SAFETY AND HEALTH INVESTMENT PROJECTS
FINAL REPORT

DEVELOPING A CURRICULUM FOR SAFETY AND HEALTH LEADERSHIP TRAINING FOR MIDLEVEL PERSONNEL IN THE CONSTRUCTION INDUSTRY

SHIP Grant 2009-XG-00126

10/1/2010 - 6/15/2012

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The Building Trades Labor-Management Organization of Washington State
(Build It Smart)

June 26, 2012

Erich Smith

Funding and support for this project has been provided by the State of Washington, Department of Labor & Industries, Safety & Health Investment Projects.

[Grantee] is solely responsible for the content of and views expressed in this report and related materials unless they have been formally endorsed by the Washington State Department of Labor and Industries.

PART I

Narrative Report

Organization Profile:

For awarded organizations, to include partners and collaborators, provide a brief description of each organization. Mission, vision, and purpose for each of the organizations who applied (this includes partners and collaborators) for the grant.

Build It Smart (BIS) was created in 1998 by a committee of safety and health leaders—representing employers and unions—to address safety and health needs they considered unmet because they were related to the industry as whole: its structure and its culture. The Committee created a formal non-profit labor-management organization to:

i. reduce construction related injury and illness rates in Washington State by fifty percent;
ii. focus on the industry as a whole, rather than its components;
iii. change the culture of the industry with regard to safety and health; and
iv. make safety and health an integral part of the problem-solving culture of the industry.

Abstract:

Present a short overview of the nature and scope of the project and major findings (less than have a page).

BIS began its work with a review of existing safety and health leadership curricula and a series of focus groups with management and labor representatives from the industry. With these guides, an initial "discussion draft" curriculum was prepared.

The initial curriculum was presented to three Joint Apprenticeship Training Centers (JATC) for their review and discussion. Participating trades included the Northwest Laborers Training Trust Fund, the Western Washington Cement Masons and Plasterers, and Ironworkers Local 86. Standards for review included:

- perceived effectiveness of the content (does it address the problems seen on Washington work sites?);
- breadth of the content (are enough topics included or too many? Do they represent all the common scenarios for site safety and health leadership?);
- depth of the content (Are the scenarios too general or the proposed responses too superficial to cause real change?);
- flexibility and responsiveness of the content (Are the instructions flexible enough to be adaptable to a range of safety and health challenges, including the unforeseen?); and
- deliverability (Can the reviewers visualize an effective training from this curriculum?)

The initial design called for three testing cycles, but in fact the curriculum was tested and trial trainings conducted over ten times. In addition to JATCs, presentations were made to the Associated General Contractors in Seattle, representing over 600 members, and in TriCities,

representing Eastern Washington's nearly 300 employers. The curriculum was reviewed by the Center for Construction Research and Training (CPWR), and presented to the National Construction Safety Committee, as well.

Purpose of Project:

Describe what the project was intended to accomplish.

Build It Smart (BIS proposed to reduce the incidence of occupational fatalities, injuries and illnesses in the construction industry in Washington State by instilling safety and health leadership capacities at the middle supervisory level. To accomplish this, BIS created and tested a curriculum to develop and support leadership in safety by site supervisors and foremen.

Statement and Evidence of the Results:

Provide a clear statement of the results of the project include major findings and outcomes and provide evidence of how well the results met or fulfilled the intended objectives of the project.

The purpose of the project was to build a curriculum for mid-level supervisors and foremen in Washington's construction industry. The project was designed to maximize input from management and labor to ensure it represents actual conditions at worksites. Expert review was used to verify the material. Reviews of the finished curriculum by management and labor representatives, as well as by the Center for Construction Research and Training, which reflects construction across the nation and internationally, as well. With these reviews, we judge the project to have met its interim goal. The long-term goal of reducing injury and illness among workers will require additional work to find a means of tracking outcomes that can be correlated with trainings that utilize this curriculum.

Although participating JATCs have not made written agreements to utilize the curriculum that is because most use curricula developed and approved by their international organizations. Curriculum changes will require time to be endorsed. Several, however, have made verbal commitments to pursuing that change. The Northwest Ironworkers, for example, will add the training to the classes of their 4th year apprentices. Several employers, including GLY, Sicklesteel, and the AGC have expressed further interest. The National Laborers and the National Building Trades had representatives attend the course to learn what it contained and how best to approach leadership training. The University of Washington also enquired about utilizing these materials with their own leadership course.

Measures to Judge Success:

If relevant, state what measures or procedures were taken to judge whether/ how well the objectives were met and whether the project or some other qualified outside specialist conducted an evaluation.

Evaluation was done by feedback from the participants at the curriculum tests. Feedback was incorporated until the participants were satisfied with the training and no longer had suggestions for changes. CPWR served as the expert reviewers. They sponsored a presentation of the final curriculum by BIS to the National Construction Safety Committee meeting in Washington, DC, where it was also well received.

Relevant Processes and Lessons Learned:

Specify all relevant processes, impact or other evaluation information which would be useful to others seeking to replicate, implement, or build on previous work

AND

Provide information on lessons learned through the implementation of your project. Include both positive and negative lessons. This may be helpful to other organizations interested in implementing a similar project.

Relevant processes: The most important process of this grant is joint labor-management cooperation on safety and health in the construction industry. This project began with joint planning and joint participation has been key to the development of the resulting curriculum.

Lessons learned: Having joint concerns, and even joint commitments, does not guarantee available time to participate in a project, no matter how desirable the result. The major challenge of this grant has been about time: time to schedule meetings, time to schedule curriculum reviews, time to schedule trainings. Further, lack of time affected a planned subcontractor who, in the end, did not participate in the project at all. The downturn in the construction industry restricted the personnel available to assist with the project and the resource originally pledged to support trainings. Additionally, the economic downturn had an impact on the availability of management and labor staff to help with the project. This was particularly true in the summer months, when available work superseded all other concerns. Planners of similar projects should remember the impact of the busy summer season on participants and partners, especially when they are offering inkind or gratis support.

Product Dissemination:

Outline of how the products of the project have been shared or made transferrable.

This project has called upon a broad range of participant organizations, as well as individuals, who have responded with assistance and guidance. The organizations have all expressed commitment to training midlevel personnel training in safety and health leadership. This organizations will receive the completed curriculum for their use. All the labor and management members of Build It Smart, including education partners, will have access to the curriculum on BIS' website.

The following organizations were instrumental in the project:

NW Ironworkers Apprenticeship
Western Washington Sheet Metal JATC
Cement Masons and Plasterers of Washington (Seattle)
Eastern Washington Apprenticeship Coordinators Association
Associated General Contractors (AGC)-Seattle and AGC Safety Committee
Inland AGC (Spokane) Safety Committee
Inland AGC (Yakima)
Seattle Vicinity Construction Safety Council
CPWR (Center for Construction Research and Training)
National Building Trades Safety Committee

Feedback:

Provide feedback from relevant professionals, stakeholder groups, participants, and/ or independent evaluator on the project.

See Attachment

Project's Promotion of Prevention:

Explain how the results or outcomes of this project promote the prevention of workplace injuries, illnesses, and fatalities?

The Board of Directors of Build It Smart convened a focus group of labor and management leaders in the industry to determine what they thought were the most critical priorities for changing the culture of the industry to embrace more fully safety and health. The overwhelming priority identified was development and dissemination of a "Leadership Training Initiative' directed at the "working level" supervisors in the industry.

This choice reflected the way in which supervisors have been selected historically in the construction industry: for their ability to produce. While this ability can be clearly associated with intelligence and ambition, it does not necessarily reflect an individual's ability to lead crew members effectively in construction work, nor does it guarantee knowledge of or commitment to safety. Additionally, most of these supervisors have been deployed without any management or leadership training.

Further, leadership training has been proven to be highly effective in reducing injuries. A new study from Ontario shows the impact of supervisor training, where in one district

(Sarnia/Lambton County) the construction owners required all supervisors in the construction industry to be trained starting in 2004, and compared lost time injury rates to all of Ontario. The findings are summarized in Table 1. In Sarnia, the training after 2004 resulted in 17.4 trained supervisors per 100 construction industry FTEs, compared to 6.0 for Ontario as a whole. The lost time injury rate in Sarnia declined by 66% compared to a decline of 18% for Ontario as a whole, even though Sarnia/Lambton started out from a much lower baseline.[1] These findings are particularly relevant to this application because the study was undertaken by the Construction Safety Association of Ontario (CSAO), a joint labor-management committee.

Impact of Supervisor Training: Experience of Study Area Compared to All Ontario

Year	Hours Worked Study Area	Cumulative No of Supervisors Trained in Study Area	Lost Time Injury Rate Study Area	Lost Time Injury Rate All Ontario
2004	6,443,161	555	1.27	2.56
2005	10,897,814	854	0.88	2.57
2006	11,478,075	891	0.63	2.37
2007	12,671,300	1,103	0.43	2.16

Uses:

How might the products of your project be used within the target industry at the end of your project?

Is there potential for the product of the project to be used in other industries or with different target audiences?

During this project, BIS worked to insure that employers and JATCs had a final product they would find useful -- and would use. The curriculum will be posted on the BIS website for any JATC or contractor to use, as well as provided to SHIP and to the Center for Construction Research and Training in Washington, D.C.

Additionally, although prepared with the input of construction industry trainers and employers, the basic issues of safety and health leadership cross many industries.

[1] McVittie D. J. The effect of supervisory training on lost-time injury rates in construction. Toronto: Construction Safety Association of Ontario, February 2009. http://www.csao.org/images/pfiles/374_W040.pdf [accessed June 13, 2010]

Additional Information

Project Type

☐Best Practice
☐Technical Innovation
xTraining and Education Development
☐Event
☐Intervention
☐Research
☐Other (Explain):

Target Audience: For the project: management and labor safety training departments and officers and their managers. For the training: mid-level supervisors and foremen.

Languages: English

Industry Classification (check industry(s) this project reached directly)

☐ 11 Agriculture, Forestry, Fishing and Hunting
☐ 21 Mining
☐ 22 Utilities
x 23 Construction
☐ 31-33 Manufacturing
☐ 42 Wholesale Trade
☐ 44-45 Retail Trade
☐ 48-49 Transportation and Warehousing
☐ 51 Information
☐ 52 Finance and Insurance
☐ 53 Real Estate and Rental and Leasing
☐ 54 Professional, Scientific, and Technical Services
☐ 55 Management of Companies and Enterprises
☐ 56 Administrative and Support and Waste Management and Remediation Services
☐ 61 Educational Services
☐ 62 Health Care and Social Assistance
☐ 71 Arts, Entertainment, and Recreation
☐ 72 Accommodation and Food Services
☐ 81 Other Services (except Public Administration)
☐ 92 Public Administration

Please provide the following information - *(information may not apply to all projects)*

# classes/events:	10
# hours trained	n/a
# companies participating in project	35
# students under 18	n/a
# workers	35
# companies represented	~900
# reached (if awareness activities)	100
Total reached	70-900

List, by number above, industries that project products could potentially be applied to.

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Potential impact (in number of persons or companies) after life of project?

~200,000 indirectly (employed in the construction trade); ~20,000 directly (assuming 10% employed as midlevel personnel)

Have there been requests for project products from external sources? Yes

If Yes, please indicate sources of requests: CPWR, AGC, WSBCTC and member JATCs

PART II

Financial Information
Budget Summary

Project Title:	**Developing a Curriculum for Safety and Health Leadership Training for Midlevel Personnel in the Construction Industry**		
Project #:	**2009-XG-00126**	**Report Date:**	26 June 2012
Contact Person:	Erich Smith	**Contact #:**	425 359 1624
Start Date:	1 October 2010	**Completion Date:**	15 June 2012

1.	**Total budget for the project**	$ 87,241.00
2.	**Total SHIP Grant Award**	$ 87,241.00
3.	**Total of SHIP Funds Used**	$ 76,497.42
4.	**Budget Modifications (if applicable)**	$ _____
5.	**Total In-kind contributions**	$ 66,932.12
6.	**Total Expenditures (lines 3+4+5)**	$ $143,429.54

Instructions:

- Complete the Supplemental Schedule (Budget) form first (on the next page).
- The final report must include all expenditures from date of completion of interim report through termination date of grant.
- Indicate period covered by report by specifying the inclusive dates.
- Report and itemize all expenditures during specified reporting period per the attached supplemental schedule.
- Forms must be signed by authorized person (see last page).
- Forward one copy of the report to **Project Manager Name, SHIP Project Manager** at **PO Box 44612, Olympia, WA 98504-4612**

PART II
(Continued)

Financial Information
Supplemental Schedules (Budget)

Project Title:	**Developing a Curriculum for Safety and Health Leadership Training for Midlevel Personnel in the Construction Industry**
Project #:	**2009-XG-00126**
Report Date:	26 June 2012
Contact Person:	Erich Smith
Contact #:	425 359 1624
Total Awarded:	$87,241.00

ITEMIZED BUDGET: How were SHIP award funds used to achieve the purpose of your project?

	Budgeted for Project	Amount Paid Out	Difference
A. PERSONNEL	$56,441.00	$ 30,174.12	$26,266.88
Explanation for Difference and other relevant information: Personnel costs for the grant were overestimated. Actual hours required by the Training Coordinator to conduct multiple curriculum reviews were less than anticipated because of additional contracted assistance from the Grant Manager and CPWR (see subcontracts).			

	Budgeted for Project	Amount Paid Out	Difference
B. SUBCONTRACTOR	$23,750.00	$ 43,114.95	$-19,364.95
Explanation for Difference and other relevant information: One subcontractor did not participate in the grant as planned. Duties were shifted to the contracted Grant Manager and CPWR, an outside advisor on curriculum and training, with increased cost to the grant in this budget item. The estimated costs for the database/web contractor were higher than actual expenses.			

	Budgeted for Project	Amount Paid Out	Difference
C. TRAVEL	$3,770.00	0	$3,770
Explanation for Difference and other relevant information: No travel costs were charged to this grant. They were provided by a federal partner grant (not included in leverage below).			

	Budgeted for Project	Amount Paid Out	Difference
D. SUPPLIES	$1,180.00	0	$1,180.00
Explanation for Difference and other relevant information: No supplies were charged to this grant. They were provided inkind (included in leverage below).			

	Budgeted for Project	Amount Paid Out	Difference
E. ~~PUBLICATIONS~~ OTHER EQUIPMENT REIMBURSEMENT, ACCOUNTING SERVICES, PAYROLL TAXES, INSURANCE	$2,100.00	$ 3,208.35	$-1,108.31
Explanation for Difference and other relevant information: In budgeting, costs were under-estimated for final operating costs. This grant benefitted from shared insurance and accounting services, but could not forego a proportionate share. Equipment reimbursement for cell phone use was paid rather than making equipment purchases, which underspent the equipment allocation. Net result was overexpenditure of $1108.31 for the combined cost categories.			

	Budgeted for Project	Amount Paid Out	Difference
TOTAL DIRECT COSTS	$87,241.00	$76,497.42	$10,473.58

	Budgeted for Project	Amount Paid Out	Difference
TOTAL INDIRECT COSTS			

	Budgeted for Project	Amount Paid Out	Difference
TOTAL SHIP BUDGET	$87,241.00	$76,497.42	$10,473.58

	Budgeted for Project	Amount Paid Out	Difference
F. IN-KIND	$26,660	$69,763	$43,103
Explanation for Difference and other relevant information: In addition to in-kind support from Build It Smart, support was provided by the Federal Mediation and Conciliation Service.			

I hereby certify that the expenditures listed on this report were made with my approval:

28 June 2012	Erich Smith
Date	Signature of Project Manager

PART III
Attachments:

Provide resources such as written material, training packages, or video/ audio tapes, curriculum information, etc. produced under the grant.

Also include copies of publications, papers given at conferences, etc.

This information should also be provided on a **CD** or **DVD** for inclusion in the file.

Evaluation of Safety Leadership Curriculum			
REVIEW CYCLE	ORGANIZATION	COMMENTS	MODIFICATION MADE IN RESPONSE
First review	Ironworkers	Too fast, too much information per slide to let it all sink in	More slides with less information per slide; slowed delivery
Second review	Seattle area Sheet metal JATC	Material too scattered, some points seem like you would think about those together or doing the same functions so they should be grouped together	Reorganized points and slide flow
	Center for Construction Research and Training (CPWR)	Discussed materials used nationally (and internationally), recommended additional resources.	Added material
Third review	AGC Seattle	Very needed, but make clearer who should be doing what. Yes there's overlap, but supervisors and foreman will have some naturally different roles and responsibilities. Don't have to label them that way, but make it easier for each to see relevance of the material (General discussion of employer focus)	Added material from the discussion of the employers' view
Fourth review	AGC Spokane	More discussion of employer view of what happens on a worksite and what issues are most important in safety	Strengthened issues of safety and efficiency, safety and productivity
Fifth review	AGC Yakima	Extended discussion of how to maximize communication between supervisor and company, supervisor and foreman	Clarified communication challenges, solutions
Sixth review	Seattle Vicinity Construction Safety Council	Discussed presentation of material about "new" safety issues, widening what is considered a safety hazard	Included material on more substances (substance abuse), issues of grief and stress
Seventh review	SMART Washington	Employers perspective, informed by organization advising employers on risk management	No changes recommended
Eighth review	National Building Trades Safety Committee	Reviewed for broad applicability across construction and building trades. Considered usability in other states and industries as tests of the curriculum's flexibility and thus potential usefulness in the future as working challenges shift	No changes recommended
Ninth review	Ironworkers	Discussed changes since previous viewing, and how the material would help at worksites	No changes recommended

	Cement Masons and Plasterers	Reviewed for specific trade use with actual trainers. Discussed helpful "guidance" for trainers about how audiences react: which points need reiterating, which need audience participation to consider their own specific trades.	Considering need for a trainer's guide to accompany the curriculum
	NW Laborers Training Trust	Demonstration of material and of presentation options, including modularization	No changes recommended
Tenth Review	Build It Smart Board and attendees	Discussed how the material would be used by individual contractors, trades trainers, safety contractors and potentially by postsecondary education	Comments would be most useful for compiling the trainers' guide. No changes to the curriculum.

REMINDER!!: All products produced, whether by the grantee or a subcontractor to the grantee, as a result of a SHIP grant are in the public domain and can not be copyrighted, patented, claimed as trade secrets, or otherwise restricted in any way.