General Accountability Office, an investigatory arm of Congress, concluded in 1998 that it was impossible to measure the PLAs' impact on cost.

One reason: Pay is a minor share of the cost of a multistory building. And pay is not set by the PLA. In Indiana, a state law generally gears wages for construction workers on public projects to the prevailing rate, which is usually close to union scale. Those wages would persist even without a PLA.

LePatner, whose firm represented electric utility ConEdison in negotiations for constructing the building going up on the site of the World Trade Center, claims few contractors are skilled at concrete buildings. One task: properly tuning the steel tendons embedded in the concrete.

"Parking structures are prone to huge amounts of problems if not constructed properly," LePatner said. "They are usually built by specialists."

Indeed, Wishard officials are sanguine. "There is plenty of competition for this garage," said Matthew Gutwein, chief executive officer of the Marion County Health and Hospital Corp., owner of the 315-bed hospital. "When we bid smaller jobs at Wishard, we often have only two or three contractors bidding for the work."

Wishard received bids from F.H. Paschen of Chicago, Tonn and Blank of Michigan City, F.A. Wilhelm Construction of Indianapolis and Walsh Group of Chicago. The fifth bid, from Hunt Construction of Indianapolis, came late and was not accepted.

"I don't know who didn't bid on that structure who otherwise would have," said Larry Roan of F.A. Wilhelm.

Gaylor insists PLAs reduce competition. For years, he has kept vigil. His letters in The Indianapolis Star routinely protest PLAs. For a quarter of a century, PLAs have governed billions of dollars of public expenditures throughout Indiana.

PLA-covered buildings include the 1983 Hoosier Dome, as well as the $730 million Lucas Oil Stadium, the $1.1 billion midfield terminal at Indianapolis International Airport, the $275 million Indiana Convention Center expansion and the $103 million Central Library expansion.

Private companies use PLAs, too, including owners of the $93 million Conrad Hotel, the $50 million Simon Group headquarters, the $700 million Toyota Princeton truck plant and the $425 million Marriott hotel complex going up next to the convention center.

PLAs are justified, say owners of buildings that take years to construct. First, the agreements lock in wage rates and work rules in one negotiation. And they exclude no specialized nonunion trades performing unique tasks such as cleaning surgical suites.

More importantly, strikes and walkouts are barred for trade unions on the construction site while the agreement is in place. This keeps construction on a set timetable. It means a crew can't legally walk off if it has a gripe or strike if the labor contract with its own employer expires during the time the PLA-covered building is going up.

In signing the PLA, a contractor agrees to follow union job rules and provide full fringe benefit payments to union-operated health and welfare funds. Firms that normally don't employ union crews can sign the PLAs, although the last point, regarding benefit payments, can irk employers. Gaylor said some unions insist the employer continue the benefit payments at the union scale after the PLA project has been completed.

According to the GAO report, prepared in 1998 for U.S. Rep. Pete Hoekstra, R-Mich., project agreements trace to 1938 for construction of the Grand Coulee Dam in Washington. By the 1990s, PLAs were prevalent in cities throughout the nation.

From 1993 to 1998, according to the GAO report, 25 public projects in nine states were challenged on grounds that their PLAs violated competitive procurement laws. Courts upheld 17 of the PLAs and invalidated eight of them.

None of those was in Indiana. PLAs also have been an issue in federal government projects, pitting business interests against labor unions.

After President Barack Obama took office, he issued an executive order backing PLAs on large-scale federal construction projects. Obama's order restores a Clinton administration order that was revoked by President George W. Bush.

In Indianapolis, both Republican and Democratic administrations have allowed PLAs. A spokesman for Indianapolis Mayor Greg Ballard did not offer a response to questions about the mayor's feelings on the PLA used for the Wishard project.

PLAs have helped maintain a construction force that is unionized, although it is not predominantly union. While about 8 percent of all 900,000 jobs in the metro area are unionized, the share in the building trades is far higher.

Looking at metro Indianapolis, Anderson and Columbus, 21.7 percent of the 38,000 construction workers employed in 2008 in those areas belonged to unions, up from 15.1 percent in 2006, according to research by labor economist Barry Hirsch of Georgia State University.

Gaylor said he has no problem with private companies using all those union workers.

"Where we draw the line is public projects where we have public dollars from taxpayers funding it," Gaylor said. "On those projects, we think all parties should have an equal opportunity."

But even if PLAs were disbanded, LePatner, the New York lawyer who represents owners on construction projects, doubts the costs would fall.

The real culprit, he maintains, is cost overruns permitted by a fast-track construction timetable used in almost every city. Even before architects have completed their designs, contractors are starting to build, a process that leads to relentless change orders, driving up the price tag by 10 percent on average.

"In every stripe of project in this country and around the world, the overruns are unbelievable," LePatner said, "and they are unwarranted."

Call Star reporter Ted Evanoff at (317) 444-6019.

Additional Facts

Indianapolis mayors, regardless of party affiliation, have allowed project labor agreements.

Mayor William Hudnut, *Republican*
• **Hoosier Dome:** Construction (below) of the $82 million stadium was completed in May 1984.

Mayor Bart Peterson, *Democrat*
• **Central Library:** The $103 million project was completed in 2007.
• **Lucas Oil Stadium:** The $730 million project was completed in 2008.

Mayor Greg Ballard, *Republican*
• **Wishard Health Services modernization:** Wishard announced there would be a project labor

agreement for the new $754 million hospital complex (left).

Many private developers also use project labor agreements.
• **JW Marriott complex:** The $425 million project (right) is being built under a labor agreement that includes a no-strike pledge.

INDYSTAR.COM

December 2, 2009

Downtown high-rise is ahead of schedule

Builders pleased with progress on JW Marriott, set to become the city's largest hotel in 2011

By Jeff Swiatek
jeff.swiatek@indystar.com

Aided by mild weather, construction of the concrete frame of the 34-story JW Marriott hotel was completed this week, one month ahead of schedule.

Hotel operator White Hospitality and contractors showed off their 13-month handiwork Tuesday with teeth-jarring rides to the top of the tower in a construction elevator mounted on the side of the blue glass-paneled building.

The newly poured top floor, yet to be enclosed in glass, is at the moment a windswept deck in the sky. It's littered with piping, loose bolts and plywood, painted in orange with the word HOLE, which visitors were warned not to step on.

"It went very well for us. We weren't supposed to finish until Christmas," said Billy Hubbard, construction superintendent for F.A. Wilhelm Construction Co., which oversaw the vertical concrete pour at the pace of about one floor every week.

The 1,005-room Downtown hotel will be the city's largest when it opens in February 2011. Three smaller hotels on the site, with 621 rooms, are further along and will open in February and March.

Bruce White, chairman of White Hospitality, waited with a cup of tea in hand at the bottom of the elevator to give a personal tour to Mayor Greg Ballard, who showed up for a topping-out ceremony in the adjacent NCAA Hall of Champions. White said he hopes the hotel tower project can be completed under budget. The four-hotel complex is projected to cost $450 million.

The project has benefited so far from low interest rates on construction loans, the mild weather and quality workers at a time when construction work is hard to come by, White said.

"We're getting a really high quality of tradespeople" on the project, he said.

The recession has another silver lining for White: Meeting planners have delayed decisions on scheduling conventions and trade shows, which gives his company a chance to book that business at its Indianapolis JW Marriott, which will have the largest hotel ballroom -- an acre -- in the Midwest.

"In a healthy economy, they would have committed much sooner and we wouldn't have had a shot" at landing the business, he said.

"This truly is going to be an iconic project inside and out," White said. Savings from the construction have been plowed back into the building in the form of upgraded finishes to the rooms, such as pricier bathroom fixtures, he said.

Hubbard said the concrete pour, using huge molds called fly tables that were slid from floor to floor like drawers in a dresser, went without incident.

"My biggest fear was somebody would fall from the building," he said. But the worst injury was a broken finger, he said.

Additional Facts

JW Marriott

» **Owner:** White Hospitality, Merrillville.

» **Cost:** $450 million (includes three adjacent hotels).

» **Location:** West and Washington streets.

» **Rooms:** 1,005.

» **Opens:** February 2011.

» **Height:** 34 floors, 376 feet.

» **General contractor:** Hunt Construction, Scottsdale, Ariz.

» **Concrete contractor:** F.A. Wilhelm Construction, Indianapolis.

Toyota labels union workers builders of Indiana factory

BILL KOENIG. **Indianapolis Star**. Indianapolis, Ind.: Apr 9, 1996. pg. C.1

Abstract (Summary)

The accord, known as a project agreement, calls on contractors bidding for Toyota work to pay union wage rates and to hire union workers.

Full Text

(267 words)

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BILL KOENIG

Contractors building Toyota Motor Corp.'s southwest Indiana

pickup truck factory will hire union construction workers.

The AFL-CIO's building and construction trades department

Monday said it had reached an agreement covering construction of

Toyota's $700 million factory to be built near Princeton.

The accord, known as a project agreement, calls on contractors

bidding for Toyota work to pay union wage rates and to hire union

workers.

A similar agreement was in effect 10 years ago when Toyota

decided to build an auto-assembly plant near Georgetown, Ky.

Toyota's new factory in Indiana will assemble T100 pickup

trucks. Construction is scheduled to start this spring, with the

aim of completing the factory in 1998. More than 1,500 construction

workers will be employed when building activity hits its peak.

About 1,300 people will work at the plant when it begins

production.

Toyota also is establishing a U.S. headquarters in northern

Kentucky, across the Ohio River from Cincinnati. The headquarters

will coordinate engineering, parts purchasing and other activities for Toyota's North American manufacturing plants.

Jack McNeely, president of the Lower Ohio Valley Building and Construction Trades Council, which is affiliated with the AFL-CIO, said the Princeton plant project "will provide hundreds of jobs for our local people into 1998."

McNeely said Toyota's project agreement in Kentucky was successful, and that was one reason why such a pact was reached for the Princeton plant.

J.R. Gaylor, executive director of the Indiana chapter of Associated Builders and Contractor, could not be reached for comment late Monday. His group has had mixed success in getting non-union contractors considered for large corporate building projects.

Project Labor Agreements – Toyota's Way
By Jeff Caldwell

Large-scale construction projects pose unique challenges for corporations and government entities that must adhere to maximum efficiencies and productivity. To address these challenges, many corporations and government agencies have embraced the use of Project Labor Agreements (PLA) for their construction needs. Now, the federal government has recognized and endorsed the value of PLAs. As the former head of construction for Toyota North America, I have had numerous real-world experiences with PLAs, and I can say without any equivocation that they are a valuable tool for any entity seeking an economical and efficient construction process.

Toyota has constructed numerous automobile, truck, and engine production facilities in the United States, with another vehicle plant currently under construction in Mississippi. Each of these construction projects was completed, or is being completed, under a project labor agreement that ensured that our facilities were built with a steady supply of highly skilled and productive craft workers and with labor harmony. In every instance, this process worked beautifully. And the proof is in the results. Toyota's North American construction costs are roughly one-third less than other major automobile manufactures who eschew the use of project labor agreements.

The value of a project labor agreement revolves around the fact that construction employers typically do not have a permanent workforce. This makes it difficult for them to predict labor costs when bidding on contracts and to ensure a steady supply of labor on contracts being performed. Challenges also arise due to the fact that construction projects typically involve multiple employers at a single location. A labor dispute, or skilled manpower shortage, involving one employer can delay the entire project. A lack of coordination between and among contractors and sub-contractors, or the uncertainty about the terms and conditions of employment of various groups of workers, can create frictions and disputes in the absence of an agreed-upon resolution mechanism.

Equally important is the fact that safety input is greater on PLA projects. Often, PLAs include language establishing labor/management committees that deal specifically with safety and health issues. Further, an increasing number of PLAs are being used to create highly developed structures for training and recruiting young workers into careers in the skilled trades - a critical need in light of looming projected skilled manpower shortages.

Toyota's global market success is attributable to a never-ending pursuit of improvement, a rigorous culture of kiazen. The mission of Toyota's leaders, is to lead and support a culture that promotes the continuous change process...to change everything that blocks productivity improvements, cost reductions, better quality, safer workplaces or better customer service.

Project labor agreements are consistent with that vision.

Jeff Caldwell is the former Assistant General Manager Plant Engineering for Toyota Motor Corporation. He is now a Senior Vice President with Graycor – a construction services corporation.

Project labor agreements

INDIANA FACTS
Learn more at indianafacts.com

What is it? The project labor agreement (PLA) has come into vogue in recent years for large construction projects. A PLA typically:

- Requires local workers.
- Supersedes collective bargaining agreements.
- Requires diversity.
- Establishes wages and work rules.

Value. Ever wonder why the big guys – Toyota, for instance – are opting for PLAs on their massive new projects here? Truth is, PLAs actually save money.

Yes, workers do get paid more. Why?

- Better training = better productivity.

Flow. A PLA guarantees a continuous flow of work:

- No jurisdictional disputes.
- No strikes or stoppages.
- Scalability - A trained work force that can show up in numbers.

Non-exclusive. PLAs do not exclude non-union contractors, but these contractors often refuse to participate due to the awkward recognition among their workers that higher pay is available for high-skill jobs.

The bottom line. A substantial body of research indicates that PLAs are effective tools for bringing large and complex projects in on time and on budget, safely and with no additional expense.

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BUILDING TRADES UNIONS
Value on Display. Every Day.

It's working!

Indiana's union construction industry is an extraordinary example of contractor and worker cooperation and competence.

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INDIANA

South Shore

Convention & Visitors Authority

Exhibit L
Interim Study Committee on Employment Issues
Meeting #2 Sept. 7, 2011

Wednesday September 7, 2011

Interim Study Committee on Employment Issues
Indiana State House
Written Testimony of Speros A. Batistatos

Dear Chairman and Members of the Committee,

On behalf of the tens of thousands of employees and thousands of businesses that comprise Northwest Indiana's hospitality industry, I hope this letter finds each member of the Interim Committee well. The South Shore Convention and Visitors Authority is the region's leader in ensuring that important public policy affecting our future is discussed and supported so that our hospitality industry and economy can thrive.

Project Labor Agreements (PLAs) can be an incredibly valuable tool for local governments, but the ramifications for publically constructed tourism attractions like convention centers, arenas and even high school or university sports facilities are important and need to be highlighted. Organizations like the CIB in Indianapolis or Fort Wayne, the RDA in NWI, and SSCVA in Lake County are all state government agencies the are charged by law to construct public gathering facilities, that are financed by local taxes and by design, are intended to provide huge economic stimulus to local businesses.

Imagine if Conseco Field House or Lucas Oil Stadium had experienced delays and had been precluded from having the first concert as scheduled or the sports schedule for the Pacers or Colts had been stalled. What if the convention center expansion had been delayed and a group like the Future Farmers of America (FFA) or some other massive convention couldn't come to town? What if the JW Marriott had not opened on time for the Superbowl and other sizable tourist events? What if Horseshoe Casino did not have this option available and their $500,000,000 expansion (and resulting opportunity to earn huge revenues for the state) had been months late? These are the very reasons why cities and agencies like ours, as well as the private sector, need to have this important tool available, and use it judiciously and appropriately. It is a shame INDOT had not had a PLA in place, as Indiana's busiest highway construction was stalled for weeks and hundreds of highly skilled, well trained, drug free workers sat on the sidelines, instead finishing one of the most important highway construction jobs in the state. The cost to commerce was staggering.

PLAs should not be used for every project and are not right for every construction project. PLAs should be available when the size, scope and importance of the project warrants and the economic consequences of delay and revenue are too great to risk. Mayors and councils from and agencies appointed by both political parties have been successful in the strategic use of this important economic development tool.

Please do not restrict the decision making power of those elected and appointed officials who best understand the needs of their local communities and businesses. Now more than ever, Indiana needs to remain economically competitive and aggressive.

I am hopeful the Committee will use sound public and economic policy as their guide, as all Hoosiers need your support to ensure every business and project brings maximum benefit to our great state.

Sincerely,

Speros A. Batistatos, FCDME
President and Chief Executive Officer
South Shore Convention and Visitors Authority

CC: NWI Delegation
SSCVA Board of Directors
Robert D. Kuzman, Esq.
The Post Tribune
The Times of Northwest Indiana

MEZZETTA
-INC-

Exhibit M
Interim Study Committee on Employment Issues
Meeting #2 Sept. 7, 2011

September 2, 2011

Mezzetta, Inc.
6983 Corporate Circle
Indianapolis, IN 46278

RE: PLA Agreements

Dear Sir or Madame:

As the Director of Business Development at Mezzetta, I would like to speak in favor of Project Labor Agreements from a non-union contractor's perspective.

Mezzetta Construction Services is certified with the city and state as a WBE, MBE and DBE (INDOT approved) company. We have been in business in Indianapolis since the year 2000 and have worked on several PLA projects in central Indiana and other areas of the State. We worked on the Indianapolis Convention Center, the Lucas Oil Stadium, the J.W. Marriott Hotel Complex, the New Indianapolis Airport and are currently working on the New Wishard Hospital Project – all of these under Project Labor Agreements. I can state that our experience working on these PLA projects has been positive and we have had no problems or issues working under PLAs.

One of the great benefits of the PLA is the ability to hire a local skilled work force from both the Laborer's and Carpenter's hiring halls. The PLA gave our company access to a skilled, drug-free workforce from these unions. In the fast pace schedule of a construction project, the ability to quickly hire skilled workers is critical to timely completion of the project. PLAs provide such a resource.

Contrary to what some may say about PLAs, Mezzetta company employees were not required to join a union or pay union dues. We were not required to pay into in any union funds on behalf of Mezzetta's existing employees. Additionally, it should be noted that we were not required to sign any union's collective bargaining agreement in order to enjoy the benefits of the PLA.

In closing, as a non-union/open shop contractor, I look forward to working on many more such projects in the future.

Sincerely,

Remo Mezzetta
Director of Business Development

6983 Corporate Circle Indianapolis, IN 46278 □ P: 317.328.8003 □ F: 317.328.8013
www.mezzettainc.com