REPORT

The Applicability of Project Labor Agreements for Selected ARRA Construction Projects

for the General Services Administration (GSA)

TENTATIVE DRAFT REPORT - REVISION 3 – Jan 27, 2010

Prepared for:

GSA

National Recovery Program Management Office Acquisition Expert, Nita Wiggs GSA Public Buildings Service 1800 F Street N.W., Suite 7227 Washington, DC 20405

Prepared by:

Rider Levett Bucknall 1621 18th Street, Suite 255 Denver Colorado 80202

Contents

1.	Executive Summary	i
2.	Introduction	1
3.	Overview of Project Labor Agreements	2
4.	Methodology	7
Pha	ase 1 Projects	14
5.	Cleveland OH, A.J. Celebrezze Federal Building	14
6.	San Francisco CA, 50 United Nations Plaza	23
7.	Honolulu HI, Prince Kuhio Kalaniana'ole Federal Building and Courthouse	34
8.	Portland OR, Edith Green-Wendell Wyatt Federal Building	42
Pha	ase 2 Projects	53
9.	Nogales AZ. Mariposa Land Port of Entry Expansion.	53
10	Denver CO, Byron Rogers Courthouse and Federal Building	67
10.	Deriver CO, Byron Rogers Courthouse and rederal Building	
Pha	ase 3 Projects	77
10. Pha 11.	ase 3 Projects Newark NJ, Peter Rodino Federal Building	67 77 77
10. Pha 11. 12.	ase 3 Projects Newark NJ, Peter Rodino Federal Building Washington DC, 1800 F Street (GSA HQ)	87 77 77 90
10. Pha 11. 12. 13.	Ase 3 Projects Newark NJ, Peter Rodino Federal Building Washington DC, 1800 F Street (GSA HQ) Washington DC, Lafayette Building	87 77 77 90 101
10. Pha 11. 12. 13. 14.	Ase 3 Projects Newark NJ, Peter Rodino Federal Building Washington DC, 1800 F Street (GSA HQ) Washington DC, Lafayette Building Washington DC, DHS Campus Headquarters	07 77 90 101 104
 Pha 11. 12. 13. 14. 15. 	ase 3 Projects Newark NJ, Peter Rodino Federal Building Washington DC, 1800 F Street (GSA HQ) Washington DC, Lafayette Building Washington DC, DHS Campus Headquarters Analysis Summary	67 77 77 90 101 104 106
 Pha 11. 12. 13. 14. 15. App 	ase 3 Projects Newark NJ, Peter Rodino Federal Building Washington DC, 1800 F Street (GSA HQ) Washington DC, Lafayette Building Washington DC, DHS Campus Headquarters Analysis Summary	67 77 90 101 104 106 107
 Pha 11. 12. 13. 14. 15. App App 	Ase 3 Projects Newark NJ, Peter Rodino Federal Building Washington DC, 1800 F Street (GSA HQ) Washington DC, Lafayette Building Washington DC, DHS Campus Headquarters Analysis Summary Dendix A – Background References Dendix B – Questionnaire Template	67 77 90 101 104 106 107 109
 Pha 11. 12. 13. 14. 15. App App 	 ase 3 Projects Newark NJ, Peter Rodino Federal Building Washington DC, 1800 F Street (GSA HQ) Washington DC, Lafayette Building Washington DC, DHS Campus Headquarters Analysis Summary bendix A – Background References bendix B – Questionnaire Template bendix C - AGC Talking Points on Executive Order 13502 	67 77 77 90 101 104 106 107 109 112
 Pha 11. 12. 13. 14. 15. App App App App 	Ase 3 Projects Newark NJ, Peter Rodino Federal Building Washington DC, 1800 F Street (GSA HQ) Washington DC, Lafayette Building Washington DC, DHS Campus Headquarters Analysis Summary Dendix A – Background References Dendix B – Questionnaire Template Dendix C - AGC Talking Points on Executive Order 13502 Dendix D - Project Acceleration Calculation	67 77 90 101 104 106 107 109 112 116

1. Executive Summary

This report has been prepared for the General Services Administration (GSA), National Recovery Program Management Office (PN). The scope of work is to provide:

... a comprehensive report that reflects the expected future impact Project Labor Agreements (PLAs) may have on the cost of construction, and identify an acceptable cost premium (percentage factor) for using a PLA by quantifying the projected future construction cost benefits of PLAs and their unique impact to GSA.

The focus is on eight cities where the GSA has ten upcoming projects. These cities are Cleveland OH, Newark NJ, Denver CO, Nogales AZ, San Francisco CA, Honolulu HI, Portland OR and Washington DC. The report is compiled in three phases to meet deliverable dates requested by the GSA.

The report was compiled by reviewing available literature and interviewing key industry representatives including contractors and trade unions to gain an understanding of specific local issues given their experience and knowledge of PLAs. To identify the cost premium, cost risks for projects were assessed for the 'status quo', non-PLA scenario and then the PLA scenario. The cost benefit or cost premium is the difference between these two cost risk evaluations.

The subject of PLAs has created much debate in the US, with anecdotal discussion extremely varied, and written reports often vary widely in their conclusions – some affirming that PLAs are a useful management tool for achieving cost savings, on-time, on-budget completion and quality construction, while others argue that PLAs cause up to 30% increases in construction costs, decrease bid competition and create less labor availability.

In this study Rider Levett Bucknall has found that the benefits, potential risks and cost impact of using a PLA is strongly influenced by the labor market characteristics of the region in which the PLA is implemented.

Rider Levett Bucknall believes that in Cleveland OH and Honolulu HI, a PLA may to some extent "advance the Federal Government's interest in achieving economy and efficiency in federal procurement" but we also see challenges in establishing a comprehensive PLA with all unions as signatories, while structured to benefit the GSA and general contractor's needs.

We have estimated cost risk as marginally beneficial with a PLA in Cleveland at 0.1% and 0.6% with a PLA in Honolulu. San Francisco may offer lower cost of around 0.3% with a PLA but we believe securing sign off of all trade unions may be very difficult in San Francisco. Newark NJ is similar to San Francisco - our low range estimate shows a PLA may contribute savings of around 0.5% and the high range a cost premium of 0.8% - and we see that the concessions may be a challenge to obtain for mandated PLAs.

Portland OR, Nogales AZ, Denver CO and Washington DC all reveals that a PLA may not advance the Federal Governments interest, and feedback indicates increased cost and minimal benefits of having a PLA in these locations. This analysis estimates cost risk benefits *without a PLA* as 0.5% in Portland OR; 12% in Nogales AZ and 5.8% in Denver CO.

There is also the risk that PLAs exclude small and minority businesses, may exclude capable merit shop contractors and the other factors related to the variability of the actual content of any locally negotiated PLA contract.

This report has been compiled for the General Services Administration (GSA). The information and conclusions contained within the report are for the sole use of the GSA. No reproduction, distribution or circulation of hard copy, or electronic copy may be undertaken without the prior written approval by an authorized representative of the GSA.

i

2. Introduction

Purpose

This report has been prepared for the General Services Administration (GSA), National Recovery Program Management Office. The scope of work issued by the GSA is to provide:

... a comprehensive report that reflects the expected future impact Project Labor Agreements (PLAs) may have on the cost of construction, and identify an acceptable cost premium (percentage factor) for using a PLA by quantifying the projected future construction cost benefits of PLAs and their unique impact to GSA.

The scope is focused on eight cities where the GSA has ten upcoming projects. These cities are Cleveland OH, Newark NJ, Denver CO, Nogales AZ, San Francisco CA, Honolulu HI, Portland OR and Washington DC. With the exception of Washington DC, which has three projects the other cities have single projects. The project value range stated by the GSA is from \$80,000,000 to \$167,500,000.

Background

On February 6, 2009 President Obama issued Executive Order 13502, entitled "Use of Project Labor Agreements for federal Construction Projects" to encourage agencies to use Project Labor Agreements (PLAs) in certain federal construction projects with a total cost to the government of \$25 million or more. The Executive Order only encourages the use of PLAs in such large scale projects, it does not mandate them:

"Executive agencies may, on a project-by-project basis, require the use of a project labor agreement by a contractor where use of such an agreement willadvance the federal Government's interest in achieving economy and efficiency in federal procurement."

Under the Order, the federal government cannot currently compel a contractor to enter into an agreement with any particular labor organization or owner, and the Order does not explicitly exclude non-union contractors from competition. The Order is effective immediately. However, it gives the FAR Council 120 days to take whatever action is required to implement the Order. This Order repeals President Bush's Executive Order numbers 13202 and 13208. Those Executive Orders prevented federal agencies and other recipients of federal funding from requiring or prohibiting contractors from signing union-only PLAs as a condition of performing work on federal projects.

PLAs are pre-hire collective bargaining agreements that govern wages, benefits, work rules, and other terms and conditions of employment for specific projects. Typically the government agency makes it a bid requirement that every contractor and subcontractor be either a negotiating party or signatory to the PLA. PLAs usually prohibit the parties on the project from engaging in strikes, lockouts, or other work disruptions.

President Obama's PLA Executive Order allows federal agencies to consider the use of PLAs where PLAs will "(i) advance the federal government's interest in achieving economy and efficiency in federal procurement, producing labor-management stability, and ensuring compliance with laws and regulations governing safety and health, equal employment opportunity, labor and employment standards, and other matters, and (ii) be consistent with law."

1

3. Overview of Project Labor Agreements

What is a PLA?

Project Labor Agreements (PLAs) are collective bargaining agreements (CBAs) prevalent in the construction industry. They establish the terms and conditions of employment for a specific project through an arrangement between owners / contractors and organized labor groups. PLAs outline terms and conditions of employment for all contractors and subcontractors working on a project, whether they are normally union or non-union contractors.

PLAs typically contain three key provisions:

- 1) A no-strike provision that prohibits work stoppages and allows work to continue on the project during any strike over local contract negotiations;
- 2) Specific wage, benefits and working condition requirements for all workers on the project, as outlined by the local unions and / or prevailing wage requirements; and
- 3) Defined procedures for dispute resolution.

The scope of PLAs varies widely. While many are simply no-strike agreements, others contain requirements for local hiring, scheduling, work rules, employment of minorities, or the general staffing of projects.

Arguments for PLAs

Based on interviews and background research, several factors are *commonly cited* as the benefits of PLAs:

- Stable Supply of Qualified Labor PLAs provide the framework for a stable supply of qualified labor, which contributes to the likelihood of on-time completion. By entering into a PLA, an owner can contractually guarantee that his/her project will have a consistent supply of manpower to complete the project on schedule. This is especially valuable for long-term projects subject to potential labor shortages resulting from market boom / bust cycles.
- 2. Protection Against Strike In cities where unions are pervasive, the PLA is a critical tool to insulate the project from strikes or work stoppages that could delay project completion. Strikes and work stoppages are typically part of union strategies to negotiate multi-year union contracts. Without a PLA, owners are subject to the increased risk of strikes and work stoppages resulting from the renegotiation of each union contract. Further, the conditions and timing for various trade union contracts are not consistent or aligned, so the owner could be subject to strikes by each individual trade union at various points throughout the project.
- Cost Certainty PLAs can provide defined rates for various types of labor, giving owners more certainty regarding costs for the duration of the project. This is especially valuable for long-term projects, phased projects and projects with propensity for extensive change order work, as the hourly rates are defined up-front, allowing owners to budget with more certainty.

2

- 4. Pre-job Conference A PLA generally mandates a pre-job conference in order to clarify jurisdictions, work rules and set the pathway for the project. Given most PLA projects are large, it would seem to be 'good practice' for this activity to take place in order for a general contractor to have a clear understanding prior to commencing and gain agreement on potential grey areas. One implication of this clause is that a PLA is actually suggesting a 'forced marriage' of some groups and while setting clear goals and directions is good practice having this contract clause attempts to mandate cooperation which may not always be possible. The advancement of construction packages in 'trades' and 'divisions' is sometimes not aligned with union jurisdictions.
- 5. Increased Productivity Without Cost Premium PLAs allow owners to set various working terms and conditions, including shifts and work hours. By establishing the shifts, work hours and commensurate compensation up front, owners can realize increased productivity and concessions during negotiations may enable owners to avoid increased rates for extended hours or overtime pay. In essence, the PLA may allow the owner to capitalize on the fact that the project requires an attractive long-term labor commitment, offering an extended period of stable work for labor and defining standard work hours regardless of the work hour rules in a city. Furthermore, a PLA allows owners to streamline and set work hours, rules, shifts, and conditions consistently throughout the various trades involved in the project. Without the PLA, these factors could vary significantly between the trades, as each union's requirements are different. The PLA can be used as a tool to optimize the scheduling of labor on a project, resulting in greater efficiency and productivity.
- 6. Defined / Expedited Dispute Resolution Process most PLAs outline a standardized procedure for resolving disputes between owners and labor. This provision results in fewer complications or interruptions to the work.
- 7. Access to Additional Skilled Labor PLAs and the unions generally associated with them have prompt access to additional skilled labor. This can be important if projects are suffering schedule delays or specific complexities require additional staff at short notice. A counter argument to this is that for very large projects in areas with less union presence, this labor will generally come from out of the area and there will be little benefit for local contractors and workers.
- 8. Better Protection Against Using Illegal Labor Some interviewees believe that the PLAs requirement for workers to be routed via union hiring halls strengthens the owner's ability to control the documentation status of workers and ensure that only authorized workers will be involved on their projects. Ultimately, this responsibility lies with the hiring authority, whether it is a union or non-union general contractor.

Arguments against PLAs

- Union Effect on Non-Union Labor While union-only PLAs are against the law, PLAs are advocated, created and implemented by collective bargaining groups, which are typically dominated by the trade unions. The structure of most PLAs is that non-union contractors are required to enroll their staff in union hiring halls and pay union contributions and pensions. There are four significant impacts of this requirement:
 - a. The number of non-union contractors 'core' employees who are qualified and willing to be assigned to the project are potentially limited, thereby reducing the supply of non-union labor;
 - b. Per-employee contributions by non-union contractors to union benefits are often far greater than those of union contractors (and generally non recoverable by employees at project completion);
 - c. While in the hiring halls, undue pressure can be placed on employees to join the unions; and
 - d. Non-union contractors are disadvantaged in that they have little experience with their construction crews and team composition.
- Creates a NEW Dispute Resolution Process Most collective bargaining agreements (CBAs) have well established dispute resolution processes. A PLA potentially creates a new framework for which the parties are unfamiliar and potentially undermines long established practice where arbiters could be weighted against an owner's interest.
- 3. Cost Increases While PLAs have been advocated as a mechanism to control and fix costs over the life of a long duration project, many studies have reported that PLAs add to bid and final construction costs. The Beacon Hill Institute in three separate studies have concluded PLAs added to bid costs by 18-25% in New York State schools¹ (with the larger variance on larger sized projects); added actual costs of 18% in Connecticut Schools² and added 14% to the bid cost in Massachusetts³. However, these studies did not address the cost impact of scope, timing, market, schedule or quality variables. These variables would contribute to increased costs, thereby reducing the level of cost increases that Beacon Hill argue are all strictly attributed PLAs.
- 4. Schedule Arguments against PLAs related to schedule center on the work rules which govern the composition of a contractor's team and the task allocation, zones and hours of work. If the PLA is structured to reflect the typical union work hours, shift structures and rules, without responding to the specific needs of the owner and the project, then the owner will likely realize an extended schedule requiring additional staff and / or overtime.

¹ PLA in Public Construction Costs in New York State. Beacon Hill Institute. April 2006.

² PLA and the Cost of Public School Construction Projects in Connecticut. Beacon Hill Institute. Sept 2006.

³ PLA and the Cost of Public School Construction Projects in Massachusetts. Beacon Hill Institute. Sept 2003.

- 5. Limits Numbers of Responsible Bidders Studies have shown, and interview responses confirm that in locations where unions are less prevalent, PLA agreements will restrict and reduce the number of bidders. Further studies by Carr in Sept 2000⁴ estimate a bid cost increase of 3.2% per each loss of bidder. However counter argument against this cost percentage is that other project complexities contribute to this delta.
- 6. Women and Minority Contractors These contractors are generally smaller contractors, commonly non-union, and therefore less able to compete on PLA projects requiring union affiliation, contribution and involvement. In certain cases, PLAs have been shown to exclude these groups, with instances of harassment. In some cases, minority targets are not met.⁵
- 7. PLA signatories Recent PLAs, such as the Honolulu Rail Transit Stabilization Agreement (RTSA), does not actually have all local relevant unions as signatories. On one hand the PLA is purported to offer stabilization and consistency, yet key trades, likely to contribute a large number of workers to the project have not agreed to the no strikes/no disruption cornerstone of the PLA. We understand this is due to the fact national union agencies will only agree to their own 'model PLAs' for which there are numerous. The risk of work stoppage therefore remains. **IF** a PLA is **mandated** by GSA – what is the implication to a general contractor if the PLA is aimed at improving the GSAs position, yet one or many groups will not execute the contract? Will the general contractor (GC) be penalized if their intentions were sound?

Factors Influencing Effectiveness of PLAs

Several factors contribute to the effectiveness of PLA's, as follows:

- State of the economy Has been shown to influence PLAs, particularly in the 1980s and more recently in the poor economy of 2008/2009. In areas where construction is influenced by unions, PLAs were a mechanism to provide concessions against some union requirements and thereby created lower construction costs to owners. In stable times, where the market seeks qualified, quality labor, PLAs were promoted as a method to ensure a steady supply of qualified labor. Although PLAs may potentially cost a premium over open-shop contractors, this premium was touted to be offset by a quality end product. These concessions will not lower base wage rates below prevailing wage rates and therefore need to focus on overtime, work rules, jurisdiction and the like.
- Size of project (\$) Larger sized projects require greater quantities of skilled personnel over a long period in order to meet the schedule requirements. PLAs have been implemented to facilitate a steady supply of qualified workers at pre-determined rates, hours and work conditions.
- 3. Duration of project Collective bargaining agreements expire periodically, requiring renegotiation and frequently involving labor strikes by the unions as a negotiating tactic. Projects with extended durations are susceptible to delays resulting from these strikes, and can benefit from a PLAs no-strike clause. The PLA essentially insulates the project from these factors.

⁴ Analysis of Impacts on Jefferson County Courthouse Complex through PLAs. Paul Carr. Sept 2000.

⁵ Union-only PLAs: The Public Record of Poor Performance. Maurice Baskin Esq. 2005

- 4. Local labor market (union or non-union) In strongly unionized areas, where union contractors are likely to be the dominant players in bidding and performing on large projects (such as Honolulu and Cleveland) PLAs can offer benefits with an up-front contract primarily between the unions. Recently, similar to the 'Stop-Loss PLAs' of the 1980s, these PLAs offered concessions to union rates and rules but importantly cover the duration of a project. In non-union areas, PLAs are seen as a negative, non-competitive mechanism where open-shop contractors (and employees) are dictated terms which they find unworkable in practice and prevent them from managing their business and project teams in a way that is best for the project.
- 5. Contractor and subcontractor buy-in When the contractor and subcontractors have the ability to participate in the negotiation of terms and conditions of the project, their morale may be improved and workability of the PLA increased (specifically in non-union cities if PLAs are mandated). Given most, if not all PLAs are created between the owner and the unions *prior* to bid, it is difficult to see how there may be subcontractor buy-in unless shortlisted subcontractors are given the opportunity to amend the PLA agreement prior to formally submitting their bid. Buy-in is an issue which needs to be addressed as the PLA can be crafted to include provisions which can be more contractor and subcontractor 'friendly', which is vital to their success particularly in 'non-union cities'.
- 6. Clarity of annual, incremental wage increases For a PLA to offer wage clarity, wage structures, indexes and annual increases need to be clearly stated. Simply referencing separate collective bargaining agreements, Davis-Bacon (D-B) or local state 'little Davis-Bacon' prevailing wage rates these future increases are often unknown.
- 7. PLA signatories An important factor of PLAs is that ALL unions do not necessarily sign up to the PLA. To ensure a PLAs success, all relevant local unions must be signatory to the agreement otherwise a 'rogue union' may complicate the project and the perceived no-strike benefit of a PLA may be lost.

4. Methodology

In preparing this report, Rider Levett Bucknall assessed the potential cost, schedule and other impacts associated with entering into PLAs as compared to the existing prevailing wages in eight locations - Cleveland OH, Newark NJ, Denver CO, Nogales AZ, San Francisco CA, Honolulu HI, Portland OR and Washington DC.

Due to the status of the various projects, the GSA requested the report issued in the following phases:

Phase 1	Cleveland OH, San Francisco CA, Honolulu HI, Portland OR - 12/31/2009
Phase 2	Nogales AZ, Denver CO – 01/18/2010
Phase 3	Newark NJ, Washington DC – 01/27/2010

Rider Levett Bucknall took into account all known local, national and international factors across a broad range of trades and services. Data was gathered by conducting rigorous research and holding interviews with selected individuals representing general contractors, subcontractors, builders' associations, government, local unions and others with extensive knowledge of construction activity and the use of PLAs in each city. Interviews were focused on gathering information, data and opinions regarding the use, efficacy and impacts of using PLAs in the current poor economic cycle being experienced in the US (refer Appendix B).

While this report attempts to quantify the potential cost impact of using PLAs on future projects in various cities, Rider Levett Bucknall affirms that the projections included herein are ultimately *estimates* based on our professional opinion. As it relates to cost, our methodology in preparing this report has been to conduct extensive research, interview individuals to better understand their experience with PLAs, seek their opinions regarding cost impacts on prior projects, and estimate the cost impact for future GSA projects based on the collective research and opinions gathered in this effort.

However, the cost impact of using a PLA is nebulous. Each construction project is unique, with a broad array of factors contributing to cost. Whether or not a PLA is utilized on any given project may impact the overall cost, but the magnitude of this cost differential is typically vague, arguable and difficult to isolate. Construction costs are influenced by the city in which they are built, the current economic and labor market conditions, and the quality of the project team that guides their design and construction.

Further, while the owner must make decisions regarding use of a PLA at the project's outset, the economic conditions that are the basis for the owner's decision inevitably change over the ensuing months and years. Any PLAs perceived success or failure will be driven largely by the terms and conditions locked in at the outset, as compared to the outcomes that would have occurred without a PLA over the multi-year duration of the project.

In some locations PLAs have been suggested to offer cost savings and concessions against current union fee structures and wage rates. The key question - "if PLAs are **mandated** is there any incentive for unions to offer concessions, given the work is essentially guaranteed to the unions?" - will be subject to much debate. A recent article in ENR⁶ detailed how PLAs have contributed to project cost savings to 'unfreeze' New York City projects "worth more than \$7.5 bil" by offering concessions against *standard union CBAs* to achieve project cost savings. For

⁶ Engineering News Record. January 18, 2010. Page 26.

the ARRA projects set to go ahead, if PLAs are mandated whether or not these savings or concessions will be seen is questionable. The calculations in this article also estimate savings of 16% to 21% from "one year wage freezes…benefit cuts…and…In return contractors cut wages and benefits for management and reduced their own profit margins". With labor at around 40% of a project's total value, this would require a **50% reduction** in labor costs to achieve a 20% saving. In our opinion these 16% to 21% savings quoted appear overstated and in the past 18 months, the Rider Levett Bucknall **material cost index** has dropped by 7.5% - which has contributing significantly to bid prices below engineers estimates.

To assess the "acceptable cost premium" associated with PLAs, Rider Levett Bucknall approached the task from two sides. Firstly, to evaluate the potential costs or savings if a PLA is not in place, and secondly to evaluate any costs or savings if a PLA is in place.

- What is an actual cost?
- What is an actual saving?
- What is a **potential cost** increase or risk which is **avoided**, mitigated, or held neutral?

The factors considered are:

- Strikes
- Labor Supply
- Intertrade Jurisdictions
- Wage Rate Stability
- Labor Cost
- PLA related bidding effect

A potential cost or saving for each factor was then assigned a probability of these costs occurring. These are referred to as 'cost risks' and detailed in the tables for each city.

While interviewees were also questioned on *absenteeism* and *quality*, there is insufficient hard data either way to compare PLA and NON-PLA projects on these factors. Weather, poor management, project location, design quality (i.e. change orders/rework), illness, family constraints, safety factors and construction volume (state of the economy) affect these issues rather than the PLA related scope of this study.

Strikes

Given one of the main arguments in support of PLAs is that work disruption and strikes are minimized, we have investigated the potential cost and likelihood of strike disruption for the selected projects.

Strike action has seen a steady decline in the past two decades and from data published by the FMCS⁷, and Department of Labor (DoL), work stoppages appear to have a close correlation with union affiliation. As union rolls have decreased, strikes and work disruptions have similarly decreased. Notwithstanding this fact, we have assessed the average strike duration from this data in order to ascertain the cost of a strike, then, based on a guidance matrix, we have assigned a likelihood of strike occurrence.

⁷ <u>http://www.fmcs.gov/internet/downloadsList.asp?categoryID=276</u> Federal Mediation and Conciliatory Service (FMCS) – FOIA Work Stoppage Data 1984-2009.

Under FAR regulations⁸ strikes are an excusable non-compensable delay. That is, if the contractor or subcontractor through no fault of their action or inaction suffers work stoppage due to strike or other similar action, the time lost is excusable and the project end date may be extended by the corresponding duration of the strike (possibly with a startup time allowance to recommence the work). But there is no compensation (either way) for any given costs due to this delay.

Therefore, the likely *cost* of any strike are the costs which may be incurred to get the project back on schedule (acceleration) or any knock on costs the owner may incur by not having the benefit of the completed project. Given the huge variability in assessing the latter we have calculated the acceleration costs to bring a project back on schedule through double shifts, extra equipment and overtime (refer Appendix D). This potentially equates to 72.5% of the project value affected.

The potential cost of a strike is therefore:

<u>Total project value</u> x 72.5% x Average strike duration (cal. days) Project duration (cal. days)

For example, a \$100mil project with a 200 calendar days duration, in an area with 10 days average strike stoppage – the calculated maximum cost of the stoppage would be:

 $\frac{\$100,000,000}{200} \times 0.725 \times 10 = \$3,625,000$

However, a probability factor is then assigned to this figure. If the area is a work stoppage/strike hotbed strikes would be given say a 90-100% probability factor, however, if strikes have not occurred in the last 15 years a value from 0-10% would be utilized. There is obviously some subjectivity in this probability factor, so interviews, local data and the FMCS data has been used to evaluate high and low ranges for these probabilities.



Figure 1 US - No. of Days of Idleness from work stoppages as % of Total Estimated Working Time. *Source:* www.bls.gov

⁸ FAR clause 52-249-10

Figure 1 shows that in 1959, work stoppages peaked, and accounted for 0.43% of total work time in all industries. 2009 work stoppages are at 0.01% (i.e. one hundredth of one percent) and in July 2009 the BLS reported that in the prior seven months there have been zero major work stoppages in the US⁹ –indicating a correlation for strikes to reduce in down economic times.

Construction only strike data is not produced by the FMCS and is potentially misleading given the classification system. For example, in Honolulu, concrete and aggregate related work stoppages were classified as both retail and manufacturing yet had a considerable effect on construction progress. We believe we have taken a conservative approach in our analysis to strike liklihood, for example in Cleveland (refer page 19) a 5% chance of strike occurring on a PLA project is 500 times the US all industry average. Similary, the 20% chance on a non-PLA project is 2,000 times the average.



Figure 2 – US Employment Trends vs Work Stoppages *Sources* – <u>www.unionstats.com</u> (Barry T. Hirsch and David A. Macpherson) and <u>www.bls.gov</u>

Focusing on the employment trends in the US since 1973, and aligning this to the corresponding work stoppage data, Figure 2 shows a trend where the percentage of hours lost is closely aligned to the decline in union representation. The hours lost due to work stoppages

Methodology

⁹ <u>http://www.bls.gov/opub/ted/2009/jul/wk1/art04.htm</u>. Note MAJOR stoppage involves 1,000 workers or more. The laborers union strike in Cleveland in May 2009 had 715 workers. refer Appendix E.

also drop during times of higher unemployment, as seen in 1982 and 1993. The peak of unemployment in 2009 may reduce the liklihood of strikes as workers seek to continue earning a wage.

One factor of non-PLA projects is that in an area where a union strike or work stoppage occurs, any non-PLA project using the same union may be subject to sympathy strikes or slowdowns even if the specific issue may not be specific to the GSA project site.

Labor Supply

PLA supporters contend that their implementation ensures a steady supply of qualified/skilled labor. Union affiliation of construction workers in the ten study cities ranges from 9.6% in Denver to 40.2% in Honolulu. Therefore 9 out of every 10 Denver construction workers are not affiliated to a union and similar 6 out of every 10 in Hawaii have no union ties. Across the US some 86% of workers are not covered by collective agreements.¹⁰

We have assessed the likely risks of labor supply in a PLA vs non-PLA scenario to quantify the project costs in sourcing additional out of town labor (possibly with accommodation, per diems etc) if either the local union halls or local merit shops require supplementing. Our city studies have shown that the effect of PLAs on skilled labor resources will vary by location.

In strongly unionized areas, with a large existing union presence, a PLA will provide a framework where the union halls supply skilled labor to the project site. Even if multiple PLA or other union projects are being constructed at the same time, the quantity of local union labor is likely to cope with this workload, given both the slowdown of construction in the US and the fact that none of these GSA projects are 'megaprojects' requiring a disproportionately large percentage of local labor.

In non-union areas, feedback from industry sources generally raised dire concern with the effect that PLAs would have on the current skilled labor pool and ability for union-only labor to meet project demands. While PLA proponents argue that both union and non-union labor can work under a PLA, the negative issues associated with the PLA tend to dictate that non-union contractors refuse to agree to PLAs and do not bid on PLA projects. As a result, we believe that PLAs will have a significant negative effect on skilled labor in the lower union areas of Denver CO, Nogales AZ, Portland OR and Washington DC. There is around 90% non-union labor in these locations, and apart from the basic exclusion of the local labor, the union workforce is likely to be required to be supplemented by out-of-state union labor to meet project demands. This out-of-state labor will cost the project in additional travel and subsistence costs, possibly affect the project quality due to labor shortages, and will negatively affect the local construction economy.

Intertrade Jurisdictions

There are two issues to consider with this factor. Firstly, in PLA (and union projects), creating job boundaries based on union work rules can create additional costs in actually completing the work (for example if only a carpenter may install blocking for plumbing fixtures – work a plumber may often, and wish to perform) from the difference of the actual labor costs but secondly, the

Methodology

¹⁰ Note we have used data for workers covered by CBAs – which is around 1-2% higher than actual union membership in each location. This reflects some workers pay dues to unions for negotiating their pay and benefits, while these workers elect not to be union *members* with union pension and health plans etc.

potential delays in scheduling this work, given the plumber in the above example may have to wait for the carpenter to carry out his work.

The areas which often arise in jurisdictional debates generally center around 'ancillary activities' such as cleaning, sweeping, wood blocking for services, and interface issues (such as fitting wall mounted lights, clocks). Additionally, if a PLA is mandated – multi task roles – such as civil works where in the course of a day an employee may carry out concrete formwork (carpentry), setting reinforcing (ironwork), placing concrete (carpentry), laying pipe (plumbing) and driving a small wheeled excavator (operator or laborer) need to be streamlined so jurisdictional debates are resolved prior to work commencing.

Some union respondents commented that an advantage of a PLA to an owner is that jurisdictional boundaries are being actively checked by union representatives. We question this logic. Given subcontractors will only carry out work they *have bid on and will be paid for* - jurisdictional debates are only a concern to the unions, as unions wish to receive dues, and have activities carried out at their union's wage structure. An owner does not actually see any monetary or efficiency gain from jurisdictional 'clarity'.

Wage Rate Stability

PLAs offer stable wage rates either through reaffirming that Davis-Bacon (D-B) wage structures must be used (a double up of federal law and FAR clause 52.222-6) or by utilizing specific local union wage structures (which in many instances are near equal). A number of work disputes have historically arisen on long duration projects where union rate structures expired and required re-signing such as the Ohio Laborers strike (Local 310) discussed later in this report.

While proponents of PLAs argue that wage rates are known and stable – it appears that in some PLAs, owners and contractors may not actually have that much clarity as to what the wages will be. Clear annual wage increments seem not to be specified in all PLAs, and if D-B structures are the fallback rate it is also very difficult to actually predict what the annual increments may be for these rates - given the local union offer their wage structures as the baseline for the D-B prevailing wage. There appears to be potential for the Davis-Bacon wage to be 'hiked up' by a corresponding union hike unless clear annual increments are defined in a PLA.

Labor Cost

We have assessed the local union wage rates in the study locations versus the prescribed Davis-Bacon wages and fringes. In certain areas, we have also assessed the cost of labor that merit shop subcontractors pay.

Other real labor costs are the mandated structures for a non-union contractor – for example the recent Honolulu Rail Transit Stabilization Agreement (RTSA) specifies a maximum of seven (7) non-union core employees be allowed in a non-union subcontractor work crews, with the balance union workers. Given these workers are potentially unknown to non-union subcontractors, this will severely affect a non-union business model if the merit shop contractor elects to bid.

Apprentices are also generally required to be from union programs or certified programs under the appropriate union joint apprenticeship program pay scales and ratios.

Whether a project has a PLA or not, should not affect productivity or schedule in terms of the rate of production per day - as a project will be manned accordingly by subcontractors to meet schedule. However, there is strong evidence to suggest that the result of a PLA that dictates work rules, double benefits, team structure and activities on non-union type contractors will be that *production costs* will increase - given these union related requirements. The quantum and probability of this varies by location.

PLA Related Bidding Effect

Many non-union general contractors and subcontractors simply will not bid on PLA projects.

In non-union areas, where a PLA prompts responsible bidders to <u>refuse to bid</u> this will have the effect to raise bid prices, given this reduced competition. Some extra project and subcontract burden of administration, extra overseers and supervisors may also increase the real project cost.

In cities with less union presence we have assessed the 'PLA Bid Effect' to account for the extra administration, perception, time related to PLA negotiation, and legal costs subcontractors may need to pass on within their bids.

In our opinion, a framework such as a PLA that excludes responsible bidders, or dictates rules for potential bidders that has the potential to increase costs should not be used.

Phase 1 Projects

This phase covers projects in Cleveland OH, San Francisco CA, Honolulu HI and Portland OR.

5. Cleveland OH, A.J. Celebrezze Federal Building

Overview

The A.J. Celebrezze Federal Building is in central Cleveland, around two blocks from the



Cleveland Browns football stadium. Cleveland is the county seat of Cuyahoga County. The refurbishment project is to be delivered under a CMc contract with the anticipated construction budget \$115,178,000.

In compiling this report, the following organizations were interviewed:

- Two large general contractors
- One large owner's representative company
- One large mechanical subcontractor
- Carpenters Union Local 21
- Pipefitters Union Local 120
- Associated Builders & Contractors (ABC) Northern Ohio
- Northwest Ohio Building and Construction Trades Council
- Other local unions were also contacted for their wage rates

A.J. Celebrezze Federal Building

Local Labor Market Characteristics

Ohio has 15.5% of its workers covered by collective bargaining agreements, which is slightly above the US average of 13.6%. In construction, 30.6% of employees are under collective bargaining agreements, which is double the US rate of 15.1%¹¹.

Cleveland construction is quoted as a 'union town', given its strong industrial and manufacturing history and construction of the facilities and buildings for these industries to be built union.

PLA examples in Cleveland are the Gateway Project (Jacobs Field, Gund Arena-1992), the new Cleveland Browns Stadium (1999) and the Cleveland Clinic addition (to 2008). A January 2008 contract between AFL-CIO and University Hospitals for their \$730mil Vision 2010 is a project labor agreement. Cleveland.com quotes this as having some small business goals – essentially implying small non-union contractors 'partner' with union contractors. The Cleveland Building Trades Council estimates that since the 1980s they have carried out over \$3bil project value under PLAs. PLAs have recently been advocated by the current Governor and on Dec 15, 2009 PLAs were **mandated** to be adopted for all construction projects over \$25,000 in Lucas County, north Ohio.

Ohio State requires multi-prime contractors and respondees felt that SBE participation goals greatly limited the viability of PLAs. For example - if a small non-union SBE subcontractor is selected for a larger PLA project yet only works on the project for six months, some collective bargaining agreements (CBAs) require that they are signatory for two years (or longer). This means that for **all** other projects subsequent to signing the PLA project and CBA, this SBE is required to utilize union labor and rates which limits their ability to offer competitive bids. This

¹¹ Source <u>www.unionstats.com</u>. Data extracted Jan 13, 2010 from prelim. CPS source data 12/18/09.

was seen as one of the more significant issues and negative knock on effects with current PLA language.

Davis-Bacon Prevailing Wage Rates and Current Union Rates

Selected local union wage rates and fringes compared with Cuyahoga County Davis-Bacon prevailing wage rates are as follows:

Trade	Union	Union Rate	Prevailing Wage Rate
Pipefitters (incl HVAC)	Pipefitters Local 120	\$32.92+16.35= 49.27	\$32.92+16.35= 49.27
Carpenters	Carpenters Local 21	\$29.96+11.61= 41.57	\$29.96+11.41= 41.37
Sheet Metal Workers	S/M Worker's Local 9	\$29.90+17.59= 47.49	\$32.83+15.78= 48.61
Electricians	IBEW Local 38	\$34.53+15.30+dues = 50.07+dues	\$34.53+16.76= 51.29
Bricklayers	Bricklayers & Allied Local 5	\$29.52+12.20= 41.72	\$29.52+11.68= 41.20

There is general parity between some selected local union rates and the Davis-Bacon prevailing wage. Sheetmetal shows a higher Davis-Bacon rate than union rates of \$1.22 (2.5%), however interview respondees considered straight D-B prevailing rate projects may have an overall lower project cost up to 5% than union projects given less restrictive work rules and jurisdictions.

Effect on Construction Costs Derived from Local Research

Strikes

From data recorded by the Federal Mediation and Conciliatory Service (FMCS) Ohio has seen 76 strikes since 1984, with 12 since the year 2000. The most prevalent strike year for Ohio was 1985, with 161,060 worker days (805 full time employee-years). In 2009 there were three strikes totaling work stoppages of 8,530 worker days – which is roughly 43 full time employees for a year (refer Appendix E).

Referencing the strife matrix in the following page, Cleveland has a higher **potential** for strike. This is reflected in the probability factors of the PLA cost worksheets.

'Informational' picketing was noted as relatively common in Cleveland, particularly with the large and visible carpenters union who have around 6,600 members in Cleveland and 27,000 in Ohio. The knock on effects of this may slow project schedule and possibly affect absenteeism.

The Cleveland Laborers Union (LIUNA Local 310) currently commands around \$4.00 less than the carpenters union. In May 2009, Local 310 was on strike for 9 days when the CBA expired and could not be agreed upon. During this period some significant projects, including \$160mil Cuyahoga County Juvenile Center, \$155mil TriPoint Medical Center, Cleveland Zoo, AT&T Building and Louis Stokes VA Medical Center were all affected by the laborers strike¹². The risk of strike in Cleveland is real, and disruption is more likely if a PLA is not in place.

¹² www.cleveland.com 'Northeast Ohio construction projects halted...' Melodie Smith, May 06, 2009

LABOR STRIFE - CLEVEI	TAND	Risk of strife			
	Issue	1 = MOT	Medium = 2	High = 3	Score
Project location/ city 1 population	Isolated project locations generally dictate that workers are relocated for a particular project. Historically, labor strife has been lower in these less populated areas.	Isolated location with limited options for alternative work.	Medium sized city with adequate local workforce. Some out of town sub-contractors/workers required.	Large city with a strong construction workforce	ε
2 Project safetv	Safe projects have been shown to have lower worker disruption. A clear safety management plan, worker induction and training, good lav down areas	Concise safety management plan which is followed through. Focus on safety.	Adequate safety plan and follow up. Minor safety issues.	Management team with poor safety record, and project safety issues arise.	1
3 Project organization	Reports have shown that poor organization (also linked to safety) can increase absenteeism, increase turnover and affect schedule. This can lead to disruptive action in response.	Well organized, efficient experienced/capable contractor. Top management team following best practice.	Acceptable organization but not best practice.	Poorly organized project site. Limited laydown and poor access. Poor worker accomodation/facilities.	1
4 Project size	Large projects are more likely to warrant more attention from unions and more worker organization can lead to action. Smaller projects statistically are less likely to have active strong advocates promoting labor strife.	Small project <550 mil	Medium project 550-5150mil	Large project >\$150 mil	2
5 Project schedule	Compressed schedules can create overtime requirements, night/weekend work, safety issues, limited laydown/access and possibly increased worker density. Tight schedules may be more prone to worker strife.	Reasonable schedule - low complexity project	Reasonable schedule - medium difficulty project	Compressed/crash schedule - difficult project	2
6 Project duration	Long duration projects are potentially subject to union renegotiations. The longer the project, the more renegotiations which represent a	Up to 15 months	15 months - 24 months Maritium - 5	Over 24 months construction High - o	2
7 Union prevalence	Higher unionized locations are more likely to have higher worker strife.	Low unionism 0-10%	Medium unionism 10-20%	High unionism >20%	9
o Fromonic conditions	In buoyant times, worker strife is more likely, as workers may be able to move to other projects and the ability for owners to meet higher pay demands is higher. In tougher times, there may be no altemative job and pay increases are less able to be more	Door/Jour economic times	Stable economic times	Ruovant economic ritmes	
				Max score = 36	21

16

Phase 1 Projects

Labor Supply

Interviewees noted that in the strong union town of Cleveland, such a feature/high profile project would likely be constructed union anyway. With this strong union presence and in the current poor economic climate there is sufficient skilled labor to carry out this refurbishment project. The view of two respondees felt that the scale of the project dictated that this would likely limit the subcontract bidders to the larger, union subcontractors given bonding and delivery, schedule requirements.

The large carpenters union estimated only 5% of their members were currently on the bench.

Quality is a very subjective issue and respondees noted that in boom times, with a shortage of labor, they saw non union quality lower than unions and believed that on the whole, union training and apprenticeship programs were more established tending toward a higher quality product.

Intertrade Jurisdictions

Intertrade jurisdictional disputes are seen as less of an issue in Cleveland and once a union project is set up, the intertrade boundaries are generally clear. While potential issues can always arise we see this as low risk in Cleveland. Interviewees have seen many successful projects with 'two gates' for union and non-union workers to be working alongside each other and that malicious acts toward non-union subcontractors has reduced to almost zero in recent years.

Respondees felt that union related trade jurisdictional boundaries added cost to a project of up to 5%. Even with consistent wages set by Davis-Bacon, the perception was that strict union structures added cost given the limited job functions of some trades, and additional cost in classifying some activities to a union classification (i.e. 'stocking' materials, craneage, cleaning, blocking). To account for jurisdictional work rules, we have assigned a 1% labor cost impact to a non-PLA project given what would potentially be a 'mixed project'; and a 3% effect to a PLA project.

The carpenters union noted they are the largest union in Ohio, with around 75% of projects contracted with their men and 95% of local general contractors signatory to their CBA. Interestingly, the carpenters union saw that PLAs were not always the answer to jurisdictional disputes noting that with the laborers possibly having a higher percentage of men out of work, jurisdictional issues were not as clear cut. Other unions concurred, noting that in these poorer economic times jurisdictional debates are more frequent – unrelated to the presence or not of a PLA – but more readily resolved through the Dispute Resolution process set out in the PLA.

Open shop contractors do not have 'jurisdictions' per se, but carry out work related to their trade. Cost risk for jurisdictional disputes is set at 1%, with a higher probability assigned to PLA projects.

Wage Rate Stability

Having wage rate certainty for the years following any anniversary of union contract expiry is argued as a PLA benefit. However, the PLAs Rider Levett Bucknall has viewed make reference only to Davis-Bacon, or union wage structures. We see that for PLAs to actually give this full

benefit, the annual increment must be clearly stated in the PLA contract - either indexed to the CPI (or other economic index) or as a set figure across all trades (i.e. 2% annually). While unions may have their own 'in-house' annual increment – there is possibly risk created in a PLA that under this agreement different trades have a different annual increase which may serve to actually create intertrade friction and potential strife (i.e. if a bricklayer gets a 3.5% increase and a laborer 2%).

Under the AJ Celebrezze GMP contract that is proposed, if a PLA is not implemented, the annual union negotiations may become an issue between the subcontractor and the union. A subcontractor is still required to offer a competitive bid, with certainty of cost – for which labor cost is one of many components in a responsible bid.

If a PLA is implemented, annual negotiations should also be a non-issue for subcontracts already confirmed as this becomes a contractual issue between the subcontractor and the union. A subcontractor needs to offer a bid with the correct allowance for wages. For subcontracts not bought-out, these negotiations could raise future package wage prices meaning that at buy-out, a package may be higher than the general contractor's estimates, but the owner (i.e. the GSA) should still not see any effect of this given the GMP cost ceiling. In GSA construction contracts the onus is on subcontractors to confirm and clarify their total project wage costs – with or without a PLA, with or without a union.

While we have some doubts that wage rates are actually less stable under a non-PLA agreement given the fall back D-B prevailing wages, we have assigned a slightly higher probability factor to a non-PLA project, given that on a 'mixed trade' project which is likely in Cleveland there may be a higher potential for issues. The actual benefits of wage rate stability are not necessarily solely with the clarity of annual gains, but the reduction in the risk of work stoppage as covered above.

Labor Cost

Given many PLAs have set overtime rates at 1.5 times the base rate there is the potential that some small savings may be made in overtime rates for Sundays, Public Holidays and shifts beyond 12 hours. Our view is that these working hours are normally to recover lost time from delays, or to carry our extra change order type work – therefore these 'savings' should not be treated as a saving for the base project cost. Labor cost *could* potentially be lowered if the project required multiple shifts, overtime or weekend work, but we understand this is not required and these concessions may be difficult to actually achieve.

Labor costs with a PLA increase due to some high costs for ancillary works - i.e. without a PLA or union, ancillary construction works such as material stocking and sweeping/cleanup could be carried out by laborers or helpers, at lower hourly rates.

A very thorough study carried out in May 2002 by the Ohio Legislature Service Commission¹³ studied the effect of exempting schools from the state 'little Davis-Bacon' prevailing wage and while this is not the scope of this report, the data indicated average **project cost** savings of 5-10%¹⁴ if school construction was exempt from Ohio's prevailing wage law. Similarly, this study

¹³ The Effects of Exemption of School Construction Projects from Ohio's Prevailing Wage Law, SB102 Report, *Legislative Service Commission, Allan Lundell, May 20, 2002*

¹⁴ Ibid. page 21

found no effect of quality for this exemption¹⁵. One interviewee noted they are carrying out corrective work and claims analysis for some of these exempted school projects where quality was perhaps compromised.

Interestingly, this study also analyses a bid in 1997 for bids at Westlake School District, where contractors were requested to submit bids with and without **prevailing wages** with the average 5.8% lower without the prevailing wage. This is a different scenario than the two bids currently being requested by the GSA (i.e. PLA and non-PLA) in that the Davis-Bacon prevailing wage will still apply for the GSA projects, but the PLA likely adds the more restrictive union requirements, contributions and work rules which will negatively impact open shop contractors. Dominant trades and the project type also have an effect on any cost reduction.

As discussed in Intertrade Jurisdictions we have assigned 1% and 3% to potential labor cost risks due to the effect work rules have on effective labor costs.

PLA related Bidding Effect

Given the strong union prevalence constructing central Cleveland major projects, we see that the additional management costs due to work rules, limiting the number of able/qualified bidders and other structures detailed in PLAs will have little to minor additional cost influence versus a standard Davis-Bacon project. Consistent to a prior study carried out by Rider Levett Bucknall, we see that the 'PLA bid effect' will have little influence in the strong union city of Cleveland and in the current weak economic times.

19

PLA Cost Impact Analysis

¹⁵ Ibid. page 35

GSA – TENTATIVE DRAFT REPORT Applicability of Project Labor Agreements

CLEVELAND	PROJECT (COST	\$1	15,178,000				
LOW RANGE/OPTIMISTIC EFFECTS	LABOR COST (35%)		\$ 40,312,300					
				730	Project Duration/Ca	l. Da	iys	
			\$	157,778	Project Cost/Cal. day	y		
WITHOUT A PLA								
	Days/%	Cost/day	Cos	st if occur	Probability	Cos	st	%
Strikes (72.5% recovery cost for duration)	15	\$114,389	\$	1,715,837	20%	\$	343,167	
Labor Issues (supply)	%	1%	\$	403,123	40%	\$	161,249	
Intertrade jurisdictions	%	1%	\$	403,123	30%	\$	120,937	
Wage Rate Stability	%	2%	\$	806,246	40%	\$	322,498	
Labor Cost	%	1%	\$	403,123	50%	\$	201,562	
PLA related bidding effect	%	0%	\$	-	0%	\$	-	
						\$	1,149,413	1.0%

WITH A PLA

	Days/%	Cost/day	Со	st if occur	Probability	Cost	t	
Strikes (72.5% recovery cost for duration)	15	\$114,389	\$	1,715,837	5%	\$	85,792	
Labor Issues (supply)	%	1%	\$	403,123	10%	\$	40,312	
Intertrade jurisdictions	%	1%	\$	403,123	50%	\$	201,562	
Wage Rate Stability	%	2%	\$	806,246	20%	\$	161,249	
Labor Cost	%	3%	\$	1,209,369	50%	\$	604,685	
PLA related bidding effect	%	0%	\$	-	50%	\$	-	
						\$:	1.093.599	0.9%

Table 1 - Cleveland Low Range Project Cost Risks

For the current poor economic climate in Cleveland, Table 1 above shows that a PLA versus NON-PLA project is relatively equal at 1% and 0.9% **cost risk** - with a PLA marginally more favorable by 0.1%. Given the nature of this analysis we suggest an error range for this figure of +/-0.5%.

It is important to note that some of these are not true dollar costs, but potential cost impacts which may be minimized under a carefully crafted PLA contract. **IF** a PLA is utilized, care in crafting and negotiating a PLA needs to be taken, as detailed in the summary below. It is possible, although unlikely that the PLA labor cost premium as suggested above, may be lowered if jurisdictional boundaries and work rules are addressed in detail - so as to benefit the GSA. Feedback from local unions indicate for them to sign a PLA, there may be no concessions to their standard union CBAs.

Table 2, below assigns more conservative values to each of the potential cost impacts, which in the current economic climate in Cleveland we view as overstated.

GSA – TENTATIVE DRAFT REPORT Applicability of Project Labor Agreements

RLB Rider Levett Bucknall

\$3,452,382 3.0%

CLEVELAND	PROJECT COST		\$1	15,178,000			
HIGH RANGE/CONSERVATIVE EFFECTS	LABOR COST (3	35%)	\$ 40,312,300				
				730	Project Duration/Cal	. Days	
			\$	157,778	Project Cost/Cal. day		
ΜΙΤΗΟΙΙΤ Δ ΡΙ Δ			·	,	,		
	Days/%	Cost/day	Co	ost if occur	Probability	Cost	%
Strikes (72.5% recovery cost for duration)	25	\$114,389	\$	2,859,728	20%	\$ 571,946	
Labor Issues (supply)	%	2%	\$	806,246	50%	\$ 403,123	
Intertrade jurisdictions	%	2%	\$	806,246	50%	\$ 403,123	
Wage Rate Stability	%	3%	\$	1,209,369	70%	\$ 846,558	
Labor Cost	%	1%	\$	403,123	60%	\$ 241,874	
PLA related bidding effect	%	2%	\$	806,246	0%	\$ -	
						\$2,466,624	2.1%
WITH A PLA							
	Days/%	Cost/day	Сс	ost if occur	Probability	Cost	
Strikes (72.5% recovery cost for duration)	25	\$114,389	\$	2,859,728	15%	\$ 428,959	
Labor Issues (supply)	%	2%	\$	806,246	50%	\$ 403,123	
Intertrade jurisdictions	%	2%	\$	806,246	50%	\$ 403,123	
Wage Rate Stability	%	3%	\$	1,209,369	30%	\$ 362,811	
Labor Cost	%	5%	\$	2,015,615	60%	\$1,209,369	
PLA related bidding effect	%	2%	\$	806,246	80%	\$ 644,997	

Table 2 – Cleveland High Range Project Cost Risks

The high ranges reflected in Table 2 show that a NON-PLA project may offer less **cost risk** of 0.9%. Error range of +/- 0.5%.

Cleveland - Summary

In Cleveland we see that there is currently some political risk for a large project that is carried out 'non-union'. Davis-Bacon and union pay structures are similar, however union jurisdictions for a PLA may marginally add to the project labor cost.

There is considerably more effort required for a non-union subcontractor to work under PLA conditions and this will lower competition in Cleveland. The restrictive nature of some PLA clauses is a concern which GSA must address if a PLA is to be **mandated**.

A PLA is a contract which is able to be modified and as such must be legal, well compiled and adequately addresses potential cost factors such as ensuring a no-strike clause, detailing consistent work hours, detailing reasonable overtime rates and that hourly wage rates and annual increments are *clearly* defined *within* the PLA. **IF** a PLA can be drafted that offers concessions from local union CBAs there could be savings to the GSA – however it is likely to be difficult in getting all unions to sign off to these.

We also recommend that any framework PLA is tabled by the GSA within bid solicitations, but that the selected general contractor is heavily involved in finalizing and compiling a PLA and is a signatory to the final executed PLA. The GC is the prime party working to the stipulations dictated by the PLA and this should ensure that any potential issues are resolved and benefits to the GSA can be maximized - prior to PLA signing.

In Cleveland, PLAs have been relatively common and a well structured PLA is likely to draw from a larger pool of labor and utilize more established local subcontractors with bonding and size necessary for this project. There is likely to be less friction and chance of dispute with a PLA project in Cleveland, however it appears that any concessions to union standard rates will be difficult and there is some concern that commitment to this single PLA by any new contractors, subcontractors or suppliers, may in fact require a commitment to the unions for **any and all** future projects! The legal ramifications of this are considerable and our understanding is that PLAs are only legal if they are site specific and if they do not mandate long term union affiliation.

Overall, we believe that Cleveland will tend toward our low range analysis (per Table 1), and that a well structured PLA will offer marginal cost risk benefits of 0.1% (+/-0.5%) to the GSA.

Based on the analysis contained within this report and given the current poor economic climate in the US - for a PLA on the AJ Celebrezze Building, Rider Levett Bucknall sees that the GSA may be advantaged by a *well compiled* PLA and that a PLA may to some extent "*advance the federal Government*'s *interest in achieving economy and efficiency in federal procurement*". There is however the risk that this may be to the detriment of small and minority businesses as well as excluding some capable merit-shop contractors.

6. San Francisco CA, 50 United Nations Plaza

Overview



The Federal Building at 50 United Nations Plaza is located in San Francisco's Civic Center area. The sixstory building was originally completed in 1936, contains 360,000 gross square feet, and is listed on the National Register of Historic Places. The building is currently vacant, and will be occupied by GSA Region 9 offices upon completion of the renovation project, anticipated to last approximately three years.

50 United Nations Plaza

In compiling this report, the following organizations were contacted:

- Associated Builders and Contractors (ABC), Golden Gate Chapter
- The Associated General Contractors of America, California Chapter
- The San Francisco Building & Construction Trades Council
- Two large general contractors
- One major subcontractor
- Union Local 38 Plumbing & Pipefitting
- United Brotherhood of Carpenters and Joiners of America Local Union No. 22
- Local Union No 104, Sheet Metal Workers' International Association
- International Brotherhood of Electrical Workers Local 6
- Bricklayers, Tilesetters and Allied Craftworkers Local 3 Union

Local Labor Market Characteristics

The prevalence of unionization in California has increased since 2000, while over the same period, unionization has become less prevalent throughout the United States.¹⁶



¹⁶ <u>www.bls.gov</u> Union affiliation data from the Current Population Survey, (unadj) – Percent of employed, Members of unions, Data extracted on: December 28, 2009

23

Phase 1 Projects

Unionization of the California public sector is prevalent at 57.3% of the workforce, while the private workforce is far less unionized at 10.7%. However, within the private sector, *private construction* is the most unionized. In 2008, private construction employees in California registered as union members represented 20.2% of the workforce.¹⁷



Within San Francisco, unionization is far more prevalent, particularly in construction. Interviewees noted that while statewide, 80% of construction labor market is not unionized, most of the major construction projects in San Francisco are executed by large general contractors and subcontractors using union labor.

PLAs have been used in the San Francisco region (Bay Area) by public agencies such as the Public Utilities Commission and the San Francisco Airport Authority for large complex, long term, and multi-craft construction projects.¹⁸

Through 2009, California has been hit especially hard by the struggling economy. The unemployment rate in California has followed national unemployment trends over the past year, but has consistently been 2-3% higher than the national average. Unemployment in the San Francisco-Oakland-Fremont metropolitan area has not been as bad as in California generally, but is consistently worse than the national average, following a similar trend.

¹⁷ <u>www.unionstats.com</u> Data Sources: Current Population Survey (CPS) Outgoing Rotation Group (ORG) Earnings Files, 2008. Sample includes employed wage and salary workers, ages 16 and over.

¹⁸ Civic Center Project Labor Stability Study, City of Brentwood; prepared by Scarth-Lyons and Associates



The construction industry is one of the hardest hit by the current economic conditions. In March 2009, the San Francisco Building and Construction Trades Council reported that about 25% of the San Francisco City's approximately 16,000 building trades – 4,000 workers - are currently out of work, compared with nearly full employment in 2008.¹⁹

Further, San Francisco has seen a steep drop in building permit applications. In July 2008 building permit applications numbered 5,600 valued at \$240mil; in the month of January 2009 this had fallen to 4,000 applications valued at just \$78mil. The City is trying to do its part to encourage construction by extending some permits that would otherwise soon expire²⁰.

Davis-Bacon Prevailing Wage Rates and Current Union Rates

Selected local union wage rates plus fringes are compared with San Francisco County Davis-Bacon prevailing wage rates below:

Trade	Union	Union Rate	Prevailing Wage Rate
Pipefitters (incl HVAC)	Local 38 Plumbing & Pipefitting	n/a	\$47.11+34.39 =\$81.50
Carpenters	Carpenters and Joiners Local. 22	\$36.50+21.15= \$57.65	\$36.50+20.96 =\$57.46
Sheet Metal Workers	S/M Local Union No: 104	n/a	47.73+26.67 =\$74.40
Electricians	IBEW Local 6	\$53.05+22.45+ \$75.50	\$53.05+21.69 =\$74.74
Bricklayers	Bricklayers, Tilesetters Local 3	\$33.87+21.91= 55.78	\$38.73+18.97 =\$57.70

25

¹⁹ Robert Selna, "S.F. construction slows to a crawl," San Francisco Chronicle, 9 Mar 2009.

²⁰ Ibid.

Various subcontractors and local union chapters noted that the Davis-Bacon rates for the Bay Area were generally in line with the rates set by the local Collective Bargaining Agreements (CBAs) which union employers paid their employees. As such, the use of PLAs in the Bay Area market would be anticipated to very closely match the Davis-Bacon rates. Therefore, it is unlikely that there will be labor rate impacts from the use of PLAs in this market.

Effect on Construction Costs Derived from Local Research

Strikes

From data recorded by the FMCS (Federal Mediation and Conciliatory Service) California has seen 56 strikes since 1984, with 18 since the year 2000. The most prevalent strike year for California was 1984, where 1,200 workers stopped work for 33 days. There has been only one recorded strike impacting 2009, when 24 workers stopped work for 205 days (refer Appendix E). The average strike duration from 1983 through 2009 was 27 days, and the corresponding average from 2001 through 2009 was the same at 27 days.

Interviewees suggested that a successful PLA must include the general contractor in the negotiations and execution of the agreement, along with the unions and the owner. They noted that even projects with PLAs in place experience labor disruptions and jurisdictional disputes, primarily related to laborers and the conflict between basic crafts and the sub-trades.

Further, interviewees noted instances where PLAs containing no-strike provisions have been implemented on major public works projects in San Francisco, but have not been effective. In the instanced cited, when disputes arose, union workers stopped work despite the fact that the PLA to which they were signatory disallowed strikes²¹.

Regardless, the language in the PLA must be clear regarding the rules surrounding work stoppages, disputes and strikes. Referencing the matrix below, this project has a relatively high potential for strike, compared to other cities. While strikes are rare, they are very disruptive.

The possibility of a strike was assigned a 10% to 20% chance without a PLA, and a lower 5% to 10% chance with a PLA. For the purposes of this analysis, the assumed duration of a potential strike was based on the average historic strike duration, between 22 and 33 days.

²¹ Lisa Fernandez, "Carpenters at Airport Protest Against Union Leadership; Workers dislike new way to OK labor contracts," *San Francisco Chronicle*, 21 May 1999.

San Francisco Labor Strife Matrix

BOR STRIFE - SAN FI	RANCISCO	Risk of strife			
	Issue	1 = M01	Medium = 2	High = 3	Score
ject location/ city uulation	Isolated project locations generally dictate that workers are relocated for a particular project. Historically, labor strife has been lower in these less populated areas.	Isolated location with limited options for alternative work.	Medium sized city with adequate local workforce. Some out of town sub-contractors/workers required.	Large city with a strong construction workforce	m
iect safe tv	Safe projects have been shown to have lower worker disruption. A clear safety management plan, worker induction and training, good lav down areas	Concise safety management plan which is followed through. Focus on safety.	Adequate safety plan and follow up. Minor safety issues.	Management team with poor safety record, and proiect safety issues arise.	1
uject organization	Reports have shown that poor organization (also linked to safety) can increase absenteeism, increase turnover and affect schedule. This can lead to disuptive action in response.	Well organized, efficient experienced/capable contractor. Top management team following best practice.	Acceptable organization but not best practice.	Poorly organized project site. Limited laydown and poor access. Poor worker accomodation/facilities.	1
dect size	Large projects are more likely to warrant more attention from unions and more worker organization can lead to action. Smaller projects statistically are less likely to have active strong advocates promoting labor strife.	Small project <550 mil	Medium project 550-5150mil	Large project >\$150 mil	7
iject schedule	Compressed schedules can create overtime requirements, night/weekend work, safety issues, limited laydown/access and possibly increased worker density. Tight schedules may be more prone to worker strife.	Reasonable schedule - low complexity project	Reasonable schedule - medium difficulty project	Compressed/crash schedule - difficult project	7
ject duration	Long duration projects are potentially subject to union renegotiations. The longer the project, the more renegotiations which represent a	Up to 15 months	15 months - 24 months	Over 24 months construction	ε
		T = M07	Medium = 5	High = 9	
on prevalence	Higher unionized locations are more likely to have higher worker strife.	Low unionism 0-10%	Medium unionism 10-20%	High unionism >20%	6
	In buoyant times, worker strife is more likely, as workers may be able to move to other projects and the ability for owners to meet higher pay demands is higher. In tougher times, there may be no atemative job and pay increases are less able to be				
	Let.			Buoyant economic times Max score = 36	1 22

Labor Supply

The Bay Area is well represented by qualified and skilled labor. Compared with other US regions, the Bay Area has a proportionately high number of building trade union members and skilled labor for large projects.

Interviewees consistently noted that in San Francisco, this high profile project would almost certainly be constructed union regardless of the PLA decision. With the city's strong union presence and in the current poor economic climate, there will be sufficient skilled labor to execute the project. Given the current economic conditions, finding qualified labor will not be a problem, and will be generally unaffected by PLA implementation.

If labor supply issues occur, this report estimates they will have a 1% to 2% incremental cost impact on the project. We estimate the probability of this occurring at 0% to 10% under a PLA, and at 10% to 20% without a PLA.

Intertrade Jurisdictions

Interviewees noted that there are significant and longstanding disputes between various trade unions, and the likelihood of these issues being solved through implementation of a PLA, or any other means, is remote in the near term. Interviewees suggested that a PLA with signatories from all unions might not be possible given these disagreements.

Further, interviewees noted that while the slow economy may lead to increased competition for individual trade packages; it also may increase the possibility of disputes or jurisdictional conflicts which lead to strikes. In an environment of scarce work, each union will attempt to secure the largest possible scope of work for its members, becoming more competitive for the 'gray areas' where multiple trades are capable of performing work. Under this scenario, the project is at greater risk of strike.

Interviewees suggested that a successful PLA must include very clear language regarding jurisdiction and disputes. They noted that the annual negotiations have not resolved the disagreements between the individual crafts, and even projects with PLAs in place have experienced jurisdictional disputes and labor disruptions.

Interviewees suggested that projects would benefit from having a PLA negotiated with consistent and universal provisions for all trades, such as starting times, overtime, shift differentials, substance abuse policies, no-strike clauses or other work-related conditions.

Given these comments, the potential for intertrade jurisdictional disputes and the possibility of associated work disruptions is seen as a major issue for this project.

If jurisdictional dispute issues occur, this report estimates they will have a 3% to 5% incremental cost impact on the project. We estimate the probability of this occurring at 20% to 30% under a PLA, and at 70% to 80% without a PLA.

Wage Rate Stability

As it relates to stability of wage rates, a PLA can clearly be a great benefit to the owner. Without a PLA, contractors and subcontractors are faced with the requirement to provide a hard cost up

front without the benefit of pre-determined wage rates. Accordingly, he will make assumptions regarding trade labor cost escalation over the multi-year construction period, and he will usually be very conservative in his estimates, resulting in higher cost to the owner. The PLA essentially neutralizes the risk of wage instability from the general contractor's standpoint, allowing him to significantly reduce his contingencies, and present lower overall costs to the owner.

Further, while PLA can provide cost certainty by explicitly defining wage rates for various trades over the entire term of the agreement, many PLAs only make reference to Davis-Bacon, or union wage structures. For a PLA to be most effective, the annual increment must be cited clearly in the PLA contract – either indexed to the CPI (or other economic index), or as a set figure. Regardless, the incremental change should be consistent across all trades. While unions may have their own 'in-house' annual increments, varied increments may create intertrade friction, conflict, and even strike.

If wage rate stability issues occur, this report estimates they will have a 2% to 3% incremental cost impact on the project. We estimate the probability of this occurring at 0% to 20% under a PLA, and at 60% to 70% without a PLA.

Labor Cost

In some cities, using a PLA allows the owner to define various shifts and work hours for the project. By establishing these conditions up front, owners can realize increased productivity, and sometimes accelerated schedules, without paying markedly increased rates. In this region, however, unionization in the construction market is very prevalent.

Within the current framework, it is very unlikely that unions will be responsive to new rules regarding shifts and overtime. Whether or not a PLA is implemented, the project will likely be constructed with union labor, under union rules, and in accordance with union standards regarding shifts, work hours, overtime and the commensurate compensation.

As noted above, the rates set by the local Collective Bargaining Agreements in the Bay Area are consistent with the Davis-Bacon wage and fringe rates for the San Francisco region, with a small incremental difference resulting in higher union wages. Thus, the labor rate impacts from the use of PLA's in this market will be minimal.

For the purposes of this report, we estimate that the higher union wages will have a 1% incremental cost impact on the project. However, if the unions are willing to accept redefined shifts and work hours favorable to the project under a PLA, this would negate the incremental cost and result in a savings, or net incremental impact of (5%). Given the prevalence of unions in San Francisco, we assign this only a 10% probability.

PLA Related Bidding Effect

Information published by the San Francisco Public Utilities Commission regarding their Water System Improvement Program Labor Agreements (WSIPLA), noted that as of January 9, 2009 nine projects had been awarded under the WSIPLA. The dollar value of the nine contracts awarded subject to their PLA is "less than the sum of the low end of the related engineer's estimates." In addition, the report notes that this "indicates that the WSIPLA has not adversely

affected bidding on WSIP projects" and "work on all six projects has proceeded without disruption for labor related issues".²²

Feedback from non-union contractors suggests that they will not bid on projects with PLAs owing to what they consider onerous conditions inherent in the PLA. However, due the current economic downturn it is likely that there is sufficient competition among union contractors to generate high bid participation. Bid prices are expected to result in negligible cost variance to comparable projects with prevailing wages²³.

The San Francisco Building and Construction Trades Council cited an example in the San Francisco Unified School District which indicates their recent experience with PLAs has illustrated a) competitive bidding of seven or more contractors; and b) low bids submitted with either prevailing wage or PLA conditions that were below the independent project estimates by similar percentages. This reinforces the WSIPLA example that PLAs in the Bay Area market do not have an adverse effect on the number of bids or construction cost, relative to the use of prevailing wage requirements. One of the reasons that this may be the case in the Bay Area is because the building trade unions have a particularly strong presence in the construction market.

Given the strong union prevalence in San Francisco, we see that the additional management costs due to work rules, limiting the number of able/qualified bidders and other structures detailed in PLA will have little to minor additional cost influence versus a standard Davis-Bacon project. Consistent to a prior study carried out by Rider Levett Bucknall, we see that the 'PLA bid effect' will have little influence in the strong union city of San Francisco and in the current weak economic times.

Differing views exist regarding the potential cost impacts of using PLAs on construction projects. The non-union ABC of California cites that the use of PLAs removes an important component of competitive bidding, which is for *"competing contractors to develop creative ways to streamline staffing and eliminate the 'bloat' of overstaffing and cumbersome craft work rules requirements*".²⁴ The ABC has also lobbied for high dollar thresholds to be placed for subcontract values within a PLA project, to allow smaller or minority contractors to provide contract services without being signatory to the PLA. A 1998 study²⁵ on federal projects, (already under Davis-Bacon prevailing wages) estimated labor costs due to PLAs would increase by 20-25%, resulting in total project cost increases of 2% to 7%.

By contrast, union organizations take a view that "the total package of wages and benefits" – the "prevailing wage" – is supposed to be the same for all contractors, union or not, on public works, and given the generally higher level of training and productivity in the unionized workforce, the PLAs requirements, far from being a disadvantage, would seem to present some actual advantages to non-union contractors".²⁶ However PLAs typically require all contractors, union or non-union, live up to the terms of union agreements and to utilize union referral systems for some of the hiring.

²² San Francisco Public Utilities Commission, Water System Improvement Program, Project Labor Agreement, Quarterly Report – Second Quarter 2008-2009

²³ Refer to http://www.dir.ca.gov/dlsr/FAQ_PrevailingWage.html

²⁴ http://www.agc-ca.org/member.aspx?id=1110

²⁵ The Estimated Cost of PLAs on Federal Construction. Journal of Labor Research. Vol XIX, No 1. by Max Lyons. Winter 1998.

²⁶ http://www.sfbuildingtradescouncil.org/content/view/288/32/

Given the high prevalence of union based construction in San Francisco, we believe there will be both sufficient bidding competition on these large projects, and that a PLA agreement could facilitate the execution of what would likely be a unionized construction project. Further, the PLA could provide the opportunity to negotiate new work hours and shifts.

In the Bay Area, union contractors typically work on a high proportion of large value private and public sector projects. Union contractors are generally more familiar with the requirements of PLAs and because of the relative competition between union contractors, are unlikely to increase their general conditions relative to prevailing wage projects.

This report estimates that the PLA-related bidding effect will result in an incremental cost of 1% to 3% on the project (at 100% probability). Without a PLA, there is no effect.

PLA Cost Impact Analysis

The following tables aggregate the six factors discussed above (strikes, labor supply issues, intertrade jurisdictions, wage rate stability, labor cost and PLA-related bidding effect) in an optimistic and a conservative scenario. The weight of each factor is driven by an estimated impact on project cost, along with an assigned probability that they will occur.

Table 3 below represents an optimistic scenario, and suggests that a PLA project would present less risk of increased cost at 0.5%, compared to a NON-PLA project, in which the same factors may increase costs by 1.3%. Given the nature of this analysis we suggest an error range for this figure of +/- 0.5%.

SAN FRANCISCO	PROJECT (COST	\$	100,000,000				
LOW RANGE/OPTIMISTIC EFFECTS	NGE/OPTIMISTIC EFFECTS LABOR COST (35%) \$ 35,000,000							
				1095	Project Duration/C	al. Dav	ys	
			\$	91,324	Project Cost/Cal. d	ay		
WITHOUT A PLA								
	Days/%	Cost/day	Co	st if occur	Probability	Cos	t	%
Strikes (72.5% project cost for duration)	22	\$ 66,210	\$	1,456,621	10%	\$	145,662	
Labor Issues (supply)	%	1%	\$	350,000	10%	\$	35,000	
Intertrade jurisdictions	%	3%	\$	1,050,000	70%	\$	735,000	
Wage Rate Stability	%	2%	\$	700,000	60%	\$	420,000	
Labor Cost	%	0%	\$	-	0%	\$	-	
PLA related bidding effect	%	1%	\$	350,000	0%	\$	-	
						\$	1,335,662	1.3%
WITH A PLA								
	Days/%	Cost/day	Co	st if occur	Probability	Cos	t	
Strikes (72.5% additional cost for duration)	22	\$ 66,210	\$	1,456,621	5%	\$	72,831	
Labor Issues (supply)	%	1%	\$	350,000	0%	\$		
Intertrade jurisdictions	%	3%	\$	1,050,000	20%	\$	210,000	
Wage Rate Stability	%	2%	\$	700,000	0%	\$	-	
Labor Cost	%	-5%	Ś	(1.750.000)	10%	Ś	(175.000)	

1%

31

Ś

350,000

%

Table 3 - San Francisco Low Range Project Cost Risks

PLA related bidding effect

100%

350,000

457,831

0.5%

Ś

It is important to note that some of these are not true dollar costs, but potential cost impacts which may be minimized under a carefully crafted PLA contract. **IF** a PLA is utilized, care in crafting and confirming a PLA needs to be taken, as detailed in the Summary, below. It is possible, although unlikely that the PLA labor cost premium as suggested above, may be lowered if jurisdictional boundaries and work rules are addressed in detail - so as to benefit the GSA. Feedback from local unions indicates for them to sign a PLA, there will be no concessions to their standard union CBAs.

Table 4 below represents a more conservative scenario, and suggests similarly that a PLA project would present less risk of increased cost at 2.4%, compared to a NON-PLA project, in which the same factors may increase costs by 2.7%. Given the nature of this analysis we suggest an error range for this figure of +/- 0.5%.

SAN FRANCISCO	PROJECT COST		\$	100,000,000			
HIGH RANGE/CONSERVATIVE EFFECTS	LABOR COST (3	5%)	\$	35,000,000			
				1095	Project Duration/C	Cal. Days	
			\$	91,324	Project Cost/Cal. d	lay	
WITHOUT A PLA							
	Days/%	Cost/day	С	ost if occur	Probability	Cost	%
Strikes (72.5% additional cost for duration)	33	\$ 66,210	\$	2,184,932	20%	\$ 436,986	
Labor Issues (supply)	%	2%	\$	700,000	20%	\$ 140,000	
Intertrade jurisdictions	%	5%	\$	1,750,000	80%	\$ 1,400,000	
Wage Rate Stability	%	3%	\$	1,050,000	70%	\$ 735,000	
Labor Cost	%	0%	\$	-	0%	\$-	
PLA related bidding effect	%	3%	\$	1,050,000	0%	\$-	
						\$ 2,711,986	2.7%

WITH A PLA

	Days/%	Cost/day	Cost if occur	Probability	Cost
Strikes (72.5% additional cost for duration)	33	\$ 66,210	\$ 2,184,932	10%	\$ 218,493
Labor Issues (supply)	%	2%	\$ 700,000	10%	\$ 70,000
Intertrade jurisdictions	%	5%	\$ 1,750,000	30%	\$ 525,000
Wage Rate Stability	%	3%	\$ 1,050,000	20%	\$ 210,000
Labor Cost	%	1%	\$ 350,000	100%	\$ 350,000
PLA related bidding effect	%	3%	\$ 1,050,000	100%	\$ 1,050,000
					\$ 2 423 493 2 4%

Table 4 – San Francisco High Range Project Cost Risks

San Francisco - Summary

In San Francisco, Rider Levett Bucknall finds that while there is no cost premium associated with use of a Project Labor Agreement, the advantage of using a PLA for the Federal Building at 50 United Nations Plaza is negligible. The opportunities and challenges are outlined below, but the most significant outstanding issue is whether a PLA is possible given the disagreements between the individual labor unions, as noted by interviewees.

Assuming a PLA could be implemented, it would present the following opportunities:

- Reduced risk of strike under a PLA, assuming that the signatory parties abide by the no strike clauses (this has been an issue in the past). While strikes are infrequent, they can be very disruptive.
- A marginally more steady supply of qualified labor (this is not seen as a significant issue in current economic conditions).

- Reduced risk of disruptions related to intertrade jurisdiction, assuming the signatory parties abide by the mediation clauses. This is the most significant issue that the PLA can address and resolve, but it is only effective under a PLA, and interviewees noted that there are significant outstanding issues between the individual unions and a PLA may not be possible.
- Pre-determined wage rates over the term of the construction period.
- Although very unlikely, the potential to define various shifts and work hours for the project in order to enhance productivity and accelerate the project schedule with minimal incremental cost.

However, using a PLA would also present the following challenges:

- Marginally higher labor cost, due to the slightly higher union wage and fringe rates, as compared to the Davis-Bacon rates.
- Higher cost due to the limited competition created by use of the PLA.

Based on this cost impact analysis, Rider Levett Bucknall finds that if a PLA can be successfully negotiated and implemented, and the signatory entities abide by their contractual obligations, the factors that present risks to the project cost will be reduced. Our optimistic analysis has 1.3% cost risk for a non-PLA and 0.5% for a PLA project. Our conservative analysis yields 2.7% for a non-PLA project and 2.4% for a PLA project.

The average of these is 2.0% non-PLA and 1.4% with a PLA, and while this average suggests a PLA could potentially reduce project cost by 0.6%, we believe that given the issues surrounding full union buy in, San Francisco will tend toward the conservative range, with a lower cost risk benefit of 0.3% (+/-0.5%) for a *well crafted, fully agreed PLA* which as discussed, may be a challenge.

If a PLA is pursued, Rider Levett Bucknall recommends holding discussions with the unions regarding work hours and shifts, with the goal of expediting the project schedule and thereby reducing cost. Further, we note that a PLA is a contract which is able to be modified and as such must be legal, well compiled and adequately addresses potential cost factors such as ensuring a no-strike clause, detailing consistent work hours, detailing reasonable overtime rates and that hourly wage rates and annual increments are clearly defined within the PLA. If a PLA can be drafted that offers concessions from local union CBAs there could be savings to the GSA. However, the GSA will likely face difficulty getting unions to sign off on these concessions.

Finally, we recommend that any framework PLA is tabled by the GSA within bid solicitations, and that the selected general contractor is heavily involved in finalizing and compiling a PLA and is a signatory to the final executed PLA. The GC is the prime party working to the stipulations dictated by the PLA and this should ensure that any potential issues are resolved and benefits to the GSA can be maximized - prior to PLA signing.
7. Honolulu HI, Prince Kuhio Kalaniana'ole Federal Building and Courthouse

Overview

The Prince Kuhio Kalaniana'ole Federal Building and Courthouse is located on Ala Moana Boulevard, adjacent to downtown Honolulu, Hawaii. The refurbishment project is to be delivered under a CMc contract with the anticipated construction budget \$80,000,000.

In compiling this report, the following organizations were interviewed:

- One large union mechanical subcontractor
- Plumbers Union Local 675
- Carpenters Union Local 745
- - lectrical Union IBEW Local 1186
- Two Large General Contractors
- One large Construction Manager
- Local Association of Building Contractors (ABC)

Local Labor Market Characteristics



E Prince Kuhio Federal Building

Hawaii has 25.5% of its workers covered by collective bargaining agreements, almost double the US average of 13.6%. Hawaiian construction employees under collective bargaining agreements total 40.2%, which is almost 2.5 times US rate of 15.1%.

Hawaii is seen very much as a 'union state' with this foundation stemming generally from plantation workers, transit services, military contracting and the prevalence of hotels in Waikiki. Hawaii was seen as very safety conscious and the top 25 general contractors were noted as being union signatories, generally to the four unions - carpenters, laborers, operators and masons. The local electrical union reports that 72% of construction in Hawaii is carried out under their union, with the balance being smaller commercial and residential construction by small electrical contractors. Feature and large projects generally are union projects and a representative of one large US general contractor cited the fact that after 50 years of nationwide construction in a non-union capacity their company recently signed their *first* union agreement in Hawaii – given the fact that their management viewed this as the only way to truly operate and succeed as a Hawaiian 'local' contractor.

A 50 year duration (commencing 2005) PLA agreement is in place for Hawaii Military Housing schemes and recently the Department of Hawaii Homeland Housing has signed a PLA for housing native Hawaiian beneficiaries.

A significant agreement on November 19, 2009 the City and County of Honolulu (the City) entered into a PLA for the Honolulu High Capacity Transit Corridor Project entitled the Rapid Transit Stabilization Agreement (RTSA)²⁷ for this \$4 to \$5 billion rail project. Interestingly, this agreement is not signed by several key unions in Hawaii, notably the Hawaii Building and

²⁷ Sourced on www.thetruthaboutplas.com

Construction Trades Council, Boilermakers and Shipbuilders Local 204, Elevator Constructors 126, International Brotherhood of Electrical Workers Local 1186 AFL-CIO, Plumbers and Pipefitters Local 675 and Sheetmetal Workers Local 745. While all these organizations could not be reached, two unions noted that they 'had issues with some of the language of the PLA', reluctance to sign given the PLA may enable non-union workers to be involved in union pension and welfare schemes and also resistance from national parent unions. These non signatory unions still supported the intent of the PLA. Our understanding is that the PLA was initially negotiated by the City directly with the unions and then due to potential legalities of this, the three bidding contractors each negotiated independently with the unions as they were compiling their bids. The City subsequently finalized and signed the agreement they had initially negotiated. One respondent highlighted that with the separate contractors negotiating separate PLAs for the same project - this became almost untenable and recommended that the best approach would have been for the City to table a draft PLA to bidders and allow the preferred contractor to finalize the PLA in conjunction with the City. The view was this would avoid parties playing off against one another and allow the joint skills of a GC and the City to finalize negotiations to meet the needs of the project. This would generally work for CMc GMP type projects but for a traditional design-bid-build would offer some complexities given a GC is not chosen when competitive bids (including PLA effects) are required.

Davis-Bacon Prevailing Wage Rates and Current Union Rates

Selected local union wage rates and fringes compared with Honolulu City and County Davis-Bacon prevailing wage rates are as follows:

Trade	Union	Union Rate	Prevailing Wage Rate
Pipefitters (incl HVAC)	Plumbers and Pipefitters Local 675	\$35.60 +23.92= 59.52 (eff. 1/3/10)	\$35.10+21.18= 56.28
Carpenters	Carpenters Local 745	\$36.20+19.85= 56.05	\$36.20+19.22= 55.42
Sheet Metal Workers	Sheet Metal Workers Local 293	\$32.95+25.12= 58.07 (eff. 2/28/10)	\$32.45+24.11= 56.56
Electricians	IBEW Local 1186	\$38.80+23.52+0.24= 62.56	\$38.80+ <i>30.6%</i> +11.65= 62.32
Bricklayers	Bricklayers and Tilesetters Local 1	\$36.20+17.25 =53.45	\$36.20+16.77= 52.97

While there is general parity between some selected local union rates and the Davis-Bacon prevailing wage – the prevailing wage rates are approximately 1.5 - 2.0 % less than the union rates, possibly reflecting the deduction of the union co-operation fund dues. Sheet metal and pipefitters unions are 2010 rates incorporating increases.

Effect on Construction Costs Derived from Local Research

Strikes

From data recorded by the FMCS, Hawaii has seen four strikes since 1984, with three in 1985 and one in 1998. In 1985 the average days idle was 103 days per worker; while the single 1998 strike involved 82 utility workers for just three days (refer Appendix E). The overall average is 99 days per worker which we have lowered to 30 days given the skewed weighting of these 1985 stoppages. Data not included in the average, but also noteworthy are five strikes involving concrete and cement suppliers covered by the Teamsters union, classified under retail and manufacturing by the FMCS. Since 1984 these five strikes totaled 19,454 workers days for 309 workers at an average duration of 63 days.

Referencing the strife matrix in the following page, Hawaii has a higher potential for strike. However there has been a lower historic actual strike prevalence, therefore we have shown low probabilities of strife, equal between PLA and non-PLA projects. Most projects have been union dominant but even without a PLA, Hawaii strike prevalence has recently been extremely low.

Labor Supply

Interviewees noted that in Hawaii most, if not all large projects over \$25mil are historically built with union labor. In the current downturn with many union benches having up to 50% of workers unassigned to projects, interviewees also saw that smaller projects were getting more union attention. Labor supply is seen as plentiful in the current downturn.

Intertrade Jurisdictions

Intertrade jurisdictions have been less of an issue in Hawaii and once a union project is set up, the intertrade boundaries are clear. While potential issues can always arise we see this as low risk in Hawaii with more potential for issues on non-PLA projects given the high union prevalence in larger projects.

Interviewees saw that smaller specialties trades like fire-stopping potentially covered many union jurisdictions and often these smaller contractors are non-union merit shop. The belief was that if a PLA required these and other similar 'unclassified' or multi trade to be associated to a union there would be complex administration and an increase in project costs. The current situation is successful having the specialties working alongside union workers in projects without a PLA.

Jurisdictional issues were seen to be more likely in the slower economic times as significantly less construction work; unions are challenging the 'grey area' activities more in order to have work for more of their non working members on the 'bench'. The PLA pre job conference and detailing all upcoming project activities was seen as a way to clarify and agree these issues up front.

We have assigned 1% jurisdictional cost to both PLA and non-PLA projects reflecting the fact that any project of this scale will likely have a high percentage of union labor.

Wage Rate Stability

A non-PLA project in Hawaii would incur the annual union increases. The Honolulu RTSA wage rates follow the Davis-Bacon rates published by the Department of Labor. There is however no clear indication of the annual agreed increase and the fact that the DoL rates are closely aligned to the D-B rates raises the question of what would occur if a union wishes to drastically increase its base rate at an anniversary?

We therefore see that given this recent, baseline RTSA PLA, the wage rate stability is equal between a PLA and non-PLA project.

Labor Cost

Given many PLAs have set overtime rates at 1.5 times the base rate there is the potential that some small savings may be made from Double Time overtime rates for Sundays, Public Holidays and shifts beyond 12 hours. Our view is that these working hours are normally to recover lost time from delays, or to carry our extra change order type work – therefore these 'savings' should not be treated as a saving for the base project cost.

Any potential labor cost savings per hour under Davis-Bacon by utilizing non-union labor would be offset by the associated cost increases in work rules, possible double benefits and an altered work team structure for non-union subcontractors.

All interviewees saw it likely that in Hawaii, labor cost will be equal between a non-PLA Davis-Bacon project and a PLA Davis-Bacon project with the exception of smaller specialty trades. We see that this labor cost of these specialty trades is accounted for in the 1% cost premium detailed in the section above on Intertrade Jurisdictions.

PLA related Bidding Effect

Given the strong union prevalence on Honolulu major projects, we see that the work rules and other structures detailed in PLA will have little to minor cost influence versus a standard Davis-Bacon project other than those already covered above. Consistent to a prior study carried out by Rider Levett Bucknall, we see that the 'PLA effect' will have zero cost influence in the strong union city of Honolulu and in the current weak economic times. Exclusion, or the strong union influence on smaller, non-union bidders is still however a concern.

Honolulu Labor Strife Matrix

je					
G LABOR STRIFE - HON	טרטרט	Risk of strife			
	Issue	1 = MOT	Medium = 2	High = 3	Score
	Isolated project locations generally dictate that				
	workers are relocated for a particular project.		Medium sized city with adequate		
Project location/ city	Historically, labor strife has been lower in these less	Isolated location with limited	local workforce. Some out of town	Large city with a strong construction	
1 population	populated areas.	options for alternative work.	sub-contractors/workers required.	workforce	3
	Safe nroierts have heen shown to have lower	Concise safety management plan			
	worker discussion A description management alon	which is followed throws because	Adocurato cofecto allo and follour up	Management to am with a correctory	
2 Project safety	worker induction and training, good lay down areas	safety.	Minor safety issues.	record, and project safety issues arise.	1
	Reports have shown that poor organization (also	Well organized, efficient			
	linked to safety) can increase absenteeism, increase	experienced/capable contractor.		Poorly organized project site. Limited	
	turnover and affect schedule. This can lead to	Top management team following	Acceptable organization but not best	laydown and poor access. Poor worker	
3 Project organization	disruptive action in response.	best practice.	practice.	accomodation/facilities.	1
	Large projects are more likely to warrant more				
	attention from unions and more worker organization				
	can lead to action. Smaller projects statistically are				
38	less likely to have active strong advocates promoting				
U 4 Project size	labor strife.	Small project <\$50 mil	Medium project \$50-\$150mil	Large project >\$150 mil	2
	Compressed schedules can create overtime				
	requirements, night/weekend work, safety issues,				
	limited laydown/access and possibly increased				
Ja	worker density. Tight schedules may be more prone	Reasonable schedule - low	Reasonable schedule - medium	Compressed/crash schedule - difficult	
🗍 5 Project schedule	to worker strife.	complexity project	difficulty project	project	2
27	Long duration projects are potentially subject to				
7, 2	union renegotiations. The longer the project, the				
S6 Project duration	more renegotiations which represent a	Up to 15 months	15 months - 24 months	Over 24 months construction	3
1(1 = 10 T	Medium = 5	High = 9	
) F	Higher unionized locations are more likely to have				
🔂 7 Union prevalence	higher worker strife.	Low unionism 0-10%	Medium unionism 10-20%	High unionism >20%	6
v	In buoyant times, worker strife is more likely, as				
3 -	workers may be able to move to other projects and				
	the ability for owners to meet higher pay demands				
Tra	is higher. In tougher times, there may be no				
ft	altemative job and pay increases are less able to be				
H8 Economic conditions	met.	Poor/low economic times	Stable economic times	Buoyant economic times	1
eni				Max score = 36	22
ai					

Phase 1 Projects

Jan'27, 2010 Rev 3 - Draft Tentative Report

Other Factors

One interviewee noted that non-union, non Davis-Bacon projects may see up to 25-40% lower **project costs**, even utilizing mainland labor with per diems and accommodation - but noted that this is not recommended in Hawaii, as other issues may occur with entitlements, building permits, port and material issues and transport issues. However, comparing federal Davis-Bacon projects to a PLA (union) project this interviewee conceded that the project costs would be relatively equal.

For comparison - the Rider Levett Bucknall Cost Comparative Cost Indices for Oct 2009²⁸, shows Denver at 11,519, Portland 12,068, San Francisco 16,683 and Honolulu 16,765. San Francisco and Hawaii are predominantly union construction. Honolulu is 42% above the Denver and Portland averages where there is less union presence.

PLA Cost Impact Analysis

HONOLULU	PROJECT	COST	\$	80,000,000				
LOW RANGE/OPTIMISTIC EFFECTS	LABOR CC)ST (35%)	\$	28,000,000				
				1460	Project Duration/C	al. Da	ys	
			\$	54,795	Project Cost/Cal. da	ay		
WITHOUT A PLA								
	Days/%	Cost/day	Cos	t if occur	Probability	Cos	t	%
Strikes (72.5% recovery cost for duration)	30	\$ 39,726	\$	1,191,781	5%	\$	59,589	
Labor Issues (supply)	%	2%	\$	560,000	80%	\$	448,000	
Intertrade jurisdictions	%	1%	\$	280,000	50%	\$	140,000	
Wage Rate Stability	%	2%	\$	560,000	50%	\$	280,000	
Labor Cost	%	0%	\$	-	0%	\$	-	
PLA related bidding effect	%	0%	\$	-	0%	\$	-	
						\$	927,589	1.2%

WITH A PLA

	Days/%	Cost/day	Cos	st if occur	Probability	Cost	t	
Strikes (72.5% recovery cost for duration)	30	\$ 39,726	\$	1,191,781	5%	\$	59,589	
Labor Issues (supply)	%	1%	\$	280,000	10%	\$	28,000	
Intertrade jurisdictions	%	1%	\$	280,000	30%	\$	84,000	
Wage Rate Stability	%	2%	\$	560,000	50%	\$	280,000	
Labor Cost	%	0%	\$	-	0%	\$	-	
PLA related bidding effect	%	0%	\$	-	0%	\$	-	
						Ś	451,589	0.6%

Table 5 – Honolulu Low Range Project Cost Risks

Table 5 above shows that for the current poor economic climate a PLA in Hawaii potentially offers 0.6% (+/- 0.5%) cost risk benefits versus a NON-PLA project. This is driven by the fact that we see potential issues from labor supply and intertrade jurisdictions being more problematic for a non-union, non-PLA project in Hawaii.

²⁸ Refer <u>www.rlb.com</u>

We don't believe there are any marked concessions of current PLAs where PLAs significantly alter standard union work practices. It is important to note that some of these are not true dollar costs, but potential cost impacts which may be minimized under a carefully crafted PLA contract. If a PLA is utilized, care in crafting and negotiating a PLA needs to occur.

ΗΟΝΟΙ UI U	PROJECT COST		Ś	80 000 000			
			,	00,000,000			
HIGH RANGE/CONSERVATIVE EFFECTS	LABOR COST (3	5%)	Ş	28,000,000			
				1460	Project Duration/Cal.	. Days	
			\$	54,795	Project Cost/Cal. day		
WITHOUT A PLA							
	Days/%	Cost/day	С	ost if occur	Probability	Cost	%
Strikes (72.5% recovery cost for duration)	40	\$ 39,726	\$	1,589,041	10%	\$ 158,90	4
Labor Issues (supply)	%	2%	\$	560,000	80%	\$ 448,00	0
Intertrade jurisdictions	%	2%	\$	560,000	50%	\$ 280,00	0
Wage Rate Stability	%	3%	\$	840,000	70%	\$ 588,00	0
Labor Cost	%	0%	\$	-	0%	\$-	
PLA related bidding effect	%	0%	\$	-	0%	\$-	
						\$1,474,90	4 1.8%
WITH A PLA							
	Days/%	Cost/day	С	ost if occur	Probability	Cost	
Strikes (72.5% recovery cost for duration)	40	\$ 39,726	\$	1,589,041	10%	\$ 158,90	4
Labor Issues (supply)	%	2%	\$	560,000	20%	\$ 112,00	0
Intertrade jurisdictions	%	1%	\$	280,000	50%	\$ 140,00	0
Wage Rate Stability (labor = 35% project)	%	3%	Ś	840.000	70%	\$ 588.00	0

Table 6 - Honolulu High Range Project Cost Risks

Table 6 assigns more conservative values to each of the potential cost impacts. Assigning potential increased costs of 2% to the PLA Bid Effect and 2% to Labor Costs with 50% probabilities. This places a non-PLA and PLA project relatively equal at 1.8% and 1.9% with non-PLA slightly more favorable. With the error range (+/- 0.5%) of this method of analysis and therefore place the options as equal - but we do not subscribe to these high range cost impacts in the current Hawaiian market.

2%

2%

Ś

%

%

560,000

560,000

50%

50%

\$ 280,000

\$ \$1,558,904

280,000

1.9%

Honolulu - Summary

Labor Cost

PLA related bidding effect

In Hawaii we see that there is likely to be more risk for a project that is carried out 'non-union'. Davis-Bacon and union pay structures are similar and labor cost variances between a union non-PLA project and union PLA project are likely to be minimal.

A PLA is a contract which is able to be modified and as such must comply with state and federal law, be well compiled and adequately addresses potential cost factors such as ensuring a nostrike clause, detailing consistent work hours, detailing reasonable overtime rates and that hourly wage rates and annual increments are *clearly* defined within the PLA.

We also recommend that the framework of a PLA is tabled by the GSA within bid solicitations, but that the selected general contractor is heavily involved in finalizing and compiling the PLA and is a signatory to the final executed PLA. The GC is the prime party working to the

stipulations dictated by the PLA and this should ensure that any potential issues are resolved and benefits to the GSA can be maximized - prior to PLA signing.

The political and social issues of non-union labor in Hawaii are strong. There is potential for activity from local union groups by having non-union labor and there are current estimates of 50%-75% of workers being on union 'benches', unallocated to projects.

Overall, we believe that currently Honolulu will tend toward our low range analysis (per Table 5), and that a well structured PLA may offer cost risk benefits of around 0.6% versus a non-PLA project.

Based on the Rider Levett Bucknall analysis contained within this report and given the current poor economic climate in the US - for *a well compiled PLA* on the Prince Kuhio Kalaniana'ole Federal Building, the GSA may not be disadvantaged by a PLA and that a PLA may "*advance the federal Government*'s *interest in achieving economy and efficiency in federal procurement*".

8. Portland OR, Edith Green-Wendell Wyatt Federal Building

Overview

The Edith Green / Wendell Wyatt Federal Building is located in downtown Portland, Oregon. The eighteen-story building was originally completed in 1975 and contains 372,000 gross square feet. The building is currently occupied, and existing tenants may be vacated before construction begins. Upon completion of the three-year renovation project, the building will be reoccupied by numerous federal agencies.

In compiling this report, the following organizations were contacted:

- Associated Builders and Contractors (ABC), Pacific NW Chapter
- The Associated General Contractors of America, Oregon-Columbia Chapter
- One major subcontractor
- UA Plumbers Steamfitters, Local 290
- Carpenters Union, Local #247
- Sheet Metal Workers International Association, Local #16 Oregon & SW Washington
- International Brotherhood of Electrical Workers, Local 48
- Bricklayers & Allied Craftworkers Local #1

As at Jan 27, 2010 Rev 3 - Draft we are still awaiting for responses from The Oregon Building & Trades Council and another large general contractor

Local Labor Market Characteristics

Historically, the prevalence of unionization in Oregon has remained relatively flat since 2000. Over the same period, unionization has become less prevalent throughout the United States.²⁹



²⁹ <u>www.bls.gov</u> Union affiliation data from the Current Population Survey, (unadj) – Percent of employed, Members of unions, Data extracted on: December 28, 2009

42

Phase 1 Projects

While unionization of the Oregon public sector is prevalent at 59.9% of the workforce, the private workforce is far less unionized at 9.0%. However, within the private sector, *private construction* is significantly more unionized. In 2008, private construction employees in Oregon registered as union members represented 13.0% of the workforce.³⁰



Within Portland, unionization is far more prevalent, particularly in construction. Interviewees noted that while statewide, 87% of construction labor market is not unionized, most of the large, multi-million dollar *public* construction projects in Portland are executed by large general contractors and subcontractors using union labor. For similar *private* construction projects, interviewees suggested there is an equal mix of union and non-union work.

Through 2009, Oregon has been hit especially hard by the struggling economy. Oregon currently has the seventh highest statewide unemployment rate.³¹ The unemployment rate in Oregon has followed national unemployment trends over the past year, but was significantly worse in early 2009, peaking at almost 1 ½ times the national average at nearly 13%. Unemployment in the Portland-Vancouver-Beaverton metroplitan area was slightly better than the Oregon trend in early 2009, but has followed the state's trend closely in late 2009, consistently worse than the national average.

³⁰ <u>www.unionstats.com</u> Data Sources: Current Population Survey (CPS) Outgoing Rotation Group (ORG) Earnings Files, 2008. Sample includes employed wage and salary workers, ages 16 and over.

³¹ "Oregon unemployment rate unchanged," *Portland Business Journal*, 16 November 2009.



The construction industry is one of the hardest hit by the current economic conditions. Interviewees noted that approximately 30% of their workforce is currently unemployed.

Project Labor Agreements are not prevalent in Oregon. Interviewees noted that while they are familiar with the concept and have discussed PLAs extensively, this would be the first publicly implemented PLA in the state.

In 2000, the Oregon Court of Appeals ruled on an action in the Multnomah County Circuit Court challenging the appropriateness of a PLA on the light rail project at Portland's airport. While the project was publicly funded, the PLA was actually initiated by a private developer and was not a requirement of the public agency, although the agency exempted the project from Oregon's competitive bidding requirements. The court found substantial evidence that the agreement for the extension of light rail to the Portland International Airport was a "unique circumstance," and supported the exemption from competitive bidding requirements. Further, the court found that the contract did not diminish competition for public contracts.³²

³² Associated Builders and Contractors, Inc. v. Tri-County Metropolitan Transportation District of Oregon, 170 Ore. App. 271 (Or. Ct. App. 2000)

Davis-Bacon Prevailing Wage Rates and Current Union Rates

Selected local union wage rates and fringes are compared with Multnomah County Davis-Bacon prevailing wage rates below:

Trade	Union	Union Rate	Prevailing Wage Rate
Pipefitters (incl HVAC)	Plumbers and Pipefitters Local 290	35.69+18.79= \$54.48	35.69+18.59= \$54.48
Carpenters	Carpenters Local 247	n/a	27.56+13.30= \$40.86
Sheet Metal Workers	Sheet Metal Workers Local 16	34.42+16.92= \$51.34	34.42+16.92= \$51.34
Electricians	IBEW Local 48	36.05+16.63=\$ 52.68	36.05+16.43=\$ 52.48
Bricklayers	Bricklayers and Tilesetters Local 1	n/a	32.29+14.05 =\$46.34

Various subcontractors and local union chapters noted that the Davis-Bacon rates for the Portland area were generally in line with the rates set by the local Collective Bargaining Agreements (CBAs) which union employers paid their employees. As such, the use of PLAs in the Portland market would be anticipated to very closely match the Davis-Bacon rates.

Effect on Construction Costs Derived from Local Research

Strikes

From data recorded by the FMCS, Oregon has seen only 4 strikes since 1990, and only one since 2000. The most prevalent strike for Oregon was in 1994, where 48 workers stopped work for 283 days. There are no recorded strikes impacting 2009 (see Appendix E). The average strike duration from 1990 through 2009 was 80 days, but the corresponding average from 2001 through 2009 was only 19 days.

Interviewees noted that there are occasional strikes. While strikes occur infrequently on public projects, they are more common on private sector projects, particularly related to carpentry, when the carpenters union strikes to protest use of non-union carpenters. Interviewees suggested that other trades are less likely to strike, but it is not entirely uncommon.

Referencing the matrix below, this project has a relatively high potential for strike, compared to other cities. While strikes are rare, they are very disruptive.

The possibility of a strike was assigned a 10% to 20% chance without a PLA, and a lower 5% to 10% chance with a PLA. For the purposes of this analysis, the assumed duration of a potential strike was based on the average historic strike duration, between 40 and 59 days.

Portland Labor Strife Matrix

LABOR STRIFE - PORT	LAND	Risk of strife			
	Issue	1 = M01	Medium = 2	High = 3	Score
	Isolated project locations generally dictate that workers are relocated for a particular project.		Medium sized city with adequate		
Project location/ city	Historically, labor strife has been lower in these less	Isolated location with limited	local workforce. Some out of town	Large city with a strong construction	
1 population	populated areas.	options for alternative work.	sub-contractors/workers required.	workforce	3
	-				
	Safe projects have been shown to have lower	Concise safety management plan	Adomitation cafesty allowing	Management toom with according	
2 Broinct safety	worker induction and training model by down areas	witten is jonowed throught. Focus on	Adequate safety plan and ronow up. Minor cafaty issues	record and project referit issues arise	-
	Reports have shown that poor organization (also	Well organized. efficient	1411101 201 CC 1220 C2.	ורנטומי מוומ לו לרבר זמור ול וזזמרה מווזרי	-
	linked to safety) can increase absenteeism, increase	experienced/capable contractor.		Poorly organized project site. Limited	
	turnover and affect schedule. This can lead to	Top management team following	Acceptable organization but not best	laydown and poor access. Poor worker	
3 Project organization	disruptive action in response.	best practice.	practice.	accomodation/facilities.	1
	Large projects are more likely to warrant more				
	attention from unions and more worker organization				
	can lead to action. Smaller projects statistically are				
	less likely to have active strong advocates promoting				
4 Project size	labor strife.	Small project <\$50 mil	Medium project \$50-\$150mil	Large project >\$150 mil	2
	Compressed schedules can create overtime				
	requirements, night/weekend work, safety issues,				
	limited laydown/access and possibly increased				
	worker density. Tight schedules may be more prone	Reasonable schedule - low	Reasonable schedule - medium	Compressed/crash schedule - difficult	
5 Project schedule	to worker strife.	complexity project	difficulty project	project	2
	Long duration projects are potentially subject to				
	union renegotiations. The longer the project, the				
6 Project duration	more renegotiations which represent a	Up to 15 months	15 months - 24 months	Over 24 months construction	3
		1 = M01	Medium = 5	High = 9	
	Higher unionized locations are more likely to have				
7 Union prevalence	higher worker strife.	Low unionism 0-10%	Medium unionism 10-20%	High unionism >20%	9
	In buoyant times, worker strife is more likely, as				
	workers may be able to move to other projects and				
	the ability for owners to meet higher pay demands				
	is higher. In tougher times, there may be no				
	alternative job and pay increases are less able to be				
8 Economic conditions	met.	Poor/low economic times	Stable economic times	Buoyant economic times	1
				Max score = 36	22

Phase 1 Projects

Jan 27, 2010 Rev 3 - Draft Tentative Report

Labor Supply

The Portland metropolitan area is well represented by qualified and skilled labor. Compared with other U.S. regions, Portland has a proportionately high number of building trade union members and skilled labor for large projects.

Interviewees noted that given the current economic conditions, finding qualified labor will not be a problem. In Portland, with the city's strong union presence and in the current poor economic climate, there will be more than sufficient skilled labor to successfully execute the project. Further, this high profile, high value project would likely be constructed using union labor regardless of the PLA decision.

If labor supply issues occur, this report estimates they will have a 1% to 2% incremental cost impact on the project. We estimate the probability of this occurring at 0% to 10% under a PLA, and at 10% to 30% without a PLA.

Intertrade Jurisdictions

Interviewees noted that jurisdictional conflicts are very frequent in Portland. Under the current economic conditions, subcontractors increasingly compete for ancillary work, increasing the possibility of disputes or jurisdictional conflicts which lead to strikes. In an environment of scarce work, each union will attempt to secure the largest possible scope of work for its members, becoming more competitive for the 'gray areas' where multiple trades are capable of performing work. Under this scenario, the project is at greater risk of strike.

A successful PLA must include very clear language regarding jurisdiction and disputes. Interviewees noted that projects would benefit from having a PLA negotiated with consistent and universal provisions for all trades, such as starting times, overtime, shift differentials, substance abuse policies, no-strike clauses or other work-related conditions.

Given these comments, the potential for intertrade jurisdictional disputes and the possibility of associated work disruptions is seen as a significant issue for this project.

If jurisdictional dispute issues occur, this report estimates they will have a 2% to 3% incremental cost impact on the project. We estimate the probability of this occurring at 10% to 30% under a PLA, and at 60% to 80% without a PLA.

Wage Rate Stability

As it relates to stability of wage rates, a PLA can clearly be a great benefit to the owner. Without a PLA, contractors and subcontractors are faced with the requirement to provide a hard cost up front without the benefit of pre-determined wage rates. Accordingly, he will make assumptions regarding trade labor cost escalation over the multi-year construction period, and he will usually be very conservative in his estimates, resulting in higher cost to the owner. The PLA essentially neutralizes the risk of wage instability from the general contractor's standpoint, allowing him to significantly reduce his contingencies, and present lower overall costs to the owner.

Further, while PLA can provide cost certainty by explicitly defining wage rates for various trades over the entire term of the agreement, many PLAs only make reference to Davis-Bacon, or union wage structures. For a PLA to be most effective, the annual increment must be cited

clearly in the PLA contract – either indexed to the CPI (or other economic index), or as a set figure. Regardless, the incremental change should be consistent across all trades. While unions may have their own 'in-house' annual increments, inclusion of multiple increments (e.g. electricians get a 3.5% increase, but carpenters only get 2%) may create intertrade friction, conflict, and even strike.

If wage rate stability issues occur, this report estimates they will have a 2% to 3% incremental cost impact on the project. We estimate the probability of this occurring at 0% to 20% under a PLA, and at 60% to 70% without a PLA.

Labor Cost

In some cities, using a PLA allows the owner to define various shifts and work hours for the project. By establishing these conditions up front, owners can realize increased productivity, and sometimes accelerated schedules, without paying markedly increased rates. In this region, however, unionization in the construction market is very prevalent.

Within the current framework, it is very unlikely that unions will be responsive to new rules regarding shifts and overtime. Whether or not a PLA is implemented, the project will likely be constructed with union labor, under union rules, and in accordance with union standards regarding shifts, work hours, overtime and the commensurate compensation.

As noted above, the rates set by the local Collective Bargaining Agreements in the Portland metropolitan area are consistent with the Davis-Bacon wage and fringe rates for Multnomah County, with a small incremental difference resulting in higher union wages. Thus, the labor rate impacts from the use of PLA's in this market will be minimal.

For the purposes of this report, we estimate that the higher union wages will have a 1% incremental cost impact on the project. However, if the unions are willing to accept redefined shifts and work hours favorable to the project under a PLA, this would negate the incremental cost and result in a savings, or net incremental impact of (5%). Given the prevalence of unions in the Portland metropolitan area, we assign this only a 20% probability.

PLA Related Bidding Effect

Given the relatively strong union prevalence in the Portland metropolitan area, we see that the additional management costs due to work rules, limiting the number of able/qualified bidders and other structures detailed in PLA will have little to minor additional cost influence versus a standard Davis-Bacon project.

In the Portland metropolitan area, large contractors are experienced in high-value public sector projects. These contractors are generally familiar with the requirements of PLAs and because of the relative competition between contractors in the current economy, are unlikely to increase their general conditions relative to prevailing wage projects.

Differing views exist regarding the potential cost impacts of using PLAs on construction projects. The Associated Builders and Contractors (ABC), which represents merit-shop (non-union) construction, states that the use of PLAs removes an important component of competitive bidding, which is for *"competing contractors to develop creative ways to streamline staffing and*"

eliminate the 'bloat' of overstaffing and cumbersome craft work rules requirements".³³ The ABC has also lobbied for high dollar thresholds to be placed for subcontract values within a PLA project, to allow smaller or minority contractors to provide contract services without being signatory to the PLA. Further, ABC's Pacific Northwest Chapter argues that union-only PLAs severely restrict competition in Oregon: "ABC is strongly opposed to union-only PLAs on public construction projects as they violate the practice of fair and open competition by eliminating the ability of over 80% of Oregon's construction workforce (non-union workers) to perform work on taxpayer funded projects".³⁴

By contrast, union organizations take a view that "the total package of wages and benefits" – the "prevailing wage" – is supposed to be the same for all contractors, union or not, on public works, and given the generally higher level of training and productivity in the unionized workforce, the PLAs requirements, far from being a disadvantage, would seem to present some actual advantages to non-union contractors". However PLAs typically require all contractors, union or non-union, live up to the terms of union agreements and to utilize union referral systems for some of the hiring.

Given the relatively high prevalence of union based construction in the Portland metropolitan area, we believe there will be sufficient bidding competition on this large project at the general contractor level, and a PLA agreement could facilitate the execution of what would likely be a unionized construction project. Further, the PLA could provide the opportunity to negotiate new work hours and shifts.

However, we also note that a PLA will inevitably result in a smaller pool of bidders at the subcontractor level, which could potentially increase the base cost of the project. Interviewees noted that many merit shop contractors are simply not bidding on PLA projects due to the perceived exclusivity of the job to union-only labor.

This report estimates that the PLA-related bidding effect will result in an incremental cost of 3% to 5% on the project (at 100% probability). Without a PLA, there is no effect.

³³ http://www.agc-ca.org/member.aspx?id=1110

³⁴ <u>http://www.abcpnw.org/Government_Affairs/x.aspx</u>

PLA Cost Impact Analysis

The following tables aggregate the six factors discussed above (strikes, labor supply issues, intertrade jurisdictions, wage rate stability, labor cost and PLA-related bidding effect) in an optimistic and conservative scenario. The weight of each factor is driven by an estimated impact on project cost, along with an assigned probability that they will occur.

Table 7 below represents an optimistic scenario, and suggests that a PLA project would present slightly less *risk* of increased cost at 0.9%, compared to a NON-PLA project, in which the same factors may increase costs by 1.1%. Given the nature of this analysis we suggest an error range for this figure of +/- 0.5%.

PORTLAND	PROJECT	COST	\$	125,000,000				
LOW RANGE/OPTIMISTIC EFFECTS	LABOR CC	ST (35%)	\$	43,750,000				
				1095	Project Duration/Ca	al. Da	ys	
			\$	114,155	Project Cost/Cal. da	ay		
WITHOUT A PLA								
	Days/%	Cost/day	Cos	t if occur	Probability	Cos	st	%
Strikes (72.5% project cost for duration)	40	\$ 82,763	\$	3,310,502	10%	\$	331,050	
Labor Issues (supply)	%	1%	\$	437,500	10%	\$	43,750	
Intertrade jurisdictions	%	2%	\$	875,000	60%	\$	525,000	
Wage Rate Stability	%	2%	\$	875,000	60%	\$	525,000	
Labor Cost	%	0%	\$	-	0%	\$	-	
PLA related bidding effect	%	3%	\$	1,312,500	0%	\$	-	
						\$	1,424,800	1.1%
WITH A PLA								
	Days/%	Cost/day	Cos	t if occur	Probability	Cos	st	
Strikes (72.5% additional cost for duration)	40	\$ 82,763	\$	3,310,502	5%	\$	165,525	
Labor Issues (supply)	%	1%	\$	437,500	0%	\$		
Intertrade jurisdictions	%	2%	\$	875,000	10%	\$	87,500	
Wage Rate Stability	%	2%	\$	875,000	0%	\$	-	
Labor Cost	%	-5%	\$	(2,187,500)	20%	\$	(437,500)	
PLA related bidding effect	%	3%	\$	1,312,500	100%	\$	1,312,500	
						\$	1,128,025	0.9%

Table 7 – Portland Low Range Project Cost Risks

It is important to note that some of these are not true dollar costs, but potential cost impacts which may be minimized under a carefully crafted PLA contract. **IF** a PLA is utilized, care in crafting and confirming a PLA needs to be taken, as detailed in the Summary, below. It is possible, although unlikely that the PLA labor cost premium as suggested above, may be lowered if jurisdictional boundaries and work rules are addressed in detail - so as to benefit the GSA. Feedback from local unions indicate for them to sign a PLA, there will be no concessions to their standard union CBAs.

Table 8 represents a more conservative scenario, and suggests that a PLA project would present *more* increased cost at 3.1%, compared to a NON-PLA project, in which the same factors may increase costs by 2.6%. Given the nature of this analysis we suggest an error range for this figure of +/- 0.5%.

PORTLAND	PROJECT COST		\$	125,000,000				
HIGH RANGE/CONSERVATIVE EFFECTS	LABOR COST (3	35%)	\$	43,750,000				
				1095	Project Duration/Ca	I. Da	ays	
			\$	114,155	Project Cost/Cal. da	у		
WITHOUT A PLA								
	Days/%	Cost/day	Co	ost if occur	Probability		Cost	%
Strikes (72.5% additional cost for duration)	59	\$ 82,763	\$	4,882,991	20%	\$	976,598	
Labor Issues (supply)	%	2%	\$	875,000	30%	\$	262,500	
Intertrade jurisdictions	%	3%	\$	1,312,500	80%	\$	1,050,000	
Wage Rate Stability	%	3%	\$	1,312,500	70%	\$	918,750	
Labor Cost	%	0%	\$	-	0%	\$	-	
PLA related bidding effect	%	5%	\$	2,187,500	0%	\$	-	
						\$	3,207,848	2.6%
WITH A PLA								
	Days/%	Cost/day	Co	ost if occur	Probability		Cost	
Strikes (72.5% additional cost for duration)	59	\$ 82,763	\$	4,882,991	10%	\$	488,299	
Labor Issues (supply)	%	2%	\$	875,000	10%	\$	87,500	
Intertrade jurisdictions	%	3%	\$	1,312,500	30%	\$	393,750	
Wage Rate Stability	%	3%	\$	1,312,500	20%	\$	262,500	
Labor Cost	%	1%	\$	437,500	100%	\$	437,500	
PLA related bidding effect	%	5%	\$	2,187,500	100%	\$	2,187,500	
						\$	3,857,049	3.1%

Table 8 – Portland High Range Project Cost Risks

Summary

In Portland, Rider Levett Bucknall finds that there will likely be a cost premium associated with use of a Project Labor Agreement at the Edith Green / Wendell Wyatt Federal Building Modernization project. The opportunities and challenges of implementing a PLA are outlined below.

Using a PLA could present the following opportunities:

- Reduced risk of strike, assuming that the signatory parties abide by the no strike clauses (this has been an issue in other cities). While strikes are infrequent, they can be very disruptive.
- A marginally more steady supply of qualified labor (this is not seen as a significant issue in current economic conditions).
- Reduced risk of disruptions related to intertrade jurisdiction, assuming the signatory parties abide by the mediation clauses. Interviewees confirmed that this is a significant problem in Portland.
- Pre-determined wage rates over the term of the construction period.
- Although unlikely, the potential to define various shifts and work hours for the project in order to enhance productivity and accelerate the project schedule with minimal incremental cost.

However, using a PLA would also present the following challenges:

- Higher labor cost, due to the slightly higher union wage and fringe rates, as compared to the Davis-Bacon rates.
- Higher cost due to the limited competition created by use of the PLA. Interviewees noted that many merit shop contractors are not participating in the bidding process due to their perception that the job will only be awarded to union shops.

Rider Levett Bucknall recommends holding discussions with the unions regarding work hours and shifts, with the goal of expediting the project schedule and thereby reducing cost. If the unions are receptive to this concept, the cost reductions associated with an expedited schedule could negate the potential increased costs associated with using a PLA.

Further, Rider Levett Bucknall recommends further discussions with general contractors and all subcontractors – union and merit shop – to assure the process has been inclusive and open.

A PLA is a contract which is able to be modified and as such must be legal, well compiled and adequately addresses potential cost factors such as ensuring a no-strike clause, detailing consistent work hours, detailing reasonable overtime rates and that hourly wage rates and annual increments are clearly defined within the PLA. If a PLA can be drafted that offers concessions from local union CBAs there could be savings to the GSA. However, the GSA will likely face difficulty getting unions to sign off on these concessions.

Finally, we recommend that any framework PLA is tabled by the GSA within bid solicitations, and that the selected general contractor is heavily involved in finalizing and compiling a PLA and is a signatory to the final executed PLA. The GC is the prime party working to the stipulations dictated by the PLA and this should ensure that any potential issues are resolved and benefits to the GSA can be maximized - prior to PLA signing.

Based on this cost impact analysis, Rider Levett Bucknall finds that while our optimistic analysis suggests a lower cost risk for a project using a PLA, at 0.9% cost risk, versus 1.1% without a PLA, our conservative analysis suggests a PLA may result in a more expensive project, with cost risk at 3.1%, compared to only 2.6% without a PLA.

Given the issues surrounding the PLA-related bidding effect and jurisdictional disputes, Rider Levett Bucknall believes that Portland will tend toward the *conservative* range (refer Table 8), which suggests that a PLA project may be more expensive than a non-PLA project by 0.5% (+/-0.5%).

Phase 2 Projects

This phase covers projects in Nogales AZ and Denver CO.

9. Nogales AZ. Mariposa Land Port of Entry Expansion.

Overview

The Mariposa Land Port of Entry (LPOE) is located at 200 N Mariposa Road in Nogales, Arizona, approximately 70 miles south of Tucson, and 178 miles south of Phoenix. The port, originally constructed 35 years ago, is the third busiest in the United States. Nogales, in Santa Cruz County, is Arizona's largest international border town, and borders the Mexican city of the same name -Nogales, Sonora.

The \$213 million Mariposa LPOE expansion project includes the demolition and reconstruction of all facilities at the



port, enabling the Department of Homeland Security's U.S. Customs and Border Protection to more effectively perform their mission by improving efficiency, security and safety for officers and the traveling public.

The new facility will include a pedestrian and bus passenger processing facility; 12 primary inspection booths; 24 secondary inspection stations for northbound vehicles, eight commercial inspection lanes; 50 commercial inspection docks, six screened and secure inspection docks, administration buildings and approximately 400 new surface parking spaces. The new facility is expected to achieve at least a LEED Silver Rating through a combination of a substantial photovoltaic installation, a solar domestic hot water system, advanced lighting and building automation systems.

In compiling this report, the following organizations were contacted:

- Associated General Contractors of America
- Associated General Contractors of America, Arizona Chapter
- Arizona Builders Alliance
- Two municipal officials
- Six large general contractors
- Three major subcontractors
- UA Plumbers and Pipefitters 469
- Arizona Carpenter's Local 408
- Sheet Metal Workers Local Union #359
- International Brotherhood of Electrical Workers Local Union 570
- Bricklayers and Allied Craftworkers Local #3

Local Labor Market Characteristics

Arizona is a Right-To-Work state. Under Arizona's Constitution, no person can be compelled, as a condition of employment, to join or not to join, or to pay dues to a labor union. If employees form a union, workers cannot be fired if they decide not to join. Likewise, union members who decide to resign from the union cannot be fired for that reason.³⁵

PLAs are legal in states with Right-to-Work laws prohibiting agreements requiring employees to become full union members so long as the union security provisions are written to be consistent with the particular requirements imposed by the statutes in question. Certain Federal construction projects, however, will take place on property as to which the agencies have exclusive federal jurisdiction and State Right-to-Work legislation would not be applicable in those circumstances.³⁶

While generally low, the prevalence of unionization in Arizona decreased slightly from 2000 through 2003, reaching a low of 5.2% in 2003, and then increased in the following years, reaching 8.8% in 2007 and 2008. Over the same period, unionization has become slightly less prevalent throughout the nation, declining from 13.4% in 2000 to 12.4% in 2008.³⁷



Compared to the statewide overall average of 8.8%, unionization of the Arizona *public* sector is relatively high at 19.2% of the workforce. The private workforce is far less unionized at only 7.0%. However, within the private sector, *private construction* is significantly more unionized. In 2008, private construction employees in Arizona registered as union members represented 11.5% of the workforce.³⁸

³⁵ Arizona Revised Statutes Title 23-1301 through 1307

³⁶ Lord v. Local Union No. 2088, International Brotherhood of Electrical Workers, 646 F.2d 1057 (5th Cir. 1981), rehearing denied 654 F.2d 723 (1981), cert. denied 458 U.S. 1106 (1982)

³⁷ <u>www.bls.gov</u> Union affiliation data from the Current Population Survey, (unadj) – Percent of employed, Members of unions, Data extracted on: December 28, 2009

³⁸ <u>www.unionstats.com</u> Data Sources: Current Population Survey (CPS) Outgoing Rotation Group (ORG) Earnings Files, 2008. Sample includes employed wage and salary workers, ages 16 and over.



Interviewees noted that Arizona does not have a strong organized labor presence, and is predominantly a non-union merit shop state. One survey respondent stated that over 90% of all construction is performed by non-union workers and firms. While almost all private sector projects are built primarily by non-union labor, interviewees stated that public sector projects include slightly more union participation.

While Arizona has been impacted by the struggling national economy, increases in the state's unemployment rate have been overshadowed by the declines in its housing values following several years of dramatic growth. While single family house prices nationally have dropped by 9.4% since the first quarter of 2007, Arizona's corresponding prices have dropped by 34.5%.³⁹



³⁹ Federal Housing Finance Agency, Housing Price Index, Purchase-Only, not seasonally adjusted, <u>www.fhfa.gov</u>.

Arizona's economy is further challenged with the nation's third highest foreclosure rate, topped only by Nevada and California. For the third quarter of 2009, one in every 53 households in Arizona received a foreclosure filing, compared to one in every 136 households nationwide.⁴⁰

By comparison, Arizona unemployment trends are considerably less dire, and marginally better than the national average .As of November 2009, Arizona has the 22nd highest seasonally-adjusted statewide unemployment rate at 8.9%.⁴¹ In the Tucson metropolitan area, the unemployment rate is lower than both the national and statewide average, currently below 8%.

However, the unemployment rate in Santa Cruz County, where the Mariposa LPOE is located, is substantially higher than the national, state and Tucson metropolitan rates. While this rate is extremely cyclical, it is typically 2% to 8% higher than the statewide unemployment rate, peaking in October 2009 at 17.6%, almost twice the national rate.⁴²



⁴⁰ RealtyTrac, <u>http://www.realtytrac.com/foreclosure/foreclosure-rates.html</u>

⁴¹ "U.S. Bureau of Labor Statistics, <u>http://www.bls.gov/web/laumstrk.htm</u>

⁴² Ibid.

While Arizona's overall unemployment figures are lower than the national average, employment in Arizona's construction sector continues to decline. From November 2008 to November 2009, construction employment in Arizona dropped by 22%, topped only by Nevada at 25%.⁴³

Project Labor Agreements are not prevalent in Arizona, but interviewees noted that PLAs were used in the construction of the Palo Verde nuclear power plant in the 1970s, in the construction of the Toyota Proving Grounds west of Phoenix, in a magma acid plant, and in the Springerville Generating Station.

Many interviewees noted that they did not recall use of a PLA on any project in Arizona within the past decade.

Davis-Bacon Prevailing Wage Rates and Current Union Rates

Selected local union wage rates and fringes are compared with Santa Cruz County Davis-Bacon prevailing wage rates below:

			Union Pata		Pre	Prevailing Wage Rate			
Trade	Union / Contact	t gpo.gov/davisbacc					tates.html		
		Base Fringe Total		Base	Fringe	Total			
Pipefitters (incl HVAC)	UA Plumbers and Pipefitters 469	\$30.55	\$14.37	\$44.92	\$27.28	\$13.85	\$41.13		
Carpenters	Arizona Carpenter's Local 408	\$25.00	\$5.54	\$30.54	\$14.70	\$0.00	\$14.70		
Sheet Metal Workers	Sheet Metal Workers Local Union #359	\$26.00	\$11.69	\$37.69	\$18.68	\$4.91	\$23.59		
Electricians	IBEW Local Union 570	\$25.95	\$9.37	\$35.32	\$22.20	\$12.45	\$34.65		
Bricklayers	Bricklayers and Allied Craftworkers Local #3	\$24.62	\$8.08	\$32.70	\$12.67	\$1.10	\$13.77		

Effect on Construction Costs Derived from Local Research

Strikes

From data recorded by the FMCS (Federal Mediation and Conciliatory Service) Arizona has seen 13 strikes since 1990, 11 of which occurred after 2001. The most prevalent strikes in Arizona were in 1993, when 30 teamsters under IBT-104 stopped work for 156 days, in 2005 when 190 asbestos workers under HFIA-73 stopped work for 17 days, and again in 2005, when 400 operating workers under IUOE-428 stopped work for 6 days. No recorded strikes impacted 2009 (see Appendix E). The average strike duration from 1990 through 2009 was 18 days, but the corresponding average from 2001 through 2009 was only 7 days.

Interviewees noted that strikes are occasional to non-existent for both public and private projects. While one interviewee suggested that PLAs are a very successful tool in preventing strikes, another noted that there is no way to stop unions from engaging in wildcat strikes or sympathy strikes.

⁴³ Associated General Contractors of America, "Construction Employment Declines in 324 Out of 337 Cities as Construction Spending Hits 6-year Low, New November Data Shows," January 4, 2010, www.agc.org

Referencing the matrix below, this project has a relatively low potential for strike, compared to other cities. The only factors contributing to a higher chance for strike are the high value and long duration of the project. While strikes are rare, they are very disruptive.

The possibility of a strike was assigned a 5% to 10% chance without a PLA, and a lower 3% - 8% chance with a PLA. For the purposes of this analysis, the assumed duration of a potential strike was based on the average historic strike duration, between 10 and 15 days.

Nogales LPOE, Arizona	Labor Strife Matrix
-----------------------	---------------------

Likelihood of Labor Strike - NOG	GALES	Risk of strife			
	Issue	Low = 1	Medium = 2	High = 3	Score
	Isolated project locations generally dictate that				
	workers are relocated for a particular project.		Medium sized city with adequate		
Project location/ city	Historically, labor strife has been lower in these less	Isolated location with limited	local workforce. Some out of town	Large city with a strong construction	
population	populated areas.	options for alternative work.	sub-contractors/workers required.	workforce	1
	Safe projects have been shown to have lower	Concise safety management plan			
	worker disruption. A clear safety management plan,	which is followed through. Focus on	Adequate safety plan and follow up.	Management team with poor safety	
Project safety	worker induction and training, good lay down areas	safety.	Minor safety issues.	record, and project safety issues arise.	1
	Reports have shown that poor organization (also	Well organized, efficient			
	linked to safety) can increase absenteeism, increase	experienced/capable contractor.		Poorly organized project site. Limited	
	turnover and affect schedule. This can lead to	Top management team following	Acceptable organization but not best	laydown and poor access. Poor worker	
Project organization	disruptive action in response.	best practice.	practice.	accomodation/facilities.	1
	Large projects are more likely to warrant more				
	attention from unions and more worker organization				
	can lead to action. Smaller projects statistically are				
	less likely to have active strong advocates promoting				
Project size	labor strife.	Small project <\$50 mil	Medium project \$50-\$150mil	Large project >\$150 mil	3
	Compressed schedules can create overtime				
	requirements, night/weekend work, safety issues,				
	limited laydown/access and possibly increased				
	worker density. Tight schedules may be more prone	Reasonable schedule - low	Reasonable schedule - medium	Compressed/crash schedule - difficult	
Project schedule	to worker strife.	complexity project	difficulty project	project	2
	Long duration projects are potentially subject to				
	union renegotiations. The longer the project, the				
Project duration	more renegotiations which represent a	Up to 15 months	15 months - 24 months	Over 24 months construction	3
		Low = 1	Medium =5	High = 9	
	Higher unionized locations are more likely to have				
Union prevalence	higher worker strife.	Low unionism 0-10%	Medium unionism 10-20%	High unionism >20%	1
	In buoyant times, worker strife is more likely, as				
	workers may be able to move to other projects and				
	the ability for owners to meet higher pay demands				
	is higher. In tougher times, there may be no				
	alternative job and pay increases are less able to be				
Economic conditions	met.	Poor/low economic times	Stable economic times	Buoyant economic times	1
				Total	13

Labor Supply

While Arizona's construction trades are not highly unionized, the state has experienced significant growth in the past decade, leading to a large pool of qualified construction labor. Interviewees noted that finding an adequate supply of qualified labor has not been a problem in the state, and that qualified merit shop and union labor is abundant in today's market.

However, given the remote location of the project and its large size, interviewees suggested that labor will undoubtedly need to be imported from outside Santa Cruz County. Potential likely sources include the Tucson metropolitan area, the Phoenix metropolitan area and California.

If labor supply issues occur, this report estimates they will have a 1% to 2% incremental cost impact on the project. We estimate the probability of this occurring at 0% to 5% under a PLA, and at 5% to 10% without a PLA.

Intertrade Jurisdictions

A majority of interviewees noted that jurisdictional conflicts are not frequent in Arizona.

However, under current economic conditions, subcontractors increasingly compete for ancillary work, increasing the possibility of disputes or jurisdictional conflicts which lead to strikes. In an environment of scarce work, each union will attempt to secure the largest possible scope of work for its members, becoming more competitive for the 'gray areas' where multiple trades are capable of performing work. Under this scenario, the project is at greater risk of strike.

A successful PLA must include very clear language regarding jurisdiction and disputes. Interviewees noted that projects would benefit from having a PLA negotiated with consistent and universal provisions for all trades, such as starting times, overtime, shift differentials, substance abuse policies, no-strike clauses or other work-related conditions.

If jurisdictional dispute issues occur, this report estimates they will have a 1% to 2% incremental cost impact on the project. We estimate the probability of this occurring at 0% to 10% under a PLA, and at 20% to 30% without a PLA.

Wage Rate Stability

As it relates to stability of wage rates, a PLA can clearly be a great benefit to the owner. Without a PLA, contractors and subcontractors are faced with the requirement to provide a hard cost up front without the benefit of pre-determined wage rates. Accordingly, they will make assumptions regarding trade labor cost escalation over the multi-year construction period, and they will usually be very conservative in their estimates, resulting in higher cost to the owner.

The PLA essentially neutralizes the risk of wage instability from the general contractor's standpoint, allowing him to significantly reduce his contingencies, and present lower overall costs to the owner.

Further, while PLA can provide cost certainty by explicitly defining wage rates for various trades over the entire term of the agreement, many PLAs only make reference to Davis-Bacon, or union wage structures. For a PLA to be most effective, the annual increment must be cited clearly in the PLA contract – either indexed to the CPI (or other economic index), or as a set

figure. Regardless, the incremental change should be consistent across all trades. While unions may have their own 'in-house' annual increments, inclusion of multiple increments (e.g. electricians get a 3.5% increase, but carpenters only get 2%) may create intertrade friction, conflict, and even strike.

If wage rate stability issues occur, this report estimates they will have a 1% to 2% incremental cost impact on the project. We estimate the probability of this occurring at 0% to 10% under a PLA, and at 10% to 20% without a PLA.

Labor Cost

As noted above, all of the rates quoted by local unions in the Nogales area are higher than the Davis-Bacon rates for Santa Cruz County. While some of the union rates are slightly higher, others are drastically higher. Union electrician and pipefitter rates, for instance, are only 2% and 9% higher, respectively, while the rates for carpenters and bricklayers are 108% and 137% higher. For the limited sample of building trades explored in this survey, the union rates averaged 63% higher than prevailing Davis-Bacon rates.

While this difference is substantial, it does not represent the actual difference an owner would pay to construct the project using union or non-union labor. The project will involve more building trades than included in this sample, there may be a mix of union and non-union labor, there may be variances in the quoted union rates, and the Davis-Bacon rates may be adjusted periodically to reflect current trends.

A PLA does not require exclusive union participation, but unions are typically involved as the local collective bargaining representatives. The wage and fringe rates established by the unions are typically the starting point for rates on the project, and are highly influential on the final agreed rates. Thus, under a PLA on this project, the higher union rates would likely lead to higher overall labor cost.

Owners may realize significantly higher productivity by requiring multiple shifts to achieve the project schedule. By defining various shifts and work hours for the project up front, owners can realize increased productivity, and sometimes accelerated schedules, without paying markedly increased rates.

In Nogales, under the current economic conditions, subcontractors may be receptive to accepting owner-defined rules regarding shifts, work hours, and overtime without demanding premium compensation. While non-union labor would always consider this option, union subcontractors may also be receptive to this approach as a condition of the PLA.

Further, if the facility is required to maintain ongoing operations throughout the construction period, shift work may be a valuable tool for the owner to allow the construction to proceed while minimizing operational disruption.

For the purposes of this report, we estimate that by using a PLA, the higher union wages will have a 10% - 30% incremental cost impact on the labor portion of the project, with 100% probability.

PLA Related Bidding Effect

The size of the project will require a large general contractor experienced in high-value public sector projects to oversee and coordinate the work. These contractors are generally familiar with the requirements of PLAs. Due to the relative competition between contractors in the current economy, the contractors are unlikely to increase their general conditions relative to prevailing wage projects. Thus, the difference between a PLA and a non-PLA project is negligible from a general conditions standpoint.

Interviewees noted that some subcontractors will not bid PLA projects, fearing that the unions will adversely impact their employees' productivity. Under a PLA, interviewees stated, the number of bidders would be reduced, serving as a deterrent to successfully staffing the project.

Interviewees also described several areas for potential increased costs, including overtime pay after eight hours (instead of 40), double time on weekends, shift differentials, manning requirements, foreman and general foreman requirements, restrictive use of apprentices, business agent access and shop steward requirements, and fringe benefits and union dues payments which may be a double-up for non-union subcontractors and amount to effective hourly rates in excess of the Davis-Bacon minimum pay scales.

Several interviewees opined that Arizona is not an appropriate market to require a PLA. They argue that due to the merit-shop nature of the state, it would reduce competitiveness, decrease labor performance, increase costs and create additional burdens which would not improve the quality of the project.

Differing views exist regarding the potential cost impacts of using PLAs on construction projects. The Associated Builders and Contractors (ABC), which represents merit-shop (non-union) construction, states that the use of PLAs removes an important component of competitive bidding, which is for *"competing contractors to develop creative ways to streamline staffing and eliminate the 'bloat' of overstaffing and cumbersome craft work rules requirements"*⁴⁴. The ABC has also lobbied for high dollar thresholds to be placed for subcontract values within a PLA project, to allow smaller or minority contractors to provide contract services without being signatory to the PLA.

By contrast, union organizations take a view that "the total package of wages and benefits" – the "prevailing wage" – is supposed to be the same for all contractors, union or not, on public works, and given the generally higher level of training and productivity in the unionized workforce, the PLAs requirements, far from being a disadvantage, would seem to present some actual advantages to non-union contractors" ⁴⁵. However PLAs typically require all contractors, union or non-union, live up to the terms of union agreements and to utilize union referral systems for some of the hiring.

A PLA will inevitably result in a smaller pool of bidders at the subcontractor level, which could potentially increase the base cost of the project. Interviewees noted that many merit shop contractors are simply not bidding on PLA projects due to their perceived negative, union-related influences.

⁴⁴ http://www.agc-ca.org/member.aspx?id=1110

⁴⁵ http://www.sfbuildingtradescouncil.org/content/view/288/32/

This report estimates that the PLA-related bidding effect will result in an incremental cost of 2% to 5% on the project (at 100% probability). Without a PLA, there is no effect.

Other Factors

<u>Quality</u>: Several interviewees noted that Arizona is a right-to-work state with a highly skilled workforce and 90% of its construction performed by merit shop contractors. Interviewees commented that the quality of local construction is better using local resources, and expressed concern that quality could diminish if labor were imported to the site (as may be needed under a PLA) and workers were not familiar with local construction methods, practices and the climate.

One interviewee strongly supported PLAs, and noted that they are associated with a highquality product, on time and on budget.

<u>Paying Twice for Insurance and Benefits:</u> Interviewees noted that many merit shop (non-union) contractors already cover their workers with company benefit plans including health insurance. Interviewees expressed concern that under a PLA, these subcontractors would be required to purchase insurance coverage for their employees under the union plans, effectively double-covering their employees at significant incremental cost.

<u>Fringe Costs</u>: Interviewees noted that under a union scenario, the fringe benefit portion of the labor costs are not always paid to the employees doing the work. Until the employee completes a vesting period, these funds are paid into a pool for distribution by the union, and these funds are not always distributed back to the employee who performed the work. Under a non-union scenario, all fringe benefit costs are paid directly to the worker. One interviewee noted that "there is a lot of cheating that goes on regarding wages and benefits on (Davis-Bacon) projects. The contracting office needs to do their job and enforce compliance."

PLA Cost Impact Analysis

The following tables aggregate the six factors discussed above (strikes, labor supply issues, intertrade jurisdictions, wage rate stability, labor cost and PLA-related bidding effect) in an optimistic and conservative scenario. The weight of each factor is driven by an estimated impact on project cost, along with an assigned probability that they will occur.

Table 9 below represents an optimistic scenario, and suggests that *a PLA project would present more risk of increased cost* at 4.2%, compared to a NON-PLA project, in which the same factors may increase costs by 0.2%. Given the nature of this analysis we suggest an error range for this figure of +/- 0.5%.

NOGALES	PROJECT COST		\$	164,480,000	l			
IOW RANGE/OPTIMISTIC FEFECTS			ć	57 568 000				
	LABOR COS	1 (33/6)	ç	1210	Project Duration/	Cal Day	15	
				1310			/5	
			Ş	125,557	Project Cost/Cal.	day		
WITHOUT A PLA								
	Days/%	Cost/day	Cos	st if occur	Probability	Cos	t	%
Strikes (72.5% project cost for duration)	10	\$ 91,029	\$	910,290	5%	\$	45,515	
Labor Issues (supply)	%	1%	\$	575,680	5%	\$	28,784	
Intertrade jurisdictions	%	1%	\$	575,680	20%	\$	115,136	
Wage Rate Stability	%	1%	\$	575,680	10%	\$	57,568	
Labor Cost	%	0%	\$	-	0%	\$	-	
PLA related bidding effect	%	2%	\$	1,151,360	0%	\$	-	
						\$	247,003	0.2%
WITH A PLA								
	Days/%	Cost/day	Cos	st if occur	Probability	Cos	t	
Strikes (72.5% additional cost for duration)	10	\$ 91,029	\$	910,290	3%	\$	27,309	
Labor Issues (supply)	%	1%	\$	575,680	0%	\$	-	
Intertrade jurisdictions	%	1%	\$	575,680	0%	\$	-	
Wage Rate Stability	%	1%	\$	575,680	0%	\$	-	
Labor Cost	%	10%	\$	5,756,800	100%	\$!	5,756,800	
PLA related bidding effect	%	2%	\$	1,151,360	100%	\$ 1	1,151,360	
						\$ (6,935,469	4.2%

Table 9 - Nogales Low Range Project Cost Risks

It is important to note that some of these are not true dollar costs, but potential cost impacts which may be minimized under a carefully crafted PLA contract. **IF** a PLA is utilized, care in crafting and confirming a PLA needs to be taken, as detailed in the Summary, below. It is possible, although unlikely that the PLA labor cost premium as suggested above, may be lowered if jurisdictional boundaries and work rules are addressed in detail - so as to benefit the GSA.

Table 10 below represents a more conservative scenario, and suggests that **a PLA project would present more risk of increased cost** at 12.5%, compared to a NON-PLA project, in which the same factors may increase costs by 0.5%. Given the nature of this analysis we suggest an error range for this figure of +/- 0.5%.

NOGALES	PROJECT COST		\$	164,480,000				
HIGH RANGE/CONSERVATIVE EFFECTS	LABOR COST (3	85%)	\$	57,568,000				
				1310	Project Duration/Cal.	Days		
			\$	125,557	Project Cost/Cal. day			
WITHOUT A PLA								
	Days/%	Cost/day	C	Cost if occur	Probability		Cost	%
Strikes (72.5% additional cost for duration)	15	\$ 91,029	\$	1,365,435	10%	\$	136,544	
Labor Issues (supply)	%	2%	\$	1,151,360	10%	\$	115,136	
Intertrade jurisdictions	%	2%	\$	1,151,360	30%	\$	345,408	
Wage Rate Stability	%	2%	\$	1,151,360	20%	\$	230,272	
Labor Cost	%	0%	\$	-	0%	\$	-	
PLA related bidding effect	%	5%	\$	2,878,400	0%	\$	-	
						\$	827,360	0.5%
WITH A PLA								
	Days/%	Cost/day	C	Cost if occur	Probability		Cost	
Strikes (72.5% additional cost for duration)	15	\$ 91,029	\$	1,365,435	8%	\$	109,235	
Labor Issues (supply)	%	2%	\$	1,151,360	5%	\$	57,568	
Intertrade jurisdictions	%	2%	\$	1,151,360	10%	\$	115,136	
Wage Rate Stability	%	2%	\$	1,151,360	10%	\$	115,136	
Labor Cost	%	30%	\$	17,270,400	100%	\$	17,270,400	
PLA related bidding effect	%	5%	\$	2,878,400	100%	\$	2,878,400	
						ć	20 545 875	12 5%

Table 10 – Nogales High Range Project Cost Risks

Summary

In Nogales, Rider Levett Bucknall finds that there will likely be a significant cost premium associated with use of a Project Labor Agreement at the Mariposa Land Port of Entry expansion project. The opportunities and challenges of implementing a PLA are outlined below.

Using a PLA could present the following opportunities:

- Reduced risk of strike, assuming that the signatory parties abide by the no strike clauses (this has been an issue in other cities). While strikes are infrequent, they can be very disruptive.
- A marginally more steady supply of qualified labor (this is not seen as a significant issue in current economic conditions).
- Reduced risk of disruptions related to intertrade jurisdiction.
- Pre-determined wage rates over the term of the construction period.

However, using a PLA would also present the following challenges:

- Higher labor cost, due to the significantly higher union wage and fringe rates, as compared to the Davis-Bacon rates.
- Higher cost due to the limited competition created by use of the PLA. Interviewees noted that many merit shop contractors are not participating in the bidding process due to their perception that their workers would be negatively influenced by union labor, and that union shops would be given preference.

Based on this cost impact analysis, Rider Levett Bucknall finds that a successfully negotiated and implemented PLA would likely increase project cost. Our optimistic analysis has 0.2% cost risk for a non-PLA project and 4.2% for a PLA project. Our conservative analysis yields 0.5% for a non-PLA project and 12.5% for a PLA project.

The average of these is 0.3% non-PLA and 8.4% with a PLA, and while this average suggests a PLA could potentially increase project cost by 8.1%, we believe that given the issues discussed herein, the Nogales LPOE will tend toward the conservative range, with a 12% cost risk benefit without a PLA.

If a PLA is pursued, Rider Levett Bucknall recommends holding discussions with the unions regarding work hours and shifts, with the goal of expediting the project schedule and thereby reducing cost. Further, we note that a PLA is a contract which is able to be modified and as such must be legal, well compiled and adequately addresses potential cost factors such as ensuring a no-strike clause, detailing consistent work hours, detailing reasonable overtime rates and that hourly wage rates and annual increments are clearly defined within the PLA. If a PLA can be drafted and executed that offers concessions from local union CBAs there could be savings to the GSA.

Finally, we recommend that any framework PLA is tabled by the GSA within bid solicitations, and that the selected general contractor is heavily involved in finalizing and compiling a PLA and is a signatory to the final executed PLA. The GC is the prime party working to the stipulations dictated by the PLA and this should ensure that any potential issues are resolved and benefits to the GSA can be maximized - prior to PLA signing.

Based on the Rider Levett Bucknall analysis contained within this report and given the current poor economic climate in the US - for a well compiled PLA on the Nogales LPOE the GSA may be disadvantaged by a PLA and that a PLA is likely to not *"advance the federal Government's interest in achieving economy and efficiency in federal procurement"*.

10. Denver CO, Byron Rogers Courthouse and Federal Building



Overview

The federal building comprises around 500,000sf and the project will entail full renovation of its 18 stories, including demolition and hazardous material abatement. The courthouse is a multi-tenant office and court building. It is five stories high with a basement and subbasement connected to the FB by a two story section. A comprehensive modernization project for the courthouse was completed in

2005, and the courthouse will remain occupied while the windows are replaced. The CMa is URS Corp. The construction period assumed for this study is 3 years.

In compiling this report, the following organizations were interviewed:

- One large mechanical subcontractor
- Pipefitters Union Local 208
- Electrical Union IBEW Local 68
- Nine large General Contractors {awaiting two more as at Jan 18th}
- One large electrical subcontractor
- One large steel subcontractor
- Bricklavers Union Local 7
- Colorado Association of Mechanical and Plumbing Contractors (union and merit shop)
- Colorado Association of Building Contractors (ABC)
- Colorado Building and Construction Trades Council AFL-CIO
- City and County of Denver {awaiting as at Jan 18th}

Local Labor Market Characteristics

Colorado has 8% of its workers covered by collective bargaining agreements, around half of the US average of 13.6%. Colorado construction employees under collective bargaining agreements total 9.6%, 63% of the US rate of 15.1%. Colorado and Denver are seen as predominantly non-union, with the bulk of private and public construction projects built non-union.

Recent PLAs include the Pepsi Arena, Coors Baseball Stadium and Invesco Field in Downtown Denver, the Denver International Airport Construction Terminal (to 1994) and Xcel Energy's Comanche Coal Fired Power Station at Pueblo (110miles south of Denver, 44 miles south of Colorado Springs, recently commissioned). The temporary facilities (stage, media etc) to house the democratic national Convention in August 2008 in the Pepsi Arena was under a PLA and we understand Lockheed Martin has a PLA for their construction projects. Large multi billion dollar cleanup projects for the DoD have included PLAs and the Rocky Flats cleanup site (completed 2006) where CH2M Hill were the general contractor and the current Mustard Gas site cleanup by Bechtel at the Pueblo Chemical Depot. We understand several air force bases are under PLAs at Schriever AFB (near Colorado Springs), Fort Carson and the Air Force Academy.

The DIA project was affected by a millworkers strike, but interviewees also noted this PLA was much more flexible than current PLAs and essentially mandated only consistent prevailing

wages, rather than full labor sourcing through union halls and contribution to union pension schemes, as seen on recent PLAs.

The Rocky Flats nuclear cleanup project PLA included all trades for a hazardous demolition and decontamination of a 'small city' with much of this underground. A key individual noted much of the success was in regular meetings, relationships to build a partnership and good communication. A percentage of the projected completion bonus was given to workers as an incentive/performance bonus and this served to attract workers over the 10 year cleanup duration - which was delivered significantly ahead of budget and schedule projections. The cost premium was around 4% but this served to attract quality labor. With a proactive stance on jurisdictions and focused on delivery, this unique project PLA is often quoted as a success.

PLAs have been used on mega sized energy projects, stadium, transportation and specialist cleanup projects but are not predominant in commercial construction and refurbishment such as Byron Rogers.



Colorado construction unionism has seen a slight increase in the past three years which may be due to the actual number of union employees remaining constant, but the total number of construction workers dropping, giving the significant downturn in construction. Total unionism in Colorado has hovered at around 9% for the past nine years.

Colorado unemployment is currently at 7% and has increased at around 1% per annum since 2006. Construction unemployment in Colorado is much higher and estimated at 20-25% and

BLS data indicates construction employment numbers have dropped by 15% in the last 12 months. $^{\rm 46}$

Trade	Union	Union Rate	Prevailing Wage Rate		
Pipefitters (incl HVAC)	Pipefitters Local 208	33.45+10.73= \$44.18	33.30+10.52= \$43.82		
Carpenters	Carpenters Local 55	24.00+11.52 =\$35.52	26.60+8.89= \$35.49		
Sheet Metal Workers	S/M Worker's Local 9	30.55+12.24= \$42.79	30.55+11.67= \$42.22		
Electricians	IBEW Local 68	n/a	31.00+11.40= \$42.40		
Bricklayers	Bricklayers & Allied Local 7	22.48+9.54 =\$32.02	22.95+9.07= \$32.02		

Davis-Bacon Prevailing Wage Rates and Current Union Rates

Effect on Construction Costs Derived from Local Research

Strikes

The three largest Denver Unions are Carpenters Union with around 5,000 members, the Pipefitters Union Local 208 with around 2,000 members and Electrical (IBEW) Local 68 with around 2,000 members. The standard CBAs of the electrical, pipefitters and plumbers unions contains a no-strike clause. Therefore the main benefit of PLA to reduce strikes in projects is already in place for these trades (which may represent around 20-25% of the Byron Rogers project cost).

SECTION 14 - NO STRIKE - NO LOCKOUT

Neither the Union nor any of the employees covered by this Agreement will collectively, concertedly or individually induce, engage in or participate directly or indirectly, in any strike, sympathy strike, picketing, slowdown, stoppage or other curtailment or interference with the Employer's operations, or interference with the flow of materials or persons in or out of places where the Employer is doing business. The Union agrees to exert every effort through its local officers and representatives to end any unauthorized interruption of work. The Employer will not lock out any of the employees covered by this Agreement.⁴⁷

The Carpenters Union has 'gone alone' at a national level and sits outside the Colorado Building and Construction Trades Council who generally negotiate Colorado PLAs - which creates the potential that under a PLA, not all unions are guaranteed to sign.

From data recorded by the FMCS, since 1984 there have been only 13 strikes in Colorado construction and only two since 1995. One in 2003 was when a large electrical contractor was changing from a union to a non-union shop and in 2005 a small 8 day strike on the western side of the Rockies appears to be related to construction of an oil pipeline, rather than a building. Some recent 'informational picketing' occurred, related to selection of a non-union carpentry subcontractor on a project in downtown Denver, however this picketing ceased and the project continued uninterrupted.

The strife matrix on the following page scores 15 out of the maximum 36, which lends toward a low strike likelihood on the Byron Rogers project. The average historical strike duration is 40 days, however we see the risk of strike in Colorado as extremely low.

⁴⁶ Source: www.bls.gov

⁴⁷ Source -Colorado Association of Plumbing and Mechanical Contractors
LABOR STRIFE - DENVE	R	Risk of strife			
	Issue	1 = M01	Medium = 2	High = 3	Score
Project location/ city 1 population	Isolated project locations generally dictate that workers are relocated for a particular project. Historically, labor strife has been lower in these less populated areas.	Isolated location with limited options for alternative work.	Medium sized city with adequate local workforce. Some out of town sub-contractors/workers required.	Large city with a strong construction workforce	ε
Dervisert cafetu	Safe projects have been shown to have lower worker disruption. A clear safety management plan,	Concise safety management plan which is followed through. Focus on	Adequate safety plan and follow up. Minor catety iccue	Management team with poor safety	, ,
B Project organization	reformed to the shown that poor organization (also linked to safety) can increase absenteeism, increase turmover and affect schedule. This can lead to disruptive action in response.	Well organized, efficient experienced/capable contractor. Top management team following best practice.	Acceptable organization but not best practice.	Poorly organized project site. Limited laydown and poor access. Poor worker accomdation/facilities.	
4 Project size	Large projects are more likely to warrant more attention from unions and more worker organization can lead to action. Smaller projects statistically are less likely to have active strong advocates promoting labor strife.	Small project <550 mil	Medium project \$50-\$150mil	Large project >\$150 mil	m
5 Project schedule	Compressed schedules can create overtime requirements, night/weekend work, safety issues, limited laydown/access and possibly increased worker density. Tight schedules may be more prone to worker strife.	Reasonable schedule - low complexity project	Reasonable schedule - medium difficulty project	Compressed/crash schedule - difficult project	2
5 Project duration	Long duration projects are potentially subject to union renegotiations. The longer the project, the more renegotiations which represent a	Up to 15 months Low = 1	15 months - 24 months Medium = 5	Over 24 months construction High = 9	£
7 Union prevalence	Higher unionized locations are more likely to have higher worker strife.	Low unionism 0-10%	Medium unionism 10-20%	High unionism >20%	7
8 Economic conditions	In buoyant times, worker strife is more likely, as workers may be able to move to other projects and the ability for owners to meet higher pay demands is higher. In tougher times, there may be no alternative job and pay increases are less able to be met.	Poor/low economic times	Stable economic times	Buoyant economic times	н Н
				Max score = 36	15

Phase 2 Projects

We have assigned strike likelihood at 5% to non-PLA projects, reflecting the fact that most projects are mixed. For a PLA project we have assigned the risk of strike is 5% in the low scenario and 10% in the high scenario, reflecting what is likely a union dominated environment, where many trades have less union activity, therefore working relationships will be unfamiliar and resolution of issues may be more challenging.

Labor Supply

For the MEP trades, labor supply for these trades is generally seen as the same for either a non-PLA (merit shop subcontractor market) to PLA (union dominant subcontractors). In the current market the mechanical unions noted they have around 7% of workers on the bench, but the electrical union has higher numbers unallocated to projects at 25%. Union training schemes of union MEP trades is very strong with high quality facilities, however open shop contractors note that they also have accredited schemes that also develop apprentices into journeymen.

The concern from general contractors was for the other trades that would be heavily involved in the Byron Rogers renovation. Drywall, demolition, hazardous materials abatement and other finishing trades have much less *local* union representation and GCs were concerned if out of town union subcontractors were required, this would lessen their project control and possibly quality, and also minimize benefits to the local economy.

For a non-PLA project we have assigned 1% to 2%cost risk to labor supply issues with a 10% probability. The higher risk and cost situation in Denver is across the specialty trades and this has been assigned a cost risk of 2% with 20% - 40% probability.

Intertrade Jurisdictions

Most interviewees noted jurisdictional conflicts are very rare on 'normal' Denver projects. For a union dominated commercial/office project under a PLA, intertrade jurisdictions are seen as a greater risk in Denver, primarily due to the lower prevalence of specialty unions and higher chance of issues created in a 'full' union job.

Non-union subcontractors note that they carry out the work they are subcontracted to do and do what is needed to get the job done. Slowdowns or minor stoppages as jurisdictional queries are resolved were rarely recalled, even in a construction market where mixed union and non-union subcontractors are common.

Interviewees indicated that most projects public and private construction projects are carried out non-union in Denver, however many projects are represented by sub-contractors with union labor for the more prominent electrical and mechanical trades. 'Mixed' projects are the norm for commercial office projects and all parties indicate the working relationships are non problematic.

If jurisdictional dispute issues occur, we estimate a 1% to 2% cost risk, at 10% probability for non-PLA projects and 10% to 20% for a PLA project where in the current slower market we see common intertrade disputes arising among less dominant union trades⁴⁸.

⁴⁸ Refer – The Business Roundtable (now the Construction Users Roundtable, CURT), *Exclusive Jurisdiction in Construction*. 1990.

Wage Rate Stability

From PLAs we have seen it appears that wage rates are not actually defined within a PLA but merely refer to union scales or Davis-Bacon scales – which in Denver are very closely aligned. Union scales are 1.2% per hour (\$0.50/hr) higher for non included dues.

Non-union subcontractors have the ability to accurately assess their wages over a project duration and make allowances for their workers. Union shops on the other hand need to make some judgment for annual wage increments which are often not set for the second and third years out. This will affect the 3 year duration Byron Rogers refurbishment project. The trades council confirmed that is was unlikely to actually have established wage increments set within a PLA but historical union wage increases were used to predict the future increases.

Again, given the mixed nature of Denver projects we have assigned a 1% to 2% premium with 20% to 30% likelihood to a non-PLA project and 2% with a 20% to 30% likelihood for a PLA project.

Labor Cost

Labor cost was one of the more subjective areas from Denver interviewees. Even with equal Davis-Bacon prevailing wages the perceived *productivity rate* between union and non-union workers differed markedly. Productivity of the trades was believed to vary from 30% less productive in union electrical trades; 15% less in union mechanical, electrical and plumbing; while union representatives cite a study where union productivity is suggested to be 17% greater on construction projects⁴⁹.

With Davis-Bacon, creating the "apples to apples" scenario between any open shop and union shop bidders is seen by many GC representatives in Colorado as sufficient to ensure a level playing field. General contractors interviewed saw that work rules increased the effective labor cost for a project at a 10-20% *labor cost*.

Non-union contractors noted they currently paid similar wages and fringes to union scales but had the ability to structure teams with laborers and helpers to carry out less skilled activities (i.e. transporting materials, assisting journeymen, cleaning) but also, merit shop contractors often prefabricate items offsite and with current advanced BIM processes, this allowed for better quality control as well as lower system costs.

Misclassification and 'cheating' was raised as a major concern from unions and we concur that these practices should be closely monitored by the GSA and/or general contractor, so that all workers are paid the correct prevailing wage for their area of work. The City and County of Denver has a very active department relating to state prevailing wage compliance. They estimated cheating as a very low percentage at around 3%, and minor errors/mistakes due to 'grey areas' at 10-12% and an 85% majority fully compliant, with no problems.

We believe that the actual cost of labor for work performed is higher in a PLA, union-based structure given the defined and possibly restrictive ratios of workers (foreman : journeymen : apprentices) and the cost increases associated with ancillary work. For a PLA on Byron Rogers we have assigned a 10% to 15% cost increase with an 80% likelihood.

Phase 2 Projects

⁴⁹ <u>http://www.curt.org/pdf/Voice-summer09.pdf</u> Page 46 in an article by Mark Ayers, President of the Building and Construction Trades Department - AFL-CIO. The report, by Independent Project Analysis Inc has not been sighted.

PLA Related Bidding Effect

General contractors in Denver are generally non-union signatory. One contractor cited that they would likely add some higher level project managers to deal with jurisdictional and PLA related management issues (given the low prevalence of full union only projects) and the fact that there would a steep learning curve for them and many trade subcontractors.

Comments from prominent Denver based general contractors regarding PLAs are:

- "If you can avoid a PLA in Colorado, do so"
- "We [a dominant US general contractor] will not sign a PLA due to the potential risks drawing us into covering future pension fund shortfalls."
- "Less subcontractors in the pool may add up to 10% to the project bid."
- "Do not want to intimidate local subs who are very capable and will not bid under a PLA"
- "Democratic National Convention was successfully built under a PLA (\$16mil value in 6 weeks)"
- "PLAs have worked for us on specialist federal and DoD projects"
- "The majority of Colorado subs will not sign PLAs and they are not suited to small business goals"
- "Non-union and union subs are qualified. Quality is similar in trades where both are prevalent"
- "PLAs are not necessary in Colorado. Focus to ensure value for taxpayers money should be on a good design"
- Up to 2/3 of suitable bidders would pull out in a two envelope bid scenario (i.e. PLA and non-PLA) given the risk that IF the project went PLA they may be bound by conditions they are not comfortable with. Therefore *even the non-PLA bid price is likely to be inflated* reflecting a lower number of bidders and/or union focused sub-contractor pool.
- "Union and non-union subcontractors have been working side by side for years, on both public and private projects...and most subcontractors would not be happy under a PLA"
- A PLA creates a situation where as a qualified, responsible GC a project "costs 10-15% more, with less certainty of performance".

Another industry representative noted that under the Byron Rogers design-build framework, general contractors may have the potential to 'hide' cost impacts of a PLA through either the GC accepting that they may make a lower (undisclosed) margin, or via scope reduction. In essence this may lessening the quality and specification of end product that the GSA receives. While this is somewhat subjective we believe this risk to be real.

Given the reduced competition among the medium sized, predominantly non union commercial subcontractors in the Denver area, for the Byron Rogers project this report has allowed a 10% to12% PLA Bid-Effect cost with an 80% probability, given the feedback that this cost increase would be highly probable to occur.

\$ 10,191,217

6.1%

PLA Cost Impact Analysis

Table 11 below represents an optimistic scenario for the Byron Rogers project in Denver, and suggests that *a PLA project would present more risk of increased cost* at 6.1%, compared to a NON-PLA project, in which the same factors may increase costs by 0.3%. Given the nature of this analysis we suggest an error range for this figure of +/- 0.5%. The cost risk premium for a PLA is therefore estimated at 5.8% (+/- 0.5%).

DENVER	PROJECT	COST	\$: ¢	167,552,000				
	LADON CC	51 (5570)	Ļ	1095	Project Duration/C	al. Dav	S	
			Ś	153.016	Project Cost/Cal. d	av		
ΜΙΤΗΟΙ ΙΤ Δ ΡΙ Δ						-1		
	Days/%	Cost/day	Cos	st if occur	Probability	Cost		%
Strikes (72.5% recovery cost for duration)	40	\$110,936	\$	4,437,450	5%	\$	221,873	
Labor Issues (supply)	%	1%	\$	586,432	10%	\$	58,643	
Intertrade jurisdictions	%	1%	\$	586,432	10%	\$	58,643	
Wage Rate Stability	%	1%	\$	586,432	20%	\$	117,286	
Labor Cost	%	0%	\$	-	0%	\$	-	
PLA related bidding effect	%	0%	\$	-	0%	\$	-	
						\$	456,445	0.3%
WITH A PLA								
	Days/%	Cost/day	Cos	st if occur	Probability	Cost		%
Strikes (72.5% recovery cost for duration)	40	\$110,936	\$	4,437,450	5%	\$	221,873	
Labor Issues (supply)	%	2%	\$	1,172,864	20%	\$	234,573	
Intertrade jurisdictions	%	2%	\$	1,172,864	10%	\$	117,286	
Wage Rate Stability	%	2%	\$	1,172,864	20%	\$	234,573	
Labor Cost	%	10%	\$	5,864,320	80%	\$	4,691,456	
PLA related bidding effect	%	10%	Ś	5.864.320	80%	\$	4 691 456	

Table 11 – Denver, Byron Rogers - Low Range Project Cost Risks

It is important to note that some of these are not true dollar costs, but potential cost impacts which may be minimized under a carefully crafted PLA contract. One issue that was raised for the Denver bids for this project was that in asking for dual bids for both scenarios, the base, non-PLA bid may actually see some of the PLA bid effect – given the project *could* be under a PLA, some subcontractors refused to bid.

Table 12 below represents a more conservative scenario, and suggests that **a PLA project would present more risk of increased cost** at 8.5%, compared to a NON-PLA project, in which the same factors may increase costs by 0.5%. Therefore a high range cost risk premium of having a PLA is 8% (+/- 0.5%).

DENVER	PROJECT COST		\$1	.67,552,000				
HIGH RANGE/CONSERVATIVE EFFECTS	LABOR COST (3	5%)	\$	58,643,200				
				1095	Project Duration/Cal.	Da	ays	
			\$	153,016	Project Cost/Cal. day			
WITHOUT A PLA								
	Days/%	Cost/day	Co	ost if occur	Probability		Cost	%
Strikes (72.5% recovery cost for duration)	50	\$110,936	\$	5,546,813	5%	\$	277,341	
Labor Issues (supply)	%	2%	\$	1,172,864	10%	\$	117,286	
Intertrade jurisdictions	%	2%	\$	1,172,864	10%	\$	117,286	
Wage Rate Stability	%	2%	\$	1,172,864	30%	\$	351,859	
Labor Cost	%	0%	\$	-	0%	\$	-	
PLA related bidding effect	%	0%	\$	-	0%	\$	-	
						\$	863,773	0.5%
WITH A PLA								
	Days/%	Cost/day	Сс	ost if occur	Probability		Cost	%
Strikes (72.5% recovery cost for duration)	50	\$110,936	\$	5,546,813	10%	\$	554,681	
Labor Issues (supply)	%	2%	\$	1,172,864	40%	\$	469,146	
Intertrade jurisdictions	%	2%	\$	1,172,864	20%	\$	234,573	
Wage Rate Stability (labor = 35% project)	%	2%	\$	1,172,864	30%	\$	351,859	
Labor Cost	%	15%	\$	8,796,480	80%	\$	7,037,184	
PLA related bidding effect	%	12%	\$	7,037,184	80%	\$	5,629,747	
						\$	14,277,190	8.5%

Table 12 - Denver, Byron Rogers - High Range Project Cost Risks

Summary

In Denver, a non-PLA project will not detract the prevalent union trades (pipefitting, plumbing, electricians, crane operators) from being involved in a project. It is still important for vigilance regarding classification of workers (via federal, GSA, general contractor audit reports and inspection) and ensuring Davis-Bacon wages are paid as required to each worker via certified payroll. However, a significant number of sub-contractors and therefore workers are likely to be excluded from this project if a PLA is mandated.

Being primarily an office refurbishment, the construction is likely to not be as complex as a hospital or industrial facility and particularly in the current market there is plentiful qualified labor in both union and merit shops. The norm in most commercial projects has been mixed, merit based labor from both union and non-union subcontractors and commentary has been that there is low risk of strike and high quality from both union and non union workers.

The wider social impacts such as "do PLAs actively promote and improve apprentice numbers to develop a greater number of local journeymen?" is not within the scope of this study. Similarly, the variance in quality of training schemes between union and non-union workers is very partisan and also not investigated in depth. General contractors however viewed quality as equal between union and open shop in the current market. Unions cited that their pension plans

promote a career in the industry and strengthen the US middleclass for which we see as an obvious attraction for workers, yet in Colorado many elect not to be members for what could be innumerable reasons. Davis-Bacon pay scales, which the *Byron Rogers Federal Building and Courthouse* will be built under, are established to create worker equality and fair wages for a fair days work, and with the GSA actively selecting a competent/qualified general contractor, the risk of pay cheating should be minimized if thorough reviews are carried out.

For the design-build Byron-Rogers project in Denver we see that the cost risk to the GSA is increased in implementing a PLA. This could be through de-scoping as the project develops, or in an actual dollar cost to project bids. Based on this cost impact analysis, Rider Levett Bucknall estimates that a successfully negotiated and implemented PLA would likely increase project cost. Our low range/optimistic analysis has 0.3% cost risk for a non-PLA project and 6.1% for a PLA project. Our high range/conservative analysis yields 0.5% for a non-PLA project and 8.5% for a PLA project.

Although this data could be averaged, we believe Denver will trend toward the low range and estimate that Denver may see a cost risk increase of 5.8% (+/- 0.5%) if a PLA were to be implemented. A key comment, representing the feeling of general contractors in the region is that a PLA would add cost and create less certainty of performance for a project such as Byron Rogers.

Based on the Rider Levett Bucknall analysis contained within this report and given the current poor economic climate in the US - for *a well compiled PLA* on the Byron Rogers Federal Building and Courthouse, the GSA may be disadvantaged by a PLA and that a PLA is likely to not "advance the federal Government's interest in achieving economy and efficiency in federal procurement".

Phase 3 Projects

11. Newark NJ, Peter Rodino Federal Building

Overview

The Peter W. Rodino Federal Office Building is located at 970 Broad Street in Newark, New Jersey. Originally constructed in 1968, this sixteen-story, 467,000 sf office building is being renovated under the American Reinvestment and Recovery Act as part its High Performance / Green Building Program. The estimated construction cost is \$142,038,000.⁵⁰

The project will include partial renovation on seven previouslyimproved floors and full renovation of the remaining nine floors. The interior work will include modernization of fire protection, fire alarm, mechanical, electrical, lighting, plumbing and structural systems to support the tenant improvements and improve overall energy efficiency. The exterior work will include improvements to



the roof and façade, including addition of a prominent new glass curtainwall.

The USAO (Department of Justice) and CIS (Department of Homeland Security) occupy a majority of the building's space. Other tenants include ICE, SSA, EOIR and GSA.

The building will remain occupied throughout the construction period, with an anticipated duration of approximately 4½ years. Construction is scheduled to commence in June 2010 and complete in December 2014.⁵¹

In compiling this report, the following organizations were contacted:

- Associated General Contractors of New Jersey
- Associated Builders and Contractors Inc.of New Jersey
- Building Contractors Association of New Jersey
- New Jersey State Building & Construction Trades Council
- Essex County Building & Construction Trades Council
- Five large general contractors
- Two major subcontractors
- UA Local 9 Plumbers, Pipefitters & HVAC/R Service Technicians
- New Jersey Regional Council of Carpenters
- Local 25 Sheet Metal Workers International Association
- International Brotherhood of Electrical Workers Local Union 164
- Bricklayers and Allied Craftworkers Local 5 New Jersey

⁵⁰ GSA RFQ Letter, 4 December 2009

⁵¹ GSA, Description of Work for Bridging Design-Build (BDB) Solicitation, Bridging / Design/Build Renovations, Peter W. Rodino Federal Building, pp 5-6.

Local Labor Market Characteristics

Historically, the prevalence of unionization in New Jersey has fallen slightly since 2000, following a similar national trend.⁵² While consistently higher than the United States average, the prevalence of unionization in New Jersey reached a peak in 2005 at 20.5%, and has dropped since then to a figure of 18.3% in 2008.⁵³



Compared to the statewide overall average of 18.3%, 2008 unionization of the New Jersey *public* sector is very high at 62.1% of the workforce. The private workforce is far less unionized at only 10.3%. However, within the private sector, *private construction* is significantly more unionized. In 2008, private construction employees in New Jersey registered as union members represented 22.8% of the workforce.⁵⁴

Within the New York-Newark-Bridgeport region, unionization in 2008 was even more prevalent that the New Jersey statewide figures. Union employees constituted 69.8% of the public workforce and 14.7% of the private workforce. Within private construction, 27.8% of the employees in the New York-Newark-Bridgeport region were registered union members.⁵⁵

⁵² www.bls.gov Union affiliation data from the Current Population Survey, (unadj) – Percent of employed, Members of unions, Data extracted on: December 28, 2009
⁵³ Ibid

⁵³ Ibid.

⁵⁴ <u>www.unionstats.com</u> Data Sources: Current Population Survey (CPS) Outgoing Rotation Group (ORG) Earnings Files, 2008. Sample includes employed wage and salary workers, ages 16 and over.

⁵⁵ Ibid.



Interviewees consistently noted that New Jersey has a very strong organized labor presence, with almost all public construction performed by union labor. For private projects, interviewees suggested that while there are occasional non-union projects, union labor still performs an overwhelming majority of the work.

In the period between 1997 and 2002, New Jersey experienced significant growth in the construction industry. While overall employment in the State of New Jersey increased 8.68% between 1997 and 2002, employment within the construction industry rose by 46.64%, creating 66,993 new construction jobs and 1,511 new construction establishments in five years.⁵⁶

Through 2009, Newark has been hit especially hard by the struggling economy. The unemployment rate in New Jersey has followed the national unemployment rate and trend very closely over the past year, especially in the last half of 2009. However, unemployment in the city of Newark has been much worse than both the national and statewide rates, reaching a peak 15% in September 2009.⁵⁷

⁵⁶ Construction Industry at a Glance, <u>http://opencontracting.com/states/index.cfm?page=35</u>

⁵⁷ "U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics, http://www.bls.gov/lau/



While New Jersey's overall unemployment figures are lower than the national average, employment in New Jersey's construction sector continues to decline. From November 2008 to November 2009, New Jersey's construction industry lost 21,500 jobs, a 13% reduction.⁵⁸

Prior Use of Project Labor Agreements

Project Labor Agreements are very prevalent in New Jersey. In 2006, New Jersey law was amended to allow the use of PLAs on all construction projects covered by prevailing wage laws. Significant projects either completed or ongoing in New Jersey using a PLA include the following:⁵⁹

- New Giants Stadium, East Rutherford
- Hudson-Bergen Light Rail System
- Essex County Correctional Facility, Newark
- Prudential Center, Newark
- Continental Airlines Global Gateway Project, Newark
- Goldman Sachs Office and Hotel, Jersey City
- Bristol Myers Squibb offices, New Brunswick
- Red Oak Power Plant, Sayerville
- Waterfront Park, Trenton

On July 18, 2000, the New Jersey Educational Facilities Construction and Financing Act was signed into Law. It provides for full funding by the state of all school construction and renovations in 31 special needs districts, known as the Abbott School Districts (now known as

⁵⁸ Associated General Contractors of America, *"Construction Employment Declines in 324 Out of 337 Cities as Construction Spending Hits 6-year Low, New November Data Shows,"* January 4, 2010, <u>www.agc.org</u>

⁵⁹ Bovis Lend Lease, "Project Labor Agreement (PLA) Feasibility Report, General Service Administration Peter W. Rodino Federal Office Building," December 15, 2009.

SDA Districts). In addition, funding was provided for the state share of eligible construction costs on projects in other districts.⁶⁰

On January 17, 2002, New Jersey Executive Order 1 was signed, which provides that on a project-by-project basis, a state department, authority, or instrumentality shall include a PLA in a public works project where it has been determined that the agreement advances the state's interests of cost efficiency, quality, safety, timeliness, skilled labor force, labor stability, and the state's policy to advance minority and women-owned businesses. On July 30, 2002, New Jersey legislation A1926 was signed authorizing the use of Project Labor Agreements on major public works projects.⁶¹

Davis-Bacon Prevailing Wage Rates and Current Union Rates

Selected local union wage rates and fringes are compared with Essex County Davis-Bacon prevailing wage rates below:

			Union Pata		Pre	vailing Wage R	late
Trade	Union / Contact		Union Rate		gpo.gov/d	avisbacon/alls	tates.html
		Base	Fringe	Total	Base	Fringe	Total
Pipefitters (incl HVAC)	UA Local 9 Plumbers, Pipefitters & HVAC/R Service Technicians	\$43.53	\$27.90	\$71.43	\$48.43	\$23.77	\$72.20
Carpenters	NJ Regional Council of Carpenters	\$39.54	\$20.26	\$59.80	\$39.45	\$39.45 \$19.63	
Sheet Metal Workers	Local 25 Sheet Metal Workers International Association	\$37.90	\$33.52	\$71.42	\$41.69	\$29.13	\$70.82
Electricians	IBEW Local Union 164	\$48.83	\$26.12	\$74.95	\$47.37	\$25.58	\$72.95
Bricklayers	Bricklayers and Allied Craftworkers Local 5 New Jersey	\$36.70	\$24.87	\$61.57	\$36.70	\$23.47	\$60.17

In summary, the rates quoted by local unions in Newark are relatively consistent with the Davis-Bacon rates for Essex County. The unions provided slightly higher rates (1% - 3%) in almost every category sampled. For the limited sample of building trades explored in this survey, union rates averaged 1.2% higher than prevailing Davis-Bacon rates.

 ⁶⁰ State of New Jersey Schools Development Authority, <u>http://njsda.net/Business/PLA/index.html</u>
 ⁶¹ Ibid.

Effect on Construction Costs Derived from Local Research

Strikes

From data recorded by the Federal Mediation and Conciliatory Service, New Jersey has seen 29 strikes since 1990, 11 of which occurred after 2001. The most prevalent strikes in New Jersey were in 2005, when 1,400 electricians under an IBEW System Council stopped work for 98 days, and in a separate strike when 1,000 elevator constructors under IUEC-Local 1 stopped work for 102 days. One relatively small strike impacted 2009 (see Appendix E). The average strike duration from 1990 through 2009 was 61 days, and the corresponding average from 2001 through 2009 was 38 days.

Interviewees noted that strikes are very rare for public projects, but occasional for private projects. While most interviewees suggested that PLAs are a very successful tool in preventing strikes, another noted that strikes will likely not be a problem in this economy.

Referencing the matrix below, this project has a moderate potential for strike, compared to other cities. The factors contributing to a higher chance for strike are the high value and long duration of the project, combined with an urban location and high regional unionization. While strikes are rare, they are very disruptive.

The possibility of a strike was assigned a 10% to 15% chance without a PLA, and a lower 5% to 10% chance with a PLA. For the purposes of this analysis, the assumed duration of a potential strike was based on the average historic strike duration, between 40 and 59 days.

82

New Jersey Labor Strife Matrix

Likelihood of Labor Strike - NEW	JARK	Risk of strife			
	Issue	Low = 1	Medium = 2	High = 3	Score
	Isolated project locations generally dictate that				
	workers are relocated for a particular project.		Medium sized city with adequate	:	
Project location/ city	Historically, labor strife has been lower in these less	Isolated location with limited	local workforce. Some out of town	Large city with a strong construction	Ċ
population	populated areas.	options for alternative work.	sub-contractors/workers required.	workforce	γ
	sate projects have been shown to have lower	Concise safety management plan			
	worker disruption. A clear safety management plan,	which is followed through. Focus on	Adequate safety plan and follow up.	Manage ment team with poor safety	
Project safety	worker induction and training, good lay down areas	safety.	Minor safety issues.	record, and project safety issues arise.	1
	Reports have shown that poor organization (also	Well organized, efficient			
	linked to safety) can increase absenteeism, increase	experienced/capable contractor.		Poorly organized project site. Limited	
	tumover and affect schedule. This can lead to	Top management team following	Acceptable organization but not best	laydown and poor access. Poor worker	
Project organization	disruptive action in response.	best practice.	practice.	accomodation/facilities.	1
	Large projects are more likely to warrant more				
	attention from unions and more worker organization				
	can lead to action. Smaller projects statistically are				
	less likely to have active strong advocates promoting				
Project size	labor strife.	Small project <\$50 mil	Medium project \$50-\$150mil	Large project >\$150 mil	3
	Compressed schedules can create overtime				
	requirements, night/weekend work, safety issues,				
	limited laydown/access and possibly increased				
	worker density. Tight schedules may be more prone	Reasonable schedule - low	Reasonable schedule - medium	Compressed/crash schedule - difficult	
Project schedule	to worker strife.	complexity project	difficulty project	project	2
	Long duration projects are potentially subject to				
	union renegotiations. The longer the project, the				
Project duration	more renegotiations which represent a	Up to 15 months	15 months - 24 months	Over 24 months construction	ю
		Low = 1	Medium = 5	High = 9	
	Higher unionized locations are more likely to have				
Union prevalence	higher worker strife.	Low unionism 0- 10%	Medium unionism 10-20%	High unionism >20%	3
	In buoyant times, worker strife is more likely, as				
	workers may be able to move to other projects and				
	the ability for owners to meet higher pay demands				
	is higher. In tougher times, there may be no				
	alternative job and pay increases are less able to be				
Economic conditions	met.	Poor/low economic times	Stable economic times	Buoyant economic times	1
				Total	17

Phase 3 Projects

83

Labor Supply

New Jersey's construction trades are highly unionized, and the state has experienced significant growth over the past few decades, leading to a large pool of qualified construction labor. Interviewees noted that finding an adequate supply of qualified labor has not been a problem in the state, and that qualified labor, both merit shop and union, is abundant in today's market. One interviewee noted that New Jersey is currently facing 50% unemployment among construction trades workers. Another interviewee stated that while labor supply is not an issue now, that could change quickly and a PLA could stabilize the supply of qualified labor. This is especially relevant given the planned 4½ year construction duration on this project.

If labor supply issues occur, this report estimates they will have a 1% to 2% incremental cost impact on the project. We estimate the probability of this occurring at 0% to 5% under a PLA, and at 5% to 10% without a PLA.

Intertrade Jurisdictions

Interviewees noted consistently that jurisdictional conflicts are occasional in New Jersey. However, their responses regarding the effectiveness of a PLA in addressing jurisdictional conflicts was inconsistent. While some interviewees said that that PLA's successfully prevent conflicts, most of them felt that a PLA would not successfully address these problems.

One interviewee noted that the number of potential overlaps or interpretations in collective bargaining agreements makes it difficult to identify conflicts prior to project execution. Another recognized that jurisdictional disputes have increased over the last decade, and noted that a PLA can provide a grievance procedure to determine work assignment without impacting the ability of the job to stay on schedule.

However, under current economic conditions, subcontractors increasingly compete for ancillary work, increasing the possibility of disputes or jurisdictional conflicts which lead to strikes. In an environment of scarce work, each union will attempt to secure the largest possible scope of work for its members, becoming more competitive for the 'gray areas' where multiple trades are capable of performing work. Under this scenario, the project is at greater risk of strike.

A successful PLA must include very clear language regarding jurisdiction and disputes. Interviewees noted that projects would benefit from having a PLA negotiated with consistent and universal provisions for all trades, such as starting times, overtime, shift differentials, substance abuse policies, no-strike clauses or other work-related conditions.

If jurisdictional disputes issues occur, this report estimates they will have a 2% to 4% incremental cost impact on the project. We estimate the probability of this occurring at 30% to 40% under a PLA, and at 50% to 60% without a PLA.

Wage Rate Stability

As it relates to stability of wage rates, a PLA can clearly be a great benefit to the owner. Without a PLA, contractors and subcontractors are faced with the requirement to provide a hard cost up front without the benefit of pre-determined wage rates. Accordingly, they will make assumptions regarding trade labor cost escalation over the multi-year construction period, and they will usually be very conservative in their estimates, resulting in higher cost to the owner.

The PLA essentially neutralizes the risk of wage instability from the general contractor's standpoint, allowing him to significantly reduce his contingencies and present lower overall costs to the owner.

Further, while the PLA can provide cost certainty by explicitly defining wage rates for various trades over the entire term of the agreement, many PLAs only make reference to Davis-Bacon, or union wage structures. For a PLA to be most effective, the annual increment must be cited clearly in the PLA contract – either indexed to the CPI (or other economic index), or as a set figure. Regardless, the incremental change should be consistent across all trades. While unions may have their own 'in-house' annual increments, inclusion of multiple increments (e.g. electricians get a 3.5% increase, but carpenters only get 2%) may create intertrade friction, conflict, and even strike.

Wage rate stability is particularly important for this project given its long duration. With a planned 4½ year construction schedule, the owner is exposed to significant risk of wage and cost growth over time.

If wage rate stability issues occur, this report estimates they will have a 2% to 3% incremental cost impact on the project. We estimate the probability of this occurring at 0% to 20% under a PLA, and at 60% to 70% without a PLA.

Labor Cost

As noted above, the rates quoted by local unions in Newark are relatively consistent with the Davis-Bacon rates for Essex County, with the unions providing slightly higher rates (1% to 3% higher) in almost every category sampled. For the limited sample of building trades explored in this survey, the union rates averaged 1.2% higher than local prevailing Davis-Bacon rates.

While this difference is relatively small, it does not represent the actual difference an owner would pay to construct the project using union or non-union labor. The project will involve more building trades than included in this sample, there may be a mix of union and non-union labor, there may be variances in the quoted union rates, and the Davis-Bacon rates may be adjusted periodically to reflect current trends.

A PLA does not require exclusive union participation, but unions are typically involved as the local collective bargaining representatives. The wage and fringe rates established by the unions are typically the starting point for rates on the project, and are highly influential on the final agreed rates. Thus, under a PLA on this project, the marginally higher union rates would likely lead to higher overall labor cost.

Owners may realize significantly higher productivity by requiring multiple shifts to achieve the project schedule under a PLA. By defining various shifts and work hours for the project up front in the PLA, owners can realize increased productivity, and sometimes accelerated schedules, without paying markedly increased rates.

In Newark, under the current economic conditions, there is a chance that unions may be receptive to accepting owner-defined rules regarding shifts, work hours, and overtime without demanding premium compensation. While non-union labor would almost always consider this option, union subcontractors may also be receptive to this approach as a condition of the PLA.

Further, if the facility is required to maintain ongoing operations throughout the construction period, as stated in the project documents,⁶² shift work may be a valuable tool for the owner to allow the construction to proceed while minimizing operational disruption. For instance, the owner could require that the contractor schedule particularly disruptive work outside standard business hours.

For the purposes of this report, we estimate that the higher union wages will have a 2% incremental cost impact on the project under a PLA. However, if the unions are willing to accept redefined shifts and work hours favorable to the project under a PLA, this would negate the incremental cost and result in a savings, or net incremental impact of (5%). However, given the prevalence of standardized union rules in Newark, we assign this only a 10% probability.

PLA Related Bidding Effect

The size of the project will require a large general contractor experienced in high-value public sector projects to oversee and coordinate the work. These contractors are generally familiar with the requirements of PLAs. Due to the relative competition between contractors in the current economy, the contractors are unlikely to increase their general conditions relative to prevailing wage projects. Thus, the difference between a PLA and a non-PLA project is negligible from a general conditions standpoint.

Differing views exist regarding the potential cost impacts of using PLAs on construction projects. The Associated Builders and Contractors (ABC), which represents merit-shop (non-union) construction, states that the use of PLAs removes an important component of competitive bidding, which is for *"competing contractors to develop creative ways to streamline staffing and eliminate the 'bloat' of overstaffing and cumbersome craft work rules and requirements."*⁶³ The ABC has also lobbied for high dollar thresholds to be placed for subcontract values within a PLA project, to allow smaller or minority contractors to provide contract services without being signatory to the PLA.

By contrast, union organizations take a view that "the total package of wages and benefits is supposed to be the same for all contractors, union or not, on public works, and given the generally higher level of training and productivity in the unionized workforce, the PLAs requirements, far from being a disadvantage, would seem to present some actual advantages to non-union contractors."⁶⁴ However, PLAs typically require that all contractors, union or non-union, abide by to the terms of union agreements and to utilize union referral systems for some of the hiring.

Given the high prevalence of union based construction in Newark, we believe there will be both sufficient bidding competition on these large projects, and that a PLA agreement could facilitate the execution of what would likely be a unionized construction project. Further, the PLA could provide the opportunity to negotiate specific work hours and shifts in response to project-specific needs. However, a PLA will inevitably result in a smaller pool of bidders at the subcontractor level, which could potentially increase the base cost of the project.

86

⁶² GSA, Description of Work for Bridging Design-Build (BDB) Solicitation, Bridging / Design/Build Renovations, Peter W. Rodino Federal Building, p6.

⁶³ <u>http://www.agc-ca.org/member.aspx?id=1110</u>

⁶⁴ http://www.sfbuildingtradescouncil.org/content/view/288/32/

This report estimates that the PLA-related bidding effect will result in an incremental cost of 1% to 3% on the project (at 100% probability). Without a PLA, there is no effect.

PLA Cost Impact Analysis

The following tables aggregate the six factors discussed above (strikes, labor supply issues, intertrade jurisdictions, wage rate stability, labor cost and PLA-related bidding effect) in an optimistic and conservative scenario. The weight of each factor is driven by an estimated impact on project cost, along with an assigned probability that it will occur.

Table 13 below represents an optimistic scenario, and suggests that **a PLA project would present less risk of increased cost** at 0.5%, compared to a non-PLA project, in which the same factors may increase costs by 1.0%. Given the nature of this analysis we suggest an error range for this figure of +/- 0.5%.

NEWARK	PROJECT CC	ST	\$	142,038,000				
LOW RANGE/OPTIMISTIC EFFECTS	LABOR COS	T (35%)	\$	49,713,300				
				1644	Project Duration/0	Cal. Da	ys	
			\$	86,398	Project Cost/Cal. c	lay		
WITHOUT A PLA								
	Days/%	Cost/day	Со	st if occur	Probability	Cos	st	%
Strikes (72.5% project cost for duration)	40	\$ 62,638	\$	2,505,536	10%	\$	250,554	
Labor Issues (supply)	%	1%	\$	497,133	5%	\$	24,857	
Intertrade jurisdictions	%	2%	\$	994,266	50%	\$	497,133	
Wage Rate Stability	%	2%	\$	994,266	60%	\$	596,560	
Labor Cost	%	0%			0%	\$	-	
PLA related bidding effect	%	1%			0%	\$	-	
						\$	1,369,103	1.0%
WITH A PLA								
	Days/%	Cost/day	Со	st if occur	Probability	Cos	st	
Strikes (72.5% additional cost for duration)	40	\$ 62,638	\$	2,505,536	5%	\$	125,277	
Labor Issues (supply)	%	1%			0%	\$	-	
Intertrade jurisdictions	%	2%	\$	994,266	30%	\$	298,280	
Wage Rate Stability	%	2%			0%	\$	-	
Labor Cost	%	-5%	\$	(2,485,665)	10%	\$	(248,567)	
PLA related bidding effect	%	1%	\$	497,133	100%	\$	497,133	
						Ś	672.123	0.5%

Table 13 – Newark Low Range Project Cost Risks

It is important to note that some of these are not true dollar costs, but potential cost impacts which may be minimized under a carefully crafted PLA contract. **IF** a PLA is utilized, care in crafting and confirming a PLA needs to be taken, as detailed in the summary below. Although unlikely, it is possible that the PLA labor cost premium suggested above may be reduced if jurisdictional boundaries and work rules are addressed in detail to benefit the GSA.

87

Table 14 below represents a more conservative scenario, and suggests that **a PLA project would present more risk of increased cost** at 2.8%, compared to a non-PLA project, in which the same factors may increase costs by 2.0%. Given the nature of this analysis we suggest an error range for this figure of +/- 0.5%.

NEWARK	PROJECT COST		\$	142,038,000				
HIGH RANGE/CONSERVATIVE EFFECTS	LABOR COST (3	35%)	\$	49,713,300				
				1644	Project Duration/Cal. I	Days		
			\$	86,398	Project Cost/Cal. day			
WITHOUT A PLA								
	Days/%	Cost/day	C	Cost if occur	Probability		Cost	%
Strikes (72.5% additional cost for duration)	59	\$ 62,638	\$	3,695,666	15%	\$	554,350	
Labor Issues (supply)	%	2%	\$	994,266	10%	\$	99,427	
Intertrade jurisdictions	%	4%	\$	1,988,532	60%	\$	1,193,119	
Wage Rate Stability	%	3%	\$	1,491,399	70%	\$	1,043,979	
Labor Cost	%	0%			0%	\$	-	
PLA related bidding effect	%	3%			0%	\$		
						\$	2,890,875	2.0%
WITH A PLA								
	Days/%	Cost/day	C	Cost if occur	Probability		Cost	
Strikes (72.5% additional cost for duration)	59	\$ 62,638	\$	3,695,666	10%	\$	369,567	
Labor Issues (supply)	%	2%	\$	994,266	5%	\$	49,713	
Intertrade jurisdictions	%	4%	\$	1,988,532	40%	\$	795,413	
Wage Rate Stability	%	3%	\$	1,491,399	20%	\$	298,280	
Labor Cost	%	2%	\$	994,266	100%	\$	994,266	
PLA related bidding effect	%	3%	\$	1,491,399	100%	\$	1,491,399	
						\$	3,998,638	2.8%

Table 14 – Newark High Range Project Cost Risks

Summary

In Newark, Rider Levett Bucknall finds that while there is no cost premium associated with the use of a Project Labor Agreement, the advantage of using a PLA for the Peter W. Rodino Federal Office Building Renovation project is negligible.

The opportunities and challenges are outlined below.

Assuming a PLA could be implemented, it would present the following opportunities:

- Reduced risk of strike under a PLA, assuming that the signatory parties abide by the no strike clauses (this has been an issue in other strongly unionized cities). While strikes are infrequent, they can be very disruptive.
- A marginally more steady supply of qualified labor, although this is not seen as a significant issue in current economic conditions.
- Reduced risk of disruptions related to intertrade jurisdiction.
- Pre-determined wage rates over the term of the construction period. This issue carries major significance due to the planned 4½ year construction duration.
- Although very unlikely, the potential to define various shifts and work hours for the project in order to enhance productivity and accelerate the project schedule with minimal incremental cost.

However, using a PLA would also present the following challenges:

- Marginally higher labor cost, due to the slightly higher union wage and fringe rates, as compared to the local Davis-Bacon rates.
- Higher cost due to the limited competition created by use of the PLA.

Based on this cost impact analysis, Rider Levett Bucknall's optimistic analysis has 1.0% cost risk for a non-PLA project and 0.5% for a PLA project. Our conservative analysis yields 2.0% for a non-PLA project and 2.8% for a PLA project.

The average of these is 1.5% non-PLA and 1.6% with a PLA. This average suggests a PLA would be relatively cost neutral. However, we believe that negotiations between the unions and GSA to facilitate shift labor at minimal cost premium to the GSA will have a relatively low probability of success. Thus, Newark will tend toward the conservative range, in which a PLA will likely result in a cost premium of 0.8% (+/-0.5%), as compared to a project without a PLA.

If a PLA is pursued, Rider Levett Bucknall recommends holding discussions with the unions regarding work hours and shifts, with the goal of expediting the project schedule and thereby reducing cost. Further, we note that a PLA is a contract which is able to be modified and as such must be legal and well compiled, and must adequately address potential cost factors such as ensuring a no-strike clause, detailing consistent work hours and detailing reasonable overtime rates. Finally, hourly wage rates and annual increments must be clearly defined within the PLA. If a PLA can be drafted and executed that offers concessions from local union CBAs, there could be savings to the GSA.

Finally, we recommend that the GSA table any framework PLA within bid solicitations, that the selected general contractor (GC) be heavily involved in finalizing and compiling the PLA, and that the GC be signatory to the final executed PLA. The GC is the prime party contractually managing the stipulations dictated by the PLA, and their involvement should ensure that any potential issues are resolved, maximizing benefits to the GSA prior to final execution of the PLA.

Based on the Rider Levett Bucknall analysis contained within this report and given the current poor economic climate in the US - for a well compiled PLA on the Peter W. Rodino Building, New Jersey, the GSA may be disadvantaged by a PLA and that a PLA is likely to not *"advance the federal Government's interest in achieving economy and efficiency in federal procurement"*.

89

12. Washington DC, 1800 F Street (GSA HQ)

Overview



GSA intends to award a firm-fixed price contract for all construction services necessary for the Modernization of the GSA Headquarters Building located at 1800 F Street, NW in Washington, D.C. The GSA Headquarters structure, first constructed in 1917 and updated in 1935, presently covers approximately 665,000 gross square feet (GSF). The five year modernization will be phased into two overlapping parts. One part of the facility will remain occupied while the other is updated. The modernization includes the demolition and replacement of the building systems including the

HVAC, electrical, plumbing, communication, and the fire and life safety systems.

The estimated construction cost range is \$200,000,000 to \$250,000,000. At time of writing (January 2010) a bid protest on the Lafayette Building (discussed below in Section 13) affected the interviews for the Washington DC area and responses/replies were not as forthcoming as some other cities. However, in conducting research on PLAs, the following organizations were contacted:

- One large mechanical subcontractor
- One large electrical subcontractor
- Three large general contractors
- One large concrete subcontractor
- Wage data from local unions

Local Labor Market Characteristics

As at Nov 2009 for Washington DC was estimated to have 7.9% of its construction labor force covered by collective bargaining agreements (CBAs), which is around half the US construction percentage of 15.1%. 14.3% of all Washington DC workers are under CBAs, which is similar to the US average of 13.6%.⁶⁵

Maryland features strongly in the Washington DC economy and construction market, with the Baltimore-Washington Metropolitan Area cited as cited as "the most educated, highest-income, and fourth largest Combined Statistical Area in the US". Maryland has tracked the US construction unionism trends over the last 8 years and current estimates of 14.2% are just below the US value of 15.1%. For comparison, 2009 data sourced for Washington DC has 288,000 workers, while Maryland is ten times this size at 2,600,000. The actual *number* of construction workers covered by these agreements is estimated at 746 in DC, but 26,053 in Maryland. Given this very low actual number in DC we see the regional influence of Maryland as more of a factor for construction in Washington DC.

⁶⁵ www.unionstats.com



Historic PLAs in Washington DC area were the Washington Nationals Stadium - constructed between 2006 and 2008 and the intention was to use a PLA on the Woodrow Wilson Bridge; but on 7 December, 2001 the Federal Highway Administration (FHWA) rejected the Maryland Department of Transportation's (MDoT) request for a PLA. This MDoT decision was separate to the federal Executive Order 13202 issued on 17 February 2001 which rejected PLAs for federal projects, thereby overturning the prior mandate to use PLAs. The bridge was staged procurement and the main Phase 3 package came in at \$860mil, some \$360mil above the \$500mil estimate. The fact a PLA was proposed likely contributed to some large subcontractors no not bid, and the large scale of the project, timing of the original bid, price of steel and cement, specialist techniques and extremely busy construction market in 2006 would also have contributed to this large increase. Breaking this down into 3 smaller packages (not under a PLA) resulted in schedule delays for review and re-bid, but resulted in total bids at \$493mil, just within the upper limit of earlier engineers estimates.⁶⁶ The Wilson Woodrow bridge procurement process also straddled the timing of two important court decisions, the first in Richmond, CA where on Nov 29, 2001 the District Court ruled George W Bush's Executive Order be barred from enforcement (i.e. that PLAs could still be mandated). This was overturned by the court of appeals in DC on July 12, 2002 thereby confirming the legality that Executive Order 13202 and that PLAs could not be mandated.

General Contractors in Washington DC are predominantly open shop, non-union signatories. The General Contractors interviewed, noted that the 'finishing trades' – drywall, painting,

⁶⁶ www.capitalbeltway.com and www.enr.com

glazing, masonry, tiling have low union representation in DC and given the predominance of these trades in the 1800 F street refurbishment, this raised a concern regarding the use of local contractors and also the cost impact that would be seen under a PLA.



Since 2005, the number of housing building permits has dropped dramatically from just under 3,000 to 1,000. Conversely, commercial construction permits saw a peak in 2007 but dropped in 2008. The workers related to this construction downturn are available to carry out the work on the GSA funded projects and there is likely to be plentiful skilled and unskilled construction labor in Washington DC for the short term.

Davis-Bacon Prevailing Wage Rates and Current Union Rates

Trade	Union	Union Rate	Prevailing Wage Rate
Pipefitters (incl HVAC)	Steamfitters Local 602	36.87+ 15.60 =\$52.47 *	36.87+15.47= \$52.34 *
Carpenters	Carpenters Local 132	26.38+7.06 =\$33.44	26.38+7.00= \$33.38
Sheet Metal Workers	S/M Worker's Local 100	n/a	33.19+12.76= \$45.95
Electricians	IBEW Local 26	37.60+12.39 =\$49.99 *	37.60+12.28= \$49.88 *
Bricklayers	Bricklayers & Allied Local 1	n/a	26.31+7.11= \$33.42

92

* = plus ten paid holidays per annum

Phase 3 Projects

Effect on Construction Costs Derived from Local Research

Strikes

From FMCS data, strikes in Washington DC construction have not occurred since 1984. Only four utility related strikes in this period with a relatively large number of workers (6,994) and totaled 79,298 worker days at an average of 11 days duration.

Feedback from interviewees is that strikes are extremely unlikely in Washington DC. Given the strong non-union prevalence on construction in the state, we have assigned 5% to 10% probabilities to strike in DC - this may even be overstated.

In the subsequent strife matrix table we have assigned a score of 3 (out of a maximum of 9) for Item 7 on unionism to account for the fact that construction in DC is influenced by both the low unionism in DC itself at 8%, but also the higher rate in Maryland at 15%.

Interviewees could not recall any strikes in the last ten years, with only minor informational pickets gaining mention.

The score of 17 out of a maximum of 36 reflects a low likelihood of work stoppage/labor strife.

Labor Supply

Labor supply is seen as more of a risk for union only projects, particularly given the relatively high value of projects in DC, and the low unionism in DC and Maryland. Most interviewees noted that there are very good resources for both union and non-union firms but were concerned with the likely reduced labor pool for a 'union driven' PLA.

Any action involving ALL of the Washington DC projects is likely to compound any labor supply issues if PLAs are mandated on multiple, high value projects and this will need to draw on out of town union affiliated labor. Reports on the Washington Nationals Stadium⁶⁷ were that local hiring targets were not met and union halls struggled to provide the required skilled local residents. In this stadium PLA, the fallback if a local resident could not be appointed was for union travelers, rather than a qualified local non-union tradesman to be called up.

All 16 divisions are likely to feature on the GSA HQ project however specialty systems and specialist glazing and stonework will require highly skilled workers installing high performance products.

There is adequate local merit shop labor for this project, and most large projects in Washington DC have been carried out non union.

93

We have assigned a 2% labor supply cost to both PLA and non-PLA projects. Non-PLA projects have a 20-40% probability, with PLA projects higher at 50%.

⁶⁷ www.washingtoncitypaper.com Sept 12, 2007

Phase 3 Projects

94

Washington DC Labor Strife Matrix

LABOR STRIFE - WASHI	INGTON DC	Risk of strife			
	Issue	1 = TOM = 1	Medium = 2	High = 3	Score
	lsolated project locations generally dictate that workers are relocated for a particular project.		Medium sized city with adequate		
Project location/ city	Historically, labor strife has been lower in these less	Isolated location with limited	local workforce. Some out of town	Large city with a strong construction	d
1 population	populated areas.	options for alternative work.	sub-contractors/workers required.	workforce	ε
	Safe projects have been shown to have lower	Concise safety management plan			
	worker disruption. A clear safety management plan,	which is followed through. Focus on	Adequate safety plan and follow up.	Management team with poor safety	
2 Project safety	worker induction and training, good lay down areas	safety.	Minor safety issues.	record, and project safety issues arise.	1
	Reports have shown that poor organization (also	Well organized, efficient			
	linked to safety) can increase absenteeism, increase	experienced/capable contractor.		Poorly organized project site. Limited	
	turnover and affect schedule. This can lead to	Top management team following	Acceptable organization but not best	laydown and poor access. Poor worker	
3 Project organization	disruptive action in response.	best practice.	practice.	accomodation/facilities.	1
	Large projects are more likely to warrant more				
	attention from unions and more worker organization				
	can lead to action. Smaller projects statistically are				
	less likely to have active strong advocates promoting				
4 Project size	labor strife.	Small project <\$50 mil	Medium project \$50-\$150mil	Large project >\$150 mil	2
	Compressed schedules can create overtime				
	requirements, night/weekend work, safety issues,				
	limited laydown/access and possibly increased			Compressed/crash schedule - difficult	
	worker density. Tight schedules may be more prone	Reasonable schedule - low	Reasonable schedule - medium	project. Note: staged project with limited	
5 Project schedule	to worker strife.	complexity project	difficulty project	laydown likely	ю
	Long duration projects are potentially subject to				
	union renegotiations. The longer the project, the				
6 Project duration	more renegotiations which represent a	Up to 15 months	15 months - 24 months	Over 24 months construction	m
		Low = 1	Medium = 5	High = 9	
	Higher unionized locations are more likely to have				
7 Union prevalence	higher worker strife.	Low unionism 0-10%	Medium unionism 10-20%	High unionism >20%	3
	In buoyant times, worker strife is more likely, as				
	workers may be able to move to other projects and				
	the ability for owners to meet higher pay demands				
	is higher. In tougher times, there may be no				
	alternative job and pay increases are less able to be				
8 Economic conditions	met.	Poor/low economic times	Stable economic times	Buoyant economic times	1
				Max score = 36	17

Intertrade Jurisdictions

Respondees saw that non-union projects had a very low cost impact due to intertrade jurisdictions, as the tradesmen simply carry out the work sub-contracted to them. For non-PLA projects we have therefore assigned 1% to 2% labor cost premium, but with a low probability of 20%. Interviewees noted mixed projects were normally 'harmonious' and intertrade boundaries well established with only minor issues ever occurring.

For PLA projects, this 1% to 2% cost premium is given a higher, 30% to 50% likelihood.

Wage Rate Stability

As discussed in other areas, wage rates increments appear unclear in a PLA scenario as the annual increments are not always set, or refer to the prevailing Davis-Bacon wages for which the source data is the simply the local union.

Non-PLA projects may still have a minor risk of wage rate instability, particularly if there is some union presence on projects – which is possible given the history of 'mixed' projects in DC. Therefore we have assigned 1% to 2% cost risk potential, with a 20% likelihood.

PLA projects are assigned 2% cost, with a higher potential, at 50%.

Labor Cost

In the comparative table above, the Davis-Bacon, versus union rates are predominantly the same with union only slightly higher due to some dues which are not carried through to the D-B rates.

Interviewees also felt that the true dollar cost per hour was generally the same, but noted that the real cost effects would be felt in productivity rates and work rules affecting continuity of work and real output per crew. As in other areas, no hard data was able to be sourced regarding the overall labor cost effect of a PLA versus non-PLA project.

One interviewee from a large nationwide general contractor summarized the Washington DC construction market:

In the Washington/Baltimore area, the non-union workforce should not be excluded from the project because of its prominence in the marketplace. To do so eliminates competition from the bidding, excludes the majority of the skilled/productive craftsmen in certain trades and a growing percentage in others. The unions will tout that the non-union/open shop contractors are not excluded from PLA's because of certain inclusive language. In reality, non-union/open shop firms avoid PLA projects out of fear that their workforce will be unionized while working on the project leaving them non-competitive from a pricing perspective on future projects. The majority of small and minority owned construction businesses are non-union. The presence of a PLA creates a situation where the contracting opportunities for these firms are reduced because of the concerns involving unionization of their workforce. The single project PLA language does not ease the concerns of non-union contractors regarding the lasting impacts of the PLA to their businesses. Local workforce involvement, training, and apprenticeship: the PLA restricts the breadth of the opportunity for the local workforce. Unions can only operate within their own restrictive apprenticeship programs. Non-union firms do not have internal restrictions and can be more flexible to accommodate local hiring, training and apprenticeship goals. These have been our observations while administering numerous projects in the Washington/Baltimore marketplace.

PLA Related Bidding Effect

This was raised as the biggest concern in Washington DC. With around 90% of the Washington DC construction market non-union, the effect of the reduced sub-contractor pool is likely to increase bid costs. Estimates were that a *project cost increase* of 10-20% may be likely (incorporating both the bid effect and labor cost) although interviewees noted that much of this was anecdotal as there is little hard data on the subject.

The sentiment from open shop contractors was that PLAs tend to favor union contractors and are "not fair to the American way of competition" while also "taking funds aimed for the local economy and moving them elsewhere".

We have assigned a 7% to 10% cost increase with 50% to 60% probability for the increased cost due to less competitive bidding under a PLA.

Other Factors

Union Pension Funding Risk – A non-union general contractor interviewed, brought to our attention the potential exposure of the Federal government to cover the shortfall of union pension schemes. This shortfall is often cited as the reason for the recent push for PLAs. This company sees a high risk of exposure to this funding shortfall if they sign CBAs or PLAs and therefore they do not bid on PLA projects. The connection and possibility was suggested that if a non-union subcontractor (or general contractor) bids on a federal project and is *mandated* to sign a PLA under the terms of the bid; if they are called upon to cover any pension fund shortfalls, then the associated cost may be able to be passed on to the owner (i.e. GSA) through the FAR regulations relating to direct project costs. We suggest the legal ramifications of this is followed up by the GSA.

Training - The ABC of Metro Washington has accredited training schemes across 12 trades, with an annual apprentice number of around 400-450, with annual graduates totaling 80-100. Baltimore has a similar number, with Maryland and Chesapeake around half this size. Non-union training schemes in the area have been increasing in numbers by over 30% since 2005.

Quality – while some reports are that small business, minority and local apprentice goals were not met for the Nationals Stadium PLA, a non-union contractor believed the quality for this was still good. Other comments were that for very complex projects (such as hospitals, industrial, data centers), union workers were more able to meet the skill demands. For the refurbishment and office type projects in DC these projects were not seen as requiring an overly specialist workforce as sometimes required in healthcare, industrial and military projects.

97

PLA Cost Impact Analysis

Table 15 below represents an optimistic scenario, and suggests that a non PLA project offers cost risk of 0.3%. *A PLA project would present more risk of increased cost*, at 2.9%. Given the nature of this analysis we suggest an error range for this figure of +/- 0.5%.

WASHINGTON DC - 1800 F STREET	PROJECT	COST	\$ 3	250,000,000				
LOW RANGE/OPTIMISTIC EFFECTS	LABOR CC	OST (35%)	\$	87,500,000				
				1825	Project Duration/Ca	I. Day	s	
			\$	136,986	Project Cost/Cal. da	у		
WITHOUT A PLA								
	Days/%	Cost/day	Cos	st if occur	Probability	Cost		%
Strikes (72.5% recovery cost for duration)	11	\$ 99,315	\$	1,092,466	5%	\$	54,623	
Labor Issues (supply)	%	2%	\$	1,750,000	20%	\$	350,000	
Intertrade jurisdictions	%	1%	\$	875,000	20%	\$	175,000	
Wage Rate Stability	%	1%	\$	875,000	20%	\$	175,000	
Labor Cost	%	0%	\$	-	0%	\$	-	
PLA related bidding effect	%	0%	\$	-	0%	\$	-	
						\$	754,623	0.3%
WITH A PLA								
	Days/%	Cost/day	Cos	st if occur	Probability	Cost		%
Strikes (72.5% recovery cost for duration)	11	\$ 99,315	\$	1,092,466	5%	\$	54,623	

Strikes (72.5% recovery cost for duration)	11	\$ 99,315	\$ 1,092,466	5%	\$ 54,623	
Labor Issues (supply)	%	2%	\$ 1,750,000	50%	\$ 875,000	
Intertrade jurisdictions	%	1%	\$ 875,000	30%	\$ 262,500	
Wage Rate Stability	%	2%	\$ 1,750,000	50%	\$ 875,000	
Labor Cost	%	5%	\$ 4,375,000	50%	\$ 2,187,500	
PLA related bidding effect	%	7%	\$ 6,125,000	50%	\$ 3,062,500	
					\$ 7,317,123	2.9%

Table 15 – 1800 F St, Washington DC Low Range Project Cost Risks

It is important to note that some of these are not true dollar costs, but potential cost impacts which may be minimized under a carefully crafted PLA contract. **IF** a PLA is utilized, care in crafting and confirming a PLA needs to be taken, as detailed in the Summary, below. It is possible, although unlikely that the PLA labor cost premium as suggested above, may be lowered if jurisdictional boundaries and work rules are addressed in detail - so as to benefit the GSA.

Table 16 below represents a more conservative scenario, and suggests that a non PLA project offers cost risk of 0.6%. *A PLA project would present more risk of increased cost* at 4.9%. Given the nature of this analysis we suggest an error range for this figure of +/- 0.5%.

WASHINGTON DC - 1800 F STREET	PROJECT COST		\$2	50,000,000				
HIGH RANGE/CONSERVATIVE EFFECTS	LABOR COST (3	5%)	\$	87,500,000				
				1825	Project Duration/Cal.	Da	iys	
			\$	136,986	Project Cost/Cal. day			
WITHOUT A PLA								
	Days/%	Cost/day	Сс	ost if occur	Probability		Cost	%
Strikes (72.5% recovery cost for duration)	20	\$ 99,315	\$	1,986,301	10%	\$	198,630	
Labor Issues (supply)	%	2%	\$	1,750,000	40%	\$	700,000	
Intertrade jurisdictions	%	2%	\$	1,750,000	20%	\$	350,000	
Wage Rate Stability	%	2%	\$	1,750,000	20%	\$	350,000	
Labor Cost	%	0%	\$	-	0%	\$	-	
PLA related bidding effect	%	0%	\$	-	0%	\$	-	
						\$	1,598,630	0.6%
WITH A PLA								
	Days/%	Cost/day	Co	ost if occur	Probability		Cost	%
Strikes (72.5% recovery cost for duration)	20	\$ 99,315	\$	1,986,301	10%	\$	198,630	
Labor Issues (supply)	%	2%	\$	1,750,000	50%	\$	875,000	
Intertrade jurisdictions	%	2%	Ś	1,750,000	50%	Ś	875.000	

intertiade junisalctions	70	2/0	Ļ	1,750,000	5070	÷ 875,000	
Wage Rate Stability (labor = 35% project)	%	2%	\$	1,750,000	50%	\$ 875,000	
Labor Cost	%	7%	\$	6,125,000	70%	\$ 4,287,500	
PLA related bidding effect	%	10%	\$	8,750,000	60%	\$ 5,250,000	
						\$ 12,361,130	4.9%

Table 16 - 1800 F St, Washington DC High Range Project Cost Risks

Summary

For 1800 F St, Washington DC, Rider Levett Bucknall finds that there will likely be a cost premium associated with use of a Project Labor Agreement. The opportunities and challenges of implementing a PLA are outlined below.

Based on this cost impact analysis, Rider Levett Bucknall finds that a successfully negotiated and implemented PLA would likely increase project cost. Our optimistic analysis has 0.3% cost risk for a non-PLA project and 2.9% for a PLA project. Our conservative analysis yields 0.6% for a non-PLA project and 4.9% for a PLA project.

The average of these is 0.5% non-PLA and 3.9% with a PLA. We believe that this project will tend toward the average, which suggests a 3.4% cost premium in implementing a PLA.

From what we understand of the project, significant double shifts, shift premiums and overtime are not likely to be part of the baseline project planning. IF these elements are required, and IF a PLA offers concessions from any 'normal' overtime rates for union, or non-union workers, then this conclusion may be different, however the nature of this refurbishment project and timescale suggested do not indicate significant planned overtime.

If a PLA is pursued, Rider Levett Bucknall recommends holding discussions with the unions regarding work hours and shifts, with the goal of expediting the project schedule and thereby reducing cost. Further, we note that a PLA is a contract which is able to be modified and as

such must be legal, well compiled and adequately addresses potential cost factors such as ensuring a no-strike clause, detailing consistent work hours, detailing reasonable overtime rates and that hourly wage rates and annual increments are clearly defined within the PLA. If a PLA can be drafted and executed that offers concessions from local union CBAs there could be savings to the GSA.

Finally, we recommend that any framework PLA is tabled by the GSA within bid solicitations, and that the selected general contractor is heavily involved in finalizing and compiling a PLA and is a signatory to the final executed PLA. The GC is the prime party working to the stipulations dictated by the PLA and this should ensure that any potential issues are resolved and benefits to the GSA can be maximized - prior to PLA signing.

Based on the Rider Levett Bucknall analysis contained within this report and given the current poor economic climate in the US - for a well compiled PLA on 1800 F St, Washington DC, the GSA may be disadvantaged by a PLA and that a PLA is likely to not *"advance the federal Government's interest in achieving economy and efficiency in federal procurement"*.

13. Washington DC, Lafayette Building



Overview

The Lafayette Building is comprised of 12 stories and approximately 565,000 GSF, and is listed on the National Register of Historic Places. The design is to GSA Class A status, and to maintain the listing on the National Register of Historic Places. The project scope to meet LEED Silver certification includes a total refurbishment of the exterior façade and windows, replacement of interior finishes, preservation of historic features and upgrade of all building systems, including physical building security. The estimated construction

cost for the base construction contract is \$85mil to \$105mil, with options at \$65mil to \$85mil. The solicitation indicates phased construction, of approx 5 years in duration.

The local influences for this project are consistent with the 1800 F St Building in Section 12. Given this project is also not a mega project, nor does it require any particularly unique project features or elements, the labor cost effects will be similar to 1800 F Street.

PLA Cost Impact Analysis

Table 17 below represents an optimistic scenario, and suggests that a non PLA project offers cost risk of 0.3%. *A PLA project would present more risk of increased cost* at 2.9%. Given the nature of this analysis we suggest an error range for this figure of +/- 0.5%.

WASHINGTON DC - Lafayette Building	PROJECT COST		\$	10,627,550				
LOW RANGE/OPTIMISTIC EFFECTS	LABOR COST (35%)		\$	3,719,643				
				1825	Project Duration/C	al. Days		
			\$	5,823	Project Cost/Cal. d	ау		
WITHOUT A PLA								
	Days/%	Cost/day	Cos	st if occur	Probability	Cost		%
Strikes (72.5% recovery cost for duration)	11	\$ 4,222	\$	46,441	5%	\$	2,322	
Labor Issues (supply)	%	2%	\$	74,393	20%	\$	14,879	
Intertrade jurisdictions	%	1%	\$	37,196	20%	\$	7,439	
Wage Rate Stability	%	1%	\$	37,196	20%	\$	7,439	
Labor Cost	%	0%	\$	-	0%	\$	-	
PLA related bidding effect	%	0%	\$	-	0%	\$	-	
						\$	32,079	0.3%
WITH A PLA								
	Days/%	Cost/day	Cos	st if occur	Probability	Cost		%
Strikes (72.5% recovery cost for duration)	11	\$ 4.222	Ś	46.441	5%	Ś	2.322	

Strikes (72.5% recovery cost for duration)	11	\$ 4,222	\$	46,441	5%	\$	2,322	
Labor Issues (supply)	%	2%	Ś	74.393	50%	Ś	37.196	
Intertrade jurisdictions	%	1%	Ś	37.196	30%	Ś	11.159	
Wage Bate Stability	%	2%	Ś	74,393	50%	Ś	37,196	
Labor Cost	%	5%	Ś	185,982	50%	Ś	92,991	
	0/	70/	ć	200,075	50%	ć	120 107	
PLA related bloding effect	%	1%	Ş	260,375	50%	Ş	130,187	
						\$	311.052	2.9%

Table 17 – Lafayette Building, Washington DC Low Range Project Cost Risks

Table 18 below represents a more conservative scenario, and suggests that a non PLA project offers cost risk of 0.6%. *A PLA project would present more risk of increased cost*, at 4.9%. Given the nature of this analysis we suggest an error range for this figure of +/- 0.5%.

RLB Rider Levett Bucknall

WASHINGTON DC - Lafayette Building	PROJECT COST		\$	10,627,550				
HIGH RANGE/CONSERVATIVE EFFECTS	LABOR COST (3	5%)	\$	3,719,643				
				1825	Project Duration/Cal	. Day	ys	
			\$	5,823	Project Cost/Cal. day	,		
WITHOUT A PLA								
	Days/%	Cost/day	С	ost if occur	Probability		Cost	%
Strikes (72.5% recovery cost for duration)	20	\$ 4,222	\$	84,438	10%	\$	8,444	
Labor Issues (supply)	%	2%	\$	74,393	40%	\$	29,757	
Intertrade jurisdictions	%	2%	\$	74,393	20%	\$	14,879	
Wage Rate Stability	%	2%	\$	74,393	20%	\$	14,879	
Labor Cost	%	0%	\$	-	0%	\$	-	
PLA related bidding effect	%	0%	\$	-	0%	\$	-	
						\$	67,958	0.6%
WITH A PLA	5 /0/	C 1/1	~		D. J. J. H.		C	
	Days/%	cost/day	<u></u>	ost it occur	Probability	<i>.</i>	Cost	%

	Days/ 10	COSt/uay	0.05		FIUDADIIILY	 CUSI	/0
Strikes (72.5% recovery cost for duration)	20	\$ 4,222	\$	84,438	10%	\$ 8,444	
Labor Issues (supply)	%	2%	\$	74,393	50%	\$ 37,196	
Intertrade jurisdictions	%	2%	\$	74,393	50%	\$ 37,196	
Wage Rate Stability (labor = 35% project)	%	2%	\$	74,393	50%	\$ 37,196	
Labor Cost	%	7%	\$	260,375	70%	\$ 182,262	
PLA related bidding effect	%	10%	\$	371,964	60%	\$ 223,179	
						\$ 525,474	4.9%

Table 18 - Lafayette Building, Washington DC High Range Project Cost Risks

Summary

Based on this cost impact analysis, Rider Levett Bucknall finds that a successfully negotiated and implemented PLA would likely increase project cost. Our optimistic analysis has 0.3% cost risk for a non-PLA project and 2.9% for a PLA project. Our conservative analysis yields 0.6% for a non-PLA project and 4.9% for a PLA project.

The average of these is 0.5% non-PLA and 3.9% with a PLA. We believe that this project will tend toward the average, which suggests a 3.4% cost premium in implementing a PLA.

Based on the Rider Levett Bucknall analysis contained within this report and given the current poor economic climate in the US - for a well compiled PLA on the Lafayette Building, Washington DC, the GSA may be disadvantaged by a PLA and that a PLA is likely to not *"advance the federal Government's interest in achieving economy and efficiency in federal procurement"*.

14. Washington DC, DHS Campus Headquarters

Overview

The DHS Campus Headquarters as a 160,000 sf adaptive reuse of existing building over a 33 month construction duration. The project cost is estimated at \$93,453,000 (with a range of \$100 – \$150 mil in the solicitation). Tishman/AECOM is the construction manager for the campus redevelopment. In a related, but separate project, Clark Construction was awarded the \$435mil design-build contract for the 1.2 mil square foot Coast Guard HQ on the same site.

The local influences for this project are consistent with the 1800 F St Building in Section 12. Given this project is also not a mega project, nor does it require any particularly unique project features or elements, the labor cost effects will be similar to 1800 F Street.

PLA Cost Impact Analysis

Table 9 below represents an optimistic scenario, and suggests that a non PLA project offers cost risk of 0.3%. *A PLA project would present more risk of increased cost* at 2.9%. Given the nature of this analysis we suggest an error range for this figure of +/- 0.5%.

WASHINGTON DC - DHS Headquarters	PROJECT COST		\$	93,453,000				
LOW RANGE/OPTIMISTIC EFFECTS	LABOR COST (35%)		\$	32,708,550				
				1825	Project Duration/Cal	Project Duration/Cal. Days		
			\$	51,207	Project Cost/Cal. day	/		
WITHOUT A PLA								
	Days/%	Cost/day	Co	st if occur	Probability	Cos	st	%
Strikes (72.5% recovery cost for duration)	11	\$ 37,125	\$	408,377	5%	\$	20,419	
Labor Issues (supply)	%	2%	\$	654,171	20%	\$	130,834	
Intertrade jurisdictions	%	1%	\$	327,086	20%	\$	65,417	
Wage Rate Stability	%	1%	\$	327,086	20%	\$	65,417	
Labor Cost	%	0%	\$	-	0%	\$	-	
PLA related bidding effect	%	0%	\$	-	0%	\$	-	
						\$	282,087	0.3%
WITH A PLA								
	Days/%	Cost/day	Co	st if occur	Probability	Cos	st	%
Strikes (72.5% recovery cost for duration)	11	\$ 37,125	\$	408,377	5%	\$	20,419	
Labor Issues (supply)	%	2%	\$	654,171	50%	\$	327,086	
Intertrade jurisdictions	%	1%	\$	327,086	30%	\$	98,126	
Wage Rate Stability	%	2%	\$	654,171	50%	\$	327,086	
Labor Cost	%	5%	\$	1,635,428	50%	\$	817,714	
PLA related bidding effect	%	7%	\$	2,289,599	50%	\$	1,144,799	
						Ś	2.735.228	2.9%

Table 9 - DHS Headquarters, Washington DC Low Range Project Cost Risks

Table 10 below represents a more conservative scenario, and suggests that a non PLA project offers cost risk of 0.6%. *A PLA project would present more risk of increased cost* at 4.9%. Given the nature of this analysis we suggest an error range for this figure of +/- 0.5%.

WASHINGTON DC - DHS Headquarters	PROJECT COST		\$ 9	93,453,000				
HIGH RANGE/CONSERVATIVE EFFECTS	LABOR COST (3	85%)	\$ 32,708,550					
			1825 Project Duration/Cal. Days					
			\$	51,207	Project Cost/Cal. day	/		
WITHOUT A PLA								
	Days/%	Cost/day	Со	st if occur	Probability		Cost	%
Strikes (72.5% recovery cost for duration)	20	\$ 37,125	\$	742,503	10%	\$	74,250	
Labor Issues (supply)	%	2%	\$	654,171	40%	\$	261,668	
Intertrade jurisdictions	%	2%	\$	654,171	20%	\$	130,834	
Wage Rate Stability	%	2%	\$	654,171	20%	\$	130,834	
Labor Cost	%	0%	\$	-	0%	\$	-	
PLA related bidding effect	%	0%	\$	-	0%	\$	-	
						\$	597,587	0.6%

WITH A PLA

	Days/%	Cost/day	Сс	ost if occur	Probability	Cost	%
Strikes (72.5% recovery cost for duration)	20	\$ 37,125	\$	742,503	10%	\$ 74,250	
Labor Issues (supply)	%	2%	\$	654,171	50%	\$ 327,086	
Intertrade jurisdictions	%	2%	\$	654,171	50%	\$ 327,086	
Wage Rate Stability (labor = 35% project)	%	2%	\$	654,171	50%	\$ 327,086	
Labor Cost	%	7%	\$	2,289,599	70%	\$ 1,602,719	
PLA related bidding effect	%	10%	\$	3,270,855	60%	\$ 1,962,513	
						\$ 4,620,739	4.9%

Table 10 – DHS Headquarters, Washington DC High Range Project Cost Risks

Summary

Based on this cost impact analysis, Rider Levett Bucknall finds that a successfully negotiated and implemented PLA would likely increase project cost. Our optimistic analysis has 0.3% cost risk for a non-PLA project and 2.9% for a PLA project. Our conservative analysis yields 0.6% for a non-PLA project and 4.9% for a PLA project.

The average of these is 0.5% non-PLA and 3.9% with a PLA. We believe that this project will tend toward the average, which suggests a 3.4% cost premium in implementing a PLA.

Based on the Rider Levett Bucknall analysis contained within this report and given the current poor economic climate in the US - for a well compiled PLA on the DHS Headquarters, Washington DC, the GSA may be disadvantaged by a PLA and that a PLA is likely to not *"advance the federal Government's interest in achieving economy and efficiency in federal procurement"*.
15. Analysis Summary

The scope of this report is to identify an acceptable cost premium for using a PLA. Rider Levett Bucknall research has focused on assessing the risks of having a PLA versus not having a PLA for ten projects in eight cities. While only the GSA can determine what the <u>acceptable</u> threshold is, our analysis has determined the <u>potential cost premium</u> for the two scenarios.

As previously discussed the cost effect of PLAs is not an exact science and many factors can contribute to increasing a project construction bid cost. Given this, we have tried to assess 'what if' scenarios to account for the myriad of variables that can occur in establishing labor rates, work rules and actually confirming and negotiating a PLA contract.

The timescale involved and the scope of this study has not included analysis on the legality of mandating PLAs in any of the eight states – which is often raised by PLA opponents.

Many other variables can also affect the success of a PLA or non-PLA project - including the direct actions of unions, negotiations and detailed clauses within a PLA, project management, design quality and political environment of a particular location. Rider Levett Bucknall does not specifically support, nor specifically object to PLAs and given the huge variability of opinion and lack of credible quantitative data on the subject of PLAs this report has tried to establish local guidelines based on local interviews and sound judgment.

Given PLAs direct merit shop labor via union halls and require that these merit-shop businesses operate under structures and work rules set by unions, we see that this is a huge issue which must be resolved for any PLA to actually advance the interests of the majority of US construction businesses and the majority of workers.

A PLA is not a miracle cure for a project, nor is it a plague. Most efforts in any project must be in establishing a robust contract and then more importantly ensuring a sound design reflecting the site conditions and owners and end users desires. Having this concise and clear detailed design covering as many unknowns as possible and importantly, approved by the owner and end user, will reduce change orders which ultimately cause the majority of cost overruns.

Discussions with at least one union raised the question of the government's **social obligation** to support union apprenticeship schemes - through the promotion of PLAs and the prevalence of union labor to be involved in projects and also active PLA clauses promoting apprenticeship percentages in a project. While we agree that this is sound and that having a strong apprenticeship base is important for continued US prosperity, this argument assumes that the training and apprenticeship programs of merit shop contractors are lacking and favors 'the union way is the only way'- which we do not support.

PLA Implementation

We believe it is unwise for multiple contractors to be separately involved in PLA negotiations prior to being selected for a project and this raises the other issue that without a confirmed PLA, the actual final labor costs remain uncertain – therefore bids may be higher to reflect this. A PLA, if implemented in any location, is not one size fits all.

Other recommendations from our interviews are that any PLA negotiation must involve the general contractor. This will ensure the party contracted to deliver the project and arguably the stakeholder most affected by a PLA can have a hand in its negotiation and finalization.

Appendix A – Background References

- <u>www.unionstats.com</u>
- Laborers International Union of North America LIUNA <u>http://www.liunabuildsamerica.org/files/NationalConstructionAgreement.pdf</u>
- Project Labor Agreement PLA Study for Clark County School District [Las Vegas, NV]; Resolution Management; June 2000
- Project Labor Agreements The extent of their use and related information, GAO; May 1998
- Absenteeism and Turnover, The Business Roundtable, June 1982
- Federal Mediation and Conciliatory Service (FMCS) FOIA Work Stoppage Data 1984-2009. <u>http://www.fmcs.gov/internet/downloadsList.asp?categoryID=276</u>
- City and County of Honolulu Rapid Transit Stabilization Agreement (RTSA) November 19, 2009 – Source <u>www.thetruthaboutplas.com</u>
- Project Labor Agreement Capital Improvement and Restructuring Program (2004 2009) between New York City Schools Construction Authority and the Building and Construction Trades Council of Greater New York
- Project Labor Agreements and Public Construction Cost in New York State. By Paul Bachman, MSIE and David G. Tuerck, PhD. Beacon Hill Institute at Suffolk University. April, 2006
- Project Labor Agreements in New York State: In the Public Interest. By Fred B. Kotler, J.D., Associate Director of the Construction Industry Program, School of Industrial and Labor Relations, Cornell University. March, 2009
- Project Labor Agreement on Public Construction Projects: The Case For and Against. Worchester Municipal Research Bureau, Worchester, Mass. May, 2001
- Labor Deals with Uncertainties by Bruce Buckley Engineering News Record May 18, 2009
- Tight Labor Markets Push Wages Up Engineering News Record October 6, 2009
- Website www.nrtw.org National Right to Work Legal Defense Foundation
- Website http://opencontracting.com/studies/
- Website -www.abc.org
- Testimony of Tom Rolleri Granite Construction on behalf of the AGC to the Senate Committee on Labor and Human Resources on Project Labor Agreements April 30, 1997
- Davis-Bacon Data by State Website <u>http://www.gpo.gov/davisbacon/allstates.html</u>
- The Effect of State Prevailing Wage Laws on Total Construction Costs Mark Prus, Dept of Economics, SUNY, Cortland. Jan 1996
- Davis-Bacon Works Center for American Progress Action Fund www.americanprogressaction.org
- Union-only Project Labor Agreements: The Public Record of Poor Performance. Maurice Baskin Esq. 2005 Edition
- Project Labor Agreements. Electri International. Dale Belman, Matthew Bodah, Peter Philips. January 2007

- Alaskan Project Labor Agreement for Consolidated Public Works Facility, Phase II. 2009
- Craft Worker Compensation Report Jan 2008, by FMI for AGC.
- Project Labor Agreements Research Study Focus on Southern Nevada Water Authority. Opfer, Son and Gambatese. Nov 2000.
- Government Mandated Project Labor Agreements in Construction. The Wharton School. U.Pen. Herbert Northrup. Jan 2000
- Why Project Labor Agreements & Apprenticeship Requirements are Bad Policy ABC of Western Washington.
- Collective Bargaining FAQs Center for Labor Education & Research, University of Hawaii – West Oahu.
- Q & A's about Project Labor Agreements ABC Wisconsin Chapter
- Put Freedom to Work Opencontracting.com
- The Glens Falls/Indek Decision John W. Prager
- Project Labor Agreements State Building and Construction Trades Council of California
- Project Labor Agreements for Public Agencies Neil D Opfer, Dr. Jaeho Son and Dr. John Gambatese. 2001
- Xcel Energy Comanche 3 press release
- Project Labor Agreements in Iowa Ralph Scharnau and Michael F. Sheehan Oct 2004
- Cockshaw's Construction Labor News and Opinion. Volume 31, No. 11November 2001 DoT City and County of Honolulu – Rapid Transit Stabilization Agreement (RTSA)
- Denver Business Journal
- CURT Construction Labor: Managing the Construction Workforce, March 2005
- Draft CBA between Plumbers and Gasfitters Union No 3 and Pipefitters Local Union No 208 and Mechanical Contractors Association of Northeastern Colorado
- Contractor, Labor Leaders Negotiate Historic PLA, Saving 43 New York Projects. Engineering News Record. Jan 18, 2010. Page 26.
- Why Project Labor Agreements Are Not In the Public Interest. Cato Journal Vol 30, No 1 (Winter 2010) David G Tuerck

Appendix B – Questionnaire Template

Project Labor Agreements for ARRA Construction Projects	
Interview Questions and Responses	
Date:	
Individual:	
Organization:	
Address:	
Phone #:	
Email:	
I'm calling from Rider Levett Bucknall. We are property and construction consultar	nts, and we have been commissioned by the federal government

- the GSA - to prepare a study related to Project Labor Agreements in [LOCATION].

GSA is planning to build a major project in [LOCATION] over the next few years, they are considering using a PLA, and they have asked us to write a report outlining the potential impacts of using a PLA to help them make decisions.

As part of our study, we are contacting key members of the construction industry in [LOCATION] to understand how contractors, subcontractors and unions or collective bargaining organizations might respond to including a PLA for the project.

#	Question	Bashansa
# 1	EXPERIENCE WITH PLA'S: Have you ever worked on a project that	YES NO
1	has included a PI A?	
	When/where? Success/history? //f not are you aware of	
	any PLA projects in this area and their performance?	
	Comments	
_		4 Maiarity/ Naraty All UNION
2	PREVALENCE OF UNIONS: Are large, multi-million POBLIC	T Majonty/ Nearly All UNION
	construction projects in this area predominantly union – or non-	
	union ?	2 Slightly Mara LINION
		4 Slightly Moro NON- UNION
	For PRIVATE projects?	1 Majority/ Nearly All UNION
		2 Slightly More UNION
		3 Equal Mix
		4 Slightly More NON- UNION
		5 Majority/ Nearly All NON-UNION
	Comments	
3	PREVALENCE OF STRIKES: How frequently have strikes occurred on	1 Very frequent
	projects in [LOCATION] on projects in the last ten years for PUBLIC	
	projects??	
		2 Occasional
		3 None
	For PRIVATE projects?	1 Verv frequent
		2 Occasional
		3 None
	Based on your experience, how successfully do PLA's prevent	1 Very successfully
	strikes?	
		2 Marginally successfully
		3 No impact
		4 They make matters slightly worse
		5 They create many more problems
	Comments	
		4 Natable botton marke MUTU a DLA
÷	QUALITY: Have you seen differences in quality between PLA and non	1 Notably better quality WITH a PLA
	PLA projects?	
		2 Slightly better quality WITH a PLA
		3 Same Lither Way
		4 Slightly better quality WITHOUT a PLA
		5 Notably better quality WITHOUT a PLA
	Comments	
	stionnaire	09 Jan 27 2010 Rev 3 - Droft Tont
zu		ψ_{2} Jan z_{1} , zo to rev 3 - Diall Tent

Questionnaire

GSA – TENTATIVE DRAFT REPORT Applicability of Project Labor Agreements

5	URISDICTIONAL CONFLICTS: How frequent are jurisdictional	1 Verv frequent	
3	conflicts (which trades are responsible for what) between trades in		
	[LOCATION]?		
	• •	2 Occasional	
		3 None	
	Based on your experience, how successfully do PLA's resolve these	1 Very successfully	
	conflicts?		
		2 Marginally successfully	
		3 No impact	
		4 They make matters slightly worse	
		5 They create many more problems	
	Comments		
6	SUPPLY OF QUALIFIED LABOR: Has finding a reliable supply of	1 Very frequently	
	qualified labor been a problem lately in [LOCATION]?		
		2 Occasionally	
		3 Not at All	
	Based on your experience, what impact would using a PLA have on	1 Much more reliable supply of labor	
	labor supply?		
1		2 Slightly more reliable supply of labor	
1		3 No impact	
		4 Slightly less reliable supply of labor	
		5 Much less reliable supply of labor	
	Comments		
7	ADSENTEEISM, la warkey offendense a problem on projects in	1 Major problem	
'	ABSENTEEISM: IS worker attendance a problem on projects in	r Major problem	
		2 Minor problem	
		3 Not a problem at all	
	Based on your experience, what impact would using a PLA have on	1 Major Incease in Absenteeism	
	absenteeism?		
		2 Slight Increase in Absenteeism	
		3 No Change in Absenteeism	
		4 Slight Decrease in Absenteeism	
	Comments		
	oomments		
8	In [LOCATION] how do you see NOT HAVING a PLA will affect the		
	tollowing LABOR factors:		
	- overtime/shift differentials		
1	- aborneerani, worker allenuarice and periormatice	<u> </u>	
1	projects)		
	Comments		
	oommondo		
1			
1			
э	IN LOCATION NOW do you see HAVING a PLA will affect the		
	tollowing LABOR factors:		
	- overtime/smit differentials		
	- absence sin/worker allendance and performance		
1	projects)		
1	Comments	1	
1			
1			
1			
46			
10	Any other comments / anything else we haven't covered that you feel		
1	would be relevant to this study?		
1			
1			
Οu	estionnaire 1	11 Jan 27. 2010 Rev 3 - Draft Tentative	e Report

Appendix C - AGC Talking Points on Executive Order 13502

In an August 13, 2009 submission to the FAR secretariat, the AGC notes:

AGC is the leading association for the construction industry. Founded in 1918 at the express request of President Woodrow Wilson, AGC now represents more than 33,000 firms in nearly 100 chapters throughout the United States. Among the association's members are approximately 7,500 of the nation's leading general contractors, more than 12,500 specialty contractors, and more than 13,000 material suppliers and service providers to the construction industry. These firms engage in the construction of buildings, shopping centers, factories, industrial facilities, warehouses, highways, bridges, tunnels, airports, waterworks facilities, waste treatment facilities, dams, hospitals, water conservation projects, defense facilities, multi-family housing projects, municipal utilities and other improvements to real property. Many of these firms regularly perform construction services for the U.S. Army Corps of Engineers, the Naval Facilities Engineering Command, the General Services Administration and other federal departments andagencies. Most are small and closely-held businesses. Unlike many associations in the industry, AGC proudly represents both union and open-shop construction contractors.

The attached talking points summarize their position on PLAs and Executive Order 13502 Source: www.agc.org – News and Media

AGC Talking Points on Executive Order 13502 May 21, 2009

The Significant Limits of Executive Order 13502

- The President's recent executive order on project labor agreements is carefully circumscribed.
- While the executive order lifts the prior ban on government mandates for project labor agreements, it does not go so far as to require their consideration, much less their use.
- While the executive order observes that "[l]arge-scale construction projects pose special challenges," it makes no finding to that construction contractors lack the experience or expertise to determine the most effective way of meeting those challenges.
- The executive order does not find that project labor agreements are in any way necessary to
 promote economy or efficiency in federal procurement.
- The executive order provides that federal agencies "may" require project labor agreements, but only on a "project-by-project basis," and where doing so will (i) advance the Federal Government's interest in achieving economy and efficiency in Federal procurement, producing labor-management stability, and ensuring compliance with laws and regulations governing safety and health, equal employment opportunity, labor and employment standards, and other matters, and (ii) be consistent with laws." Before requiring a project labor agreement, a federal agency must therefore make a number of factual findings specific to a particular project, and square such a requirement with the National Labor Relations Act and other laws.

Overview of AGC's Position

- AGC supports open and unrestricted competition for public construction contracts.
- AGC considers it inappropriate if not unlawful for public agencies to use their contracting authority to interfere with labor-management relations in the private sector – between private employers and their employees.
 - Construction employers have the right to decide whether they will sign pre-hire
 agreements.
 - Union contractors have the right to negotiate their own labor agreements without government interference in the collective bargaining process.
 - All employees have the right to decide whether they want union representation.

ative Report

- AGC opposes government mandates for project labor agreements (PLAs) because such mandates restrict competition for public construction contracts and infringe on rights that federal law grants to construction employers and their employees.
 - Public agencies should not compel construction firms to change their labor policies simply to qualify for public contracts.
 - Public agencies should not compel any employee to join or otherwise support a union simply to qualify for employment on a public construction project.
 - Public agencies should not discriminate against construction employers for lawfully choosing not to work under pre-hire agreements.
 - Public agencies should not discriminate against employees for lawfully deciding not to join or otherwise support a union.
- AGC opposes federal recommendations that states or localities mandate PLAs agreements, particularly where the latter have to depend on federal funding for their projects.
- AGC is not aware of any documentation or analysis demonstrating that past mandates for PLAs have consistently lowered the cost, increased the quality or otherwise improved the construction of federal, state or local projects.
- The Davis-Bacon Act already requires all of the contractors and subcontractors working on a
 federal or federally assisted construction project to pay their employees at the rates prevailing
 in the relevant area.

How Government Mandates for Project Labor Agreement Hurt Union Contractors

- Government mandates for PLAs disrupt the often complex relationships between union contractors and their counterparts in the building trade unions, interfering with the parties' private negotiations, and often making it more difficult for union contractors to reach the agreements they need to remain competitive.
- On their members' behalf, over half AGC's 95 chapters negotiate area-wide agreements with the building trade unions. One reason the federal government cannot demonstrate that mandating PLAs will have any economic or other benefit is that many of these area-wide agreements are already state-of-the-art. Many of these agreements already provide the benefits that PLAs are said to provide, such as:
 - Common or similar grievance and arbitration procedures among crafts.
 - · Common or similar jurisdictional dispute resolution procedures among crafts.
 - · Common work rules, hours of employment, holidays and shift provisions.
 - No-strike, no-lockout clauses.
- The terms and conditions that public officials negotiate with the building trade unions are
 rarely more competitive or cost-effective than the terms and conditions found in the areawide agreements. In fact, public PLAs frequently conflict with the area-wide agreements
 they displace. Such PLAs can inject new and unfamiliar terms and conditions into the
 relationship between labor and management, and may well increase the cost of performing
 the work. For example, public PLAs frequently:

- 2 -

- Require contractors to deal with additional or different unions, whom such contractors may be unfamiliar;
- Establish new or different grievance or arbitration procedures, with their own rules of evidence and the like;
- Establish new or different rules or procedures for resolving jurisdictional disputes among the building trade unions, often reviving historical claims not recognized in the local area;
- · Establish new and unfamiliar work rules that contractors cannot use effectively;
- Add reporting and other paperwork requirements that drive up the contractors' overhead.
- As they disregard the expiration dates for the area-wide agreements, public PLAs can have a
 significant impact area-wide bargaining. Such agreements may enable union members to
 continue to work (at the sites that the PLAs cover) while the union contractors in the same
 area and their clients have to deal with labor unrest. The negative effects on local labormanagement relations can last for many years.

How Government Mandates for Project Labor Agreements Hurt Open Shop Contractors

- Public PLAs frequently make it impractical for open shop contractors to use their current employees to perform the work that such agreements cover. Such PLAs typically permit open shop contractors to use a small "core" of their current employees to perform the work, but no more. To qualify for employment on the project, everyone else must get a referral from the appropriate union hiring hall.
- The union security clauses included in public PLAs typically require all craft workers to pay either union dues or an equivalent amount of union agency fees, whether or not such workers have any interest in union representation.
- Public PLAs frequently require open shop contractors to change the way they would
 otherwise perform the work. Such agreements require open shop contractors to make sharp
 distinctions between and among each of the construction crafts, which can cripple their
 efforts to make competitive bids. Open shop contractors not only have to use a different
 workforce, they also have to deploy it in very different ways.
- Public PLAs typically require open shop contractors to pay for fringe benefits that their nonunion employees will never see. Such contractors have to contribute to union benefit funds even though their non-union employees will never qualify for the union benefits. To continue their current benefits for such employees, open shop contractors have to contribute to both the unions' benefit funds and to their own benefit plans.
 - Union benefit plans typically have vesting and eligibility requirements based on the length of service performed under union labor agreements.

Other Practical and Legal Issues Surrounding Government Mandated Labor Agreements

 In May of 1998, the Government Accounting Office (GAO) reported that it could not document any of the alleged benefits of the PLAs imposed on federal construction projects in the past. GAO also doubted that the federal government could ever document such benefits.

- 3 -

Project Labor Agreements: The Extent of Their Use and Related Information (GAO/GGD-98-82).

- Government mandates for PLAs have frequently led to litigation, which is expensive in itself, and may lead to costly delays. Many of the cases have focused on the state laws that require open competitive bidding. The other significant legal issues that the Executive Order 13502 neglects to address include the following:
 - Whether government mandates for project agreements violate the provisions of the National Labor Relations Act (NLRA) intended to deal specifically with the construction industry – permitting employers "engaged primarily in the building and construction industry," but only such employers, to enter into pre-hire agreements.
 - Whether government-mandated labor agreements violate the section of the NLRA that generally prohibits "hot-cargo" agreements.
 - Whether government mandates for PLAs have a disproportionately adverse impact on minority and women business enterprises, in violation of Title VI of the Civil Rights Act of 1964.

Appendix D - Project Acceleration Calculation

To assess the cost of work disruption, we have evaluated the potential cost to get the project back on schedule. This is assumed to be an additional 100% equipment and an additional 100% labor (i.e. double shifting) with a 50% premium for work inefficiencies (given restricted space to work etc) and some overtime for this second shift.

								Addition	
						Acceleration		al	
				Running		Additional		Running	
				total		Cost		total	Basis
Direct Co	ost of Work (su	ubcontrac	ts)						
	Equipment		\$ 5.00			100%	\$ 5.00		Double equipment costs.
	Materials		\$ 50.00			0%	\$-		
	Labor		\$ 45.00			150%	\$67.50		Double shift, with some ineffeciencies and overtime.
				\$100.00	78%			\$ 72.50	
	General Cor	ditions.							
Add	Bonds, Ins	urance	8%	\$ 108.00				\$ 78.30	
	Profit/M	arkup	4%	\$ 112.32				\$ 81.43	
			.,-	7				7 00	
General	Contractor Ma	rkuns						1	1
General	General Cor	ditions	8%	\$ 121 31				\$ 87.95	
	Bonds and I	nsurance	1 50%	\$ 123.13				\$ 89.27	
	Donus and n	isurarice	1.50%	\$ 123.15 \$ 129.0E	100%			¢ 02.27	
Total cor	FIUIL		470	\$ 128.05	100%			\$ 92.04	aguals 72 EV of initial construction cost
TOLALCOL	ISTRUCTION COST			Ş 126.05				Ş 92.64	equals 72.5% of fillual constituction cost.
	16 4 1 0 0 1								
Therefor	re, if \$100 of si	ubcontrac	t value is	affected, t	his will ad	ld \$92.84 to the p	project to	regain thi	s schedule.
The DCO	W is 78% of th	e project	value, wi	ith accelera	ation for th	ne DCOW 72.5%	of the as	sociated w	vork cost.
The 'nori	mal time' for t	he initial	labor and	lequipmer	nt cost is a	lready included	therefor	re exclude	d from acceleration)
as this	is an excusabl	e, non-co	ompensab	ole delay.					

This is estimated to be 72.5% additional cost to recover a schedule for the corresponding value of work in the delayed period.

Therefore if the project is delayed one day, and the cost per day is 10,000 - the acceleration cost (over and above the 10,000 which is already in the contract value) is estimated at $10,000 \times 72.5\% = 7,250$.

Appendix E – Work Stoppage Data

The following tables are sorted for construction and utility projects. The average stoppage duration is calculated by dividing the total number of days affected by the number of workers affected.

Ohio

FMCS Case				Affected			WS Begin	WS End	Ending		Worker	Worker
Number 🔽	Employer Name 💌	Union Name 💌	Affected City	S ta te 💞	Industry 📝	🛛 # Idle 💌	Date 💌	Date 💌	Fiscal Year 💌	durati	Days	Hrs
1985CA00R175	Jennings Ready Mix Co Inc	IBT 40	Ashland	ОН	Construction	5	4/3/1984	5/2/1985	1985	394	1.970	15,760
1984DB00G241	Zero-breese Co The	RWAW 42	Cincinnati	OH	Construction	30	7/12/1984	7/17/1984	1984	5	150	1 200
1084EB00\$220	Kramer & Son Inc	RWAW 42	Cincinnati		Construction	20	7/12/1001	7/16/109/	1094	4	120	060
1004F D003333	Age Of Center And Independents conten Oh 8 Vie	ODCM 100	Conton		Construction	70	9/6/1004	0/14/1004	1004	20	2 720	21 840
1904ED00L433	Age of Canton And Independents-canton, On & Vic		Canton	OH	Construction	70	0/0/1904	9/14/1904	1904	161	2,730	21,040
1984IVIA00A035	Electrical Contractors - Cincinnati	IBEW 212	Cincinnati	OH	Construction	600	8/27/1984	2/4/1985	1985	101	96,600	772,800
1985BA00P984	Columbus Chpt Painting & Decorating Cont	PAT 1275	Columbus	OH	Construction	60	5/1/1985	5/6/1985	1985	5	300	2,400
1985FB00K351	Mechanical Contractors Assn Central Ohio	PPF 189	Columbus	ОН	Construction	200	6/1/1985	6/7/1985	1985	6	1,200	9,600
1985EB00D022	Akron Area Roofing & Sheet Metal Cos	RWAW 88	Akron	он	Construction	280	6/3/1985	6/24/1985	1985	21	5,880	47,040
1985EB00D494	Sheet Metal Contractors Assoc (43) Smw/1	SMW 141	Cincinnati	ОН	Construction	200	7/8/1985	9/27/1985	1985	81	16,200	129,600
1985EB00F640	Columbus And Southern Oh Electric Co	IBEW 1466	Columbus	OH	Utilities	1400	7/15/1985	8/7/1985	1985	23	32,200	257,600
1985FB00K813	George Behm & Sons Co The	PAT 923	Dayton	OH	Construction	30	7/29/1985	9/5/1985	1985	38	1,140	9,120
1985DA00Z400	Akron Construction Cos	OPCM 109	Akron	ОН	Construction	30	8/5/1985	8/23/1985	1985	18	540	4.320
1985DA00X240	Akron Div Ohio Building Chot Age Of A In	LIUNA 894	Akron	OH	Construction	250	8/12/1985	9/9/1985	1985	28	7.000	56.000
1986EM001328	Northwestern Obio Council Off Const Empl		Toledo	OH	Construction	1250	4/2/1986	5/1/1986	1986	20	36,250	290,000
108651/002004	Telede Edigen Company		Tolodo		Litilities	1090	6/1/1006	7/19/1096	1096	47	50,200	406,000
1960F V002094	Creater Cincinnati Dlumbing Contractors	IDE W 240	Cincinnati	OH	Construction	1060	6/16/1086	6/06/1900	1900	4/	50,760	400,000
1986GIVI001603	Greater Cincinnati Plumbing Contractors	PPF 59		OH	Construction	60	6/16/1986	6/25/1986	1986	9	540	4,320
1986HV003337	Painting And Decorating Contractors	PAT 7	loledo	ОН	Construction	300	//1/1986	//18/1986	1986	17	5,100	40,800
1986FV002107	Griffith Blacktop Inc	IBT 571	Lorain	ОН	Construction	14	8/3/1986	8/13/1986	1986	10	140	1,120
1986KM002866	Cincinnati Roofing Contractors (9 Co's)	RWAW 42	Cincinnati	ОН	Construction	175	8/4/1986	8/16/1986	1986	12	2,100	16,800
1987FV001786	Smacna-cleveland	SMW 65	Cleveland	OH	Construction	700	5/4/1987	5/7/1987	1987	3	2,100	16,800
1987IV003497	Cummings Inc & Columbus Sign Contractors Asso	IBEW 683	Columbus	OH	Construction	15	8/3/1987	8/4/1987	1987	1	15	120
1988EV001584	Steel & Iron Contractors Association	BSOIW 17	Cleveland	ОН	Construction	1900	5/1/1988	6/1/1988	1988	31	58,900	471,200
1988FV001936	Sheet Metal Contractors Cleveland Ohio & Vic Sm	SMW 33	Cleveland	ОН	Construction	675	5/1/1988	5/20/1988	1988	19	12.825	102.600
1988EV/001910	Construction Empl Assn & Others Cleveland Obio	IUOE 18	Cleveland	OH	Construction	3500	5/21/1988	5/25/1988	1988	4	14 000	112 000
19881/003256	Obio Plate Glass Company (installation)	PAT 372	Columbus	он	Construction	9000	6/6/1988	6/23/1988	1088	17	153	1 224
109911/002722	Glassing Contractors Akron Ohio & Vic Pat 1162	DAT 1162	Akron		Construction	20	6/12/1099	6/29/1099	1000	15	200	2,400
1900110002722	Glassing Contractors Action Onlo & Vic Pat 1102	PAT TIUZ	ANUT	011	Construction	20	0/13/1300	0/20/1900	1900	13	4 000	2,400
1988HIVI001442	Signatory Contractors - Cincinnati On - Rwaw 42	RWAW 42	Cincinnati	UH	Construction	250	9/12/1988	9/16/1988	1988	4	1,000	8,000
1988IM001611	Kelley & Carpenter Rooting & Sheet Metal Inc	RWAW 42	Hamilton	ОН	Construction	16	9/12/1988	9/16/1988	1988	4	64	512
1989FV002153	Ohio Contractors Association Lrd	IUOE 18	Columbus	ОН	Construction	12000	5/1/1989	5/5/1989	1989	4	48,000	384,000
1989GV002503	Agc Of America Inc/west Central Ohio Division	BAC 35	Lima	ОН	Construction	78	5/1/1989	5/9/1989	1989	8	624	4,992
1989HV002956	Pdca Chap Of Builders Of Eastern Ohio & Western	PAT 476	Vienna	OH	Construction	250	6/1/1989	6/27/1989	1989	26	6,500	52,000
1989HV002994	Builders Assn/eastern Oh&w Penn/glazing Contr C	PAT 847	Vienna	OH	Construction	19	6/1/1989	7/25/1989	1989	54	1,026	8,208
1989FV002222	Agc Lrd Ohio Contractors Assoc Cja Dc South Cer	CJA DC SOUTH CEN	Columbus	ОН	Construction	50	6/12/1989	6/22/1989	1989	10	500	4,000
1989HV003212	Cement Mason Contractors Toledo Oh & Vic Opcr	OPCM 886	Toledo	OH	Construction	50	7/1/1989	7/22/1989	1989	21	1.050	8,400
1989H\/003220	Associated General Contractors Of Toledo (agc)	OPCM 886	Toledo	OH	Construction	300	7/2/1080	7/22/1989	1080	20	6,000	48,000
10801 M0002110	Clazing Contractors/singingti Oh/not 297	DAT 297	Cincinnati		Construction	70	11/07/1000	4/22/1000	1000	147	10,000	40,000
1909LIVI002119	Westpart Electric Inc (2 Less)	PAT 307	Akron	OH	Construction	70	7/2/1909	4/23/1990	1990	147	10,290	02,320
1990HV002092	Westport Electric ric (2 Locs)	IDE VV 300	AKION	OH	Construction	20	7/2/1990	8/13/1990	1990	44	000	7,040
1991DV001150	Sheet Metal Contractors Cleveland On & Vic Smw	SMW 33	Cleveland	ОН	Construction	671	5/1/1991	5/13/1991	1991	12	8,052	64,416
1991DV001180	Pdca Columbus Chapt (& Oths Columbus Oh & V F	PAT 1275	Columbus	ОН	Construction	250	5/1/1991	5/7/1991	1991	6	1,500	12,000
1991EV001384	Insulation Contractors Association	HFIA 3	Cleveland	ОН	Construction	250	5/1/1991	5/10/1991	1991	9	2,250	18,000
1991EV001460	Construction Employers Association	LIUNA 310	Cleveland	ОН	Construction	2500	5/1/1991	5/6/1991	1991	5	12,500	100,000
1991EV001505	Mechanical Contractors Assoc Of Cleveland Inc	PPF 120	Cleveland	OH	Construction	1500	5/1/1991	5/3/1991	1991	2	3,000	24,000
1991FV001747	Cleveland Area Glazing Contrs Labor Grp Of Cleve	PAT 181	Cleveland	OH	Construction	179	5/15/1991	6/7/1991	1991	23	4,117	32,936
1991FV001904	Construction Employers Association	BBF 744	Cleveland	ОН	Construction	300	6/1/1991	6/10/1991	1991	9	2,700	21,600
1991GV002290	Mechanical Contractors Assoc Akron Oh (&oths P	PPF 219	Akron	OH	Construction	150	6/3/1991	6/15/1991	1991	12	1.800	14,400
1001E\/001804	Age-central Obio Division	C 1A 207	Columbus	OH	Construction	35	6/24/1001	6/27/1001	1001	3	105	840
100111/002420	Machanical Contro Division	DDE 42	Norwalk		Construction	295	7/1/1001	7/9/1001	1001	7	2 605	21 560
1991110002429	Ote al And Inc. On attention Association	DO014/47	Olaviala	011	Construction	303	0/40/4004	0/00/4004	1991		2,033	21,500
1991EV001538	Steel And Iron Contractors Association	BSOIW 17	Cleveland	OH	Construction	2190	8/19/1991	8/22/1991	1991	3	6,570	52,560
1992GV002252	Master Insulators Association	HFIA 35	Youngstown	ОН	Construction	35	6/15/1992	6/20/1992	1992	5	175	1,400
1993IV002697	Associated Bldg Contractors Of Nw Oh Inc (I R Div	BAC 3	Toledo	он	Construction	250	7/1/1993	7/24/1993	1993	23	5,750	46,000
1993/0002146	Frank Messer & Sons Construction Company	LIUNA 265	Cincinnati	ОН	Construction	300	7/19/1993	2/4/1994	1994	200	60,000	480,000
1993JO002455	Frank Messer & Sons	CJA SW OH DC	Cincinnati	OH	Construction	75	7/19/1993	2/4/1994	1994	200	15,000	120,000
1993IO002075	Cincinnati Roofing Contractors Association	RWAW 42	Cincinnati	OH	Construction	225	8/2/1993	8/6/1993	1993	4	900	7,200
1994BV000425	Stoneco Inc	IUOE 324	Maumee	OH	Construction	27	5/2/1994	5/25/1994	1994	23	621	4,968
1994FV001857	Agc Plastering & Lathing Contractors Ohio Bldg Cl	OPCM 1	Dayton	ОН	Construction	42	5/2/1994	5/22/1994	1994	20	840	6.720
1994HV002317	Painting & Drywall Cos Canton Oh & Vicinity Pat 60	PAT 603	Canton	ОН	Construction	100	6/1/1994	6/18/1994	1994	17	1.700	13.600
19941//002816	Builders Assn Of Eastern Ohio & Western Ponnovi	SMW 33	Youngstown	OH	Construction	300	6/1/1004	6/10/1004	1004	0	2 700	21 600
1004E\/001757	Insulation Contractors Association	HEIA 3	Cleveland	ОН	Construction	300	6/12/1004	7/8/1004	1004	3 7F	1 000	21,000
1006B\/000274	Leawardiak & Cana		Columbuo	04	Construction	40	0/13/1994	4/40/1994	1994	20	1,000	6,000
1990BV000374	Loewendick & Sons	ID1 204	Columbus		Construction	6	3/15/1996	4/19/1996	1996	35	210	1,680
1997EV001158	Construction Employer Association	LIUNA 310	Cieveland	UH	Construction	2000	5/1/1997	5/9/1997	1997	8	16,000	128,000
1997HV001866	wood County Regional Water/sewer District	AFSCME 1099	Bowling Green	ОН	Utilities	22	6/3/1997	6/24/1997	1997	21	462	3,696
1998FV000818	Builders Association Of East Oh & West Pa	OPCM 179	Youngstown	он	Construction	152	6/1/1998	6/16/1998	1998	15	2,280	18,240
1998JV001465	Aga Gas Incorporated	OCAW	Maumee	ОН	Utilities	33	2/3/1999	3/8/1999	1999	33	1,089	8,712
1999CV000319	Hilltop Basic Resources Inc	IBT 100	Cincinnati	OH	Construction	33	5/17/1999	12/17/1999	2000	214	7,062	56,496
2001AV000058	Cedar Fair Limited Partnership	PPF 42	Norwalk	OH	Construction	8	3/22/2001	4/3/2001	2001	12	96	768
2003EV000430	Kuhlman Corporation	IBT 20	Toledo	OH	Construction	30	4/1/2003	4/3/2003	2003	2	60	480
2003EV000489	Dgm (towpath Ready Mix)	IBT 92	Beaver	ОН	Construction	14	4/18/2003	6/1/2003	2003	44	616	4.928
2003CV000276	Westviewli	IBT 20	Lorain	ОН	Construction	14	5/28/2003	10/14/2003	2004	139	1.946	15.568
200309070051	Akron Area Contractors	PPF	Akron	OH	Construction	300	6/14/2002	6/21/2002	2004	7	2 100	16 800
20021 \/001297	Stopoco Inc/mateo Division		Maumoo		Construction	300	5/2/2003	5/11/2003	2003	1	2,100	1 0 2 0
200321001387	Alloyd Ashastas Abstar and Ca		Douton		Construction	30	6/10/2004	6/10/000	2004	8	240	1,920
2004GV000791	Alloyd Aspestos Abatement Co	HEIA /9	Dayton	UH	Construction	25	6/18/2004	0/18/2004	2004		-	-
2005007200NE	DeGussa Construction Chemicals	USA-8565-03	Cieveland	UH	Construction	30	5/2/2005	5/16/2005	2005	14	420	3,360
2005009B000M	MASON CONTRACTORS ASSOCIATION OF CLE	BAC-5 Cleveland	Cleveland	OH	Construction	900	5/2/2005	5/9/2005	2005	7	6,300	50,400
2009007N01CO	CEA Construction Employers Association	LIUNA-310	Cleveland	ОН	Construction	715	5/5/2009	5/14/2009	2009	9	6,435	51,480
2008006K001V	Cleveland City	Municipal Construction	Cleveland	OH	Construction	85	7/17/2009	7/30/2009	2009	13	1,105	8,840
2009009Y012G	AGC-West Central Ohio Division	Bricklayers and Allied	Lima	OH	Construction	45	7/27/2009	8/18/2009	2009	22	990	7,920
COUNT	76					40232				34	606,533	
					1	† – †					15.08	

Work Stoppages

GSA – TENTATIVE DRAFT REPORT Applicability of Project Labor Agreements

Hawaii

FMCS Case				Affected			WS Begin	WS End	Ending		Worker	Worker
Number 💌	Employer Name 💌	Union Name 💌	Affected City	State 🖓	Industry	🖓 # ldl 💌	Date 💌	Date 💌	Fiscal Year 🔻	durati	Days	Hrs
1984EB00O629	Pacific Electrical Contractors' Assoc	IBEW 1186	Honolulu	HI	Construction	400	9/10/1984	12/28/1984	1985	109	43,600	348,800
1984GB00U623	Gen Contractors Labor Assn Bldg Industry Lab As	CJA 745	Honolulu	HI	Construction	1000	9/20/1984	1/18/1985	1985	120	120,000	960,000
1985BA00Q215	Reinforcing Steel Co's (3)	BSOIW 625	Honolulu	HI	Construction	300	3/15/1985	4/23/1985	1985	39	11,700	93,600
199809500016	Citizens Utilities-kauai Electric	IBEW 1260	Lihue	HI	Utilities	82	12/1/1997	12/4/1997	1998	3	246	1,968
COUNT	4					1782				68	175546	
										Average	98.5	

California

FMCS Case				Affected			WS Begin	WS End	Ending		Worker	Worker
Number V	Employer Name		Affected City •	State	Industry		Date V	Date V	Fiscal Year	duratic	Days	Hrs
1984JA00B113	Hansen Radi Mix Ca	IMIF7	San Francisco	CA	Construction	15	0/10/1003	3/8/1983	1983	32	2 7 9 4	3,840
108404000951	Baadu Mix Companies	IDT 100	Mass valley	CA	Construction	1200	6/10/1903	2/0/1904	1904	1/4	2,7 04	22,212
1984QA00A014	Smaana	DDE 26	Noter Call	CA	Construction	1200	7/6/1094	7/2/1094	1904	33	39,000	310,000
108468000096	National Fire Sprinkler Assoc	DDE 492	San Joaquin Valle	CA	Construction	70	9/1/1094	0/4/1094	1904	4	200	2,240
1984EB000200	Gang Nail Comp Inc	C 1A 2299		CA	Construction	100	0/1/1904	9/4/1964	1904		20,400	5 600
1984EB000300	Back Crusher (4th St)	GJA 2200	LUS Angeles Son Bornardino	CA	Construction	100	9/11/1904	5/2/10/5	1904	11	/00	3,000
1985EB00B773	Fast Bay Masonny Contre Assn Of Ca Confo	B1 03	Oakland		Construction	250	7/15/1095	9/15/1095	1005	21	7 750	62,000
1985EB00H932	Grav Lift Inc	LIOE 3	Fresno		Construction	230	8/1/1985	8/21/1985	1903	20	800	6 4 0 0
1985EB001101	Ameron Pipelinings Division		Long Beach	CA	Construction	6	8/1/1985	8/15/1985	1985	14	84	672
1985/B00S013	Masonry Builders Inc	LIUNA 89	San Diego	CA	Construction	100	12/16/1985	12/17/1985	1986	1	100	800
1986HQ003061	Lathing And Plastering Const. Assn	OPCM 224	SanJose	CA	Construction	300	7/1/1986	7/9/1986	1986	. 8	2.400	19.200
1986IQ003554	Pleasant Valley Ready Mix. Inc	IBT 137	Sacramento	CA	Construction	9	7/9/1986	8/13/1986	1986	35	315	2,520
1986IQ003271	Fidelity Roof Company	RWAW 81	Oakland	CA	Construction	57	7/31/1986	12/18/1986	1987	140	7.980	63.840
1986IR001867	Roofing Contractors-23 La & Vic (rwaw)	RWAW 36/220	Los Angeles	CA	Construction	100	8/18/1986	8/25/1986	1986	7	700	5.600
1986LR002398	Economy Roof	RWAW 36 & 22	Los Angeles	CA	Construction	80	8/18/1986	8/23/1986	1986	5	400	3,200
1986LR002399	So Calif Roofing Co	RWAW 36 & 22	Los Angeles	CA	Construction	55	8/18/1986	8/23/1986	1986	5	275	2,200
1986LR002404	Modern Kraft	RWAW 36 & 20	Los Angeles	CA	Construction	20	8/18/1986	8/23/1986	1986	5	100	800
1986LQ004481	Dredging Contractors	IUOE 3	Alameda	CA	Construction	200	11/3/1986	3/9/1987	1987	126	25,200	201,600
1987IR002404	United Roofing Contractors Association	RWAW 45	La Mesa	CA	Construction	100	8/17/1987	9/23/1987	1987	37	3,700	29,600
1988RR000028	Construction Laborer Employers La W3 487 (21)	LIUNA MULTI	Los Angeles	CA	Construction	5000	7/14/1988	7/20/1988	1988	6	30,000	240,000
1989R R000079	Agc - San Diego - W-3 (6)	MULTIMULTI	San Diego	CA	Construction	300	6/16/1989	7/28/1989	1989	42	12,600	100,800
1989IP004858	Hester Roofing	RWAW 47	Sacramento	CA	Construction	75	9/1/1989	9/26/1989	1989	25	1,875	15,000
1990FR001697	Masonry Contractors Southern California Bac 2 & 1	BAC 2 & 13	Los Angeles	CA	Construction	1150	5/1/1990	5/3/1990	1990	2	2,300	18,400
1990HR002462	Plumbing Contractors Inc	PPF DC 16 LU 582	Los Angeles	CA	Construction	20	9/4/1990	9/28/1990	1990	24	480	3,840
1991IR002242	Display & Exhibit Bldrs Los Angeles Ca & Vic Pat	PAT 831	Los Angeles	CA	Construction	60	9/26/1991	9/29/1991	1991	3	180	1,440
1991KR002857	Southern California Glass Management Association	PAT 636	Fullerton	CA	Construction	1200	11/4/1991	11/11/1991	1992	7	8,400	67,200
1992FP001812	Tile Contractors Association Of Northern California	BAC 19	Oakland	CA	Construction	750	6/22/1992	7/23/1992	1992	31	23,250	186,000
1992JP004198	Western Insulation Contrs Assn Of Nrthn Ca (wican	HFIA 16	Lafayette	CA	Construction	450	8/3/1992	9/11/1992	1992	39	17,550	140,400
1993IP003495	Smith Rice/dutra (clamshell)	MEBA TOWBOAT OF	Rio Vista	CA	Construction	56	8/1/1993	8/21/1993	1993	20	1,120	8,960
1993IR002405	Flooring Covering Association Of Southern Ca Inc	PAT 1247	Los Angeles	CA	Construction	50	8/2/1993	8/17/1993	1993	15	750	6,000
1994RR000002	Southern California Gas Co L.a.&vic (d8) (2)	MULTIMULTI	Los Angeles	CA	Utilities	4400	10/1/1993	10/2/1993	1994	1	4,400	35,200
1995IP003211	Dredging Contractors Association Of California	IUOE 12	Pasadena	CA	Construction	350	9/18/1995	10/29/1995	1996	41	14,350	114,800
199809760010	American Transit Mix (atm)	IBT 431	Fresno	CA	Construction	19	11/10/1997	11/19/1997	1998	9	171	1,368
199809410025	Cal Mat	IBT 87	Bakersfield	CA	Construction	45	6/30/1998	7/9/1998	1998	9	405	3,240
1999GP001783	Northern California Floorcovering Association	PAT 12	San Francisco	CA	Construction	300	7/1/1999	7/9/1999	1999	8	2,400	19,200
199909740061	Hanson Aggregrate	IBT 36	San Diego	CA	Construction	240	9/8/1999	9/9/1999	1999	1	240	1,920
2000GP001572	Northern California Drywall Contractors Assoc	PAT DC 16	Oakland	CA	Construction	1200	8/1/2000	8/16/2000	2000	15	18,000	144,000
200110140065	Lathing & Plast Contractors Assoc. Of St & San Ma	PLASTERERS 66	San Francisco	CA	Construction	500	7/2/2001	7/25/2001	2001	23	11,500	92,000
2001RR000006	Construction Companies San Diego & Vic (9)	MULTIMULTI	San Diego	CA	Construction	200	7/10/2001	7/13/2001	2001	3	600	4,800
2001HR001020	Sim J Harris	IBT 36	San Diego	CA	Construction	15	8/6/2001	8/29/2001	2001	23	345	2,760
200210450042	Universal I russ, Inc	UBCJA 721	Fontana	CA	Construction	420	6/4/2002	6/8/2002	2002	4	1,680	13,440
2002GR000885	Commercial Pallet	CJA 721	City Of Industry	CA	Construction	250	7/1/2002	7/5/2002	2002	4	1,000	8,000
2003GR000810	Steel Fabricators Association Of Southern Californ	BSOIW 509	Los Angeles	CA	Construction	296	6/6/2003	6/16/2003	2003	10	2,960	23,680
2004ER000601	Ameron water Fransmission Group	LIUNA 783	Rancho Cucamong	CA	Ountes	120	2/9/2004	3/30/2004	2004	00	6,000	48,000
2005005X000L	Epink of California	CJA-721	Los Angeles	CA	Construction	30	5/4/2005	5/25/2005	2005	21	630	5,040
2005007N2P14	MASTER PLASTERERS & LATHERS ASSOC (4	DPCIVI-300	FRESNU	CA	Construction	25	7/1/2005	7/6/2005	2005	5	125	1,000
2005009H01DF	Associated Basedy Mixed Constants Inc.	IDT 26	See lenidiks	CA	Construction	30	0/22/2005	12/2/2005	2005	70	1 610	4,300
2005008H000K	Colden State Electings	IDT-30	SAN DIEGO	CA	Construction	23	9/23/2003	6/10/2005	2006	70	1,010	12,000
200500900005	CEMEX / IAM Multi Legal Capabilidated	ID I -03 COUNCILI	Disconston	CA	Construction	10	8/12/2006	8/25/2006	2006	11	252	2 024
20000000001J	Mobile Crane Operators Group Inc	LIOE-12	Pasadana	CA	Construction	23	7/30/2007	8/15/2000	2006	11	203	2,024
200700300300	Hanson Andredates Pacific Southwest Inc	IBT-36	San Diego	CA	Construction	215	11/1/2007	11/6/2007	2007	5	1 075	8 600
200700900450	Coffman Specialties Inc	ID 1-30	San Diego		Construction	215	2/29/2009	1/0/2007	2008	C A	1,075	0,000
200800900320	PDCA/FCA	ILIPAT-294	Fresno	CA	Construction	200	7/1/2008	7/9/2008	2008	4 8	1 600	12 800
2006009B01FK	Graniterock Company \ Peninsula Concrete	IBT-853	San Leandro	CA	Construction	200	7/14/2008	2/4/2000	2000	205	4 920	39,360
LOSOUGEDIER	channels of ourparily in chinistia contrible		Can Ecanoro	0.1	001.0000011	24	., 14/2000	21-12000	2005	200	4,520	00,000
COUNT	56					22212				27.05357	300764	
										Average	13.54	

Oregon

FMCS Case				Affected			WS Begin	WSEnd	Ending		Worker	Worker
Number 💌	Employer Name 💌	Union Name 💌	Affected City 🕶	State 🖓	Industry	-√7 # IdI(▼	Date 💌	Date 💌	Fiscal Year 💌	duratic	Days	Hrs
1990GP002648	Drywall Contrs Portland & Vi Cja Or State & Sw Wa	e CJA	Portland	OR	Construction	660	6/1/1990	6/6/1990	1990	5	3,300	26,400
1992PP000086	Drywall & Interior Contractors (4) Portland, Or	MULTI CJA PAT OPC	Portland	OR	Construction	800	6/2/1992	6/14/1992	1992	12	9,600	76,800
1994CP000699	Lone Star Northwest	IUOE 701	Portland	OR	Construction	48	6/1/1993	3/11/1994	1994	283	13,584	108,672
2007009C01ZM	Associated Wall & Ceiling Contractors	Pacific Northwest Reg	Portland	OR	Construction	1300	6/1/2007	6/20/2007	2007	19	24,700	197,600
COUNT	4					2808				79.75	51184	
										Average	18.23	

Arizona

FMCS Case				Affected		_	WS Begin	WS End	Ending		Worker	Worker
Number 💌	Employer Name 💌	Union Name 💌	Affected City 💌	State 🖓	Industry	📲 Idl 💌	Date 💌	Date 💌	Fiscal Year 🔻	d ura tic 💌	Days	Hrs
1985FB00J080	Sun Control Tile Co	PAT 86	Tempe	AZ	Construction	35	8/26/1985	8/29/1985	1985	3	105	840
1986FQ001334	Pdca Of America, Arizona Chapter 1	PAT 86	Phoenix	AZ	Construction	400	6/5/1986	7/21/1986	1986	46	18,400	147,200
1987HR001957	Painting & Decorating Contractors/tucson (pat #59	PAT 596	Tucson	AZ	Construction	100	7/1/1987	8/7/1987	1987	37	3,700	29,600
1988IR002511	Construction & Allied Co's Phoenix Az/liuna 383/47	LIUNA 383/479	Phoenix	AZ	Construction	200	8/8/1988	8/15/1988	1988	7	1,400	11,200
1988KR 003390	Tanner Construction Company	LIUNA 383	Phoenix	AZ	Construction	250	8/8/1988	8/15/1988	1988	7	1,750	14,000
1988KR 003391	Tanner Construction Company	OPCM 394	Phoenix	AZ	Construction	250	8/8/1988	10/28/1988	1989	81	20,250	162,000
1988KR 003392	Tanner Construction Company	OPCM 395	Phoenix	AZ	Construction	250	8/8/1988	10/28/1988	1989	81	20,250	162,000
1989KR 003480	Tanner Const Cos	OPCM 394	Phoenix	AZ	Construction	1100	7/11/1989	9/12/1989	1989	63	69,300	554,400
1990KR 003404	Century Materials Inc	IBT 104	Tempe	AZ	Construction	90	12/11/1990	12/13/1990	1991	2	180	1,440
1992FR 001565	James Bond Trucking	IBT 104	Phoenix	AZ	Construction	30	9/22/1992	2/25/1993	1993	156	4,680	37,440
1992JR002639	Insulation Contractors Phoenix Az & Vic Hfia 73	HFIA 73	Phoenix	AZ	Construction	40	8/11/1992	8/24/1992	1992	13	520	4,160
200207720080	Western Insulation Contractors Assoc.	HIFA 73	Phoenix	AZ	Construction	140	9/3/2002	9/6/2002	2002	3	420	3,360
200307720003	Western Insulation Contractors Assoc.	HIFA 73	Phoenix	AZ	Construction	140	9/3/2002	9/6/2002	2002	3	420	3,360
200500200016	Service Insulation Systems	HIFA-73	Tucson	AZ	Construction	25	8/1/2005	8/18/2005	2005	17	425	3,400
200500200017	Performance Insulation	HIFA-73	Tucson	AZ	Construction	20	8/1/2005	8/18/2005	2005	17	340	2,720
2005007N2ZG2	ASBESTOS CONTRACTORS PHOENIX AZ & VIO	HFIA-73	PHOENIX	AZ	Construction	190	8/1/2005	8/18/2005	2005	17	3,230	25,840
2005009H0160	Construction 70, Inc.	IUOE-428	Phoenix	AZ	Construction	210	6/3/2005	6/6/2005	2005	3	630	5,040
2005009H0161	Lampson International, LLC	IUOE-428	Phoenix	AZ	Construction	12	6/3/2005	6/7/2005	2005	4	48	384
2005009H0162	Wheeler Construction	IUOE-428	Phoenix	AZ	Construction	200	6/3/2005	6/7/2005	2005	4	800	6,400
2005009H0163	Arizona General Contractors Association	IUOE-428	Phoenix	AZ	Construction	400	6/3/2005	6/9/2005	2005	6	2,400	19,200
2005009H0164	Markham Construction Company	IUOE-428	Phoenix	AZ	Construction	195	6/3/2005	6/6/2005	2005	3	585	4,680
200800200021	WICA -AZ CHAPTER	HIFA-73	Phoenix	AZ	Construction	85	8/30/2008	9/4/2008	2008	5	425	3,400
Count	22					4362				26.27273	150258	
										Average	34.44704	

New Jersey

FMCS Case				Affected			WS Begin	WS End	Ending		Worker	Worker
Number 💌	Employer Name 💌	Union Name 💌	Affected City 🔻	State 🖓	Industry	📲 Idl 🔻	Date 💌	Date 💌	Fiscal Year 💌	duratic	Days	Hrs
1984CB00B982	Builders Fair	ISLA 704	Springfield	NJ	Construction	140	1/28/1984	3/19/1984	1984	51	7,140	57,120
1986FY002512	Mechanical Contr Assn Of Nj Inc & Ind (9	PPF 274	Union	NJ	Construction	60	5/1/1986	6/6/1986	1986	36	2,160	17,280
1986FZ001670	Building Contractor's Assoc Of Nj	BAC 33	Moorestown	NJ	Construction	300	5/1/1986	5/8/1986	1986	7	2,100	16,800
1987HY004487	North Jersey Painting Contractors Association	PAT 19	Paterson	NJ	Construction	550	5/4/1987	6/2/1987	1987	29	15,950	127,600
1987LY006391	Heat And Cold Insulation Contr Of New Jersey	HFIA 32	Linden	NJ	Construction	100	9/21/1987	1/17/1988	1988	118	11,800	94,400
1987KY006072	Jersey Central Power And Light Co	IBEW 327 1289 1298 1	Morristown	NJ	Utilities	3800	11/20/1987	12/14/1987	1988	24	91,200	729,600
1989YY000039	Ready Mix Cos Of New Jersey (11)	IBT 560	Union City	NJ	Construction	200	5/30/1989	6/9/1989	1989	10	2,000	16,000
1990AY000053	New Jersey Glass Dealers Association	PAT 1095	Elizabeth	NJ	Construction	200	11/20/1989	11/25/1989	1990	5	1,000	8,000
1990EZ001569	New Jersey American Water Co	UWU 395	Eatontown	NJ	Utilities	121	4/4/1990	4/20/1990	1990	16	1,936	15,488
1990HZ002817	Henry J Lucas Electric Co Inc	IBEW 269	Windsor	NJ	Construction	17	5/1/1990	9/7/1990	1990	129	2,193	17,544
1991BY000935	Elizabeth Town Gas	UWU 424	Union	NJ	Utilities	300	11/21/1990	12/14/1990	1991	23	6,900	55,200
1992FZ002168	Associated Glazing Contractors Of Philadelphia &	PAT 252	Camden	NJ	Construction	720	6/1/1992	6/29/1992	1992	28	20,160	161,280
1992GZ002466	M C Decorating Inc (mc)	IBT 115	Rio Grande	NJ	Construction	39	8/24/1992	2/5/1993	1993	165	6,435	51,480
1992KZ003732	Master Glaziers Of Central New Jersey	PAT 1183	Princeton	NJ	Construction	200	10/1/1992	10/30/1992	1993	29	5,800	46,400
1993HY004670	Agc Of New Jersey (associated General Contract	IUOE 825	Cranbury	NJ	Construction	500	7/1/1993	7/22/1993	1993	21	10,500	84,000
1993YY000055	Contractors Agc Independent Alumni Nj (5)	IUOE 825	Edison	NJ	Construction	900	7/2/1993	7/22/1993	1993	20	18,000	144,000
1993HZ003014	Construction Contractors Southern Nj & Vic luoe 82	IUOE 825	Trenton	NJ	Construction	450	7/12/1993	7/22/1993	1993	10	4,500	36,000
1994HY004266	National Fire Sprinkler Association	PPF 696	Millburn	NJ	Construction	80	7/15/1994	8/2/1994	1994	18	1,440	11,520
1998LY004471	Elizabethtown Gas Co (n U I Corp) (keane College	UWU 424	Union	NJ	Utilities	290	11/21/1998	12/10/1998	1999	19	5,510	44,080
1999EY001433	Interpak Terminals	IUOE 825	Edison	NJ	Construction	25	5/11/1999	5/20/1999	1999	9	225	1,800
1999DZ000467	Homestead Carpets Inc	CJA METRO REG CC	Gloucester City	NJ	Construction	28	5/25/1999	7/31/2001	2001	798	22,344	178,752
1999GY002211	Agc Of New Jersey	BSOIW MULTI	Edison	NJ	Construction	450	7/19/1999	7/22/1999	1999	3	1,350	10,800
1999GY002212	Building Contractors Association Of New Jersey (b	BSOIW MULTI	Edison	NJ	Construction	450	7/19/1999	7/22/1999	1999	3	1,350	10,800
2000EZ000724	J F Kiely Construction Co (jf)	UWU 409	Long Branch	NJ	Construction	170	5/1/2000	5/22/2000	2000	21	3,570	28,560
2000GY002081	Agc	BSOIW MULTI	Edison	NJ	Construction	2000	7/10/2000	7/13/2000	2000	3	6,000	48,000
2000KZ002061	South Jersey Gas Co	IAM S-76	Hammonton	NJ	Utilities	330	11/10/2000	1/17/2001	2001	68	22,440	179,520
2000KZ002062	South Jersey Gas Co	IAM S-95	Hammonton	NJ	Utilities	120	11/10/2000	1/17/2001	2001	68	8,160	65,280
2000LZ002162	South Jersey Gas Company	IBEW 1293	Cape May Court Ho	NJ	Utilities	46	12/8/2000	1/15/2001	2001	38	1,748	13,984
200309870037	Mt. Holly Water Company	UWU 423	Westfield	NJ	Utilities	50	2/1/2003	2/7/2003	2003	6	300	2,400
200309870038	Elizabethtown Water Company (all Non Clerical)	UWU 423	Westfield	NJ	Utilities	180	2/1/2003	2/7/2003	2003	6	1,080	8,640
2003BY000475	Elizabethtown Water Co (clerical & Mt Holly Agt)	UWU 423	Westfield	NJ	Utilities	300	2/1/2003	2/7/2003	2003	6	1,800	14,400
2004CY000723	PCI/DURA MIX CONCRETE	IBT-804	FAIR LAWN	NJ	Construction	12	4/1/2004	7/19/2004	2004	109	1,308	10,464
2004JZ001880	JERSEY CENTRAL POWER & LIGHT	IBEW-System Council	asbury park	NJ	Utilities	1400	12/8/2004	3/16/2005	2005	98	137,200	1,097,600
2005008H017T	Elevator Manufacturers Assn of NY & Others	IUEC-Local 1	Teaneck	NJ	Construction	1000	3/17/2005	6/27/2005	2005	102	102,000	816,000
2005003D0007	United Water Camden	IBT-331	Camden	NJ	Utilities	50	8/8/2005	10/5/2005	2006	58	2,900	23,200
2006008H01F4	PENN JERSEY BUILDING MATERIALS (Agate)	IBT-331	Atlantic City	NJ	Construction	54	7/21/2006	7/31/2006	2006	10	540	4,320
2006003T0014	Atlantic County Concrete	IBT-331	Atlantic City	NJ	Construction	30	7/26/2006	7/31/2006	2006	5	150	1,200
2006003T0015	CLAYTON BLOCK COMPANY LLC	IBT-331	Lakewood	NJ	Construction	30	7/26/2006	7/31/2006	2006	5	150	1,200
2009008H02UH	Stepan Company	PPF-274	Maywood	NJ	Construction	10	8/31/2009	9/14/2009	2009	14	140	1,120
Count	39					15702				56.10256	531479	
								1		Average	33.84785	

Denver

FMCS Case				Affe cte d			WS Begin	WS End	Ending		Worker	Worker
Number 💌	Employer Name	🔹 Union Name 🖪	Affected City ▼	State 🖓	Industry	🚽 # Idl 🔻	Date 💌	Date 💌	Fiscal Year 🔻	d ura tic 💌	Days	Hrs
2005008H27BU	Willbros Mt West Inc.	PPF-798	Fruita	CO	Construction	24	7/23/2005	7/31/2005	2005	8	192	1,536
1984HB00Z932	Kiewit Western	IBT 13	Denver	CO	Construction	30	8/23/1984	9/6/1984	1984	14	420	3,360
1985DA00Z703	Golden Concrete Gravel & Construction Co	IBT 13	Longmont	CO	Construction	60	6/26/1985	7/2/1985	1985	6	360	2,880
1985EB00D292	Construction (trucking) 5 Denver & Vic I	IBT 13	Denver	CO	Construction	300	7/3/1985	8/29/1985	1985	57	17,100	136,800
1986KP003452	A G & S Inc	HFIA 28	Denver	CO	Construction	4	8/25/1986	10/9/1986	1987	45	180	1,440
1986KP003453	Feeney Industrial Insulation	HFIA 28	Denver	CO	Construction	6	8/25/1986	10/7/1986	1987	43	258	2,064
1986KP003454	Performance Contracting Inc	HFIA 28	Denver	CO	Construction	3	8/25/1986	10/7/1986	1987	43	129	1,032
1986KP003462	Mountain States Engineering	HFIA 28	Denver	CO	Construction	15	8/25/1986	3/1/1987	1987	188	2,820	22,560
1987EP001692	Construction Cos., Denver Co Vic.	SMW 9	Englewood	CO	Construction	75	7/1/1987	9/8/1987	1987	69	5,175	41,400
1990HP003244	Western Paving Construction Company	IUOE 9	Denver	CO	Construction	217	7/30/1990	8/2/1990	1990	3	651	5,208
1990KP004741	Western Paving Construction Company	IBT 13	Denver	CO	Construction	217	7/31/1990	8/2/1990	1990	2	434	3,472
1995IP003642	Painting Contractors Denver Co & Vic Pat 79	PAT 79	Denver	CO	Construction	35	7/17/1995	9/25/1995	1995	70	2,450	19,600
200209900054	Ludvik Electric Construction	IBEW 68	Denver	CO	Construction	85	6/29/2002	11/25/2002	2003	149	12,665	101,320
COUNT	13					1071				53.61538	42834	
										Average	39.99	

Washington DC

As discussed above, Washington DC has not seen a construction strike in the FMCS data from 1984 - 2009.

FMCS Case				Affected			WS Begin	WS End	Ending		Worker	Worker
Number 💌	Employer Name	Union Name 🔻	Affected City 🔻	S ta te 🖓	Industry	📲 Idl 🔻	Date 💌	Date 🔻	Fiscal Year 🔻	d ura tic 🔻	Days	Hrs
1985DA00X612	Potomac Electric Power Co (pepco)	IBEW 1900	Washington	DC	Utilities	3300	8/6/1985	8/11/1985	1985	5	16,500	132,000
1986FM001395	Washington Gas Light Co	OPEIU 2	Washington	DC	Utilities	1847	6/6/1986	6/22/1986	1986	16	29,552	236,416
1986GM001703	Washington Gas Light Company	IUGW	Washington	DC	Utilities	1847	6/4/1986	6/22/1986	1986	18	33,246	265,968
1995GZ002081	Washington Gas Light Company	IUGW	Washington	DC	Utilities	1080	6/10/1995					
			Utilities Only -NIL fo	r CONSTR	UCTION!	6994					79298	
										Average	11.338	