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Maryland State Highway Administration Partnering Training Evaluation Research Report

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State Highway Administration
Partnering Workshop Training Program (WTP)

In spring 2006 the Center for Conflict Resolution (CCR) conducted an extensive evaluation study of the State Highway Administration (SHA) partnering program and process. As a result, SHA came to the conclusion that in order to further institutionalize the partnering process on SHA highway projects, they needed to develop a series of specialized training sessions. In spring 2008 CCR contracted with SHA to conduct an extensive assessment of SHA's partnering training needs. In collaboration with the SHA Partnering Coordinator, a consensus was reached to develop six highly specific half-day training sessions that cover the following goals: 1) to train new SHA employees who will be facilitating the partnering process and leading various construction projects in the basic knowledge, skills and abilities comprising the partnering process; 2) to train various SHA partners (e.g. contractors, consultants and MdTA personnel) on the purpose, function and dynamics of the construction partnering process; 3) to provide a refresher course for SHA meeting facilitators and project leaders that transmits process techniques and findings from the CCR SHA partnering study; 4) to deliver two communications courses that focus specifically on the dynamics of the partnering process, the cycles of communication, approaches to conflict, dealing with an angry public and disruptive people, 5) to provide a facilitation course for SHA personnel who manage complex partnering processes and workshops; and 6) to assist MdTA in creating a companion module training on the partnering process for their future personnel needs.

The Workshop Training Program consists of 30 half-day sessions that have been carried out between September 2008 and January 2009. Morning sessions were held from 8:00-12:00 and afternoon sessions from 12:30-4:30. It was highly recommended, for those people new to the partnering process, to take the first session - Partnering Basics - as a prerequisite for other training sessions. Participants were also requested to take the Communications I session before taking Communications II.

I. Description of the Training Sessions

Each of the five sessions are focused on the SHA partnering context with the overall goal of providing knowledge, skills and abilities that will increase the success of the process and program. These training sessions can be delivered to other agencies that manage highway construction issues and, more generally, for those public agencies that deal with complex disputes. The five training courses are stacked so that each course builds on the knowledge, skills, and abilities in the previous ones. It is possible for participants, over a period of a few months, to work through all five courses. A short description on each session follows.

Partnering Basics ("Basic") – This course examines the need for partnering, the basic partnering concept, the stages of partnering, necessary tasks involved and lessons learned from the partnering process research project.

Partnering Refresher ("Refresher") – This course reviews the partnering concept, identification of project stakeholders, function and use of charters, meaningful issue resolution process (ladders), maintenance and evaluation of the partnership, and more detailed feedback from the partnering study.

Partnering Communications I ("Communications I") – This course focuses on the basic cycle of communication, behaviors that derail the communication process and various communication tools that are used for effective partnering.

Partnering Communications II ("Communications II") – This course examines various approaches to conflict, how to deal with an angry public, how to handle disruptive behavior and how to conduct difficult conversations.

Partnering Facilitation for Effective Meetings ("Facilitation") - This course examines the role of the facilitator/leader of partnering meetings and workshops. It explores various approaches to problem solving and decision-making and provides effective intervention strategies.

II. Development of the Courses

The consultants and SHA Partnering Coordinator met for numerous day-long sessions to collaborate on the development of the content for each of the five sessions. Included in the sessions was input from SHA Project Engineers who were previously surveyed to determine their partnering training needs. In addition, throughout the process of delivering each of the training sessions, the team gathered participant feedback in the form of pre and post session surveys on the substance of the materials delivered. The surveys focus on the transmission of key knowledge, skills and abilities identified in the 2006 study. The data were immediately used to make further adjustments in each training session, as well as to measure the overall objectives of the training program. Alterations in the substance and delivery of the training sessions were minor in scope and impact, so it is therefore quite possible to readily make comparisons between the earlier versions of a particular training session with the final version.

In keeping with the purpose of the project, i.e. to assist in the further institutionalization of the partnering process, these training sessions have been developed to be easily delivered by qualified and experienced trainers who possess in-depth knowledge of the partnering process and some knowledge of basic communication and facilitation skills.

III. Basic Descriptive Statistics on the Training Program

In the grant application to the Maryland Judiciary's Mediation and Conflict Resolution Office (MACRO), SHA projected, given the number of personnel involved in the construction partnering process, that the training program would attract roughly 200 participants. In total, 401 participants – *more than double that which was predicted* – took part in the training program. Table 1 provides details on the training schedule, including session type, locations throughout the state and a breakdown of the number of attendees.

Table 1: Training Schedule – Location, Course Type and Number of Participants

Date	Area	Session	Location	Number of Participants
9-09	D1/D2	Partnering Basic	D1	25
9-09		Partnering Refresher		23
9-10	D6/D7	Partnering Basic	D7 Office	8
9-10		Partnering Refresher		18
10-15	D4	Partnering Basic	D4 Office	16
10-15		Partnering Refresher		14
10-16	D5	Partnering Basic	D5 Office	11
10-16		Partnering Refresher		7
10-17	Central	Partnering Basic	Central	16
10-23	D1/D2	Communications I	D1	21
10-23		Communications II		20
10-29	D3	Partnering Basic	D3 Office	13
10-29		Partnering Refresher		14
10-30	D4	Communications I	D4 Office	14
10-30		Communications II		13
11-5	D6/D7	Communications I	D7 Office	14
11-5		Communications II		14
12-2	Central	Partnering Basic	Central	13
12-2		Partnering Refresher		11
12-9	Central	Communications I	Central	17
12-9		Communications II		17
12-10	Central	Partnering Facilitation	Central	19
12-11	Baltimore	Partnering Basic	Baltimore	6
12-16	D3	Communications I	D3	13
12-16		Communications II		13
12-17	Central	Partnering Facilitation	Central	5
12-17		Partnering Facilitation		2
12-18	Hagerstown	Partnering Facilitation	**Hagerstown**	11
1-07-09	Central	Train the Trainer	Central	7
		Train the Trainer		6
				401

In addition, SHA projected that of the 200 participants, approximately 35 would come from the Maryland Transportation Authority (MdTA), while another 50 would come from the ranks of consultants, contractors and suppliers. Table 2 indicates that 27 participants came from MdTA and another 38 others came from consultant, contractor or supplier firms. The projected estimates for these external, non-SHA personnel were slightly higher (n=85) than number of actual attendees (n=66) but, as stated, overall, the program attracted more than double the expected number of participants. It is worth noting that the timing of the training sessions came during the height of fall construction season and, in written feedback on post session surveys, many participants mentioned this timing issue. This obviously hampered the participation of many private sectorsectors, non-SHA personnel's ability to attend. In the future, SHA can anticipate greater outside participation by delivering training sessions when the construction season slows (i.e. the winter).

Table 2: Training Sessions and Types of Participants

Date	Session	SHA	MdTA	Consultants	Contractor or Supplier	#
9-09	Partnering Basic	25				25
9-09	Partnering Refresher	23				23
9-10	Partnering Basic	8				8
9-10	Partnering Refresher	18				18
10-15	Partnering Basic	7	8	1		16
10-15	Partnering Refresher	14				14
10-16	Partnering Basic	11				11
10-16	Partnering Refresher	7				7
10-17	Partnering Basic	5	10		1 (C)	16
10-23	Communications I	21				21
10-23	Communications II	20				20
10-29	Partnering Basic	10		1	2 (C)	13
10-29	Partnering Refresher	12			2 (C)	14
10-30	Communications I	13		1		14
10-30	Communications II	13				13
11-5	Communications I	14				14
11-5	Communications II	14				14
12-2	Partnering Basic	2	6	3	2 (C&S)	13
12-2	Partnering Refresher	6		3	2 (C)	11
12-9	Communications I	10		6	1 (S)	17
12-9	Communications II	11		6		17
12-10	Partnering Facilitation	15		4		19
12-11	Partnering Basic	3	3			6
12-16	Communications I	11			2	13
12-16	Communications II	11			2	13
12-17	Partnering Facilitation	5				5
12-17	Partnering Facilitation	2				2
12-18	Partnering Facilitation	11				11
1-7-9	Train the Trainer	7				7
	Train the Trainer	6				6

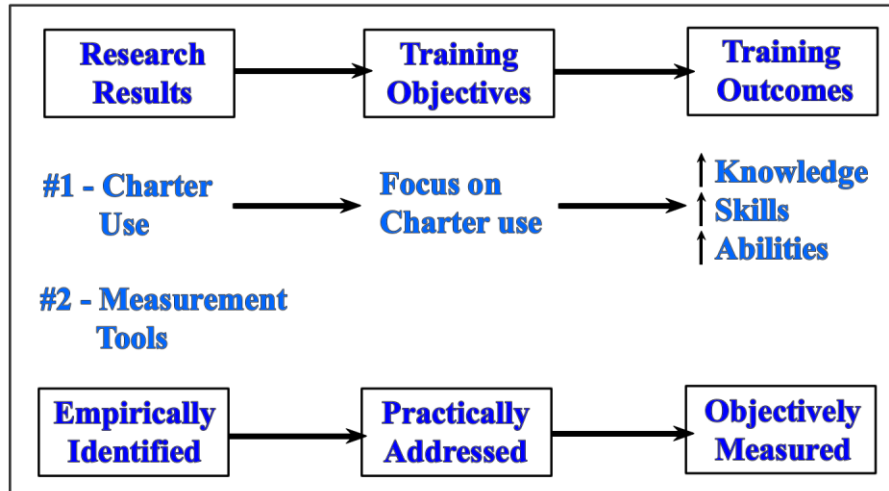|					
Projected Participation	(115)	(35)	(25)	(25)	200
Actual Participation	335	27	25	14	401

Table 3 provides information on the number of times each session was conducted, as well as the overall number of attendees in each course. SHA anticipated that the training program would experience an uneven "participation pyramid" where more individuals would be interested in taking the Partnering Basic session, followed by Partnering Refresher. The specialized courses (i.e. Communications I and II and Facilitation) attracted participants who have experience with the partnering process and leadership of construction projects. The third column verifies this assumption. The number of participants clearly shows that the largest group is found in Partnering Basic, followed by Partnering Refresher. As predicted, the specialized courses (Communications I and II and Facilitation) had fewer participants.

Table 3: Number of Sessions Delivered and Total Participants per Session

Training Session	Number of Times Delivered	Total Number of Participants per Session	Cumulative Total
Partnering Basic	8	108	108
Partnering Refresher	6	87	195
Communications I	5	78	274
Communications II	5	77	351
Facilitation	4	37	388
Train the Trainer	2	13	401
	(Total) 30		(Total) 401

The consultants not only designed and delivered the training sessions; they also conducted a parallel research project to track the results. Another purpose behind the research component of this training program is to ensure that research results from the 2006 study (section IV of this report) were incorporated directly into the training objectives (section V of this report) and then to measurable training outcomes (section VI of this report). The logical way to determine whether or not this has occurred is to make use of the pre and post session surveys. The actual results of the surveys can be traced back to the training content and delivery, and then further back to the 2006 study findings. Figure 2 provides a schematic of this relationship.
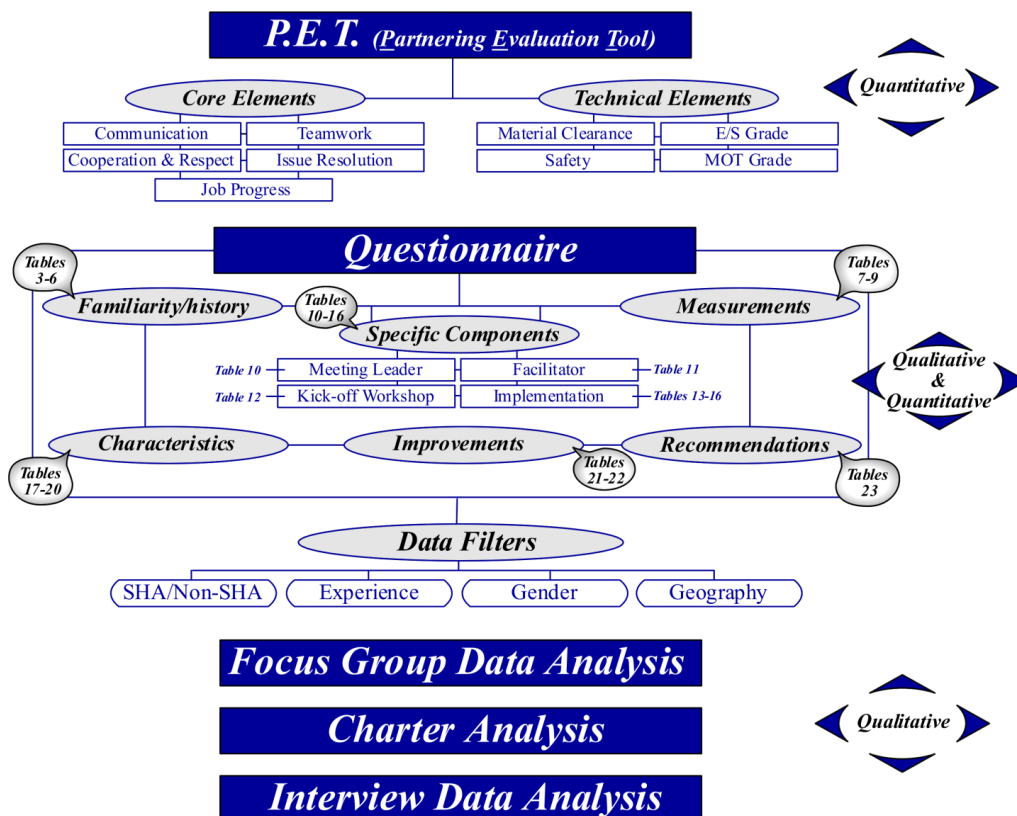
FIGURE #2

Research Results →	**Training Objectives** →	**Training Outcomes**
#1 - Charter Use →	**Focus on Charter use** →	↑ **Knowledge** ↑ **Skills** ↑ **Abilities**
#2 - Measurement Tools		
Empirically Identified →	**Practically Addressed** →	**Objectively Measured**

IV. Research Results: The Rationale for the Training Program

In 2006 the research team at the Center for Conflict Resolution[1] (CCR) conducted a study of the State Highway Administration's partnering program and partnering process.[2] As a result of that study, a number of empirical findings pointed directly to a few short and mid-term needs that would directly assist SHA in further institutionalizing the partnering process. In particular, with many of the senior key personnel most familiar with partnering construction projects due to retire, there arose a short-term need to formally introduce new personnel and refresh others' memories of the partnering process. These findings constitute the starting point for the development of the partnering workshop training program and the content of each of the five sessions.

Map of the Data Sources

It is worth recalling momentarily, that the study incorporated data from numerous sources including: SHA's own partnering process database, information held in other SHA databases directly related to partnered construction projects, a field tested questionnaire, focus group data from participants who came from a wide variety of partnered projects located in all seven districts throughout Maryland and a large archive of written documents. Figure 1 below provides a map of the data sources used in the 2006 study.

Figure 1: Data Source Map from the SHA Study

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[1] The CCR research team members on this project are Dr. Brian Polkinghorn, Mr. Robert LaChance, Ms. Haleigh LaChance and Mr. Frank Carr.
[2] "Maryland SHA Partnering: An Analysis of the Maryland Department of Transportation State Highway Administration's Partnering Program and Process" (2006). Salisbury, MD: Center for Conflict Resolution.

Research Results That Drive the Content of the Training Sessions

The results of the 2006 SHA partnering study produced numerous findings that, when combined and categorized, have been linked directly to the SHA training program needs. Each section of Table 4 (centered in **bold**) focuses on a particular trend and underneath in the left column are the specific findings that constitute the core aspects of these trends. The right side column of Table 4 provides the sources where the findings are found in the data, either as empirical statistical results or as verifiable patterns in the qualitative data. *Every finding highlighted in red in Table 4 has been appropriately incorporated into one or more of the five training sessions*. Each subject is described verbatim from the findings of the study in order to create an unambiguous *starting point* from which to appreciate the survey results from each of the five training sessions.

Table 4: Research Findings and Their Sources Back Into the Data

Partnering Roles (Trend 1)	
Findings	**Sources**
Meeting Leader	Questionnaire and Focus groups
Facilitator	Questionnaire and Focus groups
Trainer	Questionnaire and focus groups
Statewide Partnering Coordinator	Focus Groups and Interviews
Study Participants	Questionnaire (and secondarily the Focus group responses)
Process Components (Trend 2)	
Training	Questionnaire, Focus Groups, Interviews
Kick-off Workshop	Questionnaire, Focus Groups, Interviews
Length and Content of Workshops	Questionnaire And Focus Groups
Training "Bootcamp"	Questionnaire And Focus Groups
Partnering and Progress Meetings	Questionnaire, Focus Groups, Interviews
• Management	Questionnaire, Focus Groups
• Level and Degree of Participation	Questionnaire
Intermediate Workshops	Questionnaire, Focus Groups, Interviews
Human Relations (Trend 3)	
Communication	PET, Questionnaire, Focus Group, Charters, Interviews, Internal Memos
Teamwork	PET And Focus Groups
Clarification of:	
• Chain of Command	Focus Groups
• Roles	Focus Groups
• Rules	Focus Groups
• Responsibilities	Focus Groups
Cooperation/collaboration	PET, Questionnaire, Focus Groups, Interviews
Relationship Changes	Questionnaire and Focus Groups
• Respect	PET and Focus Groups
• Trust	Focus groups
• Appreciation	Focus groups

• Recognition	Focus groups
• Empathy	Focus groups
Utilization of Partnering Tools (Trend 4)	
Issue Resolution	Focus Groups
Charter Evaluation Forms	Questionnaire, Focus groups, Charter
Evaluation Forms	Focus Groups
Process Measurements (Trend 5)	
PET Components	PET
Other Human Factor items	Focus Groups
Tangible items	Focus Groups, Interviews
Institutionalization of Partnering (Trend 6)	
Partnering's Impact on SHA	Focus groups, Interviews
Support of Partnering	Questionnaire, Focus Groups, Interviews
General Inclinations (Trend 7)	
Overall Impressions	Questionnaire and Focus Groups
Willingness to Recommend	Questionnaire and Focus Groups

The details found in this section constitute much of the "scaffolding" that was used to build each of the five training sessions. For details on the other training topics please go directly to the training materials found at the end of this report.

a. Partnering Roles

There are at least five distinct and vital roles within the partnering process. The characteristics or attributes identified in the study, which make the partnering process meaningful and effective, are:

- The Meeting Leader – Stakeholders prefer knowledgeable and organized meeting leaders who effectively identify, frame and neutrally address the resolution of project issues. Other concrete attributes include meeting leaders who develop various means of communicating (up to date contact lists, e-mail, memos, meeting minutes and field contact) with stakeholders, as well as those who know how to manage difficult people and contentious issues.

- The Facilitator – Facilitators who know the construction industry and SHA, and who are able to understand stakeholder issues from an insider perspective, are preferred to others who, while having excellent process skills, have no substantive background. *Participants report that they are able to more easily connect to a facilitator who know the substance of their industry* more so than a facilitator whose knowledge is more process focused. *Facilitators who effectively make use of time on items such as: issue resolution, action plans, strategic plans and next steps are preferred over those who focus on team building or other human factor elements.* In short, a facilitator can engender team building, cooperation and respect, while in the process of addressing substantive issues.

- Trainer Characteristics – *Participants indicate from the questionnaire and focus groups that the type of process trainer they prefer is a person who*:
  - understands how SHA operates and its partnering goals
  - understands the construction industry
  - understands the perspective of key stakeholders
  - understands conflict processes
  - creates exercises relating specifically to the construction industry
  - provides skills on how to solve problems specifically within construction contexts
  - provides ways to deal with an angry public
  - tells good construction-related stories

- Statewide Partnering Coordinator – The Statewide Partnering Coordinator is a vital role. *Stakeholders, especially meeting leaders, indicate that this role is necessary as a process resource that provides materials, guidance and advice on how to execute the partnering process from beginning to end.* Key attributes of this role include someone with a personal commitment to the process, someone who uses a network of contacts and relationships spanning many organizations to promote the process and someone who is seen as synonymous with partnering. For many participants in this study, the Statewide Partnering Coordinator is highly respected and clearly seen as the leading champion with a missionary zeal for the process.

b. Process Components

There are numerous findings regarding process components that constitute partnering. Specific steps in the process from training and orientation to conclusion impact the outcome of the project. Findings include:

- Training – *Participants who lead meetings consistently praise the meeting "bootcamp" training as it provides practical process advice, skills and tools for running efficient meetings.* Also offered are facilitation trainings and an orientation to the partnering process. Participants indicate that the "bootcamp" and some facilitation trainings are useful, and refresher courses are welcome. This will assist SHA in continuing to cultivate process competencies with internal meeting leaders and facilitators.

- Kick-off Workshops – Kickoff workshops work well when they are scheduled early in the project, have all stakeholders present, are organized and focus on clear lines of authority, responsibility, and familiarizing stakeholders with one another. *Participants indicate that they do receive some benefit from skill exercises on topics such as "dealing with difficult people" and how to recognize and work with people of differing (conflict) interaction styles (e.g. controller, avoider, accommodator, compromiser and collaborator). Kickoff workshops do not work well when there is too much emphasis on human relations exercises such as team building.*

- Length and Content of Workshops – The length of the workshop, given the complexity of the project, would ideally be less than a day, and focused sharply on substantive contents and specific project issues. The more experienced stakeholders are with partnering, the more the workshop should focus on substantive discussions.

- Partnering/Progress Meetings – *Getting the right people together for regular, engaging, organized, efficient, recorded, problem identification and problem solving meetings is the hallmark of partnering*. These characteristics are necessary for engineering, politics and problem solving to mix, so that creative solutions are found. These meetings are exceptionally productive in instances where there are many parties that are new to one another, many issues arise and a high degree of complexity is present. *Ownership is the mindset*. Irregular gripe sessions where people dig up old issues that have already been resolved, or where participants are not engaged and are only paying lip service to the process, become infectious and tend to increase complacency. When people don't show up, or people who shouldn't be there attend, it impacts trust and candor. *Simple compliance and perhaps some degree of buy-in is the prevailing mindset*.

- Intermediate Workshops – These workshops are relatively rare, and could be useful if major changes in personnel, major changes in the project or a large number of issues arise.

c. Human Relations

Some of the findings in this section are found in all data sources. Together they cluster around how stakeholders interact and treat one another. Some of these findings are measured using PET, but are clarified here with detailed meaning and properties that may assist SHA in grasping what stakeholders indicate they mean.

- Communication – *Participants indicate that partnering increases the quantity and quality of communication. In particular, within well managed processes, where stakeholders have taken advantage of the communication network, communication impacts the positive quality of problem solving and relationships*.

- Teamwork – The way stakeholders plan complex tasks is a function of many talents, both in communication and technical excellence. In particular, participants identifying a clear chain of command within their organization and with the partnering team are essential in increasing the level of predictability, certainty and control associated with well defined and understood roles, rules and responsibilities.

- Cooperation/Collaboration – This is an exceptionally strong finding. In every instance, regardless of the data source, *cooperation and/or collaboration are mentioned as a condition or result of the environment fostered by partnering*. It is also noteworthy to mention that in the questionnaire, *participants generally reported that their agreement with the outcome of partnering is moderately high in meeting outcome expectations*. Their general response to how they like the process itself, however, is even higher. This is a classic procedural justice pattern, meaning that while a stakeholder may not be as satisfied with the outcome as he or she indicated, they were indeed satisfied with the process used.

- Relationship Changes – *Going through the partnering process has an impact on relationships. If parties enter into the process in good faith, then one of the benefits they report is an increase in the level of respect for fellow stakeholders.* It follows that trust is also positively correlated. Participants also indicate, particularly in the qualitative data from the questionnaire and the focus groups, that *better communication and increased respect and trust make it easier to understand other stakeholders' points of view, interests and needs.* Taken as a whole, and within the context of a process entered into in good faith, participants are better able to recognize and appreciate the talents and skills of other stakeholders.

- It is noteworthy that many participants in the study are quite familiar with one another, and that the conditions mentioned above may exist prior to the partnering process, thus nullifying the effects of the process on their relationship. However, *some participants indicate that the process reinforces and supports cooperative relationships therefore the process acts as a "booster" in maintaining cooperative relationships.*

d. Utilization of Partnering Tools

SHA has developed a number of tools to assist stakeholders in managing and utilizing the process. Management tools include forms, and process tools involve step-by-step instructions. Together, these tools substantially assist in the "how to" of partnering.

- Issue Resolution – As a process, *issue resolution is a core element of partnering, and works well under the following conditions: 1) when it is understood by all, 2) when it is used consistently and initiated at the lowest level, and 3) when the stakeholders know exactly what is expected of them and how and where they fit into the issue resolution ladder/process.*

- The Charter[3] – *Charters are useful if they capture the mission, affirm unambiguous mutual goals, and clarify roles.* Charters are not seen as useful if they possess the standard vague boilerplate language. In many instances producing a Charter is so routine that the intended linkages between individuals, organizations, tasks, goals and the mission are lost.

- Evaluation forms – *The evaluation forms capture the basic elements of the partnering process and job specifications.* The forms need to be filled out consistently, and more use of the comment areas will help SHA modify and evolve the process. *A large percentage of participants indicate that paperwork, including the evaluation forms need to be reduced.*

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[3] The responses in the questionnaire to the statement "A Charter is a useful outcome of the kick-off workshop" are generally supportive but, on further inquiry during the focus groups, the comments are interspersed with numerous concerns. Therefore, another inquiry was made by conducting a content analysis of a sample group of Charters.

e. Process Measurement

Overall, the *participants indicate that PET is useful in measuring core and technical components. When asked to provide additional ideas on what else might be measured, the participants provided numerous suggestions. They include overall length of the job; final cost; perceptions of the public; and perceptions of the stakeholders* (in the project). Some thought should be given to conducting evaluations on-line and the use of intermittent semi-structured interviewing techniques.

f. Institutionalization of Partnering

Partnering embodies key SHA values, including collaborative problem solving using a mutual gains approach. Through partnering, SHA is evolving its day-to-day interaction with the public and their construction partners. To that end, partnering is the process that is creating major changes in SHA culture – in some areas. More specifically:

Partnering Impacts on SHA – SHA administrators and partnering personnel view the process as a fundamental shift in the way SHA is doing business (also see above the discussion of findings in "Partnering Roles" – Statewide Parenting Coordinator). *Partnering is reshaping outside impressions of SHA, in particular, those held by stakeholders who first found themselves in a construction project that was bombarded with problems and then were introduced to the partnering process on another project. These stakeholders are exceptionally supportive of SHA, and are helping to realign external relationships with SHA.*

Support for Partnering – Participants, regardless of who they work for, overwhelmingly indicate in the questionnaire that their senior management supports partnering. In the focus groups, participants mention that direct support is, essentially, a necessary condition in getting new stakeholders to take the process seriously. On an individual level, many stakeholders take the partnering process seriously and do so by actively engaging others. Commitment can be reinforced at the individual level through various forms of respect; recognition and appreciation (see relationship changes above). Modeling commitment is necessary for the morale and for the efficacy of the partnering process.

V. Training Objectives

Review of Existing Training Programs

Prior to designing the five training sessions, the SHA Partnering Coordinator and consultants closely examined previously developed training materials currently used by SHA. The purpose was to attend to two pressing issues; first, to cover new areas of training while simultaneously eliminating redundancy in prior training content; and second, to take the newly developed material and place it within the existing training repertoire in order to smoothly integrate the new training into SHA's larger professional development efforts.

There is one place in the present training where parallel – not redundant – information is presented, namely, in the Communications I session. SHA already has in its repertoire a general communication skills training course. However, it does not integrate communication with partnering, nor does it focus on communication styles as a source of conflict. The material found in the Communication I training session provides a different focus and approach to teaching basic communication. It places communication within the context of partnering and focuses on a

variety of problem solving techniques. Prior to this program, SHA did not offer communication training focusing on more detailed topics such as: communication styles, managing difficult conversations or dealing with an angry public. Likewise, while SHA provided a basic meeting management training (meeting boot camp) a number of years ago, it did not go into the depth of content and process delivered in the current Facilitation training session. Indeed, these earlier types of training can be seen as prototypes of the more developed training sessions presented here.

Objectives

      The objectives of the five training sessions are to provide, in a structured delivery system, the requisite knowledge, skills and abilities that are highlighted in *italics* in the previous section, as well as companion materials to provide further specificity. In order to make sure these objectives are met a survey is utilized to track pre and post knowledge, skills and abilities of the training session participants. The general objectives of the five training session are found in Table 5. The subsequent training outcome results, that indicate if the training objectives have been met, are found in the following section.

Table 5: Training Objectives

General Stated Objectives of the Workshop Training Program by Training Session	Driven by Research Results?
Partnering Basics	
To convey the practical need for partnering – history of delays and missed schedules, cost overruns, safety issues, liquidated damages, litigation	Yes
To accurately convey the basic mechanics of the partnering process	Yes
To provide a clear understanding of partnering using standardized definitions and specific procedural partnering concepts	Yes
To familiarize participants with the stages of partnering, necessary tasks involved and lessons learned from the partnering process research project	Yes
Partnering Refresher	
To review the definition and reasons behind the development of the partnering concept	Yes
To review the practical application of partnering in regard to the nexus between the project and stakeholders	Yes
To review the efficacy of and development of functional charters	Yes
To review the need for a functional and meaningful issue resolution ladder, as well as how the ladder must be consistently used	Yes
To review a variety of methods used to maintain as well as evaluate effective partnerships (This includes a review of new rating forms and PET categories.)	Yes
To provide more detailed feedback from the partnering study on process nuances, potential areas of concern and methods of addressing the fine-tuning of the partnering process	Yes
Partnering Communications I	
To examine the basic phases and stages of the cycle of communication	Yes
To examine the types of behavior that derails the communication process	Yes
To practice various communication tools used in effective partnering endeavors	Yes
Partnering Communications II	
To examine and practice various approaches to effective conflict intervention	Yes
To examine, using real construction cases, a variety of effective conflict intervention techniques used in dealing with an angry	Yes

public	
To examine and practice effective intervention methods designed to deal with disruptive behaviors	Yes
To examine effective techniques in regard to conducting difficult conversations	Yes
Partnering Facilitation for Effective Meetings	
To examine a variety of process skills used by effective facilitators/leaders. To explore various scenarios that typically arise in partnering meetings and workshops	Yes
To explore various approaches to collaborative problem solving and decision-making	Yes
To provide each participant with a variety of effective intervention strategies and techniques	Yes

VI. Training Outcomes

The following five tables provide the empirical results of the training sessions. Statements on the left side of each Table, that are in bold, represent statistically significant findings (at the p<.05 level). However, the purpose of this research evaluation is not to test theoretical hypotheses via T-tests or other statistical methods, but to *increase participants' knowledge of and practical skills in the partnering process and in managing conflicts within that process, via effective communication and other problem solving techniques*. Therefore, it is worth noting that in every measurable instance (except one), all statements show marked improvement in pre and post session survey scores. This verifies that the basic objective, i.e. the acquisition of requisite knowledge, skills and abilities, has indeed been met. The threshold of success is therefore seen in improved mean scores on knowledge and skills, rather than statistically significant differences between pre and post session surveys. In those instances, and there are many, where statistical significance is seen, the reader should view this as further confirmation of the success of the training session.

The eight Basic training sessions had the most participants (see Table 3) with the greatest diversity in terms of representation by agency, contractors and consultants (see Table 2). As can be seen in Table 6 there is a statistically significant difference in the level of understanding of the partnering process based on pre and post session surveys. Other statistically significant results of the training include participants' increased their knowledge of: 1) the pre-meeting contents, 2) contents of the kick-off workshop, and 3) reasons to develop a charter and ladder. Likewise, participants' knowledge of the stages of the partnering process and what to do in each stage, showed statistically significant changes in the pre and post session surveys.

Table 6: Basic Training Survey Results

Statement (**Bold** statements are statistically significant)	Statistically Significant ($p<.05$)	Pre-Session Survey	Post-Session Survey
My understanding of the partnering process is minimal	**Yes** (.003)	3.00 N = 104	2.64 N = 106
Partnering is a process meant to prevent conflicts	No (.372)	4.02 N = 107	4.40 N = 106
Partnering is predicated on strong working relationships	No (.286)	4.12 N = 104	4.35 N = 106
I understand the reasoning behind pre-meetings	No (.608)	3.88 N = 107	4.34 N = 106
I know the various contents covered in pre-meetings	**Yes** <.000	3.33 N = 106	4.18 N = 106
I am familiar with the contents of the kick-off workshop	**Yes** <.000	3.17 N = 107	4.20 N = 106
I am familiar with the reasons for developing a charter	**Yes** <.000	3.15 N = 106	4.27 N = 106
I know how to build a "dispute resolution ladder"	**Yes** <.000	3.10 N = 106	4.26 N = 105
I know how to use a "dispute resolution ladder"	**Yes** <.000	3.16 N = 107	4.25 N = 106
I know the stages of the partnering process	**Yes** <.000	3.07 N = 107	4.22 N = 106
I know what to do in each stage of the partnering process	**Yes** <.000	2.79 N = 106	4.02 N = 106

Not surprisingly, not a single training measure in the (six) Refresher sessions rose to the level of statistical significance between the pre and post survey results. Also not surprisingly, all of the objective measures show increases in knowledge of the partnering process. This is what was expected. In total, the Refresher training sessions constitute the second largest group (see Table 3) with 87 people, of whom 83 are SHA employees and the remaining 4 are contractors. For the most part, these are seasoned SHA employees who have lead partnering sessions. Therefore, there should not be any statistically significant changes in the aggregate pre and post session surveys. The results show precisely what was hypothesized; these folks showed high levels of knowledge, requisite skills and applicable abilities in the pre session surveys. Post session survey results showed moderate gains in knowledge, value orientation toward partnering, greater appreciation and understanding of the partnering tools and process.

Table 7: Refresher Training Survey Results

Statement (Bold statements are statistically significant)	Statistically Significant (p<.05)	Pre-Session Survey	Post-Session Survey
Partnering is based on a shared set of responsibilities	No (.224)	4.26 N = 85	4.52 N = 80
Partnering is designed to manage conflicts through collaborative problem solving	No (.321)	4.31 N = 85	4.53 N = 80
Partnering works to promote trust	No (.266)	4.10 N = 84	4.46 N = 80
Partnering works best when common objectives frame the relationship	No (.872)	4.14 N = 83	4.45 N = 80
I understand the specific parts of each step in the partnering process	No (.319)	3.80 N = 83	4.32 N = 79
I have a good feel for who the "usual" partners are in a partnering process	No (.221)	4.17 N = 84	4.36 N = 80
I understand the reasoning for using a charter for each project	No (.835)	3.79 N = 84	4.26 N = 80
I think there are benefits to using a charter	No (.450)	3.74 N = 82	4.18 N =78
I understand the reasoning behind the development of an issue resolution process for each project	No (.438)	4.22 N = 85	4.50 N = 80
I understand the purpose of monthly partnering meetings	No (.109)	4.20 N = 85	4.38 N = 80
I understand the reasons behind the use of the partnering project rating form	No (.075)	4.09 N = 85	4.35 N = 78
I am familiar with SHA measurements used to track partnered projects	No (.664)	3.88 N = 85	4.40 N = 80
I know the characteristics of a well run partnering project	No (.535)	3.96 N = 85	4.42 N = 80
I know the characteristics of a poorly run partnering project	No (.850)	3.75 N = 85	4.31 N = 80

The Communication I training session was the third most attended session with 78 participants, of which 9 were non-SHA personnel. The results, shown in Table 8, provide evidence of considerable advances in participants' knowledge and skills for all objective measures, yet only one measure is found to be statistically significant. This session introduces the basic communication objectives.

Table 8: Communication I Training Survey Results

Statement	Statistically Significant (p<.05)	Pre-Session Survey	Post-Session Survey
Effective communication is the basis of successful partnering	No (1.000)	4.60 N = 75	4.60 N = 75
I understand the goals driving effective communication	No (.910)	3.80 N = 75	4.41 N = 75
I understand the basic cycle of communication	No (.074)	3.71 N = 75	4.41 N = 75
I understand the importance of all three roles in communication – the speaker, the listener, and feedback	No (.949)	4.00 N = 75	4.49 N = 75
I understand how things like offering sympathy and advice can hinder communication	Yes (.034)	3.57 N = 74	4.19 N = 75
I understand the role emotions play in effective communication	No (.402)	3.79 N = 75	4.42 N = 74
I understand the sources of communication break-downs during partnering	No (.108)	3.61 N = 75	4.25 N = 75
I understand the relationship between partnering and effective communication	No (.897)	3.85 N = 74	4.33 N = 75
I am aware of basic high risk responses that can lead to conflict	No (.181)	3.76 N = 75	4.31 N = 75
I am familiar with the basic steps of effective communication	No (.122)	3.68 N = 75	4.32 N = 75

The focus and objectives of the Communication II session have more to do with conflict intervention than basic communication. As such, the results, found in Table 9, stand in stark contrast to those of the Communication I sessions. Indeed, six of the nine major measures in the pre and post surveys are statistically significant, showing participants gained considerable knowledge and skills in communication and conflict intervention. They understand: individual communication styles and how they impact partnering; the specific strengths and weaknesses of each style; and how conflict styles affect partnering. Participants clearly learned various strategies, tools and ideas on how to deal with an angry public. And overall, they developed a greater understanding of the relationship between communication and the effective handling of conflict.

Table 9: Communication II Training Survey Results

Statement	Statistically Significant (p<.05)	Pre-Session Survey	Post-Session Survey
I understand how individual styles of communication can affect partnering	**Yes** (.010)	4.07 N = 73	4.72 N = 68
I understand the specific strengths and weaknesses of each individual style of communication	**Yes** (.034)	3.55 N = 73	4.57 N = 68
I understand how various communication styles relate to one another	No (.089)	3.58 N = 73	4.57 N = 68
I understand how different conflict styles can affect partnering	**Yes** (.043)	3.75 N = 72	4.58 N = 67
I understand the specific strengths and weaknesses of each conflict style	No (.074)	3.38 N = 73	4.49 N = 68
I understand how different conflict styles relate to one another	No (.116)	3.18 N = 72	4.56 N = 68
I know of specific strategies on how to deal with an angry public	**Yes** (.023)	3.40 N = 72	4.48 N = 66
I have developed tools for dealing with an angry public	**Yes** (.006)	3.32 N = 71	4.57 N = 68
I understand the relationship between communication and effectively handling conflict	**Yes** (.009)	3.56 N = 73	4.64 N = 67

The final training session focuses on Facilitation knowledge and skills. Every objective measure shows major shifts in pre and post session survey response. In particular, participants more clearly understand the basic definition of partnering, how communication impacts facilitation, basic facilitation skills, leading discussions and keeping them on track and how to effectively deal with difficulty people. This training, like the other four, transmitted significant new knowledge to the participants.

Table 10: Facilitation Training Survey Results

Statement	Statistically Significant (p<.05)	Pre-Session Survey	Post-Session Survey
I understand the basic definition of facilitation	**Yes** (.004)	3.71 N = 38	4.60 N = 35
I understand the role of the facilitator in partnering workshops or meetings	No (.154)	3.71 N = 38	4.53 N = 36
I understand how effective facilitation impacts communication	**Yes** (.003)	3.79 N = 38	4.57 N = 35
I am familiar with basic facilitation skills	**Yes** (.028)	3.50 N = 38	4.44 N = 36
I am familiar with the four stages of group dynamics	No (.994)	2.95 N = 37	4.34 N = 35
I know how to encourage effective group participation	No (.144)	3.45 N = 38	4.42 N = 36
I know how to keep the discussions on track	**Yes** (.019)	3.47 N = 38	4.49 N = 35
I know how to effectively manage difficult participants	Yes (.035)	3.32 N = 38	4.33 N = 36
I know how to deal with people who dominate conversations	**Yes** (.037)	3.34 N = 38	4.26 N = 35
I know how to deal with conflicts within the group	No (.458)	3.24 N = 37	4.31 N = 36
I understand the six basic sources of group conflict	No (.389)	2.92 N = 38	4.25 N = 36
I know how to manage meetings when interest/attention wanes	No (.138)	3.29 N = 38	4.31 N = 36

VII. Summary

The Basic training sessions were meant to introduce participants to basic aspects of partnering. The Basic session did that, and also increased their knowledge of 1) the pre-meeting contents, 2) contents of the kick-off workshop, and 3) reasons to develop a charter and ladder. Likewise, participants' knowledge of the stages of the partnering process and what to do in each stage showed statistically significant changes in the pre and post session surveys. The Refresher sessions did just that for experienced partnering leaders. All of the objective measures show increases in knowledge of the partnering process. These participants already showed high levels of knowledge, requisite skills and applicable abilities in the pre session surveys. Post session survey results showed moderate gains in knowledge, value orientation toward partnering, greater appreciation and understanding of the partnering tools and process.

The Communication I training session results show evidence of considerable advances in participants' knowledge and skills for all objective measures. This session introduces the basic communication objectives. As noted, the focus and objectives of the Communication II session has more to do with conflict intervention than basic communication. Six of the nine major measures in the pre and post session surveys are statistically significant, showing participants gained considerable knowledge and skills in communication and conflict interventions. They more fully understand: individual communication styles and how they impact partnering; the specific strengths and weaknesses of each style; how conflict styles affect partnering; various strategies on how to deal with an angry public. They also developed some tools (and ideas) on how to deal with an angry public. And, overall, they developed a greater understanding of the relationship between communication and the effective handling of conflict.

The final training session focuses on Facilitation knowledge and skills. Every objective measure shows major shifts in pre and post session survey response. In particular, participants more clearly understand the basic definition of partnering, how communication impacts facilitation, basic facilitation skills, leading discussions and keeping them on track and how to effectively deal with difficulty people.

In summary, these five training sessions were intended to meet the needs of various audiences from newcomers to veteran partnering leaders. These sessions also provided a mix of knowledge and skills acquisition, in a format which allowed participants to put these new knowledge and skills into simulated practice. The training was driven by the research results from 2006, as well as recommendations on how to evolve the institutionalization process. From this, a series of measurable objectives were formulated and compared to the existing training repertoire at SHA. From that, these five training sessions were developed. Finally, a research protocol and instruments were developed to track how well this endeavor worked. The end result – without any prescriptive monologue or descriptive testimonials from participants, but from empirical results is – a verified success. The grant makers – MACRO – should be pleased with this added effort to measure the impact of the training to further its main objective of assisting agencies and organizations institutionalize ADR throughout the state.

As with any service or research endeavor, lessons have been learned along the way. This topic will conclude the formal report and constitutes the next and final section.

VIII. Lessons Learned

As the original contractors, we have held the roles of researcher, designers and trainers and this has been a unique and unusual set of experiences with SHA and its partnering process and program. As the principle research investigators for the 2006 study, and then the curriculum designers and follow up trainers, we have a unique inside perspective of the evolution and institutionalization of the partnering process at SHA.

From these experiences, and especially the training sessions, we have learned from both the interactions with those in the field and from the analysis of the research results. The following lessons and recommendations are meant to provide a roadmap for SHA in their deliberations on the future development of the SHA partnering program and evolutions in the partnering process itself.

Lesson 1: Timing is Everything
The construction industry has lag times in cold weather months when training sessions are more likely to be attended. Even with high attendance rates (more that 95% of those signed up for sessions actually attended) it would further assist contractors and consultants who have to weigh productivity issues in regard to earning money in the field versus being in a classroom.

Lesson 2: A Means of Addressing the Tension between the Public and Private Sector
In relation to lesson 1, partnering is the point where the public and private sectors interact and we have experienced, on a first hand basis, the tension that arises between individuals and organizations on both sides of this divide. Many private sector individuals in this training program press the issue that cooperation is the core characteristic of good business and that problem solving should be a natural inclination. Partnering has, in some ways, exposed this tension between the public and private sector, but has also, in our experience as researchers, designers, trainers and practitioners, lessened the animosity.

Lesson 3: Attitude is Everything – Posturing is for the Playground
As in any professional growth experience, some individuals will feel as though they have nothing to learn. Often they are those individuals who make it known they have a high regard for themselves and that their work is the most important of everyone in the group. These folks are often tolerated in the classroom and in the field. The observation has a flip side. Those individuals who are predisposed to take advantage of training sessions or who are predisposed to be effective communicators and problem-solvers, are the ones who paradoxically indicate they get the most out of these trainings. It is the ignorant that indicate they receive no new knowledge, insights or skills yet, are the ones who go out and repeat the same mistakes over and over again. We are not sure how to address this issue.

Lesson 4: Using Case Examples from within the Industry is Effective
Making use of real situations that have occurred within highway construction projects resonates well with participants and makes the acquisition of new knowledge and skills all the more effective and efficient. Bringing in SHA personnel who have been involved in tense situations with angry members of the public or worked on highly charged projects not only allows for the presentation of new communication and problem solving techniques, but provides participants the chance to ask questions of the person who experienced the situation first hand.

Lesson 5: Partnering Training is only one part of its institutionalization

SHA has clearly adopted partnering and is an industry leader on the national stage. However, in order to make partnering even more effective and meaningful, contractors, consultants and utilities need to 1) understand the values and belief system that forms the groundwork for the process and 2) adopt its own institutional shift and or adapt to SHA's way of doing business.

Lesson 6: Train-the-Trainer Challenges

Any training program should consider who will be the trainer(s) and how the training content will be delivered. The content of the training program has been developed, delivered, modified and test for transmission of knowledge and skill. The one remaining element is to deliver this to SHA trainers who can then begin the process of expanding the delivery within SHA. We learned a few things in regard to this last step in the institutionalization process. They are:

a. The individuals who volunteered for the train-the-trainer portion of the training program should have been selected at the beginning of the training program and informed that it would be mandatory that they attend every session. None of the trainers attended all the training sessions. Most of them attended one of them. One person was unable to attend any of the five training sessions. This should have been a requirement as it prolonged the training segment.

b. It should have been clearly stated at the beginning to the SHA trainers that the partnering courses would be turned over to them for future SHA training. In fact, even though it would have slowed the process down a great deal, it may have made more sense to have the SHA trainers in on the development of the materials.

c. The expectations for the train-the-trainer course must be clear before trainers arrive at the training session. Everyone needs to be on board in regard to expectations.

To rectify concern in 6c., and to continue the evolution and improvement of the partnering training, the designated trainers need continued support, as well as coaching and co-training with experienced trainers.