

Resolving Megaproject Claims: Lessons From Boston's "Big Dig"

By Kurt L. Dettman, Martin J. Harty, and Joel Lewin



Kurt L. Dettman



Martin J. Harty



Joel Lewin

The "Big Dig" Project—officially known as the Central Artery/Tunnel Project (Project)—received worldwide attention, not only for its innovative engineering and construction techniques, but also for the challenge and controversy attendant to building a 15-year, \$15 billion project in the heart of a major city.

From the outset of construction in the early 1990s,

Project management anticipated that a large number of disputes would arise given the magnitude, complexity, and duration of the Project. Project management developed a comprehensive dispute avoidance and resolution program. The program implemented almost every type of dispute avoidance and resolution technique used in the construction industry, including partnering, issue step resolution, dispute review boards, arbitration, structured negotiation, and mediation. These techniques resulted in the resolution of issues and disputes¹ with an aggregate claimed value of more than several billion dollars.²

Kurt L. Dettman is the principal of Constructive Dispute Resolutions and advises on all forms of dispute avoidance and dispute resolution. Martin J. Harty is a retired judge from the Armed Services Board of Contract Appeals and offers mediation, arbitration, and other dispute resolution services. Joel Lewin is a partner at Hinckley Allen and Snyder and mainly represents contractors. As described in the text, all three had a major role in dispute resolution proceedings arising out of the Central Artery/Tunnel Project in Boston (commonly known as the Big Dig).

This article explores the Project's "real world" experience using different dispute avoidance and dispute resolution techniques, drawing on the combined perspectives of the owner, the contractor, and the dispute resolution neutral.³ This article offers some "lessons learned" for the consideration of construction professionals embarking on or in the midst of other large, complex construction projects.

Background of the Project

Project Scope

The Project was undertaken to relieve congestion in downtown Boston and to increase accessibility to Logan International Airport. The original "Central Artery," built in the 1950s, traversed downtown Boston, cutting off the financial district from the seaport with an elevated highway (Interstate 93). Originally designed to carry 75,000 cars per day, by the 1990s it was carrying more than 200,000 cars per day. In addition, Logan Airport was serviced by only one harbor crossing—the Sumner and Callahan Tunnels—that had been constructed in the 1930s and 1960s, respectively.

The Project scope included construction of the following major elements: a new tunnel—now named after Ted Williams—under Boston Harbor; four complex highway interchanges within Boston city limits; a new highway segment to be constructed under ten active railroad tracks; a multilane tunnel through the center of downtown Boston; and a fourteen-lane river crossing on two bridges located in the center of a multiple-highway interchange on the northern side of the city.⁴ All this construction had to occur while keeping the highways operational and the City of Boston and the surrounding metropolitan area open for business during more than fifteen years of active heavy construction.

The awarding authority for the Project was the Massachusetts Highway Department⁵ (MassHighway or "owner"). MassHighway used a traditional design-bid-build process for procurement of its construction contracts. The design of the construction packages was performed by design professional firms under separate contracts with MassHighway. Oversight of the design, procurement, and construction process was performed by a management consultant, the joint venture of Bechtel Corporation and Parsons Brinckerhoff Quade & Douglas, Inc. (Bechtel/Parsons Brinckerhoff, or B/PB). Several years into the Project, project management implemented an integrated project organization under which B/PB personnel were assigned positions alongside state employees in a single management structure. The Federal Highway Administration

(FHWA) provided federal funding and project oversight.

The design, construction, and project management contracts were very large in dollar amount, complex in scope, and intricate in scheduling and coordination. MassHighway awarded approximately fifty design packages, more than thirty other contract packages, and approximately 118 prime contracts with several hundred subcontracts. Larger contracts were in the \$100 million–\$400 million range (as bid) and several years in duration. In addition, the Project schedule was “fast tracked”⁶ in an effort to minimize public inconvenience, avoid time extensions, and reduce cost. Fast tracking took the form of issuing plans and specifications for bid prior to the final completion of design, as well as directing resequencing and acceleration of work prior to completion of full designs. Notwithstanding such efforts to complete the work as quickly as possible, heavy construction was under way from 1991 to 2006. During construction the Project experienced several years of delay and, as a result, was many times forced to accelerate and resequence work to avoid delays and meet roadway opening milestones, leading to acceleration, delay, and impact claims from contractors.

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The nature of the construction was an important factor in designing an appropriate dispute avoidance and resolution program. Given the execution of extremely technical, tightly scheduled work in a dense, historic urban environment, the Project anticipated that there would be a significant number of contract scope/scheduling changes and changed/unanticipated conditions claims. There was a concern that conventional dispute resolution processes, with the emphasis on arbitration or litigation, would not accommodate these circumstances well because they would require far too much time, effort, and formality of process to receive a timely decision from the owner.

Another concern was that Project officials and personnel, already working at their limits to construct the Project, would be overwhelmed by the burdens of responding repeatedly to conventional litigation processes such as document discovery, depositions, evidentiary hearings, and trials. There was also a concern that unresolved disputes and claims could slow down the progress of construction as the parties fought instead of spending their time and energy on progressing the work. For these reasons, effective project management required the design

and implementation of a flexible dispute avoidance and resolution program that was tailored to the particular circumstances of the Project against the framework of limitations imposed by public contract dispute resolution in Massachusetts.

Public Contract Dispute Resolution in Massachusetts and MassHighway’s Practices

Massachusetts law specifies the requirements for bringing contract claims against MassHighway.⁷ At the time, under MassHighway’s standard specifications (the MassHighway Blue Book), the contractor was required to bring claims within defined time periods and in prescribed ways depending on the type of claim.⁸ MassHighway’s district highway director would make a decision on the claim. If the contractor did not accept the decision on certain types of claims, it could seek a decision of the chief engineer (who was advised informally by an internal claims committee).⁹

If a contractor did not agree with the chief engineer’s decision, the contractor could avail itself of a statutory appeal process or go directly to court.¹⁰ Under the statutory appeal process, a “hearing examiner” heard all claims by contractors from determinations of the department,¹¹ and after such hearing provided a report and recommendation to the secretary of transportation on the disposition of the claim. Contractors aggrieved by a decision of the secretary on contract appeals could bring suit against the Commonwealth under the provisions of Massachusetts General Laws chapter 258.¹² If suit was filed (directly after the chief engineer’s decision on certain claims or after the statutory appeals process), it followed the traditional litigation process under the Massachusetts Rules of Civil Procedure.¹³

The Project wrote its own standard specifications. Although modeled on the MassHighway Blue Book, the Project specifications differed in some of the remedy-granting and claim-processing provisions. For example, the Project’s claims initially would be decided by the “Authorized Representative of the Project Director,”¹⁴ not the district highway director. The final decision on a claim would be made by the CA/T project director, not MassHighway’s chief engineer.¹⁵

From the Project’s perspective, the number, magnitude, and complexity of lawsuits that could be initiated over the course of a multiyear megaproject could overwhelm traditional systems for dispute resolution such as courts and administrative tribunals. The Massachusetts trial courts were also concerned with a potential deluge of lawsuits. The courts established a system of masters who would hear cases and make findings of fact under the court’s supervision. A list of fifty attorneys experienced in construction law who would serve as masters was developed. It remains on file with the court to this day but has never been used. Ultimately, there were lawsuits relating to contract performance issues filed against the Project on four projects.

The Original Dispute Avoidance/Resolution Program

General Considerations

Project management believed that additional measures were needed to avoid the incidence of disputes and to ameliorate their impact. Project management concluded that a dispute avoidance and resolution program should be established at the Project level as a condition precedent¹⁶ to any Project participant bringing a claim through the statutory administrative appeal or litigation processes. In effect, the dispute avoidance and resolution program at the Project level was designed to act as a filtering system that identified and resolved disputes at any one of several stages before they entered the statutory administrative appeal or litigation processes described above. Project management believed that if this dispute avoidance and resolution “filtering” process was effectively implemented, there would be fewer disputes and claims that would result in time-consuming and expensive litigation.

The Project’s objective was to create a process that would be faster and less expensive than court processes, yet produce technically sound, equitable, and auditable results. To aid in developing and gaining acceptance of a suitable program, the Project’s legal staff reviewed various dispute resolution techniques and sought input from as many construction industry sources as possible. The Project consulted several government agencies, a wide variety of construction industry groups and representatives, members of the national and local construction bars, and various dispute avoidance and resolution specialists. Although MassHighway considered arbitration as a potential dispute avoidance/resolution approach and used it on one contract, the conclusion was that it did not adequately protect the public interest because meaningful court review would be precluded. From the Project’s perspective, even arbitration where panelists have construction experience would be unsuitable because often the arbitration process, especially with complex construction disputes, involves litigation-type discovery and an arbitration process with a lengthy series of hearings. From the contractor’s perspective, arbitration using experienced construction panelists to issue binding decisions would have been preferable to the court system or the owner’s representative, whom the contractors believed would adopt the position of the Project personnel. The principal elements settled on for the Project’s dispute avoidance and resolution program are described below.

Partnering

Upon award, all contractors were invited to enter into a “partnering” program.¹⁷ Partnering—perhaps more properly characterized as a dispute-avoidance process rather than a dispute-resolution process¹⁸—consisted of an effort by trained facilitators, initially at off-site conferences and later repeated during the course of the contract, to educate all Project participants on the mutual benefits of working toward common goals rather than each participant independently pursuing its own selfish ends. By using

partnering, Project management attempted to establish a way of doing business that emphasized open communications and joint solutions, rather than the win-lose battles that would sour relationships and waste resources on fighting legal battles rather than getting the job built.¹⁹

For each partnered contract, the parties entered into a partnering agreement or partnering charter that set out the basic mutual goals of the partners (typically, the contractor and owner, but sometimes involving other project participants).²⁰ These goals included, for example, establishing a safe working environment, meeting both parties’ budget and schedule goals, and producing a quality project. As discussed in more detail below, the parties also typically attached to the partnering charter an issue resolution model that depicted a step negotiation process to resolve issues and disputes that arose during the course of construction.

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It is important to note that the partnering agreement was not intended to change the basic terms and conditions of the underlying construction contract. In particular, it did not supplant the requirements of the formal claim submission and resolution process. In general terms, it provided a business framework within which the contract was administered by both the owner and contractor—and with respect to disputes it did provide an agreed means to either resolve or informally elevate issues or disputes for resolution before they became formal claims.

The Issue Resolution Model

In addition to partnering, project management also implemented the issue resolution model. Under the issue resolution model, issues were elevated to the next management level if not resolved at a lower level within a certain time period. As to disputes and claims, typically the staffs of the owner’s authorized representative²¹ and the contractor’s project manager would meet periodically to negotiate disputes and claims that could be resolved by normal staff-to-staff contract administration. If normal staff level negotiations did not resolve an issue, the owner’s authorized representative and the contractor’s project manager would try to resolve the issue. If they could not do so, the issue would then be elevated to so-called senior level resolution involving a meeting between the owner’s area construction manager (who managed several

contract packages) and usually a contractor vice president who was not directly responsible for managing the contract at issue.

If the parties did not resolve the issue at senior issue resolution, the issue was elevated to executive issue resolution, where a committee of senior executives from the owner, contractor, contractor's representative, and FHWA²² would listen to the positions of the owner's authorized representative and the contractor's project manager. The Executive Issue Resolution Committee would then give a written recommended resolution to the owner's authorized representative and the contractor's project manager.²³ If the contractor did not accept the recommended resolution, the authorized representative would issue a final determination, which then triggered the contractor's right to take the claim to a dispute review board (discussed below).

This issue resolution model was intended to ensure that commercial issues that impeded ongoing work did not become stale and were, to the extent possible, resolved in "real time." Thus, the partnering approach, combined with the issue resolution model, was designed to prevent or resolve disputes early on, before they hardened into formal contractual claims.

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The Dispute Review Board Program

At the time of contract award, a dispute review board (DRB)²⁴ was established for each major contract (those over \$20 million and at least one year in duration). The DRB was designated to review all claims not resolved through the issue resolution process arising out of the contract to which the DRB was assigned. Later in the Project, in order to save on transaction costs and to take advantage of what DRB members had learned, some DRBs were designated to cover multiple contracts involving the same contractor. Ultimately, forty-six DRBs were established over the life of the Project on contracts with an as-bid value of approximately \$6.8 billion.²⁵

The Structure of the DRBs

Candidates for the DRB had to be substantively and technically qualified in the type of construction included within their contract.²⁶ One technical panelist was selected by

each party from a slate of three qualified candidates offered by the opposite party. The two technical panelists in turn selected a chairperson,²⁷ who had to have extensive construction experience but could be an attorney or claims consultant qualified primarily in the field of construction dispute resolution.²⁸ Both the owner and the contractor had to approve the appointment of the chairperson.

The DRB was appointed shortly after the notice to proceed for the applicable contract. Thereafter, the DRB would meet—usually on a quarterly basis—at the job site with the contractor and owner to receive periodic updates on job progress and pending claim issues. This early selection and periodic education process was an important reason why the Project elected to use DRBs. It ensured that DRB panelists were (1) knowledgeable about the technical complexities of the work, (2) familiar with the contract's scope and the ongoing progress of the work, and (3) able to begin the dispute resolution process immediately when a formal claim reached the DRB.

The DRBs were designed to be in place for the duration of each contract, but each party on an annual basis could elect to "nonrenew" a DRB member's appointment. In the event of nonrenewal, the existing DRB would continue to hear any disputes that were pending before it at the time of the nonrenewal. A replacement DRB member (or members) would be appointed to hear future disputes, using the same appointment process as the original DRB.

The DRB Process

Claims had to be submitted to the DRB within forty-five days of the authorized representative's final determination, with the owner's response due forty-five days later.²⁹ Both parties were required to submit "full documentary backup" with their claims and responses. Generally, the parties prepared comprehensive position papers, together with backup documentation, exhibits, and, if necessary, expert reports. The DRB could request additional documentation, but by the time a claim reached the DRB, the board members normally were familiar with the claim from having monitored the contract since the date of award. As a result, the DRB's analysis throughout the process would be appropriately focused on the issues in dispute and not on background educational information.

DRB meeting procedures were left to each DRB's discretion. The Project offered a standard procedure with relatively informal rules, which the DRB could adopt or modify. Unless the DRB prescribed otherwise, there was no formal discovery other than the exchange of position papers or as requested by the DRB itself. The DRB procedure used on the Project included an oral hearing and did not include swearing of witnesses, trial-type motion practice, formal discovery, direct and cross-examination of witnesses by counsel, or objections to evidence. Instead, the DRB hearing procedure contemplated an oral narrative presentation of the claim or defense by knowledgeable representatives of the party, followed by questions by

the DRB members designed to elicit what the DRB determined to be the relevant facts and issues. The parties had to have persons with direct knowledge of the facts present to talk about the claim and answer questions. Lawyer participation was limited to legal issues or as permitted/invited by the DRB.

This active, direct, “conversational” approach between the DRB and the parties was intended to substitute for the time-consuming and often contentious formalities of traditional forms of dispute resolution, such as arbitration, administrative law appeals, or judicial processes. At DRB hearings, the panel was expected to take charge of the fact-finding process and to delve into the factual complexities of the dispute quickly and efficiently. It was contemplated that most DRB hearings would be concluded in one or two days. Following the conclusion of the hearing, the DRB would issue within thirty days a detailed written set of findings and recommendations to the CA/T project director for a decision.

The project director would then issue a decision accepting or rejecting all or some of the DRB’s findings and recommendations. This is different from the standard DRB process where the parties either accept or reject the DRB’s findings and recommendations in their entirety.³⁰ The project director’s decisions were detailed and explained the rationale behind the decision. If dissatisfied with the project director’s decision, the contractor, within 120 days from receipt of the decision, could pursue the statutory administrative appeal process under Massachusetts General Laws chapter 16, section (1)(b), or initiate a court action, at its option.

Later in the Project the dispute avoidance and resolution program as set forth in the contract was amended to give the parties the option of using the DRBs to give informal advisory opinions or recommendations outside the formal DRB process. The informal advisory opinion process consisted of the parties providing the DRB with a brief summary of the issue, discussing the issue with the DRB, and, after a DRB caucus, receiving from the DRB an informal opinion or recommendation on the issue. The parties did not have to accept the DRB’s suggestions. A project director’s decision would not issue as a result of such a DRB recommendation. If a formal claim was brought later, the prior advisory process had no bearing on the outcome. In addition, the parties could agree to mediation. Both of these options were intended to give the parties additional tools to resolve claims on a case-by-case basis.

The Revised Dispute Avoidance/Resolution Program

Revisiting the Dispute Resolution Program

During the first several years of the Project, the dispute avoidance and resolution program was reasonably successful in resolving claims and issues, but as the Project progressed it was unable to keep up with the pace of new disputes and claims. Neither partnering nor the DRBs could address the growing backlog of disputes and claims

that developed in the late 1990s and continued to grow over the years due in part to several years of aggressive schedules, directed changes, differing site conditions, lack of 100 percent designs, acceleration, and resequencing. As several of the early Project contracts drew to a close, contractors submitted large delay and impact claims. From the contractors’ point of view, resolution of these claims became extremely important as they were experiencing massive cost overruns. In many instances, by the end of the job, the contractors had experienced millions of dollars of losses due to claimed cumulative impacts, delays, and constructive acceleration.

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As a result of this growing backlog of claims, Project management had to take a new look at the dispute avoidance/resolution program. In the fall of 2002, then Turnpike Authority Chairman Mathew J. Amorello directed the Project’s Claims and Changes Department³¹ to establish a “close-out” plan to resolve the pending claims on the Project. At that time, there were almost 5,000 outstanding claims and issues with an average age of more than 300 days. The importance of resolving the backlog was reinforced in January 2003, when the National Academy of Engineering and the National Research Council issued a report to the Massachusetts Turnpike Authority that recommended the resolution of outstanding claims as a major Project priority.³² The majority of the claims backlog was at the staff level of both the contractor and owner organizations, that is, before the stage of issuing an authorized representative final determination.

Adopting the National Academy’s recommendation, Project management established a claim resolution plan that called for resolving the bulk of open claims and changes on ten substantially complete contracts by July 2004 and catching up with older claims and issues backlogged as of June 2003 on eight other ongoing “active” construction contracts. Together, these contracts represented more than 80 percent of the claimed dollar value of the open matters on the Project.

As described more fully below, there were two broad aspects to the Project’s claim resolution initiative (which in essence supplanted the contractual dispute resolution program): a structured negotiation program and a mediation program. These two processes operated in tandem, with the parties turning to mediation when structured negotiations alone could not produce resolution.³³

The Structured Negotiation Program

In general, the claim resolution plan provided for (1) targeting complete or nearly complete contracts that had a large number and magnitude of claims; (2) establishing on each contract a dedicated negotiation team comprised of a team leader, with technical support from other CA/T personnel (estimators, schedulers, auditors, and claim analysts);³⁴ and (3) entering into structured negotiation agreements with contractors that provided for, among other things, scheduled claim submissions, a step negotiation program, and a parallel mediation program described herein.

The key features of the typical structured negotiation agreement included the following elements:

Interim Provisional Payments: In instances where CA/T recognized partial merit to the claims, the agreements provided for interim provisional payments against the value of the pending claims to be negotiated in the structured process in order to address the contractor's cash flow needs. The payments were subject to being refunded if no settlement took place. This provision was especially important on still active projects as payments were often tied to project performance commitments.

The agreements contained a claim and documentation submission schedule that was tied to the provisional payments.

Claim Submission Requirements and Project Evaluation Commitments: The agreements contained a claim and documentation submission schedule that was tied to the provisional payments. In some instances, this included agreement as to the form the claim was going to be submitted and the level of detailed analysis and backup expected. The Project, in turn, made commitments for timing and content of review, analysis, and feedback on the claim submissions.

Access to Records: The agreements provided full access to the contractor's books and records for Project auditors and claim analysts.

Establishment of a "Steering Committee": The agreements established a steering committee of senior party representatives that guided the review, analysis, and negotiations of the claim by the parties' respective teams. Mutual staffing commitments were required to ensure that both parties fielded counterpart teams with sufficient resources and subject matter expertise (e.g., claim analysts, schedulers, estimators, and auditors).

Establishment of Timelines: The agreements established negotiation/mediation timelines and targets to

keep the process moving forward. On some of the contracts, the process from start to finish took from eighteen to twenty-four months.

The Mediation Program: As part of the expedited claim resolution plan, the Project implemented a mediation program. The parties entered into a mediation agreement that set forth the terms of the mediation process. The key features of a typical mediation agreement included the following:

Mediation Panel: The agreement established a mediation panel of two or three mediators, typically consisting of two sitting judges of the Armed Services Board of Contract Appeals (ASBCA), but occasionally including a private sector mediator or non-ASBCA judge.

Scope of the Mediation Agreement: The parties would agree on the claims that would be the subject of the mediation. Typically, the owner insisted that all open claims, of whatever nature, be included so that the mediation would result in a comprehensive, global settlement.

Interaction with Steering Committee: There was a close interaction between the mediation panel and the steering committee so that issues that could not be resolved at the steering committee level could progress to the mediation panel for consideration and evaluative feedback in order to break any impasse on particular claim elements.

Evaluative Mediation: The agreements called for non-binding, relatively informal evaluative mediation (as contrasted with facilitative mediation) based on the mediators' opinions of the merits of the parties' respective positions and likely range of outcomes if the dispute were to proceed to a DRB and/or litigation. The mediators directly participated in the final negotiations and provided, as part of the documentation process, mediators' statements, which assessed the overall reasonableness of the settlement in light of the mediation record.

Most of the mediations involved multimillion-dollar claims, with multiple issues from discrete questions about contract interpretation to delay, disruption, and impact claims. The complexity of the issues and the amounts in controversy required multiple mediation sessions to elaborate the issues and assist the parties in working toward a resolution. The nature of the disputes also required the parties to turn to experts and consultants, particularly accounting, productivity, and scheduling experts, or to in-house personnel with appropriate expertise.

Finally, there was the political dimension to the Big Dig. The substantial cost growth on the Project led to increased and intense public scrutiny of all actions taken on the Project, so it was important to have an audit trail for oversight entities to be able to review the outcomes of the process. As the Project cost overruns increased, various federal and state agencies began to scrutinize various aspects of the Project. Criminal and civil investigations created an atmosphere challenging to the efficient resolution of legitimate disputes. The mediation process provided needed independent validation for resolving large-dollar claims in a neutral and objective manner.

How the Mediation Process Worked

The size and complexity of the claims, as well as the range of issues in dispute, created the need for an organized approach to achieve resolution. The parties worked with the mediators and with each other to make the mediation process manageable. For example, Big Dig Schools were held for the mediators to provide an overview of the major issues involved on a particular contract, and allow the mediators to then help fashion a mediation program that would accomplish the goal of settlement. Typically the parties and the mediators coordinated with each other to provide substantial background materials to the mediators in a way that captured each side's position on each of the key areas of dispute.

The parties would agree on schedules for the exchange of information, submission of expert reports, and briefings to the mediators in order to keep the mediation process moving forward. Importantly, in contrast to the practice in some cases to provide confidential submissions to the mediators only, the mediators and the parties felt it was important to exchange all mediation submissions so neither party would be blindsided by any issues during the mediation session.

Mediation sessions were typically conducted in person over two to three days, during which predetermined topics were presented and discussed. The parties agreed to blocks of preparation time between each in-person session, typically allowing for two to four weeks between sessions in order to accomplish information exchange and preparation of position papers and presentations. At the in-person sessions, it was not unusual to have twenty or thirty participants in the mediation room, ranging from key decision makers, to field superintendents on the job, to expert consultants.

Standard mediation practice calls for a representative with full settlement authority to be present during the proceedings. The Project's mediation agreements provided that each party was required to designate a senior representative with the authority to resolve all matters at issue. However, the agreements also provided that in the case of the Project, no settlement agreement was final and binding unless and until it was ratified by the Massachusetts Turnpike Authority board of directors and, to the extent the Project sought federal participation in any payment, by FHWA.

The contractor's representatives who attended the mediation sessions did not necessarily have complete authority depending on the circumstances. A joint venture's representative, for example, might have to consult other venture partners if settlement authority dollar floors had to be lowered. The authors' experience was that the stakes were sufficiently high for the contractors to send senior people within the organization, which included corporate officers as well as stakeholders. These participants either had the authority to negotiate a settlement on the spot or had the confidence of the ultimate decision makers within their organization that if they recommended a settlement,

their recommendation would be given great weight and in all likelihood would be approved.

Given the time and effort put into each of these mediations, the value of having true decision makers at the table cannot be underestimated. Without true decision makers at the table to hear presentations and have frank exchanges with both the mediators and the other side, it is unlikely that many of the mediations would have succeeded. Further, from a negotiation standpoint, significant concessions on one side would only come with the knowledge that the other party's representative had the authority to make significant concessions.

The Use of a Steering Committee

One aspect of the CA/T Project mediation process that led to an improved level of coordination and cooperation was the parties' use of a steering committee to advance the process and interact with the mediators. The steering committee was composed of the senior official and a few key senior staff members from each side. The committee functioned as a clearinghouse for the exchange, evaluation, and development of the position papers. Typically, the steering committee met on a regular basis with the claim negotiation teams with the aim of understanding and discussing the merits of the various claim elements and, if possible, resolving issues without mediator assistance.

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The steering committee also directed and controlled the development of the presentations made in open session and the presentations to the mediators. Throughout the mediation process, the mediators provided an evaluative assessment of the strengths and weaknesses of each party's positions during ex parte sessions with each party's senior representative or its steering committee members. On occasion the mediators would give their assessment on specific issues to the steering committee as a whole, without breaking into separate party caucuses as is the case in many mediations. In this way the mediators could "speak with one voice" on their assessment.

The Use of Comediators

The mediator panels were a combination of judges from the Armed Services Board of Contract Appeals (ASBCA)

and the General Services Board of Contract Appeals (now merged into the Civilian Board of Contract Appeals) as well as private sector neutrals.³⁵ The ASBCA's initial recommendation to the CA/T Project to use comediators was prompted by (1) the Project's desire to use evaluative mediation and (2) the ASBCA chairman's view that the widespread public interest surrounding the Project warranted the use of more than a single mediator.

The bottom line is that on any complex, fast-track project there must be cooperation among all parties.

The use of comediators was not without risk. Differences in mediator styles had to be taken into account. However, because the mediators could work effectively together, the result was a powerful tool for assessing the strength and weaknesses of a party's position and validating the overall reasonableness of a settlement. For example, when each mediator independently arrived at the same assessment of the relative strengths and weaknesses of a party's position, the communication of the combined assessment tended to validate in unmistakable terms the risks a party faced on the issue. In most of the comediations there was general agreement on the issues, as well as on the overall assessment. However, even when the mediators were not unanimous on an issue, the communication of that divergence was valuable to the parties because it showed that reasonable, neutral parties hearing the same information could come to different conclusions. This fact gave the parties information that could be used to measure the risks on the particular issue.

Provision for Mediators' Evaluation of the Reasonableness of the Settlement

By the terms of the mediation agreements, the mediators agreed that they would assess the reasonableness of any settlement reached based on the information presented during the mediation. If the mediators agreed that the settlement was reasonable, the mediators executed a mediator's statement reflecting their view that the overall settlement was reasonable under all the circumstances. The assessment was not intended to bless the details of a particular settlement amount or terms. Instead, the mediators' assessment was a representation that the overall settlement was within a zone of reasonableness. The assessment was designed to provide assurances to all concerned that they were exercising their settlement discretion in a reasonable fashion.

Reflections on the Big Dig Project Experience and Lessons Learned From Experience With the Original Plan

Assessment of the Partnering and Issue Resolution Model

The authors generally agree that the partnering concept was appropriate and necessary for a project as long and as complicated as the Big Dig. The bottom line is that on any complex, fast-track project there must be cooperation among all parties. There are going to be changes in the work or issues encountered that neither the contractor nor the owner could have foreseen. If one party feels that it is being treated unfairly at every turn, then when the other party requests needed assistance, it will not be given. The outcome may be a claim death spiral, where there are an ever-increasing number of claims, slowed contract work, administrative burdens on both sides to deal with a blizzard of paper-taking positions, and a slew of unresolved claims to deal with at the end of the project. There must be flexibility in approach and implementation if the mutually recognized goals of the parties are to be attained, while paying appropriate deference to the contractual framework of the relationship. It is also important that the understandings reached during partnering sessions concerning performance, terms, and conditions be given appropriate recognition in order to avoid future disputes.

The most beneficial aspect of the Project's partnering program from a dispute/claim resolution perspective was the issue resolution model. The concept of real-time resolution of issues and claims using a timely step resolution through successive levels of management was an important element in the success of the overall dispute avoidance/resolution program. Nevertheless, as the Project neared completion, an unacceptable number of claims remained unresolved.

The biggest challenge was the sheer volume and complexity of disputes and claims. In practice, the step resolution process worked well to resolve those issues where entitlement to direct and impact costs was not in dispute or for issues that were "mission critical" in the sense that failure to resolve them would impact the progress of work in the field. This process worked less well on claims where entitlement was in dispute. The net result was that the Project concentrated on progressing work in the field and left resolution of more difficult issues involving disputes over entitlement to the end of each contract. This culminated in the large backlog of claims that grew as the Project proceeded with full-bore construction in the late 1990s. This large set of claims then became the basis for many contractors' cumulative delay/impact claims that were finalized for submission as their contracts neared completion.

The authors also recognize that partnering did not work well on all contracts. As with any complex project with multiple contracts, there was variation in contracting philosophies among participants in the process. Nonetheless, it is the authors' view that the partnering approach afforded the parties a flexible way to address and resolve budding disputes that, if left unresolved, would have

adversely and materially impacted work in the field. Likewise, the partnering philosophy also provided the underpinning for (or at least receptivity to) the structured negotiation/mediation process that was implemented toward the end of the Project.

One issue of particular concern to the contractors was the full integration of the construction manager, B/PB, into the owner's organization. B/PB acted as the authorized representative of the owner and also oversaw design and coordination. From the contractors' standpoint this integrated project organization created inherent conflicts that prevented effective issue resolution. For example, many claims arose out of design, coordination, or construction management issues for which B/PB bore responsibility in the view of the contractors. Thus, B/PB was tasked with representing the owner in evaluating, presenting, and negotiating claims in instances where the underlying causative events were alleged to be B/PB's responsibility and, as a result, the contractors felt that B/PB could not play a disinterested role in representing the owner. One of the lessons learned is that the owner should independently evaluate the underlying facts giving rise to a claim and retain ultimate decision-making authority on claims involving issues of which party bears responsibility for design, coordination, or management. On the CA/T Project, the owner had final approval authority and later in the Project it engaged independent claim consultants to review all major claim settlements as an oversight check on B/PB.

Assessment of the DRB Process

Approximately twenty-nine of more than 25,000 disputes and claims were formally presented to a DRB for recommendations. These twenty-nine claims had a value of approximately \$175 million. Ultimately, almost 75 percent of the DRB recommendations either were accepted or, even if initially rejected, led to later settlements.

While there was much debate at the time between the parties whether particular DRB decisions were correct, overall the settlement numbers suggest that the DRB process, in general, worked as designed. There is some question, however, about whether the DRB process lived up to its full potential.

Some contractors were of the opinion that the owner accepted only those DRB findings and recommendations that favored the owner. Generally, the owner tried to follow the findings and recommendations of the DRBs, recognizing that the efficacy of the DRB process in general would be questioned if only favorable decisions were followed. That said, the owner had difficulty accepting DRB decisions that did not, in the owner's view, consider contractual terms or were not, in the owner's view, well supported by the information that was presented to the DRB.

In February 2009, Dr. Kathleen Harmon published findings after her review of the statistical data regarding the CA/T Project DRB program to determine its effectiveness.³⁶ Dr. Harmon concluded that the DRBs on the CA/T Project were not as effective at resolving disputes as had

been hoped or planned, citing the large number of claims that remained unresolved after going through the DRB process. In assessing the conclusion Dr. Harmon reached, the authors note that the Project viewed DRBs as a last resort after exhaustion of the admittedly lengthy filtering process required by the Project's partnering and negotiation program. In fact, the overall statistics show that the vast majority of issues were resolved through negotiation and that the relatively few matters going to the DRB for a formal decision were consistent with the DRB being the last resort before litigation. The process of bringing issues to the DRB for a formal nonbinding recommendation proved time-consuming and expensive. As a result, parties were discouraged from using DRBs especially when contracts were close to substantial completion. Viewed from this perspective, the DRBs fulfilled their more limited purpose of preventing claims from going to litigation.

Dr. Harmon does, however, raise legitimate questions about whether DRBs were used on the Project to the full extent of their potential. In retrospect, the DRBs could have been used more actively for dispute prevention. The authors agree that the DRB process was often viewed, by both the owner and the contractors, as adversarial and not consistent with partnering principles. These factors likely contributed to the DRBs being used for dispute resolution less frequently than may have been expected when the program was established.³⁷

Another issue that merits consideration on a retro-

Approximately twenty-nine of more than 25,000 disputes and claims were formally presented to a DRB for nonbinding and binding recommendations.

spective look at the program was the role of lawyers in the DRB process. As noted above, the DRB specification deemphasized traditional legal procedures (for example, motions, cross-examination, and the like) and confined the role of lawyers to legal issues. In practice, most disputes were presented to the DRBs without lawyers actively involved. In those cases, however, where contractual or legal issues were important, the DRBs generally permitted lawyers to address them. The authors believe that DRBs should not shy away from permitting parties to rely on lawyers where legal or contractual interpretation issues are presented. Failing to do so may result in the DRB issuing findings and recommendations that one or both parties cannot accept because due consideration was not given to those legal issues.³⁸ This is a particularly important issue for public projects like the Big Dig where the owner needs to assure the public that any monies paid to contractors have a substantiated and legal basis.

A related issue was the composition of the DRBs. The Project DRB specification provided that the two “wing” panelists had to be engineers, and the chairperson could be an engineer or a lawyer. Based on the experience at the CA/T Project, the authors believe that, where there is a likelihood that legal issues will be a significant factor in a dispute, the chairperson should be a lawyer with appropriate experience in the construction field. A lawyer generally brings three important attributes to the DRB. First, the lawyer is familiar with managing complex processes to ensure the smooth running of the DRB itself. Second, the lawyer is able to analyze contractual or legal issues that may be embedded in the dispute. Third, the lawyer is familiar with drafting findings and recommendations that will address all aspects of the dispute for the record.

The authors suggest that the reluctance to use some-

The nonbinding DRB process worked best on discrete issues that did not involve high-stakes dollar values.

one with legal training on a DRB needs to be revisited, particularly when issues of contract interpretation are involved or the result depends on the application of legal precedent. Having a DRB composed of two panelists who are engineers/technical specialists and a chairperson who is a lawyer familiar with dispute resolution processes continues to place the emphasis of the DRB on resolving typical engineering/construction disputes, while providing appropriate deference to process and legal issues. This gives more credibility to the process and outcome, thus making it more likely that the parties—especially on public projects where in-house lawyers scrutinize DRB process outcomes—will accept the DRB’s findings and recommendations. At the same time, the authors believe the lawyer serving on the DRB needs to give deference to the other members on issues involving construction and engineering issues.

Overall, the authors believe that the nonbinding DRB process worked best on discrete issues that did not involve high-stakes dollar values. The CA/T Project moved away from the use of DRBs for complex, high-dollar-value claims that were asserted on many of the major contracts as the CA/T Project drew to a close. Instead, the Project used the structured negotiation/mediation process described above. There were several reasons for this move away from the use of DRBs to resolve these complex, high-dollar claims.

First, there was some doubt whether the nonbinding DRB process would be well suited to handle extremely

complex claims involving hundreds of individual issues, disputes about the existence and size of cumulative impact/delay claims, legal disputes over the interpretation and application of the contract terms and related legal principles, and many millions of dollars in claimed value. The hearings alone would take a large commitment of resources and take months to complete. Faced with the prospect that the owner would not accept an unfavorable recommendation, contractors hesitated to make the necessary investment in the DRB process, which would likely be followed by protracted, expensive litigation.

Second, it was recognized that the DRB process would force parties to take their official position on every issue because they do not want to concede points that might be used against them in the DRB’s deliberations. Obviously, this would work against the dispute avoidance/dispute resolution principle of encouraging parties to cooperate with one another in finding reasonable resolutions to claims.

Third, whatever the outcome of the DRB process, given the high stakes for both parties, it was unlikely that both sides would accept the outcome if it was decided against them. The dollars at stake were simply too large for either party to accept a nonbinding recommendation that would be too far off its negotiating position.

Notwithstanding the fact that CA/T Project management and the contractors decided not to use the nonbinding DRB process for large, complex claims, the DRB process was well suited to standard claims that arose during the course of the Project. The DRBs provided a suitable “back stop” to the partnering issue resolution model, successfully applying the DRB principle of bringing in project-knowledgeable experts to assist the parties in resolving disputes in real time as the project moved forward.

Lessons Learned From Experience With the Revised Claim Resolution Plan

All of the disputes involved in the major contracts submitted to the structured negotiation/mediation program were successfully resolved, with one exception.³⁹ Overall, the structured negotiation/mediation program closed out disputes and claims with an aggregate claimed value of more than \$500 million. The authors attribute the success of this program to several factors.

Commitment to the Process

The parties were committed to the process—both the contractor and owner approached the process with the objective of reaching a negotiated settlement. Both sides recognized that this might not be possible, but staying focused on this overall objective enabled the parties to keep chipping away at issues and to overcome roadblocks on individual issues where agreement could not be reached. Under one technique, the parties initially would array on a “scorecard” all open issues and then prioritize the analysis and negotiation based on dollar size and complexity. After a comprehensive information exchange on individual claims, the parties would begin negotiations. The parties

would develop internal merit-based valuations of each issue on the scorecard using the expertise of in-house personnel and outside consultants. If agreement could not be reached, the issue would be presented to the mediators for input and assessment. If agreement still could not be reached, the parties would “book” a negotiating range for the issue and then move on to other issues. At the end of this process, the negotiating ranges on individual issues would be aggregated and the parties would negotiate to an overall contract closeout number. In this way, failure to reach agreement on individual issues did not derail the entire process.

Full Disclosure and Vetting of Issues

The process encouraged a thorough vetting of the issues. The contractor would give full disclosure of its claims and costs, and the negotiating teams would thoroughly review and negotiate each issue. This enabled the contractor to put forward its best case on merit and cost but gave the owner the opportunity to carefully validate the basis for each claim. This was of particular importance to the owner to ensure that there was an appropriate audit trail and reasoned justification for the outcome of the process. Moreover, both parties felt more inclined to accept evaluative input from the mediators because the parties recognized that there had been a thorough process to examine the merits and costs associated with each claim.

Senior Decision Maker Participation

Higher-level principals for each side (comprising the steering committee) were involved at all stages of the process. This enabled senior management to hear the arguments being advanced by the negotiating teams, to see and test witnesses’ credibility, to get candid feedback from their respective employees on the merits of positions, and to ensure that the process moved steadily forward. The result of this process was that when the final negotiations occurred, the negotiating principals were operating from firsthand knowledge of the claims and defenses being raised and were in a better position to assess—and obtain approval of—the range where the negotiations ended up.

Evaluative Mediation

The use of evaluative mediation encouraged the parties to carefully examine their respective positions—and exposure—on the issues in dispute. The contractor and owner selected the mediators based on their extensive experience with construction disputes. Thus, they had credibility with the parties, who could use them as a proxy for the formal dispute resolution processes prescribed by the contract. This enabled the parties to more realistically assess the strengths and weaknesses of their positions, rather than forcing them to engage in strictly “positional” negotiations. The availability of a thorough and thoughtful process for airing the issues in dispute and an expert assessment of the strengths and weaknesses of each party’s position provided the confidence the parties—particularly

the public sector representatives—needed to satisfy themselves that the business decision to settle was a sensible and justifiable one in the circumstances.

Future Applications for Megaprojects

Key aspects of the CA/T Project’s dispute avoidance/resolution program provide a useful construct for successful implementation on future projects.

First, the program remained grounded in a partnering philosophy that, while keeping contractual roles and responsibilities intact, encouraged the parties to gravitate toward their mutual interests, one of the most important of which was resolving disputes where entitlement was not in question in an orderly and relatively expeditious process.

Second, the Project used the issue resolution model to ensure that there were successively higher levels of management attention to larger disputes that, if not resolved, could adversely impact progress of the work.

Third, the Project had in place DRBs for those disputes that could not be resolved through the issue resolution model. In practice, the DRB findings and recommendations provided the basis, in many cases, for further settlement negotiations and resolutions.

The use of evaluative mediation encouraged the parties to carefully examine their respective positions—and exposure—on the issues in dispute.

Fourth, the dispute avoidance/resolution program was restructured with the changing needs of the Project so that the structured negotiation/mediation programs implemented at the end of the Project could be used to tackle the large and complex claims asserted by most of the major contractors.

In looking back on the CA/T Project dispute resolution/avoidance program, however, there were some lessons learned that should be addressed on future megaprojects.


First, the dispute avoidance/resolution program was simply overwhelmed with the number and magnitude of issues and claims. This often resulted in large claim backlogs and delays in processing claims. To avoid such backlogs and delays, there must be robust and experienced staffs in both the contractor and owner organizations to handle charges and claims so that issues and claims can be addressed as they arise and do not migrate to the end of the project as part of an omnibus claim.

Second, partnering should be part of the project management plan and should be used actively throughout the life cycle of the project. The timely addressing of issues in a cooperative manner while construction is under way

gives the parties more opportunities, while interests are aligned, to resolve those issues without having to resort to formal claims processes.

Third, if DRBs are used, the DRBs should be encouraged to assist in both dispute prevention and dispute resolution. Further, DRBs should be comprised of members who understand this principle and take a proactive role in heading off disputes if possible, and timely resolving them if they become formal claims.

Fourth, if claims backlogs develop, or there are large, complex claims made during the course of a particular job, consideration should be given to carving out those claims and implementing the “mediator-chaperoned negotiation” approach that the CA/T Project implemented at the end of the Project to clear up the claims backlog. This combines the partnering approach with a disciplined, orderly, and merits-based process to try to resolve claims, with the formal contract process as a backstop, only if needed.

The experience on the CA/T Project indicates that the approach followed by the Project has promise for use in the resolution of public sector project disputes, when the disputes are complex, involve large sums of money, and are subject to significant public scrutiny. Perhaps the most important take away is that the overall results of the CA/T Project dispute avoidance/resolution program were achieved only by reassessing and revising the program as the needs and priorities of the Project evolved. Periodic reevaluation of a project’s dispute resolution processes should be an essential element in any oversight program. 

Endnotes

1. In using the term *disputes*, the authors include matters such as owner-directed changes and other performance-related issues that, while the subject of disagreement between the owner and the contractor, did not result in the formal filing of a claim under the contract.

2. More than 25,000 disputes and claims were generated between the contractors and the Project owner.

3. The three authors personally participated in Big Dig dispute resolution. Kurt Dettman was the owner’s representative. Joel Lewin was legal counsel for most of the contractors. Martin Harty was a mediator in almost all of the mediations. The authors are grateful to Thomas J. Stipanowich, professor of law, Pepperdine University, and academic director of the Straus Institute for Dispute Resolution, for his helpful comments during the preparation of this article.

4. A full description of the Project can be found at www.massdot.state.ma.us/Highway/bigdig/projectbkg.aspx.

5. Although the awarding authority throughout the Project remained MassHighway, in 1997 the Massachusetts Turnpike Authority took over management of the Project for the Commonwealth of Massachusetts. As of November 1, 2009, MassHighway became part of the Highway Division of MassDOT; see An Act Modernizing the Transportation Systems of the Commonwealth, 2009 Mass. Legis. Serv. 81 (West).

6. For a good explanation of the fast-track process, see PHILIP L. BRUNER & PATRICK J. O’CONNOR JR., 2 BRUNER AND O’CONNOR ON CONSTRUCTION LAW § 6.68 (2002). See also Arthur O’Leary, *Fast Track Construction: Is It Too Good to Be True? Can It Really Deliver?* DCD DESIGN COST DATA, Mar.–Apr. 2006, available at www.dcd.com/oleary/oleary_marapr_2006.html; Barbara Knecht, *Fast-Track Construction Becomes the Norm*,

ARCHITECTURAL REC., Feb. 1, 2002, at 123, available at <http://archrecord.construction.com/resources/conteduc/archives/0202fast-track-1.asp>.

7. For example, MASS. GEN. LAWS ch. 30, § 39N (equitable adjustment for differing subsurface or latent conditions) and § 39O (equitable adjustment for suspension, delay, or interruption due to order of the awarding authority).

8. See MASSACHUSETTS HIGHWAY DEP’T, COMMONWEALTH OF MASSACHUSETTS, STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES (Metric ed. 1995), available at www.mhd.state.ma.us/downloads/manuals/1995Mspecs.pdf.

9. Specific dispute resolution processes, including arbitration, are not provided for in MassHighway-related statutes or standard specifications.

10. MASS. GEN. LAWS ch. 16, § 1(b) provides, in pertinent part, that the Commissioner of the Highway Department “shall establish a procedure for recommending to the secretary [of the Executive Office of Transportation] approval or disapproval of all contracts, including . . . any changes, alterations, amendments or modifications thereof and for contract appeals of all claims made under any contract with the department.” Contractors can elect not to go to the ALJ or may remove the case from the ALJ’s jurisdiction by filing suit in court. The Project for planning purposes assumed that the ALJ (a single-person office) would not be equipped to handle the number of claims anticipated on the Project.

11. Claims under MASS. GEN. LAWS ch. 30, § 39Q (contracts for capital facilities) are excepted.

12. MASS. GEN. LAWS ch. 258 specifies how certain claims can be brought against the Commonwealth.

13. MASS. R. CIV. P., available at <http://massreports.com/courtrules/civil.htm>.

14. The authorized representative in most instances was an employee of the management consultant, Bechtel/Parsons Brinckerhoff, operating under a delegation of authority letter from the project director (who was designated as the engineer under the CA/T standard specification).

15. The assumption by the Project specification writers, however, was that a contractor aggrieved by a project director’s decision could avail itself of the administrative or court appeal process under MASS. GEN. LAWS chs. 16 and 258. However, the Project’s position was that the project director’s decision was subject to an “arbitrary and capricious” standard of review in court and that, therefore, judicial review was very limited. The contractors disagreed with this position.

16. The Project concluded that Massachusetts law did not preclude a contractually based dispute avoidance/dispute resolution process that came *before* the statutorily established processes.

17. Section 5.11 of the CA/T Standard Provisions provided for partnering. Section 5.11 stated in part:

An integral aspect of partnering is the resolution of issues in a timely, professional and nonadversarial manner and in accordance with the Contract Documents. Alternative dispute resolution methodologies will be encouraged in preference to the more formal mechanism of Subsection 7.16 Disputes. These alternatives will assist in promoting and maintaining an amicable working relationship to preserve the partnership. Alternative dispute resolution in this context is intended to be a voluntary, non-binding procedure available for use by the parties to this Contract to resolve any issues that may arise during performance.

18. The authors note also that the so-called issue resolution model discussed later in the text can be considered a form of dispute avoidance and resolution.

19. See Richard S. Bayer & Dan Fauchier, *Why Partnering Fails and How to Fix It*, CONSTR. MGMT. ASS’N OF AMERICA NAT’L CONF. (2008) (on file with authors); Richard S. Bayer,

Tom Brascher, Marsha Brascher & Dan Fauchier, *Resolving Construction Disputes in the Change Order Spec*, ABA SEC. DISP. RESOL. SPR. CONF. (2006) (on file with authors); Richard S. Bayer et al., *Partnering on Steroids*, TRANSP. RES. BD. 46TH ANN. WORKSHOP TRANSP. L., Philadelphia, Pa. (July 2007) (on file with authors); Robert F. Cushman et al., *PROVING AND PRICING CONSTRUCTION CLAIMS* § 9.03[C] (3d ed. 2001); George W. Thomas & Richard S. Bayer, *Cost Control in Dispute Resolution*, 17 SUR. CLAIMS INST. NEWSL. 3 (May 2005), available at www.lajollacenter.com/Surety%20Claims%20Newsletter.pdf.

20. Although denominated as an *agreement*, the partnering agreement, or charter, did not constitute a formal agreement changing the terms of the underlying contract.

21. A contractor's claim was initially presented to the Project's authorized representative for the subject contract. As noted earlier, the authorized representative was a qualified engineer designated by B/PB and accepted by the owner on a particular contract. The authorized representative was the functional equivalent of what commonly in the construction industry is referred to as the resident engineer or owner's representative.

22. FHWA attended because it would need to approve any resolution that resulted in a change order that involved federal aid dollars. In addition, the Project felt that it was beneficial to get an objective, third-party view of the dispute.

23. Even though the contractor had a senior representative on the Executive Issue Resolution Committee, it was clear to all parties that the contractor could be outvoted by the three owner representatives. Nonetheless, it was felt that it was beneficial for the contractor representative to participate in the committee's discussion of the claim, to propose possible solutions, and even if outvoted on the result at least understand the reasoning behind the decision so that could be communicated to the contractor's personnel.

24. Comprehensive information on dispute review boards can be found at the website of the Dispute Resolution Board Foundation, www.drbb.org.

25. Kathleen M. J. Harmon, *Case Study as to the Effectiveness of Dispute Review Boards on the Central Artery/Tunnel Project*, 1 J. LEGAL AFF. DISP. RESOL. ENG. CONSTR. 18, 20 (Feb. 2009).

26. See CA/T Project Standard Specifications Exhibit I-G (replacing Standard Provision 7.16) (on file with authors).

27. In the early 1990s the project issued a request for proposals for DRB chairpersons and made available to the DRBs this prequalified list. Although the DRB members selecting a chairperson did not have to use the CA/T provided list, most DRBs did so on the assumption that the chairperson picked off that list would most likely be accepted by the owner, unless there were any conflict-of-interest issues.

28. In the early phase of the Project, it was assumed that the majority of claims would involve technical, rather than legal, issues. As the Project gained experience in how claims were handled by the DRB, the Project concluded that lawyers as chairpersons could be beneficial to the process because many claims involved legal issues. For a discussion of the issue of lawyer involvement in DRBs, see Kurt Dettman, *What Role Should Lawyers Play in the DRB Process?* 10 DRBF FORUM, Feb. 2006, at 4.

29. These time periods could be extended by agreement, with an outside time limit of sixty days for each party's submission.

30. See DISPUTE RESOLUTION BOARD FOUNDATION PRACTICES AND PROCEDURES MANUAL, available at www.drbb.org/manual.htm.

31. The Project's Claims and Changes Department was the Project's internal organization that was comprised of technical claims specialists, such as claim analysts, schedulers, estimators, and auditors. The Claims and Changes Department provided technical support staff to resident engineer field offices and had a central staff that reviewed and analyzed all claims more than \$250,000 in value.

32. The National Academy of Engineering was brought in to review the status of the CA/T Project and provide recommendations to the Massachusetts Turnpike on how to bring the Project to completion. See NAT'L ACAD. OF ENG'G, NAT'L RESEARCH COUNCIL & TRANSP. RESEARCH BOARD, NAT'L ACADS., COMPLETING THE "BIG DIG": MANAGING THE FINAL STAGES OF BOSTON'S CENTRAL ARTERY/TUNNEL PROJECT (2003), available at www.nap.edu/openbook.php?isbn=0309088879.

33. See Kurt Dettman & Martin Harty, *Mediators as Settlement Process Chaperones: A New Approach to Resolving Complex, Multi-Party Disputes*, ADR Q.: ALT. DISP. RES. SEC. ST. B. MICH. (July 2008).

34. As part of the closeout plan implementation, the MTA also issued in July 2003 a Request for Qualifications and Proposals (RFQ/P) in order to procure the services of qualified consultants with expertise in the review, analysis, and negotiation of construction claims. The Independent Claims Consultants (ICC) supplemented the Project claim teams as an independent source for contemporaneous review, analysis, strategy development, and negotiation with a contractor's team.

35. The ASBCA was a logical choice because of the parallels between state and federal contract terms and conditions for public construction contracting in the United States, particularly if the federal government is a source of funds. The Project's contracts were no different. In the case of the Big Dig, the U.S. government provided more than 50 percent of the funding for the project through FHWA. The ASBCA is a major provider of dispute resolution neutral services to the federal government contracting community and in March 2001, the board agreed to provide neutral services on a reimbursable basis, with the sponsorship of the U.S. Department of Transportation, in accordance with the Economy Act, 31 U.S.C. § 1535. Subsequently, the General Services Board of Contract Appeals agreed to make its judges available on similar terms. Prominent commercial sector neutrals also were added to the program.

36. See Harmon, *supra* note 25, at 18. Dr. Harmon reviewed statistical data regarding the CA/T Project DRB program to answer four questions: (1) Was there any discernable bid savings between DRB and non-DRB contracts? Dr. Harmon concluded that there was not. (2) Was the DRB successful in resolving all disputes prior to contract completion? Dr. Harmon concluded that the contracts on which there were DRBs had many unresolved claims pending as of substantial completion of the Project in 2005. (3) Were there any barriers to the DRB's effectiveness? Dr. Harmon identified the following contributing factors to the number of unresolved claims at Project substantial completion: there was an elongated dispute resolution process; the DRB process was viewed as adversarial; preparation for the hearing was time-consuming; there were issues with the recommendations—they were not convincing; and the recommended settlement amounts were below the historical negotiated settlement average. (4) Did the DRB process reduce the costs of resolving disputes? Dr. Harmon cited per-claim statistics showing that the cost of each matter that went to a DRB (costs of DRB itself only) were far less than litigated matters, and less than the cited mediated matters.

37. See Kurt Dettman & Eric Kerness, *The Role of Dispute Review Boards in Dispute Prevention*, 13 DRBF FORUM, Feb. 2009.

38. *Id.*

39. On one of the contracts, the parties agreed that the decisions of the DRB would be binding. This agreement transformed the traditional DRB process into arbitration. After a number of hearings on the claims, the parties agreed to engage in the structured negotiation/mediation process. After being unable to reach a settlement, the parties returned to the arbitration process.