The Least Productive Industry

It's an Open Secret That Productivity in Construction Could Be Better, so The Business Roundtable Takes Aim

When it comes to construction productivity, somethin’s gotta give.

Owners are complaining that they aren’t getting their money’s worth in construction.

Contractors are complaining that the bidding has pared prices down to the point where the one who makes the biggest mistake gets the job.

Architects are crying that technology isn’t keeping pace in construction as it is in other industries.

Researchers out of Houston-based American Productivity Center, measuring the labor productivity in 11 sectors of the economy over the last three decades, confirm that construction is indeed a backward performer—by a wide margin.

Action Taken?

So what’s to be done?

AWCI President-elect Robert Whittle, chief executive officer of Niehaus Construction Corporation, of St. Louis, said the Business Roundtable is planning to do plenty.

“I’ve attended the sessions of The Roundtable,” Whittle said, “and its study points out that something has to be done about our industry’s lagging productivity—and it must be done quickly.

“The Roundtable feels that the best and most responsive program for bringing about these changes rests with the recommendations developed by its Construction Industry Cost Effectiveness Project (CICE).”

What Whittle is referring to is a four-year study just completed by the Business Roundtable’s CICE group. The study aimed at removing inefficiencies from the construction process so the industry can move ahead with
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a more responsive productivity gain.

“You have to remember that this four-year study was conducted by some 250 experienced construction people,” Whittle said, “and they represented more than 125 companies and other organizations.

“Each individual focused attention on those practices and procedures which hinder productivity in the types of construction that Roundtable members pay for. This includes office and commercial buildings, power plants, and industrial facilities.”

**Handbooks Issued**

As a result of the intensive study, The Business Roundtable has now published 24 handbooks of 220 recommendations which cover the gamut of construction practices. If the recommendations were carried out by the owners, contractors, trade associations, labor, government, academia and others, it is believed that owners would get what they want—more construction for their construction dollars.

“Given only a moderate degree of implementation on these recommendations,” Whittle continued, “The Roundtable feels we could conceivably produce a savings of some $10 billion annually.”

For example, data shows that a modest improvement in the frequency and severity of job site accidents could lower the annual estimated $8.9 billion cost by at least $2.75 billion. That alone represents an 8 percent drop in the direct-construction labor payroll. Absenteeism and labor turnover on large projects could chop labor costs by 5 to 10%. It is reported that the construction industry hires 5% of total workforce and accounts for 20% of job related fatalities.

The recommendations particularly emphasize how important improved management systems are to cost savings. A number of strategies were advanced to show that the industry could better control planning and scheduling functions; how savings could be achieved through better estimating, budgeting and cost control.

The researchers found that much of the labor cost waste could be traced directly to poor management, i.e., the material quantities did not arrive in the right place or in the right sequence or at the right time in such a way that it matched the manpower available.

Too many times the over-all logistics planning are poorly coordinated and subcontractors unable to sustain a properly managed work sequence.

“At the meetings of The Roundtable,” Whittle said, “we who attended heard researchers come back to the
theme that owners simply must be willing to pay the bill for better management, that they must pay the extra small cost for more effective methods."

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**Management Difficulty?**

Attaining good management on a construction project is difficult—but it can be done. The CICE recommendations point out that greater cooperation and coordination are sorely needed.

This coordination occurs at other steps in the process, not just the construction site. All segments of the industry should get together on the training and education function, on research and, especially, on the introduction of new technology. For too long, the industry has proceeded with a lowest-bidder system with each member of the building team looking out for its own interests while sacrificing the needs of the project.

To obtain the full benefits of modern management in construction, the recommendations claim, each function must have the information it needs to operate fully yet still be able to coordinate with other systems. This involves what is called a “planned constructability” program whereby an experienced project manager or construction manager works with engineers to prepare project designs in such a way as to eliminate costly
blocks to full efficiency.

“You have to remember,” Whittle said, “that from a specialty contractor’s experience, too many designers lack the up-to-date information on new systems and procedures that reduce onsite labor often resulting in investment tax credits and lower costs.

“Furthermore, there is no dependable way for these designers to maintain a current state-of-the-art awareness—because it’s not their job. That information is available from the specialty contractor who must know his own business in order to survive. The Roundtable’s recommendations involve a procedure for tapping this knowledge for the good of the project... as well as for improvement of the construction process itself,” he said.

Overtime Expensive?

Not all of the CICE recommendations involved the shortcomings of the contractor for industry ills. Owners shared in the blame for cost over-runs and nowhere was this more evident than in many large projects where scheduled overtime was part of the system.

These kinds of arrangements involved mostly large industrial or power plants where craftsmen were offered time-and-a-half or double time for work in excess of 40 hours a week. Such bonanzas attract workers from miles around. The upshot of such a project is that it’s usually counterproductive because of the drop-off in efficiency for a person working extra hours.

There is little doubt that extra time pay is efficient. AWCI completed an overtime study (the booklet is still in print and available from AWCI) showing the percentage drop in productivity as hours worked per week climbed. In 1971, The Roundtable published a report showing that scheduled overtime on large projects left the local job market in tatters. Once the big project was finished, the local construction economy was in disruption with pay rates and labor shortages magnified.

While the operating systems themselves came in for criticism, the inadequate training of foremen and general foremen along with workers who lacked motivation were mentioned prominently as contributors to low productivity.

A survey of 130 union and non-union contractors revealed that in only 13% of the cases were the foremen given any kind of supervisory train-
ing prior to their assignment. Technical skills were not the issue; the skill in handling people, in communicating with them, and in scheduling work in a logical, predictable manner was the issue.

The Roundtable study team found that contractors who do invest money and time in training their supervisory personnel are getting more than a three-time return on their investment. The work was not only supervised in a more efficient, professional way, but workers seemed better motivated to provide a good day's work for a good day's pay.

Workmen get mad, The Roundtable said, and an angry craftsman simply isn't productive. What irritates him the most is poor management. Asked to list their pet peeves against management, workmen mentioned these items:

a) unavailability of materials on site or at the work station
b) confusion on the project site itself
c) incompetent supervision
d) bad communications
e) need to re-do work that's already been finished (you might like change orders, but your employees don't like tearing out or changing work that they've already finished)
f) not having tools, or wrong tools and equipment for the job
g) non-professional or disrespectful treatment by supervisors.

The above list makes it abundantly clear that motivating workers is still a function of management. When any of these shortcomings are continual in a company, that firm's absenteeism and job turnover escalates.

Beyond these problems, the matter of improving construction productivity is hinged on the non-union vs. union situation, training craftspeople in apprentice programs, and developing improved construction contracts.

For years the growth of non-union construction has been hampered by a lack of trained workers. Without organization—such as the union movement provides—no workable training or education program was available to provide a worker pool for the non-union contractor. In recent years there has been a decided improvement in trained non-union workers.

For the most part, though, non-union contractors increase their workforces by hiring union people who have placed their union cards in their shoe. Now, training programs in the union sector have slowed down and there is a danger of a shortage of workers for the expected boom years of the 80's.

Vocational education has been sad-ly underutilized. Neither contractors nor unions are involved at the college level in any significant way.

Compounding this problem is the apparently slow process by which new technology moves into the construction system. The numerous—often warring— independent bodies and groups with a vested interest in pro-
tecting their role however limited is its geographical or influence spheres is largely responsible.

**Contracts Expensive?**

One needs only to review the literature on the fight over contract documents to realize how much additional expense is involved because of contract documents. Subcontractors have been battling for years for the acceptance of the A-401 Subcontract form that was developed by the American Institute of Architects . . . and success is still a long way off even though the forms that are in use now add about 5% to a project’s cost.

The remaining problem areas include organized labor, which is vigorous in its demand to determine which work will be performed by each craft. This exclusive jurisdiction has been a major source of cost and installation inefficiencies in the construction industry.

For this important reason, The Roundtable recommendations involve getting together with contractors during bargaining with unions and for preparing contract documents. Most of the researchers emphasized the fact that contractors require support and assistance from buyers and owners if anything substantial is to be done about negotiating changes in job jurisdictions and work practices.

The whole area of work practices came in for strong calls for reforms. The non-productive working time involved in late starts, early quits, excessive time for washing up and unauthorized breaks (mostly for coffee or smoking). In total, these practices pack on an estimated 15% in costs to any job—and no particular construction group is any better or worse than the others.

**Shortcomings Evident?**

“The Study by The Roundtable emphasized that the problem is far more critical than many contractors realize,” Whittle reported, “and that the lagging state of productivity in construction acts as a drag on the entire North American economy.”

It’s not a matter of union vs. non-union. The union sector is vital to economic well being—but one study after another now clearly shows that the present structure of bargaining, work rules, and work practices must be amended. In the Roundtable’s opinion more and more contractors will find more and more owners beginning to insist on quality and price as the latter fight to survive in their own increasingly global markets.

The job ahead, The Roundtable warns, must be to improve the cost efficiency of construction—and this will require major efforts and sacrifices by everyone. It can be done . . . management and the union movement can work together . . . and with a spirit of cooperation can all move ahead.