

PARTNERING ON SMALL CONSTRUCTION PROJECTS

By Michael A. Conley¹ and Rita A. Gregory,² P.E.

ABSTRACT: Application of partnering concepts on small construction projects by owners or government functionaries could result in substantial savings for private owners and public exchequers annually. This paper develops a concept for partnering for small construction projects based on recent management research and theories being developed in universities with the lessons learned from the U.S. Army Corps of Engineers experiences on partnering for large projects. The discussion addresses current attitudes toward partnering, particularly, in small (i.e., up to \$3,000,000) private or government sponsored projects. An objective of this paper is to share the benefits of partnering on small construction projects, based on practices and experiences of the U.S. Army Corps of Engineers. A final objective is to develop a primer for construction practitioners.

INTRODUCTION

Partnering concepts are underutilized in small private and public projects. There is a potential for saving millions of dollars annually provided the private construction managers or government contracting officers utilized partnering concepts on small construction projects. The primary objective of this paper is to share the benefits of partnering on small construction projects with contracting officers, contractors, and the concerned engineering community. Small projects, for the purposes of this paper, are those that have a value of less than \$3,000,000, midsize projects are those between \$3,000,000 and \$10,000,000, and large projects will be considered to have a value greater than \$10,000,000. This paper describes results of the partnering practices, carried out by the U.S. Army Corps of Engineers (COE), in the context of small, private, or public construction projects. The COE results combined with construction management theory currently being developed in universities (Sillers 1998) will be used to form a bridge to small private and public projects. A final objective is to cross this bridge into developing a primer for construction practitioners.

The traditional method (design-bid-build) of managing construction projects is largely adversarial in nature (*Design* 1986). The numerous parties involved are each working to fulfill their own goals. The principal parties involved in a construction project are the owner or government, the contractor or constructor, the designer, and, on some projects, the subcontractors and material suppliers. The traditional method of managing construction projects does not encourage opportunities for the parties involved in the construction project to find common goals. Communication among the principal parties is often weak.

The adversarial attitudes, the lack of communication, and the legal posturing involved with the traditional method of construction management are the major contributors of inefficiency in the construction industry (*Design* 1986). The traditional management techniques that are devoid of partnering concepts produce projects that are often less ideally suited for the owners, more expensive, and behind schedule. The situation is costly and unfavorable to both the contractor and the owner.

Partnering that is proactive in avoiding or at least managing conflict, thus producing more satisfied players and potentially saving time and money, is a better method of managing construction projects. Partnering is an attitude that fosters the development of a win-win relationship (*The J6* 1994). The parties involved recognize that they have common goals that can be achieved through cooperation as well as open and honest communication. Partnering is an organized effort to improve communications in design and construction projects. Partnering attempts to resolve conflicts before they escalate and reach the stage where claims are filed or litigation is initiated. The Construction Industry Institute defines partnering in the following manner (*In search* 1991):

A long-term commitment between two or more organizations for the purpose of achieving specific business objectives by maximizing the effectiveness of each participant's resources. This requires changing traditional relationships to a shared culture without regard to organizational boundaries. The relationship is based upon trust, dedication to common goals, and an understanding of each other's individual expectations and values. Expected benefits include improved efficiency and cost-effectiveness, increased opportunity for innovation, and the continuous improvement of quality products and services.

The regulatory requirements, under which federal agencies must operate, preclude the establishment of long-term relationships between the agency and the contractor, except under a case-by-case basis (U.S. Air Force 1992). Each construction project must be competed and awarded to the lowest responsive and reliable bidder (*Federal* 1984). However, the COE pioneered the concept of partnering, even under these regulatory constraints. The COE defines partnering as the creation of a relationship between the owner and the contractor for the achievement of mutually beneficial goals (Edelman et al. 1991). It is important to note that partnering is not a contractual agreement and does not create any legally enforceable rights or duties (Edelman et al. 1991). The proper use of partnering reduces the adversarial relationship between the owner, designer, and contractor and may be extended to include key vendors, subcontractors, and users of the facility.

PARTNERING PROCESS

The first step in developing a partnering agreement is to determine if the contractor is willing to participate in a partnering arrangement. Partnering will not be successful if one of the parties is forced or unwilling to participate on a voluntary basis. Partnering also needs the support of top management in both organizations. The top management in the owner's agency should contact the top management in the contractor's organization to propose the partnering arrangement.

¹Lt., U.S. Navy Civ. Engr. Corps; and M.S.C.E., Georgia Inst. of Technol., Atlanta, GA 30332.

²Asst. Prof., Georgia Inst. of Technol., Coll. of Engrg., School of Civ. and Envir. Engrg., Constr. Engrg. and Mgmt., Atlanta, Ga.

Note. Discussion open until March 1, 2000. To extend the closing date one month, a written request must be filed with the ASCE Manager of Journals. The manuscript for this paper was submitted for review and possible publication on February 24, 1998. This paper is part of the *Journal of Construction Engineering and Management*, Vol. 125, No. 5, September/October, 1999. ©ASCE, ISSN 0733-9634/99/0005-0320-0324/\$8.00 + \$.50 per page. Paper No. 17746.

Once the contractor has agreed to participate in a partnering arrangement the next step is to identify the members/stakeholders to participate in the scaled down partnering workshop. Anyone who could damage the agreement in the future should be included in the initial partnering workshop. If people have had input in the development of the partnering agreement they are much more likely to support and abide by the agreement (*The J6* 1994). The principal participants should be the project manager, the architect/engineer, the quality inspector, the contractor's project manager, and the contractor's superintendent. Other people who could be included are the owner (normally the public works officer at an Army base), a representative from the user, a project manager from major subcontractors, and a representative from major material suppliers. Groups with between 5 and 15 members are often the most effective (Schultzel 1996). Therefore, it is important that concerned representatives from the list above are included as the core participants.

The partnering workshop should be conducted, as soon as practical, following the award of contract. The owner's project manager should assume the responsibility for planning and coordinating the partnering process. The owner's project manager should determine if the contractor's project manager is ready and willing to assist with the preparations for the partnering workshop. This may not be a requirement; however, the offer should be made to indicate the true desire of partnering. The goals of the partnering workshop are to help the project team establish open and honest communication, to develop a team spirit, and to develop the partnering charter. When the partnering workshop begins, the first step would be to introduce the participants and their roles. A facilitator would then discuss the goals of the partnering workshop and the concepts of partnering with the workshop participants. If economically feasible, an independent, third-party facilitator may be hired. If the project is not economically large enough to support a professional facilitator, a mutually acceptable third-party volunteer may be found in a local university or professional society/organization. Edelman et al. (1991) suggest that the facilitator discuss the concepts of principled negotiation, where solutions that serve the interest of both parties are sought.

One of the major accomplishments of the partnering workshop would be the completion of the partnering charter. The partnering charter will be written by a consensus of all the members of the project team. The charter should have a well-defined mission statement and objectives translated into specific goals with a means of measuring success. In addition, the agreement should include an outline, in writing, that defines the processes for raising issues and resolving conflicts, approval levels and authorities, and schedules for regular follow-up meetings. Once the agreement is completed the participants should own it by signing the agreement. The partnering charter should be displayed in the field office. The signed charter will serve as a symbol of the participant team's commitment to meeting their goals. Appendix I provides a sample charter with very broad, generic goals. A project specific charter should be prepared with the consensus of all concerned parties involved in a project that details the goals to their project.

One of the last activities for the team would be to determine the frequency for holding follow-up meetings, which are important to assess the team's performance. The follow-up meetings also aid the effort toward open communication. If the parties involved in the project develop a good working relationship early in the construction process, they are more likely to discuss concerns before the situation reaches the stage requiring expensive rework or correspondence culminating into a dispute. The atmosphere of open communication will

assist the owner and the contractor in achieving their common goals of completing a project on time and within the budget.

PARTNERING ON LARGE PROJECTS

The federal government generally awards construction contracts on a competitive, low-bid basis. Projects partnered in the low-bid environment can still outperform nonpartnered projects (Larson 1995). Many government agencies use partnering concepts very successfully on large projects. Most partnering projects begin with the owner and the contractor sharing the cost of hiring a facilitator to assist in developing a partnering agreement. In the process of developing the partnering agreement the facilitator also shares the general concepts of partnering in the context of what, when, and how with all concerned team players. The facilitator also leads the parties involved in some team building exercises. There are many examples where the use of partnering on large projects has reduced the claims cost and time delays as well as increasing the value engineering savings (*The J6* 1994). Two sets of data gathered by researchers in recent years are useful in supporting these conclusions. In both the investigations, partnered and nonpartnered projects were evaluated based on the criteria of cost change, duration change, change order cost, claims cost, and value engineering savings. One group of researchers studied a set of projects executed through the COE, and the other study examined the projects completed by Naval Facilities Engineering Command (NAVFAC). Table 1 summarizes the results of a study of 16 partnered and 28 nonpartnered COE projects (Weston and Gibson 1993). Table 2 summarizes the results of a study of 39 partnered and 100 nonpartnered NAVFAC projects (Schmader 1994).

A comparison of Tables 1 and 2 indicates some differences between the COE data and the NAVFAC data in terms of cost change and change order cost. However, both Tables 1 and 2 indicate that partnering is a better alternative for large public projects in terms of claims cost, duration change, and value engineering savings. Both tables also indicate that partnering appears to provide a benefit in the area of duration change. This is consistent with the findings of Pocock and Liu (1996)

TABLE 1. COE Project Performance Comparison (Weston and Gibson 1993)

Mean criterion (1)	Partnered N = 16 (2)	Nonpartnered N = 28 (3)
Cost change (%)	2.72	8.75
Duration change (%)	9.07	15.53
Change orders (%)	3.89	7.74
Claims cost (%)	0.67	5.01
Value engineering savings (%)	0.73	0.05
Mean contract award price (dollars)	10,368,643	11,448,745

TABLE 2. NAVFAC Project Performance Comparison (Schmader 1994)

Mean criterion (1)	Partnered N = 39 (2)	Nonpartnered N = 100 (3)
Cost change (%)	11.20	9.79
Duration change (%)	13.54	25.93
Change orders (%)	11.34	9.38
Claims cost (%)	0.04	0.57
Value engineering savings (%)	0.17	0.01
Mean contract award price (dollars)	11,190,681	4,887,601

who concluded that partnered projects show less schedule growth than traditional projects.

PARTNERING ON SMALL PROJECTS

Partnering applications are not common in small construction projects. However, small projects suffer many of the same problems at those mentioned above in the context of large projects. Conflicts and problems on small construction projects can more quickly become issues and be compounded by the smaller size, limited experience of the contractor, and fewer resources at the contractor's disposal. Edelman et al. (1991) concluded that the benefits of successful partnering relationships include improved communication, increased quality and efficiency, on-time performance, improved long-term relationships, and a fair profit and prompt payment to the contractors. Despite the recognized benefits of partnering, most small to midsize projects are still managed through traditional methods of construction management devoid of partnering.

Although quantitative comparisons of small-partnered projects with small-nonpartnered projects are not readily available, given the basic similarities of construction projects regardless of dollar value, the benefits realized from partnering on large projects should be realized on small-partnered projects. The COE is endeavoring to develop, promote, and practice partnering on all contracts (Podziba 1995). Although many companies have not tracked the results of their partnering efforts, they conclude partnering is paying off because of the reduced adversity and the fact that the work is more enjoyable (Wilson et al. 1995). The COE has published case studies from a number of their partnering efforts on small projects. One such case study was about the partnering effort on the Drayton Hall Streambank Protection Project. The project was valued at only \$189,625. Yet both the user and the contractor felt that the partnering workshop was of great value. The attitudes and relationships built during the workshop led to the efficient resolution of problems that arose during construction (Podziba 1994).

INFORMAL PARTNERING

Partnering is widely accepted as a useful technique on construction projects. Formal partnering is usually reserved for larger projects because of the expenses involved in the initial workshop. The parties involved usually share the expenses. However, small construction projects can suffer from the same adversarial relationships as larger projects. On smaller construction projects it may not be economically feasible to have the principle parties spend several days in a partnering workshop, or even to hire a facilitator to conduct the partnering workshop. But if the owner's representatives, such as government contracting officers, are familiar with the principles of partnering, it would be possible to implement an informal version of partnering. The use of informal partnering is recommended for small projects when the project owners are experienced in the construction industry (Schultzel 1996).

The main difference between formal and informal partnering is that informal partnering does not use a third-party fa-

ilitator. With informal partnering the team development takes place as a part of the project management (*Partnering* 1996). An informal partnering agreement would have the same effect as that of a formal partnering agreement; however, the informal partnering would only have a brief workshop, perhaps half a day, and would be facilitated by a mutually acceptable person such as an experienced government contracting officer. Other sources could be volunteers from a near-by university or local professional organization. It would be desirable to have a facilitator who is not directly involved in the project. In one study it was found that construction management with informal partnering is superior to the traditional method of managing construction projects in terms of meeting schedules, controlling costs, meeting customer needs, and avoiding litigation (Larson 1995). Appendix II provides an outline and a brief description on ways and means of organizing informal partnering.

CONCLUSIONS

The reduction in schedule growth and claims cost along with the increase in value engineering savings support the use of partnering concepts in projects of all sizes. Although partnering has been successful on large construction projects for a number of years, the COE and the construction industry have only recently begun supporting the application of partnering on small construction projects. Because smaller construction projects do not always have sufficient funding to enable them to organize a formal partnering effort, with paid facilitators, an informal partnering option is suggested. The use of informal partnering on small construction projects would be more appropriate for projects that have a duration of at least 6 months and where schedule growth is a major concern of the owner.

Partnering on small projects is relatively a new practice, with most descriptions of partnering on small projects in qualitative terms. Even without quantitative measures, many companies conclude partnering is paying off because of the reduced adversity and a better working environment. Although a documented partnering agreement is not contractually binding, it serves as a reminder, to all parties concerned, of their commitment toward a successful project.

RECOMMENDATIONS

The following recommendations are made for small construction projects:

1. Owners, especially federal agencies, should follow the COE's lead and take a more proactive role in training their employees on partnering and in providing their support of partnering on construction projects regardless of size.
2. A quantitative analysis should be made between small-partnered projects and small-nonpartnered projects.
3. Projects valued at less than \$3,000,000 should be evaluated to determine if informal partnering would benefit the project.

APPENDIX I. SAMPLE PARTNERING CHARTER

We, the Project Partners on Contract No: _____, through trust, honesty, professional respect and cooperation, dedicate ourselves to working as a team to accomplish the following goals:

- I. Complete the project under the above contract providing a safe, quality, aesthetically pleasing and functional facility that meets the needs of our users.
- II. Complete the project on or before _____ within budget, with fair and reasonable profit to design and construction contractors.
- III. Maintain full and open communication between team members to foster mutual respect among the parties.
- IV. Resolve issues at the lowest appropriate levels.
- V. Explore innovative methods to expedite design and construction.
- VI. Minimize changes after the 30% design review.
- VII. Develop plans to avoid environmental remediation (asbestos, lead paint abatement) soon after completion of the project, by the 60% design stage.
- VIII. Develop clear, complete and concise contract documents.
- IX. Preserve the partnership by adding partnering to the agenda of all scheduled meetings.
- X. Celebrate the success of the partnering results!

Signatures or Participants

APPENDIX II. GUIDE TO INFORMAL PARTNERING ON SMALL PROJECTS

1. Determine if the project is appropriate for informal partnering. A positive response to the following questions is a good indication that the project is suited for informal partnering:
 - a. Is there support from top management in the government organization?
 - b. Does the project have a duration of at least 6 months?
 - c. Is the project under \$3,000,000 and free of unusual design elements?
Projects between \$3,000,000 and \$10,000,000 may also be suited for informal partnering if the parties involved have had previous partnering experience and there are no unusual design elements on the project.
2. Ensure contractor is willing to participate. Partnering will not work if someone is forced to participate. Send a letter to the contractor's chief executive office and project manager. The letter should briefly explain the partnering process and ask if they are willing to participate in a partnering arrangement. The partnering effort will not work without the support of top management in both the government organization and the contractor's organization.
3. Choose a facilitator. The facilitator's primary objective should be to help the team reach a consensus during the partnering workshop. For this reason it is best to select a government representative who will not be involved in the administration of the contract.
4. Determine who should attend the partnering workshop. People will be more likely to support the partnering charter if they have helped develop it. Therefore, it is important to have anyone who could later damage the agreement be present during the partnering workshop. Partnering workshops generally work best with between 5 and 15 members. The workshop should not have more than 24 members.
5. Schedule the partnering workshop. The partnering workshop should be scheduled as soon after contract award as possible. Informal partnering workshops are often held at the jobsite to keep costs to a minimum.
6. Select and provide read-ahead materials. The partnering workshop will achieve the greatest benefit if everyone attending has been furnished with appropriate read-ahead material. This should include an introduction

to the partnering concept, background information on the topics to be covered by the facilitator, and advance notice to start thinking about what they want to achieve.

7. Set the agenda and hold the workshop. It is important to ensure that the partnering workshop is well planned to prevent the workshop from becoming just another pre-construction conference. The following agenda is useful for a half-day informal partnering workshop for a small project (Podziba 1995):
 - a. Self-introductions
 - b. Review of the project
 - c. Review of the partnering process by the facilitator
 - d. State Individual and team goals
 - e. Define success (and where appropriate establish measurements or metrics of success) through group discussion
 - f. Identify potential problems
 - g. Identify solutions to the problems
 - h. Develop and sign a group partnering charter
8. Hold follow-up meetings at regular intervals.

APPENDIX III. BIBLIOGRAPHY

- Crowley, L. G., and Karim, A. (1995). "Conceptual model of partnering." *J. Mgmt. in Engrg.*, ASCE, 11(5), 33–39.
- Doyle, M., and Straus, D. (1976). *How to make meetings work*. Wyden Book, New York.
- Guide to partnering in the Louisville District*. (1996). U.S. Army Corps of Engineers, Louisville District, Louisville, Ky.
- Harback, H. F., Basham, D. L., and Buhts, R. E. (1994). "Partnering paradigm." *J. Mgmt. in Engrg.*, ASCE, 10(1), 23–27.
- McDowell, E. E. (1991). *Interviewing practices for technical writers*. Baywood Publishing Co., Amityville, N.Y.
- Miles, R. S. (1996). "Twenty-first century partnering and the role of ADR." *J. Mgmt. in Engrg.*, ASCE, 12(3), 45–55.
- Nielsen, D. (1996). "Partnering for performance." *J. Mgmt. in Engrg.*, ASCE, 12(3), 17–19.
- Partnering*. (1991). U.S. Department of the Interior, Constr. Div., Bureau of Reclamation, Washington, D.C.
- Partnering: A Concept for success*. (1991). Associated General Contractors of America.
- Schumacher, L. (1996). "An integrated and proactive approach for avoiding delay claims on major capital projects." *Cost Engrg.*, 38(6).

APPENDIX IV. REFERENCES

- Design and construction delivery strategies*. (1986). U.S. Air Force/CE, Pentagon, Washington, D.C.
- Edelman, L., Carr, F., and Lancaster, C. (1991). *Partnering*. U.S. Army Corps of Engineers, Washington, D.C.
- Federal Acquisition Regulations*. (1984). Part 6, U.S. Government Printing Office, Washington, D.C.
- In search of partnering excellence*. (1991). *Special Publ. 17-1*, Construction Industry Institute, Partnering Task Force, Austin, Tex.
- The J6 partnering case study, J6 large rocket test facility*. (1994). U.S. Army Corps of Engineers, Institute for Water Resources, National Technical Information Center, Springfield, Va.
- Larson, E. (1995). "Project partnering: Results of study of 280 construction projects." *J. Mgmt. in Engrg.*, ASCE, 11(2), 30–35.
- Partnering implementation guide*. (1996). Eastern Federal Lands Highway Division, Washington, D.C.
- Pocock, J., and Liu, L. (1996). "Alternative approaches to projects: Better or worse?" *The Military Engr.*, 578, 57–59.
- Podziba, S. L. (1994). *Small projects partnering: The Drayton Hall Streambank Protection Project*. Susan L. Podziba & Associates, Brookline, Mass.
- Podziba, S. L. (1995). *Deciding whether or not to partner small projects: A guide for U.S. Army Corps of Engineers Managers*. Susan L. Podziba & Associates, Brookline, Mass.
- Schmader, K. J. (1994). "Partnered project performance in the U.S. Naval Facilities Engineering Command," MS thesis, University of Texas, Austin, Tex.
- Schultzel, J., and Unruh, V. P. (1996). *Successful partnering*. Wiley, New York.
- Sillers, D. N. (1998). "Pre-operational attributes as predictors of organizational success within a joint venture: Modeling joint venture formation in the architectural/engineering/construction industry," Dissertation, Georgia Institute of Technology, Atlanta.
- U.S. Air Force. (1992). "Part 5317—Special contracting methods." *Acquisition Circular (AFAC) 92-10*, U.S. Government Printing Office, Washington, D.C.
- Weston, D. C., and Gibson, G. E. (1993). "Partnering-project performance in U.S. Army Corps of Engineers." *J. Mgmt. in Engrg.*, ASCE, 9(4), 410–415.
- Wilson, R. A., Jr., Songer, A. D., and Diekmann, J. (1995). "Partnering: More than a workshop, a catalyst for change." *J. Mgmt. in Engrg.*, ASCE, 11(5), 40–45.