
WARNING SIGNS

YOUR CONSTRUCTION
PROJECT IS AT RISK

Solutions to Identify and
Overcome Labor Issues



CONSTRUCTION
INDUSTRY
RESOURCES

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Most owners execute capital projects to meet a business need – adding capacity, new product rollout, cost savings, or meeting environmental regulations are all common project business needs. In funding the projects, these corporate business needs are translated into specific project objectives for cost, quality, schedule, and safety which become the primary measures of success or failure for the project team.

In owner organizations, the firm commitments for cost and schedule also become key elements in the company's multifunctional execution plan for the facility. For example, manufacturing will be hiring and training new personnel to operate the facility on the planned startup date, finance will be allocating funds for the expected capital cost, purchasing will be contracting for raw materials, packaging materials will be delivered, and sales will be planning the marketing rollout of new capacity or products.

Missing project cost and schedule targets have a significant impact on many parts of the company and is usually considered a major failure in most organizations.

Of course, every project has a team and leaders; so from a personal perspective, owner project managers, construction managers, and team members base the success of their careers on the ability to deliver projects consistently and successfully. Missing project objectives may result in significant career impacts, so understanding how to achieve success is critical.

Driven by the importance of project success, most owner companies deploy skilled people and proven work processes to deliver consistent results. As part of these processes, most owners evaluate project risks that could impact their ability to deliver the objectives and then take appropriate actions to mitigate these risks during their project planning.

Occasionally, there are unexpected risks that impact projects and cause missed objectives; but quite often the risks are knowable. Skilled craft labor shortages cause many owners to miss project targets, so early recognition of the skilled labor market threat is essential to anticipate risk and achieve more predictable outcomes. This risk is manifested in headcount and/or competency to complete the project.

In the 2006-2008 period of high construction workload, many industrial owners unexpectedly experienced skilled labor shortages which severely impacted costs, schedule, quality, and safety. During that period, there were too many projects relative to the existing skilled workforce. To attract skilled workers to their projects, contractors were paying higher wages and bonuses. However, with less skilled workers they experienced lower productivity. Total labor costs increased as much as 30%, and in some cases, exceeded contingency allowances. Additionally, project startup dates were missed, additional quality issues arose, and rework was required. Many project managers needed to ask for additional funding and/or had to delay the startup dates for their projects. Even more important, and unacceptable, accidents increased.

Now, in a post-Covid economy, a confluence of market dynamics and project spending is exacerbating a challenge from which the construction industry still had not fully recovered - significant federal spending on public infrastructure, technology-related construction (E.g., data centers and semi-conductor facilities), reshoring of heavy manufacturing, an energy crisis/opportunity borne from the unexpected European war, and decarbonization goals driven by government mandate. All of this and more is boosting industrial construction and impossibly stretching the supply of skilled workers.

While there may be unexpected skilled labor risks that negatively impact projects, quite often the risks are knowable through effective early planning.



The purpose of this resource is to help construction industry asset stakeholders identify how skilled labor shortages will increase risks for a project, how they can use tools readily available to identify risks earlier, and how to employ labor risk mitigation recommendations to maintain control of their projects and consistently meet project objectives.

Recognizing Skilled Labor Risk: A Common Scenario

When project execution begins without adequate information about labor availability, or a well-planned labor risk mitigation plan, the project's leadership may be surprised by a skilled labor shortage. These surprises extend to the owner, general contractor, and subcontractors.

In a skilled labor shortage environment, which the United States appears destined to experience for an extended time, and as Baby Boomers retire and the labor pipeline continues to empty, the following is a very real and possible scenario for a project not prepared or expecting skilled labor risks. It is evidence of the warning signs which should not be ignored.



- ▶ The project starts with the owner presumably verifying the prime contractor understands the labor market, recognizes the risk, and has a plan to deliver the skilled labor needed to build the project.
- ▶ This standard plan for recruiting labor to the project is based on current competitive wages and benefits and expects to use the contractor's typical methods for recruiting workers. Normal communications such as advertisements, emails, and texts are used to connect with workers from past projects.



- ▶ As the project team ramps up their workforce and starts requiring more skilled workers, particularly in the mechanical trades, recruitment becomes more difficult. More workers are not readily available because they are committed to competing projects. Some will not change jobs because their current project is paying per diems, overtime, and/or retention incentives.



- ▶ Eventually, the issue of recruiting workers becomes a more serious project issue and extra advertising and recruiting efforts are put in place. The contractor's corporate resources are now involved. To attract skilled workers to the project, the project team starts talking about the need for per diems or expanded per diems, incentive bonuses, higher wages, or retention bonuses. On union projects, the contractors begin meeting with the union leadership about travelers.
- ▶ Meanwhile, on the project, absenteeism and turnover is a growing issue as workers are being recruited to other projects. There is a clear shortage of good foremen, lead craft workers and journeymen to maintain the schedule. Missing workers and turnover seriously reduce overall productivity.



- ▶ With fewer skilled workers available, the contractors try to maintain their workforce by accepting foremen and workers with lower skills. Work continues, but now there are increased issues with lower productivity, lower quality, more rework, and frequently, more accidents.
- ▶ Eventually the challenge becomes a significant project issue. The contractors formally share their concerns with the owner. Additional data about other projects is collected. They start talking about the need for significant wage increases to compete. Per diems and incentive bonuses are started to increase worker income.



- ▶ As the work pace declines because of inadequate workers and lower productivity, how the project will meet the project completion schedule objective becomes a central issue. Increasing the workforce to achieve a faster pace is not possible due to the inability to find workers. Increasing productivity is not possible because the current workforce is insufficiently trained and skilled.
- ▶ Sometimes contractors propose doing work out-of-sequence with a focus on the work where they have adequate skilled labor. This usually leads to lower productivity because the original optimum sequence has now been altered or abandoned.



- ▶ Subcontractors are also impacted by a skilled craft labor shortage. They also have difficulty staffing projects and meeting schedules. Frequently, they also must stop bidding on any new projects because they have limited resources. When that happens, quotes for any new work will be higher than the budget as more subs decline to bid or submit high courtesy bids. In some cases, when staffing risks are too high, subs will only work on time and material (T&M) contracts.
- ▶ Eventually, extended overtime is proposed to achieve the schedule. Extended overtime increases labor costs with premium overtime payments and may also reduce productivity even further.



- ▶ Most projects with skilled worker shortages also experience higher accident rates. Lower skilled workers, more turnover and extended overtime are all probable causes of increased accidents.



- Labor cost forecasts continue to increase when the contractor implements higher wages, per diems, incentive bonuses, and overtime premiums, which increases the cost per hour. On the other hand, less skilled workers mean lower productivity, requiring more hours and extended overtime, all of which contributes to more accidents, more rework, increased absenteeism, and higher turnover. Ironically, more hours mean the project needs more skilled workers than originally expected to complete the project. Owners are now paying higher wages to more workers on a project that is taking longer, all of which drive up total labor cost.



- When project leadership redirects focus to the impact of the labor shortage, they are distracted from their normal responsibilities for planning and managing the project. There are more daily issues in the field, and the work is not executed at the same level of performance as a successful project.



- Cascading and escalating challenges reduce project morale. Everybody knows the project is behind schedule and exceeding project costs. Quality and safety issues are recognized.

- If the startup is delayed, the construction contractor's organization will likely be kept on the project longer increasing project overhead costs above the original budget.

- At some point, the extra cost exceeds the project contingency allowances, and it is no longer able to achieve the cost and schedule objectives. The owner's project manager must request additional project funding and schedule relief. Chaos ensues!



- While some projects do get cancelled, most projects are eventually completed; however, the contractor and owner's project management credibility are damaged.

This may seem like a worst-case scenario, yet parts or all of it routinely occur on projects during labor challenges, particularly projects with inadequate planning. It doesn't need to be this way. To avoid these project outcomes, it is essential in **early planning** to recognize the labor market threat, identify the risks, implement risk avoidance and/or mitigation strategies, and create accountability. This should be done early and consistently throughout the project's planning and execution. With the tools and technology available in today's construction marketplace, there is no reason to be surprised by workforce shortages and labor risk.

Actions To Avoid and Mitigate Project Labor Risk

When adequate time is invested during a project's early pre-construction planning, there are numerous high-value labor risk avoidance options available. These options may vary for owners and labor providers and range from enabling basic identification of skilled labor risk to highly structured programs using metrics and accountability to produce a meaningful return on capital employed.

Often there is a presumption that a contractor on the preferred list, or who has performed well in the past, is essentially pre-qualified, but worker shortage desperation leads to insufficiently trained and skilled workers being hired at elevated rates while delivering subpar performance. This typically results in missed project objectives.

While contractors have the final responsibility to recruit, hire, train and retain workers, asset owners have the most to lose financially when worker challenges are present. Owners ultimately bear the cost. It is cheaper to plan to pay for a skilled workforce upfront than to pay for project overruns later. Active engagement will improve the owner's bottom line and the industry overall; however, it must go beyond identification and mitigation of the visible labor risk symptoms.

Four essential early planning steps to avoid missing project objectives:

1. Recognize regional labor market threats
2. Identify specific project labor risks
3. Implement a comprehensive labor risk strategy
4. Create metrics and accountability

TIMING IS CRITICAL FOR SUCCESS

Labor Risk Issues Impact Early Planning Decisions

- Site selection
- Modularization
- Contracting strategy
- Facility cost comparison

Labor Risk Issues Impact Key Planning Decisions

- Contractor risk profiles
- Risk mitigation goals
- Capacity to manage risk
- Metrics & benchmarking
- Contractor selection

Use the RFP and project scope to establish the culture and accountability needed on every project.



An essential role of project leadership is to carefully evaluate the risk profile of contractors and workers early in the bidding and planning processes, well before contracts are awarded. We recommend a two-phased approach to minimizing and avoiding labor risk. Each of these approaches includes most or all of the risk mitigation solutions identified.

PHASE 1

Develop an ***organizational-level*** understanding of your contractors' workforce and training programs and begin developing a culture of metrics and accountability for labor performance throughout the labor supply chain. The Contractor Workforce Development Assessment (CWDA) is a leading tool for this purpose and is an important first step in recognition and management of project labor risk. The CWDA is one of the five LRM (below) elements but is arguably the most critical because it captures foundational data needed to clearly understand a contractor's overall labor risk propensity.

Some owners and general contractors may conduct internal labor risk prequalification of contractors, but most don't employ a comprehensive evaluation process along with accountability. Benchmarking contractors against a standard and their competition evaluates risk in the context of the marketplace. The ongoing tracking process for each contractor creates metrics to drive improvement.

PHASE 2

Develop a ***project-level*** understanding of labor risk throughout the labor supply chain and create accountability and management of labor performance risk during the project lifecycle. The Labor Risk Management (LRM) program is a transformative, collaborative, leadership-driven solution addressing the systemic construction labor challenges which lead to labor shortages and increased project risk.

The LRM is project-based and deploys leading-edge resources and tools to help owners ensure they are doing business, on every project, with contractors who invest in training, grow the skills of their workforce and continuously improve. This comprehensive program is implemented on a project incrementally or in full and is designed to identify and avoid labor risk. An LRM-lite implementation would focus solely on the collection of CWDA metrics to understand training and performance.

Total implementation includes a requirement that the contractor invest in workforce development and training, and then accountability occurs in the periodic measurement of progress toward goals, which are established during the contractor selection process. The LRM establishes an expected return on investment and brings labor accountability for contractors, but is not heavy handed. Rather, it is designed to facilitate stakeholder collaboration to validate and improve craft labor competency, and then effectively measure progress at reasonable, pre-determined intervals during the project.

The strategies and tactics recommended here (without prioritization) are actions every project owner and contractor, and in some cases labor unions, should be implementing early in the planning process, under the organization- and project-level risk strategies, and will deliver meaningful, yet varying levels of impact and improvement. The focused leadership effort by asset owners and prime contractors to go upstream and prevent labor risk on projects has the potential to transform the market and create a positive return on investment for every project.

These actions represent the leading practices of owners and contractors who have experienced the shortage scenarios outlined in this document and learned how to plan and execute projects more effectively. Following the recommendations outlined here significantly increases the likelihood that the project will be successful and meet its objectives. They will also increase your operational excellence and help establish a reputation for consistently delivering projects on time, on budget, with quality, and without accidents.

*For more information about how to identify, plan for,
and avoid project labor risk, contact us ...*

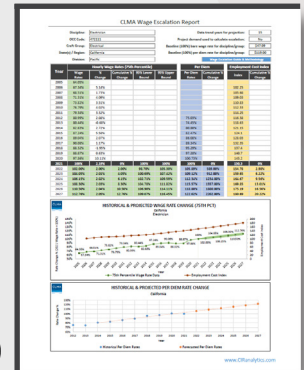
service@CIRanalytics.com - or - www.CIRanalytics.com

Labor Risk Identification and Avoidance Solutions

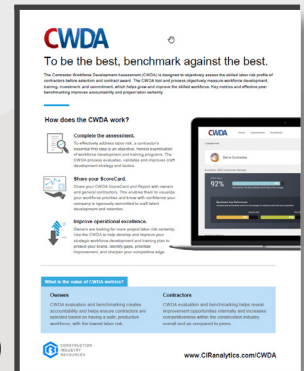
Construction Labor Market Analyzer – The CLMA is a powerful platform designed to help planners visualize the labor risk dynamics of craft disciplines for a particular project (or project portfolio) within a selected geography. Predictive analytics help stakeholders confidently understand the future construction labor market and avoid project risk. The CLMA is the industry’s leading labor market intelligence platform and analytics provider with a robust database of well over \$6 Trillion in non-residential project spending.



Labor Cost Escalation – These labor cost reports provide high-level, directional perspective on the budget impact of market dynamics, regional project spending and other key economic drivers. The reports estimate the future rate of change by recognizing and adjusting for the impact of supply/demand imbalance or labor cost growth. The reports display 95th percentile confidence interval bands enabling dynamic visualization of potential rate fluctuation over time. Rates are benchmarked against the Employment Cost Index (ECI) for evaluating regional construction labor cost trends relative to the labor cost trends of the overall marketplace.



Contractor Workforce Development Assessment – The CWDA is designed to objectively assess the skilled labor risk profile of contractors before selection and contract award. The tool and process objectively measure workforce development, training, investment, and commitment, which helps grow and improve the skilled workforce. Key metrics and effective peer benchmarking improves accountability and project labor certainty. The ongoing tracking process for each contractor creates metrics to drive improvement.



Labor Risk Management – The LRM program is a transformative solution addressing the systemic construction labor challenges which lead to labor shortages and increased project risk. The project-based LRM deploys leading-edge resources and tools to help owners and GC’s ensure they are doing business, on every project, with contractors who invest in training, grow the skills of their workforce and continuously improve. The LRM brings ROI for the project owner and labor accountability for contractors, using metrics and stakeholder collaboration to validate, benchmark, and improve craft labor competency during the project.





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