DELIVERING DISPUTE FREE PROJECTS – DOES PARTNERING HELP?

A RESEARCH PERSPECTIVE ISSUED BY THE NAVIGANT CONSTRUCTION FORUM™

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Building on the lessons learned in construction dispute avoidance and resolution.™

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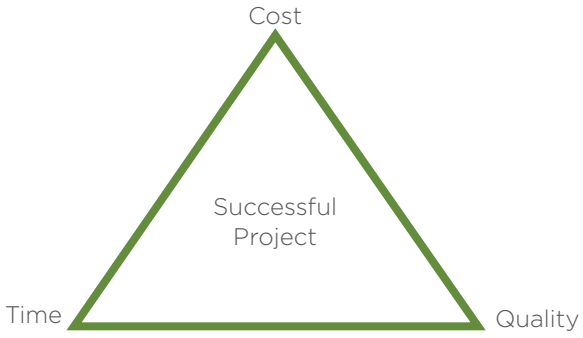
PURPOSE OF RESEARCH PERSPECTIVE

Subsequent to the issuance of the three part ***Delivering Dispute Free Projects***[1] series and the more recent report ***A Crystal Ball – Early Warning Signs of Construction Claims & Disputes***[2] the Navigant Construction Forum™ was asked to look into project partnering to determine whether partnering can help deliver a dispute free project. The Navigant Construction Forum™ performed a literature search to determine what studies have been performed on partnering and whether there is any empirical data to support the strengths and the weaknesses of partnering. This research perspective summarizes the findings of this literature research.

INTRODUCTION

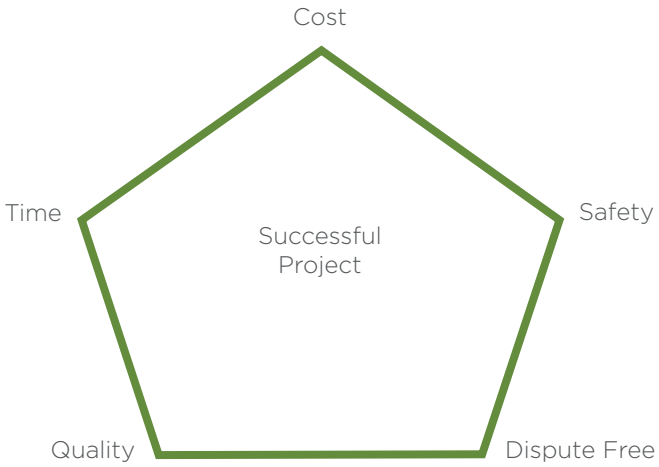
When the author first went to work for an engineering / construction management firm in the 1970's, a project was considered to be successful if it met three goals as set forth below.



1. See Delivering Dispute Free Projects: Part I – Planning, Design & Bidding (September 2013); Part II – Construction & Claim Management (March 2014); and Part III – Alternative Dispute Resolution (June 2014), Navigant Construction Forum™, Boulder, CO.
2. See A Crystal Ball – Early Warning Signs of Construction Claims & Dispute, (June 2015), Navigant Construction Forum™, Boulder, CO.

In the 1980's the author started working with construction contractors and learned that the triangular definition of a successful project was incorrect in that there was a fourth dimension necessary to accomplish a successful project as set forth below.

Based on the previous reports on ***Delivering Dispute Free Projects and Early Warning Signs & Construction Claims*** the Navigant Construction Forum™ has determined that there are five requirements necessary to deliver a successful project as outlined below.



It is this fifth dimension, dispute free, that the Navigant Construction Forum™ is most concerned with when performing research and publishing its perspectives. The initial premise of this research perspective is that partnering ***does*** contribute to project success in multiple ways.

A SHORT HISTORY OF PARTNERING

Partnering in the private sector appears to have been born in the 1980's when the concept of Total Quality Management ("TQM") spread throughout industry. Partnering's roots in public construction began around the same time but not as quickly as in the industrial sector as there was no TQM effort at that time in the public sector. It has been reported that:

> "In 1987 Colonel Charles Cowan of the U.S. Army Corps of Engineers in Oregon and Norm Anderson of the Washington State Department of Transportation, simultaneously began to develop cooperative programs for their public projects. These programs began to be called "public partnering". Within a couple of years 85 percent of the state departments of transportation were partnering. Partnering spread like wildfire to many public owners who developed partnering specifications, and began to define what partnering meant to their organizations."[3]

For the last three years of Mr. Cowan's military career he was the commander of the Portland Oregon District of the U.S. Army Corps of Engineers ("COE"). There he first developed and implemented the partnering concept on the largest construction project in the Northwest; the $328 million Bonneville Navigation Lock. Since then, partnering has been successfully implemented to varying degrees by the COE and many other State and Federal agencies, most notably by a large number of State Departments of Transportation ("DOT"). Many State DOTs have implemented the partnering process on an agency wide basis and are frequently cited in articles and case studies in the construction trade press.

Other authors credit the U.S. Army Corps of Engineers with implementing partnering in the public sector in 1988 during the construction of the William Bacon Oliver Lock and Dam in Alabama. In response to the emerging litigious nature of construction contracts, the COE sought a process to promote dispute prevention and reduce exposure to litigation. The COE recognized the historically adversarial nature of their traditional

3. Sue Dyer, Partner Your Project, Pendulum Publishing, Livermore, CA, 1997. Cited 85% of *DOT's Use Partnering on Projects*, Better Roads, February, 1994.

contractual relationships with contractors was detrimental to their desire to reduce claims and litigation. In addition, the COE realized there was a distinct lack of open communication between the contractors and the COE contract administrators and acknowledged that it was time for change.[4] Regardless of which story is accurate, it is clear that the COE was the original initiator of the public contract partnering effort at least in the Federal construction sector.

WHAT ARE THE CHARACTERISTICS OF PARTNERING?

Partnering is a process, not a single act. As such, partnering is hard to define. ***Webster's American Dictionary*** states that a "definition" is "...a statement that tells what a thing is or what a word means." But, as it turns out, partnering is hard to define as it means different things to different people and perhaps different things to the same people but on different projects. In its simplest form successful partnering is the establishment of a team approach for a mutually beneficial resolution of the ongoing challenges and problems that typically arise on a construction project. Because partnering has several different definitions, it is easier to describe the characteristics of partnering as experienced by multiple stakeholders in the construction industry.

The Construction Industry Institute ("CII") is a consortium of more than 130 leading owner, engineering-contractor, and supplier firms from both the public and private sectors. These organizations have joined together to enhance the business effectiveness and sustainability of the capital facility life cycle through CII research, related initiatives, and industry alliances. CII established a task force to examine the partnering process and published their initial report on partnering in 1987. In their original report CII's task force characterized partnering in the following manner.

> "...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."[5]

The COE, the first known proponent of partnering in the federal government, characterized partnering in the construction industry as set forth below.

> "...the creation of an owner-contractor relationship that promotes achievement of mutually beneficial goals. It involves an agreement in principle to share the risks involved in completing the project, and to establish and promote a nurturing partnership environment. Partnering is not a contractual agreement, nor does it create any legally enforceable rights or duties. Rather, partnering seeks to create a new cooperative attitude in completing government contracts."[6]

The U.S. Naval Facilities Engineering Command ("NAVFAC"), another government entity that was an early supporter and adopter of partnering characterized partnering in a similar fashion.

4. Charles R. Glagola and William M. Sheedy, *Partnering on Defense Contracts*, Journal of Construction Engineering and Management, Vol. 128, No.2, American Society of Civil Engineers, April 1, 2002.
5. Cited in Partnering Toolkit, Implementation Resources 102-2, Construction Industry Institute, University of Texas at Austin, 1996.
6. Lester Edelman, Frank Carr and Charles L. Lancaster, Partnering Pamphlet 4, Alternative Dispute Resolution Series, U.S. Army Corps of Engineers, 1991.

"...a common sense communication process. It establishes effective working relationships between the partners and makes their jobs easier. Through commitment, trust, communications and shared objectives, partnering creates an attitude of teamwork and an atmosphere for effective problem solving."[7]

From the contractor's perspective the Associated General Contractors of America ("AGC") characterized partnering as:

"...attempts to establish working relationships among the parties through a mutually developed formal strategy of commitment and communications. It attempts to create an environment where trust and teamwork prevent disputes, foster a cooperative bond to everyone's benefit, and facilitates the completion of a successful project.

It is a way of achieving an optimum relationship between a customer and a supplier. It is a method of doing business in which a person's word is his or her bond and where people accept responsibility for their actions. Partnering is not a business contract but a recognition that that every business contract includes an implied covenant of good faith."[8]

Looking at partnering from the design professional's viewpoint, the American Society of Civil Engineers ("ASCE") discussed partnering in the following manner.

"Partnering is an effort that attempts to merge the contractor's, the owner's and the engineer's interests into a single project goal. Partnering involves cooperative project management among the contractor, the owner, and the engineer."[9]

And, from a final perspective, the lawyer's perspective, the American Arbitration Association ("AAA") described partnering as follows.

"Partnering is a synergy – a cooperative, collaborative management effort among contracting and related parties to complete a project in the most efficient, cost effective method possible, by setting common goals, keeping lines of communication open, and solving problems together when they arise."[10]

As can be seen from these quotations, partnering looks different when seen through the lenses of different construction stakeholders – owners, contractors, design professionals and attorneys. However, there are some common threads running through all of these characterizations: constant open communications between the parties and teamwork focused on issue resolution promptly and at the working level of a project. Another useful way of looking at partnering is to see it as a way for the owner, the design professionals, the construction managers and the contractor to maintain regular communications and to discuss and implement cooperative efforts when issues arise on a project, as they will. The successful partnering process provides an alternative to the adversarial pattern that often exists when each party crafts all communication and correspondence

7. Jack E. Buffington, *U.S. Naval Facilities Engineering Command Policy Letter*, 1992.
8. Partnering - A Concept for Success, Associated General Contractors of America, Washington, D.C., September, 1991.
9. Richard K. Allen, Dispute Avoidance and Resolution for Consulting Engineers, American Society of Engineers, New York, 1993.
10. Construction Industry Dispute Avoidance: The Partnering Process, American Arbitration Association, New York, 1993.

to establish and protect one's own position to the exclusion of all others. Partnering, therefore, is a voluntary process and primarily consists of workshops, meetings and the use of facilitators to help the parties establish working relationships and attitudes where project problems can be discussed and resolved in a non-adversarial atmosphere.

DRIVERS OF PARTNERING IMPLEMENTATION

Having determined what the characteristics of partnering are, the Navigant Construction Forum™ reviewed the literature to determine the primary drivers that bring about partnering in an organization. Partnering is, typically, an owner driven project management tool; and, since partnering is a diversion from the typical project management process, unless the owner has had bad experience with previous projects, why would they take the time and make the effort to implement partnering? The International Partnering Institute ("IPI") published a report that identified four different methods for adopting partnering.[11] This report identifies four drivers that bring about partnering in owner organizations. They are the following.

Legislative / Executive Mandate – This method is employed when a senior executive above the level of the owner organization issues a mandate that public agencies reporting to the executive must implement partnering. IPI set forth, as an example, the City and County of San Francisco, California. In 2013 the Mayor of San Francisco issued an Executive Directive to six major City departments directing each department to implement partnering on all projects with a value in excess of $100,000. The IPI report identified what they believe are the strengths of the Executive Directive trigger to implement partnering in the following manner.

- ***Executive Commitment*** – The directive included a set of goals that all departments were to strive for and clearly demonstrated top level executive commitment to the partnering process.
- ***Cross Training*** – All departments undertook partnering training together so that the implementation of partnering was fairly uniform across all departments.
- ***Additional Benefits*** – While it is common for departments within the same municipality to work together on projects, it is not common for them to train together. By doing so interdepartmental networking and a closer working relationship was an added benefit.

IPI summarized the Executive Mandate by pointing out that this directive was a clear mandate for each department, leaving no room for doubt that they would implement partnering.

Owner Mandate – This method is, like the one above, a top down directive but in this case it is the director of a single owner organization that mandates the use of partnering. The example in the IPI report is the San Francisco International Airport. In 1992 the airport director directed partnering on all airport projects. The creation of an organizational collaborative culture followed this directive. The perceived benefits of this implementationmethod are outlined below.

- ***Executive Commitment*** – The airport's senior management attended and participated in every partnering session to witness that the process was working as agreed to by both the airport and the contractor.
- ***Performance Measures*** – Every project uses a project scorecard which measures the common goals established at the original partnering session and corrective actions are taken if the scorecard is falling below standards.
- ***Trusted Leadership and Recognition*** – Project managers who manage collaborative teams successfully are recognized and provided with opportunities to advance within the organization.

The IPI report concludes that this method has a number of benefits. They note that this method does ***not*** require a "legislative" directive. It is also noted that goals can be implemented directly on a capital improvement program and the project scorecards measure success on a routine basis. Finally, implementation using this method provides the opportunity to reward individuals who are successful in meeting the established goals.

Partnering Steering Committee – The IPI report notes that the Ohio DOT, after employing partnering on a project by project basis in 2011, established a steering committee made up of senior State employees from the department and the Ohio Contractors Association. This committee focused on the experience of contractors working for the DOT. The committee employed the services of a partnering facilitator to help them implement partnering on all DOT projects. The apparent strengths of this approach are set forth below.

- ***Contractors Help Create Solutions*** – Engaging contractors allowed the DOT to discover where, why, and how their projects were failing.

11. Rob Reaugh, Are You Paying Too Much for Your Construction? Four Methods for Adopting Collaborative Partnering for Public Entities, International Partnering Institute, Livermore, CA, January 2015.

- ***Help Eliminate Organizational Silos*** – Like many large organizations, silos exist and these silos often stand in the way of project success. By using a collaborative steering committee of both DOT and contractor employees the silos were identified and department wide optimization became more likely.

Bottom Up Partnering – The IPI report discussed how the partnering process was implemented in the City of San Jose, California. The City's Public Works Department worked with representatives of four contractor organizations to focus on how to implement partnering. This working group drafted a mutually acceptable process and specification for partnering. The working group took this work product to the City Council and in 2002 the City Council adopted the recommended policy which implemented partnering on all projects larger than $10 million and provided an option to implement partnering on pr projects in the range of $1 million to $10 million. The advantages of this approach are identified below.

- ***Durability*** – While it took longer to develop a mutually acceptable policy between the disparate groups involved in this effort, once the policy was implemented the stakeholders are very likely to conform to the policy.
- ***Selling the Process*** – The bottom up method helps develop broad organizational support (with both the public agency and the contracting community) as the policy is developed making it much more likely to become a success.

PHASES OF THE PARTNERING PROCESS

CII has studied project partnering for a number of years and issued multiple research reports, implementation resource reports and benchmarking studies concerning partnering. After studying partnering, CII has identified a five phase process that incorporates executive, management and project level staff. CII concluded that this process was "…present in nearly all successful partnering relationships…" that they studied.[12] These phases and their descriptions are set forth below.

Owner's Internal Alignment – At the outset of the process, decisions made by the project owner will significantly impact the following decisions and, ultimately, the success of the partnering effort at both a programmatic as well as the project level. The objective of this phase is to identify and agree on the owner's business drivers to employ partnering (e.g., this may be the first project of this type ever constructed by the owner and it has a high profile and is very risky; or several past projects all ended with large disputes that went into arbitration or litigation and the owner wants to avoid repeating this experience; etc.) This phase includes evaluating partnering as a business process and determining whether partnering is possible from the owner's organizational point of view. The phase also includes internal preparation and alignment with all of the major players and stakeholders within the owner's organization.

Partner Selection – In the private sector partner selection is more easily accomplished than in the public sector. In the private sector partner selection involves bringing in several reputable contractors and interviewing them to determine whether their core competencies fit with the owner's needs and then negotiating a contract with one. In the public sector, especially in the design/bid/build project delivery method where contracts are awarded to the "low, responsive and responsible bidder" partner selection is difficult. However, even in this environment, addition of a partnering specification in the bidding documents and a clear notification of the owner's intent to use partnering as a project management tool may influence who bids or who is ultimately awarded the contract. It is also noted that many public owners are now employing the "best value selection" process that, in this procurement form, partnering experience may be one of the factors in rating the best value proposal.

Partnering Relationship Alignment – This phase commences when the contractor is selected and contract award issued by the owner. This phase includes the owner, the design professionals, the construction manager, the contractor and, perhaps, some of the major subcontractors (depending upon the size, complexity and criticality of their work). In this phase the parties work together to identify aligned objectives for the project, agree upon metrics to measure and monitor success, and develop a method for rewarding success. This is the phase where the initial partnering conference is held, typically prior to the issuance of the Notice to Proceed ("NTP").

Project Alignment – Subsequent to the partnering conference at the outset of the project the implementation of the partnering process takes place on the project. This is where the "rubber meets the road" in that the practical, day to day implementation of the partnering process takes place on the project site. This is where the concept of open communication, early issue identification and joint problem solving takes place. This phase is where partnering either succeeds or fails. One of the key activities in this phase is creation and submittal of a project charter, project performance reports and a system to measure these reports against previously agreed upon project metrics.

12. Partnering Toolkit, Implementation Resources 102-2, Construction Industry Institute, University of Texas at Austin, 1996.

Work Process Alignment – This final phase takes the lessons learned from the previous phases and transferring the goals and ideals of partnering on the project from the executive and project management level to the craft level and the subcontractor level. In this fashion, partnering will more likely be successful when everyone on the project buys into partnering.

ELEMENTS OF SUCCESS

After reviewing CII's project phases the Navigant Construction Forum™ reviewed the literature to determine what is necessary to make the partnering process a success? The following appears to be the elements needed to make partnering a success.

Ingredients Of Partnering Success – Ralph J. Peterson published an early book on partnering in which he summarized the "ingredients of a partnering system" or what is needed to make partnering successful on a project.[13] These ingredients are summarized below.

- A project or business plan to which partnering can be applied.
- An intelligent and competent project team made up of people who want the project to be successful.
- Knowledgeable technical and management leaders within each of the organizations involved.
- An effective project organization that melds the desires, the needs, and the leaders into a working team that has a high success potential.
- A willingness to take the risk that partnering will work.
- A set of tools by which the partnering program can be structured and implemented.

Another author published a simple bullet point list of the "key elements of partnering".[14] This quick reference list includes the following:

- Positive attitude
- Commitment
- Trust
- Understanding
- Excellence
- Preparation
- Clear expectations
- Mutual goals and objectives
- Perseverance
- Execution and responsiveness, and
- Communication and feedback.

The ingredients and key elements necessary for successful partnering were determined above. The Navigant Construction Forum™ then turned to the literature and our experience with partnered projects to identify the elements necessary to make partnering from a practical point of view.

Preconstruction Partnering Workshop – The starting point of successful partnering is a well thought out, expertly executed preconstruction workshop. This requires selection and employment of a well experienced partnering facilitator who is very familiar with facilitating construction projects. If the owner has not partnered on previous projects it is recommended that the owner contact other owners in the area who have used partnering facilitators to obtain recommendations. Next, the senior executives from the owner, the design professionals, the construction managers, and the contractor should meet with the partnering facilitator to determine the details of the partnering conference and the participants from each side which may include some individuals from key subcontractors and/or suppliers, as necessary.

Project Charter – At the preconstruction conference, the "joint project team" needs to create a project charter that all project participants agree to. The charter ***must*** include realistic, achievable and measurable goals in the areas of communications, conflict resolution, and project performance objectives. Based on the goals clear project metrics must be established and reported on routinely so executive management can determine whether the project is "on track" to meet the project goals or not. As was noted by one report on partnering "what gets measured improves".[15]

Commitment Of Top Management – Industry studies and the author's personal experience both recognize that partnering is a fundamental change in the manner that typical construction projects (especially public projects) are managed and delivered. Partnering stresses open communication; early identification of potential issues; and working jointly with the other partners on the project to resolve issues quickly, at the lowest cost and the lowest possible level on the project. On the other hand, public sector projects often stress "keeping your cards close to your chest"; leaving issues unidentified and unresolved until the

13. Ralph J. Stephenson, Project Partnering for the Design and Construction Industry, John Wiley & Sons, Inc., New York, 1996.
14. Abdulaziz A. Bubshait, *Partnering: An Innovative and Effective Project Organization Concept*, Cost Engineering, AACE, Morgantown, WV, April, 2001.
15. Collaborative Construction – Lessons Learned for Creating a Culture of Partnership, International Partnering Institute, Livermore, CA, March, 2011.

timing is more favorable to one side or the other; and pushing issue resolution to higher levels within both organizations in an effort to leverage more favorable settlements. In order to change this typical project dynamic, senior management on both sides must remain committed to partnering. Top management must stay thoroughly involved in the partnering process on a routine basis (e.g., attending ***all*** partnering meetings, reviewing ***all*** project status reports, and taking corrective action (***promptly.***) Additionally, top management must meet frequently and privately with their own staff to demonstrate their personal commitment to the partnering process and urge their staff to "get on board".

Empowerment Of Staff – One of the fundamental tenets of partnering is to urge both project teams to both resolve issues promptly and at the lowest level possible. In order to accomplish this both the owner and the contractor must empower their staff at the project level to resolve issues as they arise. Empowerment includes delegation of authority and responsibility to the lowest possible levels in an organization. Empowerment also includes establishment of a Dispute Resolution Ladder and employment of an Initial Decision Maker, a Standing Project Neutral, or an Early Neutral Evaluator.[16] Empowerment and use of some of these alternative dispute resolution mechanisms allows various team members to meet, discuss and resolve problems in a timely and efficient manner. And, the typical partnering process provides noncontentious procedures for escalating issues to higher levels in the event the job site parties cannot reach agreements within certain timeframes to keep issues moving until they are resolved.

Partnership Maintenance – Finally, all too many public owners try to save money on the partnering process by dismissing the partnering facilitator after the initial partnering conference. And, at times, some public works owners decide to cancel routine follow up partnering meetings due to the belief that they are unnecessary and too costly. The author's experience indicates that this is a mistake. Partnering is a process, it is not a one time conference where everyone on both project teams simply changes their minds, disregards their past experience on previous projects, and decides to embrace partnering. In order to successfully implement partnering routine partnering meetings with the partnering facilitator must continue throughout the life of the project. The failure to continue the "care and feeding" of the partnering process will likely cause partnering to fail if routine partnering meetings with the partnering facilitator are cancelled.

OBSTACLES TO PARTNERING

It is counterintuitive to believe that parties to a construction contract, with typically diverse interests, can work together in a team atmosphere without the intervention of the partnering process. A review of the past history and nature of construction makes it easy to see why the notion exists. A review of these obstacles to partnering will allow one to more reasonably assess the tradeoffs and benefits of partnering.

Tradition Of Construction – Most obstacles to partnering lie in the history and nature of the construction process. Construction projects, especially those employing the design/bid/build, hard dollar low bid project delivery method are traditionally characterized as contentious from the outset of the project due entirely to the differing objectives of the owner and the contractor. The public owner is typically characterized as wanting the highest possible quality for the lowest price available. The contractor, on the other hand, is typically characterized as wanting to provide the minimums allowed under the contract for the highest possible price. While these descriptions are stark, they are essentially accurate in the design/bid/build, hard dollar low bid environment.

Flippant Decision To Partner – Often project owners, having heard about the benefits of partnering, simply decide to employ partnering on their next project. They may make this decision without researching what it takes to successfully partner on a project; without aligning their own internal staff; without reviewing their internal procedures to see if they are organized to partner; without understanding how partnering operates; and without training their own staff.[17]

Forcing Partnering Into A Non-Partnering Culture – At times an owner's executive officers unilaterally decide to employ partnering as a project management tool and simply declare that their organization ***will*** partner all future projects. In doing so, they may ***not*** gain the agreement of all levels of the organization. This may mean that staff at lower levels does ***not*** understand what is required of them nor do they receive any training on partnering in order to help them understand what partnering is all about.[18]

16. See Adam K. Bult, David W. Halligan, Jonathan Pray, and James G. Zack, Jr., Delivering Dispute Free Projects: Part III – Alternative Dispute Resolution, Navigant Construction Forum™, Boulder, CO, June 2014. See also, Mark Appel, *Civil Justice Reform – ADR; Don't Be Floored By Construction Disputes – The Use of Partnering In The Construction Industry*, The Metropolitan Corporate Counsel, Greater New York Metro Edition, April, 2000. See also, Philip B. Copare, *Partnering – A New Philosophy in Business*, AACE Annual Meeting Transactions – 1994, AACE, Morgantown, WV, 1994.
17. Paul Thompson, Travis Crane and Dr. Steve Sanders, The Partnering Process – Its Benefits, Implementation, And Measurement, Construction Industry Institute Partnering Task Force II Research Team, No. 102, Clemson University, Clemson., SC, 1996.
18. Ibid.

Diving Into Deep Water With No Preparation – Moving an organization that traditionally operates in the low bid, design/bid/build environment into operating in a partnering environment is difficult, at best. Organizations that have made this transition successfully generally did so by phasing into partnering on a few hand picked projects. Such an approach allows management to observe and evaluate partnering and work out problems and issues on a few projects. However, it is reported that the organizations that did this were not "testing" partnering as a concept, but rather had determined to move into the partnering environment and were using a few projects to identify and resolve potential organizational issues and problems.[19]

Company Centric Mentality – This is as opposed to an integrated team mentality. As the CII report noted:

> "A major finding of this research is that the success of the relationship depends heavily on the individuals involved. The type of personalities that flourish in a partnering environment are oriented toward results, not processes (i.e., not tied to status quo processes, concerned more with achieving desired results), teamwork, open mindedness, and trust."[20]

Project Quality Suffers When Partnering – One of the obstacles to initiating a partnering program was highlighted in an ***Engineering News-Record*** article.[21] This article concerned the early stages of partnering by the Arizona Department of Transportation. The article made the following statements.

> "Some project people allege that the program actually may be hurting quality because it softens control. … some contractors and state engineers privately are concerned that ADOT's heavy emphasis on team building and claims avoidance may be buying peace at the expense of quality. They claim that state inspectors are now less inclined to enforce specifications for fear of provoking a claim."

In the same article ADOT's director disagreed with the sentiment noting that ADOT did ***not*** condone sacrificing project quality to avoid claims. He also noted that ADOT's early partnering workshops at the beginning of a project sometimes excluded the state inspectors, which he labelled as a mistake.

Past Dealings And Nature Of The Parties – The three main parties to a construction contract—owner, design professional and contractor—represent completely diverse entities, each with their own role and personality.

- ***The Owner*** – The owner is the provider of the project, the source of funds and typically the most passive and removed party involved in the process. The owner has an established budget, a contractual project completion date and wants an end product meeting their exact needs. Owners are frequently not interested in the details of the project and are often inexperienced with the complexity and risks of the construction process. The owner neither wants to be involved in day to day problems nor wants to spend extra money. The owner wants the end product on time, in budget and in strict conformance with the plans and specifications.
- ***The Design Professional*** – The design professional is the architect and/or engineer responsible for designing the project and putting together the plans and specifications for project execution. The designer typically works under a negotiated fixed fee or cost plus contract and works under typical white collar office conditions of a normal workweek in a controlled environment.
- ***The Contractor*** – The contractor is the party responsible for executing the plans and specifications and constructing the project in strict accordance with the terms and conditions of the contract. Construction is often seasonal, and within seasons, deals with varying degrees of daylight hours, diverse weather conditions and unpredictable factors such as unexpected site conditions and external economic conditions. Contractors frequently must travel to where the work is,

19. Construction Industry Institute, Partnering Tool Kit, Implementation Resource 102-2, 1996.
20. Ibid.
21. *Partnering May Pare Quality with Claims*, Engineering News-Record, Vol. 233, No.3, July 18, 1994.

work with unknown local manpower and resources, deal with unknown local utilities and regulatory agencies, etc. Construction is often fast paced, time is of the essence and the contractor prefers to be at the jobsite building the project. Under the aforementioned constraints, contractor employees often work long hours under demanding conditions. Both companies and their employees undertake this extra work and risk in return for larger financial rewards and the enhanced satisfaction of successful job completion.

It's easy to see how the ideological and psychological differences among the parties, along with the potential for coordination conflicts in both scheduling and participation levels, can make it difficult to implement partnering efforts. And, if the owner and the contractor have had a number of disputes on previous contracts developing a degree of trust for the next project will be inordinately difficult. Nevertheless, once employed, partnering efforts may help overcome these difficulties and provide multiple benefits to the construction project and all stakeholders.[22]

COLLABORATIVE ATTRIBUTES OF PARTNERING

Based on reviews of "successful" projects where partnering was implemented, the collaborative attributes of partnering have been identified as follows.[23]

Communication – Projects that implement partnering fully most often exhibit excellent communications at the project as well as the executive levels. Traditionally, in the experience of the Navigant Construction Forum™, communications do ***not*** flow easily and are most often constrained. On typical projects both owner and contractor staff most often hold back information. As this is done primarily to protect their own interests information is often leaked out slowly either when there is no other option than to provide the information or when the release of the information is advantageous to their position. Partnered projects, on the other hand, tend to be project centric. That is, the focus of both teams is on project success. Studies of partnering indicate that successful projects most often have well developed and open communications. Good communications includes raising issues as soon as they arise and as early as possible. In this manner there is time to work on issue resolution without being forced into a crisis mode. As one of the author's early construction managers used to say "Bad news delivered early is useful information. Bad news delivered late is a disaster!" Open communications on the project meets the first test and avoids the second.

Competence – Another attribute of a successful partnered project is that both the owner and the contractor teams are staffed by competent personnel. "Competent" generally equates to properly qualified or skilled or adequately capable. In this context teams assigned to a partnered project must be experienced in delivering projects successfully, must understand the partnering concept and must be willing to take the risk of running a partnered project. The owner's project manager who comes on site and announces "There will be no change orders on this job" is ***not*** the type of person the owner wants to assign to a partnered project. The contractor's project manager that has finished several projects with a large number of unresolved claims at the end of the job is, likewise, ***not*** the individual to assign to a partnered project. One of the lessons learned from some partnering studies is both owners and contractors must choose their project teams very carefully. Putting the right team on the project will certainly enhance the chances of project success. Putting the wrong team on the project almost certainly guarantees a troubled project.[24]

Trust – One of the key elements of successful partnering is developing trust between the project teams. This could be a huge challenge for both teams. Trust between owner and contractor teams on construction projects is counterintuitive. As noted earlier, typically the objectives of owners and contractors are somewhat at odds with one another. Traditional construction projects are contentious as a result. But research indicates that successful partnered projects do develop a trust between the project teams. As trust is a prerequisite to open and effective communications, there must be a concerted effort on a partnered project to develop trust at all levels of the project, between all parties.

Cooperation – Cooperation is a hallmark of successful partnered projects. In the context of construction projects this means that both teams must work ***together*** on all aspects of the project including project communications, reporting, scheduling, submittals and reviews, etc. The failure to cooperate will certainly lead to a failure of partnering.

Issue Resolution – Studies indicate that one of the keys to successful partnering is early issue identification and rapid issue resolution. This finding correlates with the conclusion reached in a recently issued research perspective issued by the Navigant Construction Forum™.[25] In the context of construction projects issue resolution involves all teams focusing on the issue and

22. John Bickerman, *Partnering in the Construction Industry: Teaming Up to Prevent Disputes – Reversing 100 Years of Learned Behavior*, 9 Probate & Property 61, American Bar Association, March/April 1995.
23. Mark E. Cacamis and Marc E. Papini, *Partnered Risk Management*, 2014 Construction Management Association National Meeting.
24. Evelina Widen and Kristjan Ari Ulfarsson, Effects of Partnering on Construction Projects – The Cultural, Collaborative and Contractual Aspects, Master of Science Thesis No. 294, Department of Real Estate and Construction Management, KTH Architecture and the Built Environment, Stockholm, Sweden, 2014.
25. James G. Zack, Jr., A Crystal Ball – Early Warning Signs of Construction Claims & Disputes, Navigant Construction Forum™, Boulder, CO, 2015.

working together to find a timely and cost effective solution. It is early identification of issues, working together to arrive at joint agreement and resolution of issues based on achieving project success instead of positioning to protect one side or the other. Issue resolution also involves taking responsibility. If the owner's drawings are flawed and need to be changed in order to construct the project to meet the owner's needs, then the owner needs to accept responsibility and issue the needed change order(s) to correct the problem. Conversely, if the contractor made a mistake during construction they need to acknowledge it, design a fix, obtain owner agreement on the fix and implement the fix, at their own expense.

Teamwork – Successful partnering requires that the owner, their design professionals and construction managers, and the contractor project management teams must become an ***integrated*** project team. Research indicates that co-location of the project teams is a contributor to project success on partnered projects.[26] It is also noted that on projects using Building Information Modeling / Virtual Design and Construction ("BIM/VDC") co-location of the project team may also include key subcontractors. Joint training in partnering, joint participation in partnering meetings, etc. should also help contribute to teamwork.

POTENTIAL DOWNSIDES OF PARTNERING

Cost – A common retort of those who have never been involved in a partnered project is that it adds to the project cost. Obviously, this is true. The expense of the partnering facilitator is an added project cost. But, how much? The ***International Institute for Conflict Prevention & Resolution*** looked into the issue of the cost of partnering as compared to the cost of negotiation, mediation or arbitration and concluded that:

> "The final costs of partnering are minimal compared to the costs of the project. Although partnering costs vary, they are usually less than .0005 [percent] of the total contract price in most projects. The actual out of pocket direct dollar costs for using partnering generally range from $500 to $10,000 over the life of the contract. When an internal facilitator is used and is ***not*** paid specifically for such facilitation (as when a government employee in a public contract plays the role of facilitator), the only added costs for partnering are the costs of food and a room which can be as low as $500 to $2,000."[27]

By contrast the ***International Institute for Conflict Prevention & Resolution*** cited a 2006 Ph.D. thesis[28] where a researcher "…reported on a study of the direct and indirect transactional costs required to resolve disputes on 44 projects involving 57 contracting organizations." This thesis concluded the following:

DISPUTE RESOLUTION METHOD	NUMBER OF PROJECTS	MEAN COST
Negotiation	18	$330,199
Mediation	15	$1,212,433[29]
Arbitration	11	$1,167,182

The author concluded "…that as the hostility of dispute resolution increased from Negotiation to Arbitration, outside counsel fees increased." Since partnering emphasizes negotiation as the primary dispute resolution method then it would follow that negotiating settlements on partnered projects is less costly than the alternatives based on this study.

"Wasted Time?" – One criticism of partnering mentioned by some is the time spent in collaboration. Deloitte Touche Tohmatsu Limited published a study concerning the cost of the time spent collaborating in the Australian economy.[30] A summary of this report offered the following commentary.

26. Ryan D. Thompson and Mehmet E. Ozbek, Utilization of a Co-location Office in Conjunction with Integrated Project Delivery, 48th ASC Annual International Conference Proceedings, Associated Schools of Construction, 2012.
27. Frank Carr, Partnering – Aligning Interests, Collaboration, and Achieving Common Goals, International Institute for Conflict Prevention & Resolution, New York, 2010.
28. Richard J. Gebken, *Quantification of Transactional Dispute Resolution Costs for the U.S. Construction Industry*, Ph.D. Dissertation at the University of Texas at Austin, May, 2006.
29. Gebken attributed the relatively higher costs of mediation in large part to the fact that the mediation of the disputes that were resolved by that method occurred late in the dispute resolution process and involved prolonged discovery and depositions.
30. The Collaborative Economy, Deloitte Touch Tohmatsu Limited, Deloitte Australia, 2014.

"The Australian collaboration economy is worth $46 billion but $5.4 billion is wasted on overlong meetings, distractions and failed projects, according to a new Deloitte report.

The Collaborative Economy report found that $46 billion is the value of the time employees and managers spend collaborating each year. It is based on a survey of 1,000 Australian employees and managers conducted in June 2014 by Stancombe Research and Planning. The figure of $46 billion is a calculation based on the amount of time spent collaborating multiplied by wage levels."[31]

While this study focused on collaboration across the entire Australian economy, and not just construction, some critics focus on the time spent in collaborative partnering sessions. The Navigant Construction Forum™ acknowledges that there is time expended in pursuit of successful partnering but those who have participated in partnered projects that went well generally respond that this is time well invested in the success of the project.

"Weaponization" of the Partnering Process – The attitudes of the parties can destroy the partnering effort. The author has been on some projects where every time the owner said "no" to a contractor request, the contractor replied with "You're not partnering!" This accusation was made even when the contractor requested that the owner waive a clear requirement of the contract documents. Over a relatively short period of time the partnering attitude displayed at the initial partnering conference eroded substantially. Subsequently, follow up partnering meetings became more adversarial and argumentative. It should be noted that owners of these projects had ***not*** employed the partnering facilitators to participate in the partnering meetings other than the initial meeting.

Partnering May Not Prevent Disputes Because of Flaws in the Partnering Process – If partnering is not properly implemented from the outset by not involving senior management from both the owner and the contractor, then on site personnel will likely have little incentive to fully accept and participate in the partnering process. Or, conversely, if senior management on both sides bought into partnering and convinced the staff on the project to do the same, the project staff may not embrace partnering because it causes more work for them.[32]

"When Partnering Goes Awry" – In a short article in Engineering News-Record a contractor wrote of an experience his firm had on a highway project which serves as a warning to others looking to become involved in the partnering process. The contractor reported that the Department did not give their field staff the requisite authority to make final decisions. In this particular case, the contractor encountered a differing site condition ("DSC") which was acknowledged in writing by the resident engineer. Overcoming the DSC increased the cost of the contract some 38%. Ten months later the Department rescinded the original time and materials ("T&M") change order with no explanation. The contractor was required to file a claim which languished in the Department headquarters for four more years and increased considerably in cost.[33] The lesson to be drawn from this story is that when owners and contractors are pursuing collaborative partnering on projects some authority for changes and claim settlements must be delegated to field staff and dispute resolution processes must be put in place to effectuate resolution of changes and claims in a reasonable period of time.[34]

THE BENEFITS OF PARTNERING

A short article that summarized the results of a number of studies performed by other organizations, summarized the apparent benefits of partnering in a series of tables that are included herein below manner.[35] The various studies summarized in this article are discussed in further detail in this research perspective

31. Hamish Barwick, *$5.4 Billion Wasted During Collaborative Projects in Australia: Deloitte*, CIO, July 17, 2014.
32. Coleen A. Libbey, *Working Together While "Waltzing in a Mine Field": Successful Government Construction Contract Dispute Resolution with Partnering and Dispute Review Boards*, 15 Ohio St. J. on Disp. Resol. 825, 2000.
33. Barry Kannon, *When Partnering Goes Awry*, Engineering News-Record, Vol. 245, No. 8, August 28, 2000.
34. *Author's Note*: The author has worked with this highway department on multiple assignments since the time this article was published and can attest to the fact that this department has fully bought into collaborative partnering and the use of Dispute Resolution Boards to resolve claims promptly.
35. Sue Dyer, *The ROI of Partnering Your Project*, Partnering Magazine, May/June 2014.

Fewer Claims – This report provided the following information concerning reduced claims based on 10 different studies. The data provided shows the following

STUDY / PROGRAM	UNIT OF MEASUREMENT	RESULTS
CII RR102-11	Number of claims	83% reduction
TxDOT Partnering Study	Claims cost as % of original contract cost	0.17% vs. 0.88% (partnered vs. non-partnered)
SFO Terminal Program (@ $5 billion)	$ installed without claims	$800M with zero claims
Caltrans Partnered Projects	Number of arbitrations	61 in 1999 vs 13 in 2011
IPI Partnered Projects of the Year	$ built without claims	$3.86B with zero claims
Utah Transit Authority Program	Megaprojects without claims	5 delivered without claims
TxDOT Partnering Study	$ spent on claims	1993 = $27M 1994 = $0.61M
Ohio DOT Partnering Study	Number of claims after reinvigorated Partnering	30 in 2003 reduced to zero in 2008
Maryland SHA Partnering Program	Reductions in number/cost of claims after reinvigorated Partnering	48% fewer claims 37% lower cost per claim

While these studies show a tremendous reduction in claims including millions, or even billions, of dollars of construction in place with "zero claims" the Navigant Construction Forum™ finds this statement questionable. The author believes that the term "claim" may be used inappropriately in these studies. A claim is generally defined in the Federal Acquisition Regulations ("FAR") as follows.

> "'Claim' means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract."[36]

To say that there were ***no*** requests for additional time and/or money for delays, suspensions of work, differing site conditions, constructive changes, etc. is unrealistic. On the other hand, a "legal dispute" is defined in the following manner.

> "Contest, conflict, disagreement concerning lawful existence of (1) a duty or right, or (2) compensation, by extent or type, claimed by the injured party for a breach of such duty or right."[37]

In the manner in which the Navigant Construction Forum™ deals with these terms, a claim is a request for an equitable adjustment (i.e., time and/or money) from the contractor to the owner. If these claim requests are settled on the project by change order the Navigant Construction Forum™ believes the cited studies do ***not*** count claim settlements via change orders as "claims" for the purposes of the studies. The Navigant Construction Forum™ believes that the studies only counted "legal disputes" or ***unresolved*** claims that went into some sort of formal dispute resolution, such as arbitration, litigation or some form of alternative dispute resolution ("ADR") at the end of the project. Thus, while the cited studies effectively demonstrate the lack of post project legal actions on partnered projects the contention that there were "zero claims" on many billions of dollars of construction is something of an overstatement.

Cost Savings – The report summarized a number of reports to ascertain whether cost savings resulted from partnering. The report summarized nine (9) studies to demonstrate such cost savings as follows.

STUDY / PROGRAM	UNIT OF MEASUREMENT	RESULTS
CII RR102-11	Total project cost savings	10%
TxDOT Partnering Study	Cost Growth	2.93 vs 3.70 (partnered vs non-partnered)
Woodrow Wilson Bridge Partnering Study	Collaboration vs Budget	.842 (strong positive correlation)
SFO Terminal Program (@ $5 billion)	Cost savings per sq. foot	20% - 30% vs. aviation average
Terminal 2		$2M under budget

36. FAR §2.101.
37. The Law Dictionary, Black's Law Dictionary Free Online Legal Dictionary, 2nd Ed.

STUDY / PROGRAM	UNIT OF MEASUREMENT	RESULTS
Terminal 3 Boarding Area E		Total cost 80% of industry average
Caltrans EIP Awards Projects	% budget savings	3.2% of $3B (77.78% of projects on budget or under)
IPI Partnered Projects	Average savings	9% of $3.9B
UTA Frontlines 2015	$ under budget	5 megaprojects $300M under budget

On Time Project Completion / Schedule Reduction – The report documented schedule reduction due to partnering based on 10 studies.

STUDY / PROGRAM	UNIT OF MEASUREMENT	RESULTS
CII RR102-11	% reduction in time	20%
TxDOT Partnering Study	% ahead of schedule	+4.7% vs. -10.04% (partnered vs. non-partnered)
Woodrow Wilson Bridge Partnering Study	Collaboration vs. schedule	.682 (positive correlation)
SFO Terminal Program (@ $5 billion)	Plan, design, build, open	
Terminal 2		$400M Terminal 120 days early
Terminal 3 Boarding Area E		$138M Terminal delivered in 18 months
Runway Safety Area		$11.1M delivered on time, in 91 days
Caltrans Partnered Projects	% on time or early	90.48%
Grajek TxDOT Study	Ahead of schedule	13.73%

Increased Project Safety – The report also surveyed several studies to determine if partnering had any impact on project safety and reported the following.

STUDY / PROGRAM	UNIT OF MEASUREMENT	RESULTS
CII RR102-11	Frequency of Lost Time Accidents (LTAs)	83% Better (4M hrs. vs. 48K hrs.)
Woodrow Wilson Bridge Partnering Study	Safety Average vs. Case Rate	.50 (positive correlation)
Caltrans Partnered Projects	% Projects w/o LTA	78%
IPI Partnered Projects	% Projects w/o LTA	72%

Job Satisfaction – The International Partnering Institute[38] noted that CII's Benchmarking Study "...also found that among those surveyed, individuals in partnered projects experienced a 30% higher job satisfaction rating than those on non-partnered projects."[39]

CASE STUDIES

Arizona Department of Transportation – The Arizona Department of Transportation ("ADOT") started their partnering program in the early 1990s. ADOT tracks and measures the impact of partnering on project budgets, schedules and claims.[40] A 2006 ADOT presentation demonstrated a dramatic reduction in claims resulting from partnering as follows:[41]

- In 1991 ADOT had 60 claims totaling $39.3 million.
- In 1992 ADOT had 20 claims totaling $25.8 million. (This year marked the official beginning of ADOT's partnering program.)
- From 1993 to 2006 ADOT had a ***total*** of 6 claims totaling $1.3 million.

Between 1991 and 2006 ADOT completed 1,788 construction projects using the partnering process. During that time ADOT attributed the following additional impacts to the partnering process.

- 24,677 contract days saved;
- 12.7% average time saved;
- $29.3 million in construction engineering savings; and,
- $9.4 million in construction value engineering savings.

California Department of Transportation – Partnering was initiated in the California Department of Transportation ("Caltrans") in the late 1980's. Through the 1990's partnering was optional on projects and only required on those over $25 million. In 2000 Caltrans formed a steering committee and by 2006 it was decided that partnering had lost momentum and needed reinvigoration. As a result, between 2009 and 2010 Caltrans trained 3,000 individuals from Caltrans and industry field staff. During this period Caltrans also created a partnering excellence award. In a 2012 presentation the California Department of Transportation ("Caltrans") noted that there were 24 "winning projects". Caltrans reported that on these 24 projects:

- Partnering helped these projects attain $56 million in cost savings;
- Saved 1,160 days; and.
- 18 projects completed with 0 lost time accidents ("LTAs").[42]

38. Rob Reaugh, Are You Paying Too Much for Adopting Collaborative Partnering for Public Entities, International Partnering Institute, Livermore, CA, January 2015.
39. S.R. Sanders, P.J. Thompson and T.G. Crane, Model for Partnering Excellence, CII Publications RS 102-1, 1996.
40. See Partnering Program Saves ADOT Millions – Case Study, The Policy Consensus Initiative, June 2002. http://www.policyconsensus.org/casestudies/docs/AZ_transportation.pdf.
41. http://www.ati-sys.com/atisys/ADOT_Parterning_Measurements_060506_Summary.pdf
42. Mark Leja, Caltrans Partnering Program, Division of Construction, California Department of Transportation, Sacramento, CA, 2012.

It has also been reported that the Caltrans partnering program has yielded further results as follows:[43]

CORE ELEMENT	UNIT OF MEASUREMENT	RESULTS
Cost Savings	% Budget Savings	3.2% of $3.0 billion 77.78% of projects on or under budget
Time Savings	% On Time or Early	90.48%
Fewer Claims	Number of Arbitrations	61 in 1999 13 in 2011
Improved Safety	% of Projects w/o LTA	78%

Federal Government – The COE and the NAVFAC are strong proponents of project partnering. Numerous papers have been written about COE and NAVFAC projects. Some of the reported findings include the following.

- The COE experienced an 85% reduction in construction claims and litigation using partnering to prevent escalation of disputes through better communication and problem solving and by using alternative dispute resolution methodologies. The COE in Oregon found an 80% to 100% reduction in cost growth over the life of the project due to partnering and a 67% reduction in paperwork. The COE also found improved safety, and a reduction in delay, litigation and claims.[44]
- J. Killian and G. E. Gibson studied NAVFAC and found that partnering and the design build initiatives reduced litigation at the Armed Services Board of Contract Appeals ("ASBCA") from 24.9 to approximately 11 per year between 1993 and 2002.[45]
- T. J. Kurgan's study of the COE showed litigation cases declined from 67.3 before 1993 to 28.0 per year after 1993 and attributed this decline to the use of partnering, design build and cost plus contracts, best value contracts and a policy toward settlement.[46]

Maryland Department of Transportation, State Highway Administration – The Maryland DOT State Highway Administration ("MD SHA") initiated their partnering program in 1991. Between 1991 and 1995 the partnering program grew sporadically but gained more traction by 2000. Since 2000 MD SHA has seen a widespread acceptance of partnering throughout their own agency as well as with the highway construction community.[47] MD SHA reports the following:

- $153 million increase in average annual budget for construction since 2000
- 1991 – 1999: $405 million/year average
- 2000 – 2011: $558 million/year average

Despite the 38% average annual increase in their construction budget MD SHA has encountered a reduction in the number of claims filed and a reduction in average claim settlement amounts as follows:

- 48% annual average reduction in claims since 2000
  - 1991 – 1999: $7.99 million/year average
  - 2000 – 2011: $3.85 million/year average
- 48% annual average reduction in average claim settlements since 2000
  - 1991 – 1999: $1.7 million/year average
  - 2000 – 2011: $1.09 million/year average

43. Sue Dyer, *The ROI of Partnering Your Project*, Partnering Magazine, May/June 2014.
44. K.M.J. Harmon, *Resolution of Construction Disputes: A Review of Current Methodologies*, Leadership & Management in Engineering, Vol. 3, Issue 4, October, 2003.
45. J. Killian and G. E. Gibson, *Construction Litigation for the U.S. Naval Facilities Engineering Command 1982 – 2002*, Journal of Construction Engineering and Management, Vol. 131, Issue 9, American Society of Civil Engineers, New York, 2005.
46. T. J. Kurgan, A Forensic Analysis of Construction Litigation – U.S. Army Corps of Engineers, University of Texas at Austin, TX 2005.
47. Brian Polkinghorn, Robert La Chance, Haleigh La Change, Maryland SHA Partnering: An Analysis of the Maryland Department of Transportation's Partnering Program and Process, Maryland State Highway Administration, Baltimore, MD, 2006.

MD SHA performed an extensive study of their partnering program which included a series of wide ranging interviews with MD SHA employees as well as contractors, design professionals, subcontractors and others. They created the Partnering Evaluation Tool ("PET") and gathered and analyzed the data gained through PET for a four year period. A summary of the results of this analysis for the core elements of partnering is set forth below.

Survey Ratings of the Core Elements of the Partnering Process[48]

CORE ELEMENT	CONTRACTOR	DESIGNER	OTHER	MD SHA	SUBCONTRACTOR
Communications	3.6	3.7	3.6	3.7	3.7
Teamwork	3.5	3.7	3.5	3.6	3.6
Cooperation & Respect	3.5	3.6	3.4	3.5	3.5
Issue Resolution	3.0[49]	3.2	3.1	3.2	3.2
Safety	3.9	3.9	3.8	3.9	3.8

The results of this survey were summarized in narrative form in the following manner.

- "A decrease in the number of change orders. (Greater attention to team work and detail lowers change orders and claims.)
- An increase in the number of Value Engineering Change Proposals ("VECP").
- A significant number of jobs being partnered in Maryland – 117 (82%) of the 142 active construction projects as of October 2005.
- A dramatic decrease in the number of claims.
- Faster completion of projects."

Ohio Department of Transportation – The Ohio Department of Transportation ("ODOT") formally adopted a collaborative project partnering program in April, 2001. In 2010 ODOT filed their Partnering Program Status Report[50] which summarized the claims, disputes and change order data for substantially complete projects for the period between 2001 and 2009. The results of this status report are set forth below.

Construction Program & Claims & Disputes Data

PROJECT YEAR	# OF CLAIMS/DISPUTES	DEMAND DOLLARS	AWARD DOLLARS
2001	13	$8,924,220	$1,547,078
2002	20	$4,141,632	$1,392,801
2003	14	$3,652,127	$982,644

48. The PET measures each core element on a scale of 1 to 4 where 1 signifies poor and 4 signifies excellent. A rating of 3.0 or below is "...a 'red flag' and is meant to alert the team to specific challenges that need their collective attention.

49. NOTE: This is the *only* metric score that is a "red flag" alert in the survey.

50. Robert E. Jessberger and Freddie Cruz, Partnering Program Status Report, State of Ohio Department of Transportation, Division of Construction Management, Columbus, OH, 2010.

PROJECT YEAR	# OF CLAIMS/DISPUTES	DEMAND DOLLARS	AWARD DOLLARS
2004	30	$11,823,600	$1,069,132
2005	16	$19,301,341	$2,845,410
2006	20	$1,652,536	$110,189
2007	14	$1,166,643	$178,157
2008	8	$16,088	$8,044

Change Orders for Substantially Complete Projects

PROJECT YEAR	ORIGINAL CONTRACT AMOUNT	NET CHANGE ORDERS	PERCENT CHANGE ORDERS
2001	$1,270,915,589	$123,405,853	9.71%
2002	$1,040,783,754	$96,021,995	9.23%
2003	$834,488,549	$77,696,077	9.31%
2004	$1,044,418,495	$89,155,561	8.54%
2005	$1,092,169,484	$80,244,865	7.35%
2006	$1,219,656,460	$41,568,902	3.41%
2007	$722,079,271	$21,823,568	3.02%
2008	$755,374,131	$24,949,883	3.30%
2009	$339,385,281	($6,849,921)	(2.02%)

ODOT reported that the number of claims after "reinvigorated partnering" fell from 30 claims in 2003 to zero claims in 2008. This report noted that they had performed a widespread survey of ongoing projects starting in 2007 in which a total of 434 responses were received and analyzed. However, the authors noted that zero responses were received from ODOT Districts 1, 7 and 12. Thus, 25% of the ODOT districts provided no responses indicating that much work remains to be done to implement collaborative partnering Statewide.

Oregon Department of Transportation – The Oregon Department of Transportation ("ODOT") began implementation of their partnering program on "high profile" projects in the early 1990s. In 2002 ODOT preformed a research study to analyze the impact of partnering on their projects.[51] This report compared the project metrics (cost, schedule and claims) for 7 successfully partnered projects and 5 unsuccessfully partnered projects and determined:

- Unsuccessfully partnered projects had a 20.2% average cost growth compared to a 5.9% cost growth on successfully partnered projects.
- The average late completion on successfully partnered projects was 187 days versus 302 days on unsuccessfully partnered projects.
- The average cost of ODOT's project administration was only slightly higher on successfully partnered projects (10.02%) than on the unsuccessfully projects (9.20%).
- Other benefits noted in this report after detailed interviews with ODOT staff and contractors included:
  - ***Improved communications*** – 81% of the contractors felt partnering improved communications "some" or "a lot". 67% of the ODOT staff agreed.
  - ***Improved trust*** – 64% of the contractors believed partnering improved trust "a lot" or "some" while 53% of the ODOT staff responded in this manner.
  - ***Improved teamwork*** – 76% of the contractors said partnering improved teamwork "a lot" or "some" while 63% of the ODOT staff agreed.
  - ***Quicker Dispute Resolution*** – 54% of the contractors stated that partnering helped resolve disputes more quickly while 61% of the ODOT staff agreed.
  - ***Lower Claims Costs*** – 64% of the contractors said that partnering resulted in lower claims costs but only 40% of ODOT staff agreed with this result.
  - ***Improved Project Quality*** – While 60% of the contractors stated that partnering helped improve project quality, only 34% of the ODOT echoed this position.
  - ***Work Zone Safety*** – Only 45% of the contractors believed that partnering improved work zone safety and 42% of the ODOT stated the same.
  - ***Decision Making Capability*** – 80% of the contractors stated that partnering empowered the project team to make needed decisions but only 56% of the ODOT staff agreed.
  - ***Meeting Project Schedules*** – 83% of the contractors felt partnering improved the project team's ability to meet project schedules while only 53% of ODOT staff agreed.
  - ***Reduction in the Number of Claims*** – 71% of the contractors stated that partnering reduced the number of claims on projects while only 49% of the ODOT staff agreed.
  - ***Reduction in the Size of Claims*** – 67% of the contractors believe that partnering aided in reducing the size of the claims on projects while only 47% of ODOT staff agreed.[52]

Texas Department of Transportation – In 1995 a Master's thesis examined the impact of partnering on 65 Texas Department of Transportation ("TxDOT") projects and concluded that partnering "…did not have a statistically significant impact on cost growth, change order cost, or net change costs." However, this study did find "…that partnered projects finished an average of 13.73% ahead of schedule as compared with non-partnered projects that only finished 9.68% ahead of schedule."[53] In a much larger study of project partnering the TxDOT Continuous Improvement Office awarded a research contract to Texas Tech University in 1996 "… to identify and quantify the impacts of their partnering effort."[54] This study involved the analysis of 204 partnered projects completed between January 1992 and November 1996 compared to 204 non-partnered projects completed prior to the initiation of TxDOT's partnering program. Additionally, this study surveyed more than 500 TxDOT and contractor personnel concerning their experience with partnering, specifically "…the perceived costs and benefits of partnering."

51. David Rogge, Andrew Griffith and Wesley Hutchins, Improving the Effectiveness of Partnering, State Planning and Research Report No. 344, November 2002.
52. The report did not offer any commentary on the disparity of the results of this issue but some of the comments provided by contractors related to this question discussed how partnering lowered the cost of making and resolving claims. This may explain, at least in part, the differing results.
53. Kenneth M. Grajek, *Partnered Project Performance in the Texas Department of Transportation*, Masters of Science Thesis, University of Texas, Austin, TX, 1995.
54. Douglas D. Gransberg, William D. Dillon, Lee Reynolds and Jack Boyd, *Quantative Analysis of Partnered Project Performance*, Journal of Construction Engineering and Management, Vol. 125, Issue 3, American Society of Engineers, Reston, VA, June 1999.

PROJECT METRIC	UNIT OF MEASUREMENT	RESULTS
Cost Savings	Collaboration vs. Budget	0.8422 – strong positive correlation
Schedule Reduction	Collaboration vs. Schedule	0.682 – positive correlation
Fewer Claims	Collaboration & Issue Resolution	0.947 – (very strong correlation)
Improved Safety	Safety Average vs. Case Rates	0.50 – positive correlation
Percent additional days granted	8.32%	12.49%
Percent of projects with LDs	21.08%	23.53%
Claims cost percent of original cost[55]	0.33%	0.61%
Dispute cost percent of original cost[56]	0.04%	0.93%

Some of the conclusions reached by the authors of this study include the following.

- "Partnered projects outperformed non-partnered projects in virtually every category if they were awarded at a price above $5,000,000.
- Partnered projects have slightly less cost growth when the entire population is considered.
- Partnered projects have more change orders than non-partnered projects.
- The mean partnered project change order costs was roughly one half the average cost of the average non-partnered change order.
- The average partnered project finished 4.7% ***earlier*** than originally planned and the averaged non-partnered finished 10.04% ***later*** than originally planned.
- Partnered projects have a fewer number of LD days than non-partnered projects in all categories.
- For the $5,000,000 - $40,000,000 range, there are no cost associated with disputes and claims on partnered projects."

A separate study performed in 2005 determined that "...claims occur on less than 2% of TxDOT construction contracts."[57]

Woodrow Wilson Bridge Project – The Woodrow Wilson Bridge Project was challenging on a number of fronts. First, was the composition of the project owner. This is the only Interstate highway bridge in the nation owned by the Federal government as well as one of a very few drawbridges in the Interstate Highway System. In addition to the U.S. Department of Transportation, the District of Columbia, and the States of Virginia and Maryland were also actively engaged in the project. The project required 19 separate major construction contracts awarded by two of the owners. Additionally, it took 8 years to

55. "Claims" are defined for the purpose of this study as "...contract disputes that are settled above the District level."
56. "Disputes" are defined for the purpose of this study as "...claims that are settled at or below the District level."
57. Yetkin Yildirim, *TxDOT Dispute Resolution Process for Construction Contract Claims Settlements*, Transportation Law Journal, 32 Transp. L. J. 351, Summer, 2005.

construct the project. Anderson and Polkinghorn performed an in depth study of this project based on data concerning partnering collected over the entire 8 year project.[58] The authors used the CORREL function on Microsoft Excel to analyze the data collected. According to the authors;

- "A score of +1 indicates a completely positive correlation between the variables measured.
- A score of 0 indicates no relationship between the variables.
- A score of -1 indicates a complete negative correlation."

Jacob Cohen in 1988 offered a simple scale of small, medium and large correlations which the authors adopted when performing their analysis and publishing their paper. Cohen's breakdown is set forth below.

- "Small correlation" = -0.3 to -0.1 or +0.1 to +0.3
- "Medium correlation" = -0.5 to -0.3 or +0.3 to +0.5
- "Large / Strong correlation" = -1.0 to –0.5 or +0.5 to +1.0

Relying upon this scale, the authors summarized the effectiveness of collaborative partnering in the following manner.

PROJECT METRIC	UNIT OF MEASUREMENT	RESULTS
Cost Savings	Collaboration vs. Budget	0.8422 – strong positive correlation
Schedule Reduction	Collaboration vs. Schedule	0.682 – positive correlation
Fewer Claims	Collaboration & Issue Resolution	0.947 – (very strong correlation)
Improved Safety	Safety Average vs. Case Rates	0.50 – positive correlation

This report also concluded that good project partnering was strongly associated with the project team's satisfaction with budget and schedule results, and effective issue resolution.

BEST IN CLASS PARTNERING RESULTS

A CII research team studied partnering and determined that the "best in class" partnered projects demonstrated the following results.[59]

Cost

AREA	RESULTS
Total Project Cost ("TPC")	10% reduction
Construction Administration	24% reduction
Engineering	$10/hour reduction
Value Engineering	337% increase
Claims (as a % of TPC)	87% reduction
Profitability	25% increase

58. Lee L. Anderson and Brien D. Polkinghorn, *Efficacy of Partnering on the Woodrow Wilson Bridge Project: Empirical Evidence of Collaborative Problem Solving Benefits*, Journal of Legal Affairs and Dispute Resolution in Engineering and Construction, Vol.3 , Issue 1, American Society of Civil Engineers, Reston, VA, February 2011.
59. Best Practices Guide: Improving Project Performance, Construction Industry Institute, Implementation Resource 166-3, Version 4.0, December 2012.

Schedule

AREA	RESULTS
Overall Project	20% reduction
Schedule Changes	48% reduction
Schedule Compliance	Increased from 85% to 100%

Claims

AREA	RESULTS
Number of claims	83% reduction
Project with claims	68% reduction

Safety

AREA	RESULTS
Hours without a lost time accident	4 million vs. 48,000 industry standard
Lost work days	0 vs. 6.8 industry standard
Number of doctor cases	74% reduction
Safety Rating	5% of national average

Quality

AREA	RESULTS
Rework	50% reduction
Change orders	80% reduction
Direct work rate	42% increase

Other

AREA	RESULTS
Job Satisfaction	30% increase

CONCLUSION

Annually the Associated General Contractors ("AGC") honors members who build the nation's most impressive construction projects with the Alliant Build America Award. At AGC's 97th Annual Convention in San Antonio, Texas on March 10, 2016 a number of Build America Awards were awarded to 23 contractors who had completed high profile, critical and complex projects during the past year. The Executive Summary of the ***Exemplifying Excellence: Construction Innovations and Lessons Learned from the 2016 Alliant Build America Award Winners***[60] contained the following statement.

> "This report aims to identify construction practices and trends that made these jobs award winning. The most consistent theme among this year's winning projects had little to do with construction processes; rather, award winners credited their success to people working collaboratively as a team. A central element that set award winners apart was their commitment to building relationships with the many parties involved in projects, including subcontractors, owners, designers and members of their communities. Some formed formal partnerships while others worked tirelessly to communicate effectively and remain transparent."

This report continued with a number of direct quotes from project managers from these award winning projects. Among these quotes are the following.

> "What made our project so successful was the partnering approach we had with the owner, construction manager, subcontractors, engineers and the community of Sitka," said Clif Stump, project manager on the Blue Lake Expansion Project with Barnard Construction Co. in Bozeman, Montana. "The partnering approach helped us get the job done on time and under budget."

Balfour Beatty Construction in San Diego, California, suggested a formal partneering agreement to design and build the $221.5 million Las Colinas Detention and Reentry Facility project for the County of San Diego, California. "The partnering process enabled us to become a trusted advisor to the County of San Diego," said John Parker, vice president of Balfour Beatty, which often facilitated get togethers with project team members and design build partners.

Formal partnering also propelled Combs Construction Company's project to the winner's circle. Combs partnered with the Arizona Department of Transportation to build the $7.7 million State Route 86. "Everyone worked together, and it was unbelievable job," said Jim Combs, president of Combs Construction.

Norm Avery, general manager of Knife River in American fork, Utah, called partnering key to the success of the $4.5 million Isa Lake Bridge project in Yellowstone National Park. Knife River, the Federal Highway Administration and Yellowstone National Park developed and maintained a high level collaborative relationship to construct the project. "The team kicked off the project with a partnering workshop where each party's goals were discussed, risks to the goals identified and a plan put in place to achieve the goals," Avery said.

The AGC Alliant Build America Award report goes on for a number of pages along these same lines.

60. Associated General Contractors of America, Washington, D.C., March, 2016.

Based upon the literature search conducted by the Navigant Construction Forum™ and the author's personal experience, collaboratively partnered projects generally implement the following:

- Implement partnering as a ***continuous*** process from project initiation to project completion;
- Create a partnering charter and hold all ***parties accountable***;
- Establish a monthly partnering survey to determine what is working and what is ***not***, and ***take corrective action***, as needed;
- ***Constantly*** promote a culture change on the project;
- Hold project level participants ***accountable*** for making timely decisions;
- Involve ***all*** project stakeholders in the partnering workshops;
- Do ***not*** let project issues go ***unresolved***, use the project's dispute resolution process;
- Hold ***weekly meetings*** as they are an important part of the partnering process; and,
- Keep the **entire project team** committed to and focused on "project success".

Projects managed in this manner meet all five elements the Navigant Construction Forum™ believes should be the goals of a successful project – delivered safely, on time, in budget, meeting the quality standards of the contract documents, and dispute free at the end of the project. The literature search and the author's experience leads the Navigant Construction Forum™ to conclude that collaborative partnering, successfully implemented ***can and does help deliver dispute free projects***.

NAVIGANT CONSTRUCTION FORUM™

Navigant (NYSE: NCI) established the Navigant Construction Forum™ in September 2010. The mission of the Navigant Construction Forum™ is to be the industry's resource for thought leadership and best practices on avoidance and resolution of construction project disputes globally. Building on lessons learned in global construction dispute avoidance and resolution, the Navigant Construction Forum™ issues papers and research perspectives; publishes a quarterly e-journal (*Insight from Hindsight*); makes presentations globally; and offers in-house seminars on the most critical issues related to avoidance, mitigation and resolution of construction disputes.

Navigant is a specialized, global expert services firm dedicated to assisting clients in creating and protecting value in the face of critical business risks and opportunities. Through senior level engagement with clients, Navigant professionals combine technical expertise in Disputes and Investigations, Economics, Financial Advisory and Management Consulting, with business pragmatism in the highly regulated Construction, Energy, Financial Services and Healthcare industries to support clients in addressing their most critical business needs.

Navigant's Global Construction Practice is the leading provider of expert services in the construction and engineering industries. Navigant's senior professionals have testified in U.S. Federal and State courts, more than a dozen international arbitration forums including the AAA, DIAC, ICC, SIAC, ICISD, CENAPI, LCIA and PCA, as well as ad hoc tribunals operating under UNCITRAL rules. Through lessons learned from Navigant's forensic cost/quantum and programme/schedule analysis on more than 5,000 projects located in 95 countries around the world, Navigant's construction experts work with owners, contractors, design professionals, providers of capital and legal counsel to proactively manage large capital investments through advisory services and manage the risks associated with the resolution of claims or disputes on those projects, with an emphasis on the infrastructure, healthcare and energy industries.

FUTURE EFFORTS OF THE NAVIGANT CONSTRUCTION FORUM™

In the second quarter of 2016, the Navigant Construction Forum™ will issue another research perspective analyzing construction industry issues. Further research will continue to be performed and published by the Navigant Construction Forum™ as we move forward. If any readers of this research perspective have ideas on further construction dispute related research that would be helpful to the industry, you are invited to e-mail suggestions to jim.zack@navigant.com.