



Evaluation of the Implementation and Impact of a Massachusetts Construction OHS Training Rule

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Report

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A project for CPWR - The Center for Construction Research and Training

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ABSTRACT

Since 2008, Massachusetts has required that all workers on publicly-funded construction projects complete a U.S. Occupational Safety and Health Administration-approved 10-hour safety class known as the “OSHA 10” for construction. The Commonwealth’s Attorney General’s Office is responsible for enforcing the requirement. This study investigated the implementation and impact of the training requirement policy through interviews with key informants and a survey of 100 workers across Massachusetts. Survey respondents offered a strong consensus on the value of the requirement in “raising the bar” for safety in the commercial construction sector even beyond public projects. They believed that compliance with the requirement was close to universal. Generally, these diverse stakeholders supported the introduction of a new “refresher” requirement to sustain the commitment to ongoing worker safety training. The pattern of worker survey responses supported the view that OSHA 10 training was universal in the unionized construction sector and deemed valuable. Non-union workers and workers who spoke Spanish or Portuguese at home were much less likely to have received training. The study recommends more research on the impact of training and policy changes to expand the reach of the OSHA 10 requirement. This policy evaluation furthers the U.S. National Institute for Occupational Safety and Health’s construction sector strategic research goal 11.1 to “survey current training programs, models, materials and best practices to identify: 1) any gaps in meeting core competencies, 2) any gaps in the ability of current training infrastructure capacity to meet sector training needs, and 3) any emerging opportunities for improving delivery of training.”

KEY FINDINGS:

1. OSHA 10 training has become the “baseline” standard for worker safety training in commercial construction in Massachusetts, regardless of project funding source.
2. The OSHA 10 training requirement has gained such widespread acceptance among construction industry stakeholders that most supported the introduction of a new “refresher” training requirement to sustain the commitment to ongoing worker safety training.
3. State enforcement personnel and employer and worker stakeholders believe that the training requirement has been thoroughly implemented and that workers on publicly-funded construction projects possess OSHA 10 training cards.
4. Non-union and residential construction workers, and those with limited English abilities, are much less likely to have had OSHA 10 or any other health and safety training.
5. More research is required to better understand the impact of construction safety training on safety performance.

INTRODUCTION

Massachusetts, like New York, Connecticut, Rhode Island, New Hampshire, Nevada and Missouri, is part of a growing trend to use state law to increase safety and reduce accidents on construction sites through mandated safety training for construction workers. Massachusetts law requires that workers on publicly-funded construction projects complete an OSHA-approved 10-hour health and safety training class. This report describes a study of the implementation and impact of this requirement. The reality of this type of study is that it is extremely difficult to construct an investigation that can definitively point to "cause and effect" in the complex environment of construction safety and public policy. Economic and employment trends, other safety initiatives, increased or decreased reporting of events and other factors can push and pull indicators even when good data are available (which is rare). However, it is possible to look at the experience and perspectives of knowledgeable individuals to gauge their assessment of what has happened and what effect it may have had. The study described below used a mixed qualitative and quantitative investigative approach to uncover basic facts and bring out deeper understanding of the issues. Interviews with key informants provided context and outlook, surveys from workers provided the basic facts of how the requirement was experienced by different types of workers. Analysis of these data and the recommendations from those most knowledgeable can help guide Massachusetts as it refines and expands its approach and can contribute to the discussion in other states considering related policy initiatives.

BACKGROUND

The Massachusetts act, which was signed into law on July 30, 2004, and became effective July 1, 2006, requires "any person submitting a bid for, or signing a contract to work on" any public works or public building estimated to be worth more than \$10,000, to certify that "all employees to be employed at the worksite" have successfully completed a 10-hour course in construction safety approved by the United States Occupational Safety and Health Administration (OSHA), known as the "OSHA 10" course (See Appendix). In order to demonstrate compliance, the act requires contractors to submit documentation of successful completion of the OSHA 10 course with the submission of the first prevailing wage certified payroll report for each employee, which is also required of contractors on public projects. Supervisors, although not subject to prevailing wage laws, are required to complete an OSHA 10 course as well.

In Massachusetts, public awarding authorities, such as the Commonwealth or local cities and towns, include language in their bidding documents and contracts requiring the contracting entities to certify that workers have completed the training. Each year since 2006, a letter highlighting this new requirement has been sent by the Inspector General of the Commonwealth to all local agencies to guide their public procurement procedures. Contracts between general contractors and subcontractors and between subcontractors and sub-subcontractors for public works and public building contracts must contain the certification language as well. The Office of the Attorney General of the Commonwealth is responsible for enforcement of the act. If violations are found, the Attorney General's Office can hold

up or cancel contracts, and it can remove employees who do not have OSHA 10 training from the worksite.

Since 1971, OSHA has authorized trainers to teach construction and general industry occupational safety and health courses to workers. Construction industry outreach trainers complete “train-the-trainer” courses (the OSHA 500 and 501) and are authorized to conduct 10- and 30-hour construction industry outreach courses and sign course completion cards (the “OSHA Completion Card”). According to the OSHA Outreach Training Program Guidelines, the 10-hour course is an awareness-level class and is intended to provide training on construction safety and health to entry-level workers. In 2011, OSHA changed course requirements to clarify that the course cannot be offered in one day. Mandatory topics to be addressed include an introduction to OSHA (two hours), electrical training, and fall protection. During the course, the trainers must also discuss at least three of the following topics: personal protective and lifesaving equipment; materials handling, storage, use and disposal; tools – hand and power; scaffolds; cranes, derricks, hoists, elevators and conveyors; excavations; and stairways and ladders. Workers receiving the 10-hour course are advised that they must also receive site-specific training on construction hazards and that the 10-hour course does not substitute for such site-specific training provided by their employers. OSHA policy is that safety training must be delivered to workers in a way that they can understand it – that is, in the appropriate language and at the appropriate literacy level. If employers elect to use a translation service for an English training delivered to non-English-speaking employees, they must double the training hours from 10 to 20.

Unionized construction and related sector workers often receive their OSHA certification cards through the “Smart Mark” program of hazard-awareness OSHA 10- and 30-hour training for the members of Building Trades unions. There are over 4,000 instructors providing Smart Mark training through joint labor-management training programs at over 2,000 training centers nationwide. Smart Mark hazard-awareness training is frequently incorporated into the trade skills training programs of building trades and has been used to train nearly 200,000 workers. The course is available in English and Spanish. Evaluation of Smart Mark training among Chicago-area pipefitting and roofing trades was conducted by researchers at the University of Illinois. (Sokas, R.K.; Emile, J.; Nickels, L.; Gao, W.; Gittleman, J.L. An intervention effectiveness study of hazard awareness training in the construction building trades. *Public Health Reports*, 2009, 124 Suppl 1, 160-168.) In that study, Spanish- and English-speaking journeymen and apprentices were surveyed pre- and post-training to assess the impact of the Smart Mark 10-hour course on baseline knowledge, attitudes, and work practices and to identify potential changes they experienced in safety climate. One hundred and seventy-five workers participated in the initial survey and 92 in the follow-up three months after the training. Improvements were found in many of these dimensions with Hispanic workers having the greatest improvement in perception of safety climate, i.e., the organizational approach to health and safety on their worksites.

Training to satisfy the requirement in Massachusetts may take place in many ways and in many places. The OSHA Training Institute Education Center New England in Manchester, N.H., is the leading local training center for training and authorizing certified trainers. The OSHA Training Institute was not able to provide statistics on the number of authorized trainers or OSHA 10 trainees for Massachusetts. In

addition to receiving training directly at the OSHA Training Institute Education Center New England in Manchester, N.H., employers may contract with a certified trainer to provide training for his or her employees on-site, unions and union training centers provide training as part of apprenticeship or on-going skills workshops, OSHA Area Offices provide training across the state, and students in vocational education programs receive OSHA 10 training as part of the curriculum. In Massachusetts, construction vocational high school teachers have become certified to provide the training. The Massachusetts Department of Education has also collaborated with OSHA staff and union OSHA approved trainers to provide training to young workers through alternative high schools (<http://www.doe.mass.edu/alted/conference/08-1020yw.pdf>). The Association of General Contractors of Massachusetts provides discounted training to the employees of its member (mostly non-union) companies. The Commonwealth's Division of Occupational Safety has provided free training opportunities around the state and the Brazilian Immigrant Center has provided training through an Alliance with OSHA Region I to train Portuguese-speaking construction workers in workplace health and safety. The City of Lawrence requires the training in all the city's contracts and has provided free classes with certified instructors for Spanish-speaking workers. Classes are also regularly offered by regional Safety Councils that are part of the National Safety Council network. Finally, workers may receive a training certificate after completing an approved on-line training in English or Spanish. Numerous training companies such as Summit Training Source and OSHA Pro's offer web-based training (see for example, <http://1030.trainingweb.com/iface/default.asp> or www.osha-pros.com or http://massachusetts.oshacontinuingeducation.com/OSHA-10-Hour-Construction-Industry-Outreach-Training-Program_pid_109.aspx).

OSHA maintains lists of certified trainers, including Spanish-language trainers (http://www.osha.gov/dte/outreach/construction_generalindustry/spanish_outreach_trainers.html), and links to the Outreach Trainers Website of Training Courses (www.outreachtrainers.org) to assist workers and employers in finding quality training. Because of the potential for fraud – training by non-certified trainers or that does not meet the OSHA Outreach training requirements -- OSHA maintains an “OSHA Outreach Trainer Watch List” (http://www.osha.gov/dte/outreach/construction_generalindustry/watchlist.html) to alert potential trainees and contractors to individuals who provide fraudulent training.

RESEARCH DESIGN AND METHODS

This study evaluated the implementation and impact of the OSHA 10 requirement on the construction industry in Massachusetts. It examined these impacts on contractors, owners and the workers themselves. It looked at how the requirement was carried out in both union and non-union construction, and, because 30% of the construction workforce is primarily Spanish-speakers, the project looked closely at the issue of language with regard to health and safety training. While it will not be possible to assess the impact of the training on the ultimate measure of effectiveness -- injury rates -- secondary outcomes are discussed, such as worker and contractor perceptions of increased action to

improve health and safety on construction worksites. Recommendations for improvements are iterated as well as barriers and opportunities for expansion of training requirements as a policy intervention to reduce construction injuries and illnesses. Two investigative methods were used: 1) key informant interviews of trainers, contractors, union representatives and health and safety agency personnel, and 2) confidential interviewer-assisted surveys of workers at construction sites.

INTERVIEWS

Interviews were conducted with 13 “key informants,” including union and non-union trainers, occupational health agency and insurance company personnel, union organizations, union and non-union construction company professional organizations, and the Massachusetts Attorney General’s office which is responsible for enforcing the requirement. The thirteen interviewed individuals were:

Jean Manoli, Training Specialist, Massachusetts Division of Occupational Safety
Letitia Davis, Director, Occupational Health Surveillance Program, Massachusetts Department of Public Health
Mary Vogel, The Construction Institute
Ken Corbet, Office of Safety, Division of Industrial Accidents (MA)
Rich Bianchi, Bianchi Consulting, (Central Mass OSHA 10 Instructor)
Rony Jabour, Rony’s Safety Net: Training in Brazilian Portuguese
Chris Ziegler, Director of Safety, Association of General Contractors of Massachusetts
Carol Bates, OSHA Region 1 Outreach Coordinator
Lauren Goldman, Massachusetts Attorney General’s Office
Frank Callahan, President, Massachusetts Building Trades Association
Ted Christensen, Liberty Mutual Insurance
Monica Lawton, Executive Director, Associated Subcontractors of Massachusetts
Karen Courtney, Director, Foundation for Fair Contracting of Massachusetts

Four of the interviewees were trainers: one for the OSHA consultation program, one who provides training primarily in Portuguese through non-profit advocacy organizations, one who is a private sector consultant and trainer, and another who provides training through large union and non-union construction employer organizations. Worker health and safety public agency perspectives were represented by a regional OSHA staffer and personnel from the Massachusetts Department of Public Health and the Division of Industrial Accidents, which funds a great deal of OSHA 10 training. An Assistant Attorney General from the Massachusetts Attorney General’s Office provided information with respect to enforcement of the rule. Labor/worker perspectives were drawn from the Building Trades Association and a labor law watchdog group. Employers were represented by three employer association spokespeople including union and open-shop general and sub-contractors. Finally, the insurance company perspective was also included.

Key informant interviews by the principal investigator (C. Roelofs) followed an interview guide that was developed in conformity with best practices in qualitative inquiry and reviewed by CPWR (See Appendix). The questions were designed to solicit open, informative responses that represented the informants' thoughtful and honest understanding of the issues. Interviews ranging from 20 minutes to 1 hour took place over the telephone and, except in one case, were recorded. Additionally, notes were taken during each interview. Notes taken on recordings and the interviews are the data that are summarized and analyzed below. Each informant was consented for voluntary participation in the research following a protocol approved by the University of Massachusetts Lowell Institutional Review Board. Interviews were neither anonymous nor confidential since each informant represented their unique perspective supported by the authority of their position. However, the analysis strategy was to avoid direct attribution of quotes and to summarize perspectives.

Key informant interview notes were summarized and a summary of those notes are presented below by theme. While a structural analysis by question theme was intended, many topics lacked rich data, and so a more comprehensive analysis is presented based on the themes that emerged in the interviews. This analysis describes the main points brought out in each interview and those themes that were repeated across interviews. Themes for synthesis and analysis include: training logistics, training content, differences in training methods, Spanish/Portuguese training, training quality, enforcement of training guidelines (qualified instructors, length and content of training, presentation of certification cards), advantages and disadvantages of the training requirement, barriers to compliance, impact on health and safety, non-health and safety impacts (business position, morale, etc.), perceived impact on construction sector, union vs. non-union training experience, and recommendations. Where possible, convergence and divergence of perspectives between informants is highlighted to represent the diversity of opinion on the topics.

SURVEYS

A short closed-ended questionnaire was developed to elicit construction workers' experience and perspectives on the OSHA 10 training requirement. The survey questionnaire was designed to be answered at construction sites in 10 minutes or less. The sample was a convenience sample; however, participants were selected randomly. The survey assistant simply stopped at publicly-accessible construction sites throughout the Commonwealth and asked workers directly for their participation. Following a brief oral consent process, the survey questions were read to participants in English or Spanish. Surveys were anonymous. A \$10 Dunkin Donuts gift card was offered to participants.

Survey results were entered into Microsoft Access (records management) and Excel (analysis). The statistical analyses were carried out to test association of variables with demographic factors with the statistical software package SAS (version 9.2, SAS Institute Inc, Cary, NC, USA). Prevalence ratios are estimated using log-binomial regression models because odds ratios overestimate the risk when outcomes are prevalent. (Ref: Deddens JA, Petersen MR. Approaches for estimating prevalence ratios. Occup Environ Med 2008; 65: 481, 501-6)

RESULTS

INTERVIEW ANALYSIS

The interviewees were asked to comment on opportunities and barriers related to the rule; training resources; implementation, compliance and enforcement of the rule; economic impacts; impacts on contractors' other training and safety programs; impacts on safety and workers; and suggestions for improvement of the rule. Responses were remarkably in accord on most topics. The interviewees' perspectives on the implementation and the impact of the rule -- the key issues of this study -- as well as a summary list of recommendations for improvements, are presented below.

IMPLEMENTATION

No respondent thought that implementation of the rule had been problematic or burdensome. Most thought that there were adequate training resources available, although several questioned whether all training offered was of high quality. It was not clear to interviewees how much online training was happening, but it was roundly denigrated. While Spanish and Portuguese training is available, not many interviewees were aware of it happening, and many interviewees suspected that the training needs of workers with limited English language skills were not being met. With the construction industry economically depressed at the same time that the pool of trained workers has been dramatically expanded in the past few years, several trainer-interviewees described challenges in filling classes. These interviewees had different and opposing perspectives on the value of the two-day requirement and the two-hour OSHA and worker rights curricular requirement.

The Attorney General's Office and other informed observers perceived uniform compliance with the rule by contractors and no enforcement action as a result, except in rare cases. The respondent for the Attorney General's Office said that OSHA 10 cards are submitted with required payroll reports from employers on publicly-funded projects. She was not aware of any complaint-driven investigations of missing OSHA 10 cards; however there had been cases where an investigation was triggered by another potential violation (wage and hour) by an employer.

IMPACT

In general, most interviewees believed that the rule had had a beneficial yet modest impact. Interviewees acknowledged that at the time of the rule, OSHA 10 training was standard in large commercial projects (including in the private sector) due to enforcement of the requirement by either the general contractor or owner, or by virtue of hiring union construction workers for whom OSHA 10 training had become universal at the time of the rule. Still, the requirement is credited with setting a "baseline" or minimum training standard that the smaller non-union contractors who wished to undertake public sector work had to meet. The rule also encouraged the private sector to adopt this "industry standard."

The rule came at a time when there was considerable momentum in increasing safety standards on construction sites, and is seen as being a part of this positive movement. Some interviewees observed

that having the minimum 10 hours of safety training in place for workers propelled supervisors to get the 30-hour safety card. The rule may have also provided an opportunity for some workers in residential construction to get basic safety training, although, in general, interviewees did not think that the rule had impacted the residential construction sector. In sum, more workers received training as a result of the rule, but not a huge amount more since the law targeted training for workers who were generally already being trained.

While it is not possible to tease out the specific impact of the rule on construction safety in Massachusetts, it was suggested by interviewees that the increased number of trained workers may have helped improve safety culture on construction sites, particularly due to the greater safety awareness among seasoned workers, young workers, and those employers who took the training. The perception of interviewees was that the training had little or no impact on contractor safety programs (including training), except in cases where employers paid more attention to hazard reporting knowing that their employees had greater understanding of their rights to a safe workplace and OSHA's role in enforcing those rights. Some felt that that greater awareness of worker health and safety rights was the greatest impact of the requirement. As for the role of training in improving safety, one interviewee suggested: "Training is not in and of itself the answer. Training has to go hand in hand with enforcement and the management. Those combined are really what's going to lower the accident rates." Interviewees did not perceive any negative economic impact as a result of the requirement, even on non-union firms that had to pay for training and workers' training time out of pocket.

RECOMMENDATIONS

The following recommendations had almost universal support among interviewees:

- Expiration of the card, generally after four or five years, with a requirement for a refresher training course of at least four hours and as many as 10 hours.
- Improved standards for and monitoring of training quality through audits and greater attention to training methods in OSHA 500 level courses.
- Limit or eliminate on-line training.

Additional recommendations had the support of some interviewees:

- Require the OSHA 30-hour training for supervisors and all on-site management personnel.
- Allow more flexibility in the 10-hour curriculum including the possibility of shortening the two-hour segment on OSHA.
- Permit the training to occur in one day.
- Require student testing or some kind of student evaluation.
- Tighten standards for who can become a trainer and require continuing education for trainers.

- Change the enforcement mechanism to include the possibility of civil penalties such as restitution, debarment and/or a penalty amount.

SURVEY ANALYSIS

100 surveys were collected from construction workers between May and December 2011.

OSHA 10-HOUR CARD STATUS

Forty-four of the 100 survey respondents possessed OSHA 10 training cards. All of these respondents received training in a group setting with an instructor present. We did not survey anyone who had taken the training online. One-third of OSHA 10 card-holding respondents had gotten their training prior to 2006 and the rule requirement. The training rule was signed into law in 2004 and 2005 showed an increase in trainees. The greatest number trained in a single year was in the year 2007, the year following the requirement. No one reported being trained in the most recent two years.



Most card holders got their training at their union training center and the training was paid for, or sponsored, by the union (or, more likely, the joint union-employer training fund). However, some union members did report paying for training themselves, although we don't know how much they paid. It is possible that costs of the training were shared between the trainees and the training center or the trainee and the employer. The Lawrence Technical School is a private training center that offers OSHA 10 classes in Spanish. Anecdotally, it is known that a local union sends their Spanish speaking members to the Lawrence Technical School for OSHA training rather than to the union training center which does not offer Spanish OSHA 10 training. The "other" locations may have been employer or private training facilities; it was not possible to determine these locations from the survey responses.

OSHA 10 Training Location		
Local/Union Training Center	27	61%
Lawrence Training School	6	14%
Vocational School	4	9%
Other	5	11%
No Answer	2	5%

Who paid		
Union	13	30%
Self	25	57%
Employer	5	11%
No Answer	1	2%

Fifty-five percent of card holders thought that having a card was an advantage in getting work. Seventy-four percent of the respondents were aware of the OSHA 10 requirement for training on public projects. Of those who were not aware, 92% were Spanish or Portuguese speakers. One quarter of the respondents had been asked to show their OSHA 10 cards.

GEOGRAPHY

Surveys were collected throughout Massachusetts. Most surveys came from urban areas, although some were collected in small towns. Lawrence was the city that contributed the most surveys (24%).

Surveys by Region of Massachusetts		
Northeast	45	45%
Southeast	23	23%
Greater Boston	20	20%
Metrowest	9	9%
Western	2	2%

UNION STATUS, TRADE AND YEARS OF CONSTRUCTION EXPERIENCE

Thirty-four percent of the workers in the sample were union members. All but one of the union respondents possessed an OSHA 10 card. Union status was the most important factor in predicting whether a respondent had an OSHA 10 card. Only 11% of those with cards were non-union and only 17% of the non-union respondents had cards, compared to 97% of the union respondents.

Trades represented in the sample are shown below. Forty-five percent of the workers in the sample were general construction laborers. Among the non-union respondents, working in a specialized trade made you five times more likely to possess an OSHA 10 card ($p=0.037$).

Trade		
Laborer	45	45%
Plumber	9	9%
Mason	9	9%
Gas/Electric	6	6%
Roofer	12	12%
Electrician	4	4%
Unknown	4	4%
Carpenter	3	3%
Sheet Metal	3	3%
Asbestos	2	2%
Iron worker	1	1%
Supervisor	2	2%

There was a good distribution of construction experience among the group; 45% had more than five years in construction. Among non-union respondents, years on the job was significantly related to the likelihood of possessing an OSHA 10 card. Those with more than five years in construction were seven times more likely to possess a card than those with less time ($p=0.001$).

Years in Construction		
More than 10	18	18%
5-10	27	27%
1-5	41	41%
Less than 1	14	14%

LANGUAGE

Surveys were conducted in English or Spanish according to the preference of the respondent. Forty-three percent of the respondents reported that they spoke English at home, 43% Spanish and 14% Portuguese. While we did not ask for nativity, it is likely that the majority of the Spanish and Portuguese-speaking respondents were immigrants or children of immigrants. Of the 44 respondents who possessed OSHA 10 cards, 66% spoke English at home. Seventy-three percent received their OSHA 10 training in English, 20% in Spanish and 7% in Portuguese. Of the 5 Portuguese speakers with cards, three reported receiving their training in Portuguese, one in English and one in Spanish. Of the 10 Spanish speakers with cards, 8 reported receiving their training in Spanish and two in English. Although union status is the most important determinant of whether a respondent possessed a card, we were interested in whether language was also a factor in card status. Among non-union respondents, those who spoke English at home (vs. Spanish or Portuguese) were 1.6 times more likely to have an 10-hour card, but the association was not statistically significant (mean estimate 1.6, p=.383)

TRAINING FREQUENCY AND QUALITY

88% of union members reported receiving some type of health and safety training from their union at least once a year, with 85% reporting receiving union-based health and safety training several times a year. There was a range of frequency of employer-provided health and safety training as shown below. Twenty-six percent of union respondents reported receiving health and safety training from their employers weekly compared to 7% of non-union respondents. Positive union status was significantly associated with greater frequency of training (p=0.001) (as was positive card status).

Training from union		
several times a year	29	85%
annually	1	3%
once	4	12%
never	1	3%

Training from employer		
Annually	11	11%
Monthly	18	18%
Weekly	33	33%
Every few years	8	8%
Never	29	29%
No Answer	1	1%

How Useful was 10 Hr Training?		
Very	16	36%
Somewhat	26	59%
No Use	2	5%
Following Training, How Likely Were You to Take H&S Action?		
More likely	14	32%
Just as likely	28	64%
Not more likely	1	2%

Only 5% of the respondents who had had OSHA 10 training found it to be of no use and more than one-third found it very useful. One-third reported that they were more likely to take action on their worksites to improve health and safety following the OSHA 10 training.

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

This qualitative and quantitative exploration of the Massachusetts OSHA 10 training rule found a generally positive view of its implementation and impact. Interviewees and survey respondents both reported high levels of training in the Commonwealth, although more commonly (and universally) among union members. Contractors, both general and sub, working on public sector projects have accepted the requirement and are believed to be in uniform compliance. The training requirement has likely played a part in increased construction safety, although it is not possible to characterize its special share based on this study. Strengths of this study include its mixed qualitative and quantitative approach (and agreement between them), and the diversity and quality of respondents, including many whose primary language is not English. Weaknesses include its inability to link the policy under study with a primary outcome such as injury results, the non-random selection of survey respondents (including an over-sampling of surveys from Lawrence where training and outreach have occurred in recent years), the lack of information on employer-provided training, and the lack of baseline demographic statistics on construction employment and training with which to contextualize the results.

It is clear that the OSHA 10 training requirement codified a minimum standard for health and safety training in large commercial publicly-funded construction projects – one that unionized employers were generally meeting already through existing safety training sponsored by joint employer-union training programs. It is likely that the rule has influenced commercial construction as a whole, and made such training the baseline on all large sites, regardless of funding source. However, the rule has had less impact than it might have, had it targeted non-union and private sector construction where the majority of workers may not have this minimal safety awareness training. Indeed, this weakness of the rule is shown in the survey results and the comments of the interviewees. The rule has not compelled non-union, residential and Spanish- or Portuguese-speaking employee training. Currently, 75% of the Division of Industrial Accidents' Safety Grant Program funding for OSHA 10 training goes to union or joint labor-management apprenticeship programs to provide the training that the rule requires. The Safety Grant Program has funded training projects for non-union and immigrant workers, but these populations could be targeted for funding to help increase access to training for those least likely to get it. Although more extensive research on impact and value of the OSHA 10 requirement is needed to inform policy, this report endorses the consensus recommendations of the interviewees: 1) Expiration of the card, generally after four or five years, with a requirement for a refresher training course of at least four and as many as 10 hours; 2) Improved standards for and monitoring of training quality through audits and greater attention to training methods in OSHA 500 level courses; and 3) Limit or eliminate online training.

Appendix

INTERVIEW GUIDE

1. What role did you played in the development of the 10-hour training rule?
2. What role do you play in its implementation?
3. What is your perception of how the rule has been implemented overall?
 - a. benefits
 - b. challenges
4. How adequate are the quality and quantity of the available training resources to meet the requirement?
5. How well do you think non-English speaker workers get trained?
6. What impact do you think the training rule has had on contractor's health and safety programs?
7. What impact do you think the training rule has had on health and safety on construction sites?
 - a. PROBE: state-funded vs. not
8. What impact do you think this training had on the workers (those who received it)?
9. What economic impacts do you think the training requirement might have had on contractors (competitive advantage, level playing field, performance, expenditures)?
10. What other impacts do you think the training rule might have had?
11. What improvements would you make to the rule or its implementation?

SURVEY (ENGLISH)

1. What is your Trade?
2. What union do you belong to?
 - a. _____
 - b. Non-union
3. How long have you been a construction worker?
 - a. Less than 1 year
 - b. 1-5 years
 - c. 5-10 years
 - d. More than 10 years
4. What language do you speak at home?
 - a. English
 - b. Spanish
 - c. OTHER_____
5. Do you have an OSHA 10-Hour Training card?
 - a. Yes
 - b. no

If no, skip to 13

6. Where did you receive the training entitling you to this card?_____
7. Who sponsored the training?_____
8. When did receive the training? _____
9. Did you receive the training in English or another language (if so, which)?
10. How was the training administered?
 - a. on-line/computer
 - b. group with instructor present
 - c. individually
 - d. OTHER_____
11. How useful did you find this training?
 - a. No use
 - b. Somewhat useful
 - c. Very useful
12. Following the training, how likely were you to take action to improve health and safety on job sites?
 - a. Not more likely
 - b. Just as likely
 - c. More likely
13. Is having an OSHA card an advantage in getting work?
 - a. Yes
 - b. No
14. How often do you receive H&S training from your employer (including tool box talks)?
 - a. Weekly
 - b. Monthly
 - c. Annually
 - d. Every few years
 - e. Never
15. How often have you received H&S training from your union?
 - a. N/A
 - b. Never

- c. Once
- d. Several times a year
- e. Annually

16. Have you been asked to show your OSHA card (proof of training)?

- a. Yes
- b. No

17. Are you aware that Massachusetts requires 10 hours of safety training for all workers on public work sites?

- a. No
- b. Yes

SURVEY (SPANISH)

1. ¿Cuál es su oficio?
 - a. Obrero
 - b. Obrero de estructuras "Ironworker"
 - c. Etc.

2. ¿A cuál sindicato (union) usted pertenece?
 - a. _____
 - b. No sindicalizado

3. ¿Cuánto tiempo ha sido trabajador de la construcción?
 - a. Menos de 1 año
 - b. 1-5 años
 - c. 5-10 años
 - d. Más de 10 años

4. . ¿Qué idioma habla en casa?
 - a. Inglés
 - b. Español
 - c. OTHER_____

5. ¿Tiene usted la tarjeta del entrenamiento de OSHA-diez horas?
 - a. Sí
 - b. No

6. Si tiene la tarjeta,
 - a. ¿Dónde recibió el entrenamiento que le dá derecho a esta tarjeta?
 - i. _____
 - b. ¿Quién patrocinó el entrenamiento?
 - i. _____
 - c. ¿Cuándo recibió el entrenamiento?
 - i. _____
 - d. ¿Recibió usted el entrenamiento en Inglés o en otro idioma (especifique en qué idioma)?
 - i. Ingles
 - ii. Español
 - iii. OTRO_____

- e. ¿Cómo fue realizado el entrenamiento?
 - i. En línea/computador
 - ii. En grupo, con un instructor presente
 - iii. Individualmente
 - iv. OTRO_____

- f. ¿Ha sido útil este entrenamiento?
 - i. 1 – Inútil
 - ii. 2 –Algo útil
 - iii. 3—Muy útil

g. Despues del entrenamiento, ¿cuál fue la probabilidad de que usted adoptara medidas para mejorar la salud y la seguridad en los lugares de trabajo?

- i. Menos probable
- ii. Igual de probable
- iii. Más probable

h. ¿Tener una tarjeta de OSHA es una ventaja para conseguir trabajo?

- i. Si
- ii. No

7. ¿Con qué frecuencia usted recibe entrenamiento en Salud y Seguridad H&S por parte de su empleador (incluyendo charlas cortas de seguridad “Tool Box Talks”)?

- a. Semanal
- b. Mensual
- c. Al año
- d. Cada varios años
- e. Nunca

8. ¿Con qué frecuencia recibe formación en Salud y Seguridad H&S por parte de su sindicato (union)?

- a. N/A
- b. Nunca
- c. Una vez
- d. Varias veces al año
- e. Anualmente

9. ¿Le han pedido que muestre su tarjeta de OSHA (para demostrar su entrenamiento)?

- a. Si
- b. No

10. ¿Es usted consciente de que en Massachusetts se requiere el entrenamiento de seguridad de 10 horas para todos los trabajadores en sitios de trabajo público?

- a. Si
- b. No

SUMMARY NOTES ON THE KEY INFORMANT INTERVIEWS

Frank Callahan is Chair of the Massachusetts Building Trades Council and was instrumental in bringing the OSHA 10 hour rule into law in Massachusetts.

The legislation was filed and pushed by the Massachusetts Building Trades Council out of a concern for the safety of building trades workers. As Frank Callahan said, "We provide safety training in apprentice training programs and encourage it in our own ranks. If there are other workers on sites with our workers who are not trained it potentially endangers the entire workforce." While the legislation did take two legislative sessions to pass, it enjoyed a lot of support including by both union and non-union employer organizations. The greatest challenge following the law was having the infrastructure in place to train all the workers who needed training. The Construction Safety Alliance worked hard to make it happen. Additionally, the Massachusetts Attorney General's office issued an advisory that clarified who needed training under the law (on-site personnel).

Some challenges have included that there is little ability to track the cards that are issued to workers. Currently, given how many workers have already been trained, it's hard to fill classes and workers who need cards immediately have a hard time finding classes. Things that have not been a challenge: compliance, enforcement, classes for non-English speakers (doesn't perceive a problem); cost – non-issue for contractors and unions; fraud (he hasn't heard this is an issue).

Callahan doesn't feel that the rule has impacted contractors' safety performance or programs. Large contractor have safety programs – this is "Just raising the bar." For workers, Callahan feels this is part of a changing safety culture with less "this is how we've always done it" and "accidents are part of the job" to more attention to safety as part of the job. Younger and newer workers are less likely to be resistant to safety, but the 10-hour requirement has had an impact on changing attitudes among older more experienced workers. Callahan feels that the rule has helped spread 10-hour safety training requirement to private sector jobs and institutions.

Callahan's recommendations for improvements:

- Possibly requiring the 30-hour OSHA safety training course requirement for supervisors
- Five-year expiration of the card
- Limit use of online training (permission for workers in rural areas, etc.)
- Serial numbers for cards tied to a worker and a trainer
- Setting and enforcing standards for evaluation of training quality

Ted Christensen is a loss control specialist with Liberty Mutual Insurance based in Massachusetts. He spent 30 years helping commercial construction firms lower their workers' compensation risk through worksite and safety program assessments and worker training. He also participated in the Massachusetts Department of Public Health Fall Prevention Task Force.

From 1995 to early 2000s, he organized 30 to 50 OSHA 10 classes with OSHA-approved trainers for customers' workers (nationwide). Now there is dramatically less demand for the training and Liberty Mutual partners with an on-line training service (Summit Training) to respond to their customers' requests for help in meeting the requirement. Peerless Insurance (a Liberty Mutual company in New Hampshire) stepped up training as the law was coming into force for their many Massachusetts clients. He felt that training is readily available, customers are expected to meet state requirements on their own, and so Liberty Mutual has not provided training. In his new role in underwriting construction companies, all new clients who do public work volunteer that their workers are OSHA 10 trained, so he believes that compliance is pretty universal and general contractors are requiring it. Even beyond those companies for whom it's required, subcontractors use it as a selling point. He was aware of cases where the general contractors arranged classes for subs and are requiring it of subs. Initially, only supervisors were

getting the 10-hour but the law stimulated the training of the workers generally. The law has created a baseline so that now more supervisors are getting 30-hour training – perhaps even three-quarters of them. He felt that for some contractors, the OSHA 10 may be perceived as the “limit” of training, but in more cases “it raised the baseline significantly from what we had before.” Christensen feels that in the past, prior to the rule, for the small contractors with limited resources, if you had asked them if they trained their workers they might have said, ‘No, that’s why I have insurance,’ but it’s slowly changing. Now the managers have worked with OSHA their whole careers and there is a shift in safety attitudes. They recognize that you have to spend the money in training and equipment and safety provides a “return on the investment.”

Christensen believes that the required training has pushed specialty trade contractors to do more training beyond tool box talks because the employees are more aware and this awareness pushes employers to do more. As for training in languages other than English, in Massachusetts things are getting better, but are not where they need to be and we aren’t doing enough. Others states, Texas, Florida, California, have done better. Translation is a challenge because, as Liberty Mutual learned while developing training materials, literal translation doesn’t work. In Liberty Mutual, there are three trainers that can train in Spanish. “There are still contractors out there that all they want is the card, they don’t care about how much the workers retain.”

Christensen doesn’t believe that the 10-hour training can be done in one day and has refused contractors’ requests to do it in one day. Additionally, he usually required that a top management representative participate in the class – so that if there was a question such as “if this is the rule, how come we don’t do it that way?” the company could answer workers’ questions. He acknowledged the trade off, that some questions might not be asked if management was there, but thought that a list of questions could be assembled from participants.

Christensen’s perspective on the impact of the rule is that it has helped changed the viewpoint on training – more companies will add on training and it has helped across the board. However, he believes that “training is not in and of itself the answer. Training has to go hand in hand with enforcement and the management. Those combined are really what’s going to lower the accident rates.”

The potential economic impact relates to the unionized versus non-union sector. Christensen noted that union contractors get the training through the union, but the non-union contractors do perceive a financial cost due to having workers out. They can’t bid state work without it, so it’s a cost included. This cost doesn’t have much of an effect on the bottom line as a cost, except that union contractors have the advantage.

Christensen’s recommendations:

- Trainees should have to “test out” to get the card to demonstrate that they’ve retained something.
- More evaluations of trainings and trainers.
- Card should expire in no more than five years. Then a five-hour refresher should be required or documentation that you’ve had the required content in the most recent three years in one-hour increments.
- Supervisors should be required to have a 30-hour course or have them test out.

Lauren Goldman is an Assistant Attorney General (AG) for Massachusetts in the Fair Labor Division. She served as an outreach coordinator for the AG’s office during the initial implementation of the rule and has participated in the state’s enforcement of the rule.

The AG’s office did not play a role in the development of the rule or its proposed enforcement mechanisms. After the rule came into effect, the AG’s office issued an important advisory that resulted from a stakeholder process they facilitated to clarify the rule and promote compliance (See Appendix). The AG’s office is responsible for enforcing the rule and, while statistics are not available, the sense is that compliance with the rule has been excellent. They are not aware of any complaint-driven investigations of missing OSHA 10 cards, however cases have arisen where an investigation was triggered by another potential violation (wage and hour violations) by an employer. In those cases, the employers are often out of compliance with a range laws and it is not surprising to

find OSHA card violations. For violations of the law, AG's office would not generally resort to the enforcement mechanism specified in the law -- shutting the job down -- because that would penalize employees with lost wages. Instead, they will use the enforcement mechanisms for other labor law violations and bundle OSHA 10 card compliance into a settlement agreement that requires compliance and monitoring. Additionally, if necessary they would call the Massachusetts Division of Safety to help the employer improve safety on site.

The AG's office is multilingual and proactive in letting workers know that the AG will enforce labor laws regardless of the immigration status of the employee and will not report immigration status to other authorities. Goldman was not aware of cases of fraud, withholding of cards from employees, or submitting false cards. They have not heard complaints from employers about the requirement and she feels that there is good support among stakeholders for the requirement. She also felt that they had good relationships with awarding authorities who do not want their projects held up and who promote compliance by the contractors.

The Attorney General's Office has various enforcement options for handling violations under the wage and hour laws, including civil citation and debarment from bidding on future publicly funded construction projects. Such enforcement options are effective because they provide deterrence and punishment, where warranted, without adversely impacting the employees the laws were designed to protect. Giving the AG's office similar enforcement options for the OSHA 10 rule would allow the AG's office to effectively enforce the laws protecting workers' safety, as it does with many other laws which protect workers' wages.

Karen Courtney, Attorney for Alliance for Fair Contracting of Massachusetts, part of the National Alliance for Fair Contracting, which is a labor-management trust to monitor legal compliance in public works projects.

Courtney was involved in the development of the statute, including reviewing its placement, developing the enforcement mechanism, and arguing for it to be considered a workers' compensation "credit." She worked with the building trades unions to get it passed. It was well supported, especially by the union contractor associations because they thought it would help level the playing field -- all contractors had to provide training. They also played a key role in implementation and education about the law. They sent a newsletter with information about the law to 16,000 workers. They also monitor enforcement of the law by collecting the certified payroll records for 350 projects. They haven't had to take action on this specifically -- they found that people that have a lot of issues will also have OSHA 10 compliance issues, but that in general compliance is good.

There was a lot of OSHA 10 training happening before the statute so the momentum was there. There were a few challenges at first including a lawsuit filed by utility contractors who wanted to clarify who it would cover and awarding authorities (state agencies that provide the funds for projects) not putting the requirement in their documents, but both were overcome and there have been few issues since. She was not aware of any cases of "card buying" or cards being in the possession of people who had not received the training. She was not able to report on perceived impact of the mandated training on safety, but she did think that the requirement had meant that a lot of non-union workers who would not have gotten basic health and safety training got it.

Courtney's recommendations:

- requirement for training evaluation and minimum standards for training, supported by audits;
- card expiration, and supplemented with refresher training,
- training continue to encourage workers to understand and exercise their rights.

Rich Bianchi is the principal of Bianchi Consulting of central Massachusetts. Bianchi is an experienced private health and safety consultant for various industries. In addition to providing training, he advises clients on compliance issues, conducts safety audits and helps them to build health and safety programs. He has more general industry than construction experience, but the passage of the OSHA 10 requirement propelled him to develop 10-hour training for construction clients.

Bianchi thought that safety on construction sites has been more motivated by industry pressures than statutory requirements. He felt that the construction industry, particularly the large players, have been maintaining high standards of safety and enforcing it among their subcontractors – spreading safety downward. He thought that safety in construction has been driven by past experience with accidents, concern for employees, and increased competitiveness that forced companies to professionalize and differentiate themselves by adding enhanced safety programs. Bianchi has considerable respect for the knowledge that construction workers have about their trades and says he “feels funny” talking to electricians about electrical safety – but says that the 10-hour requirement for training plays the role of “reminder” to pull focus back to safety, to promote commonsense and to avoid complacency. The 10-hour training brings their awareness up one more notch, he says, and if that’s all it accomplishes, that’s a lot.

According to Bianchi, the challenges involved in implementing the 10-hour rule are recent. Specifically, he believes that OSHA’s requirement that the 10-hour training be done in two days is a major challenge for employers requiring them to take employees off the job for two days. Bianchi feels that doing it in one day is feasible and can be effective as long as there is more than one instructor. In beginning, he felt that there were not enough good trainers, but that OSHA responded by including training skills in the 500 train-the-trainer course.

A positive result in the baseline requirement for 10-hour training for workers is the increased demand (by general contractors or subs) for 30-hour supervisor training. He said that for subs to be considered for jobs in Boston, they need a 30-hour trained supervisor. The challenge for companies, and for him as a trainer, is running a 30-hour course when you have only two or three who need it.

As a trainer, he finds OSHA’s requirements for a greater focus within the 10 hour on “the best way to complain to OSHA should there be a problem” a productive challenge. As a result, he finds the need to have a dialog with a company about their hazard reporting protocol. He wants to incorporate into the training how to report hazards to the company before going to OSHA, so if a company does not have a hazard reporting system or it is not well advertised, he helps them develop it prior to the training. He knows that the companies that hire him are not thrilled about the idea that he is “educating their workers to complain,” but an effect of the training focus on employee rights has the effect of stimulating companies to develop their hazard reporting systems.

With regard to the training of workers with limited English, he thought that the adequacy of training was “inconsistent.” His company would bring in a translator if the contact asked for it or if he felt it was necessary. He has done this once in past two years for a Spanish trainee group and reported that doing the training with a translator was easy because of the translator’s skill, which he recognized is not a universal.

When asked about what impact the requirement might have on employers’ provision of site-specific training, Bianchi responded that he did not think that the 10-hour requirement inspired more training. It is more likely employers think that providing the OSHA 10 is “training done,” unless the employer is in the room and gets the message about the site-specific training requirement. In general, he prefers there to be supervisors or other management in the training classes to get the training themselves and to answer workers’ questions. He has reviewed OSHA 10 online classes and doesn’t feel that online courses are worth anything.

Bianchi’s recommendations:

- OSHA should have some allowance for doing the 10 hour in one day with two instructors
- Auditing of instructors to assure that they have good presentation skills.
- Trainers must review employers’ hazard reporting protocol and incorporate it into the class.
- Disallow online training.
- Require a refresher course two or three years after the initial card is received.

Jean Manoli provides training and compliance assistance as staff of the Massachusetts Department of Labor Standards (formerly Division of Occupational Safety), which is the OSHA consultation service in Massachusetts. DLS has a focus to serve smaller employers and OSHA enforcement offices' referred employers. She provides periodic OSHA 10 training around the state and estimates that they have provided 50 trainings with 50 in each training – assisting hundreds of workers.

Manoli believes that the OSHA 10 is becoming “industry standard” and the “way of doing business” in both construction and general industry, in part because of the mandated requirement in construction, and because even where it is not required, GCs are requiring it for subs. Following the introduction of the mandate, more and more institutions jumped on board and, in particular, the vocational educational schools trained their teachers to offer it to students in their programs.

One of the benefits of the requirement is that for small employers, often the contractor will attend the class and then pass it on to their employees and also follow up for further assistance. In that way, the requirement for the OSHA 10 becomes a starting point for getting a health and safety program together. As Manoli says, “when they hear it in simple language, they get it and the light dawns and they take the message home to their workers.” She believes that the requirement builds management commitment to health and safety. The rule has helped DLS’ consultation business, has become a tool for OSHA in settlement agreements, and is a good baseline. Overall, she believes the rule has had a positive impact.

Some challenges to the implementation include that many small employers are not aware of the requirement and are reluctant to commit 10 hours of an employee’s work time to the training. She also thinks that there is likely a misunderstanding that it replaces site specific training. Finally, she has observed that there is a range of training quality; there are better trainers than others and there maybe classes where the employees sleep through the class. She also believe that the distribution of the course time – intro to OSHA for two hours – is a mistake and that it would be better to use the time for hazard recognition.

Manoli’s recommendations:

- Cards should expire after four-to-five years, and followed with a good refresher that is more advanced and is another 10 hours,
- The two hour “introduction to OSHA” should be shortened,
- Possibly supervisor 30-hour training should be required.

Carol Bates is the community outreach coordinator for the Andover/Methuen office of OSHA. She did not play a role in the development or implementation of the rule, but has worked to help employer groups get connected to training. She also facilitated the training of Rony Jabour to become an approved trainer so that Portuguese-speaking workers could have access to the course in their own language. That effort was a product of the alliance that OSHA had with the Brazilian Immigrant Center. Additionally, she helped vocational school teachers become certified trainers as part of the OSHA alliance with the schools. In settlement agreements, OSHA requires that companies provide the training for supervisors and workers whether or not they are working on public projects. She has also helped state employees get cards.

Bates believes that general contractors have been requiring the training of the subcontractors and therefore the rule is just a support to that new “industry standard,” partly to avoid third-party suits. She felt that very few of the small residential contractors’ employees have had the training, but more so among the Portuguese-speakers due to the alliance with the Brazilian Immigrant Center.

Bates felt that there are many challenges in making sure that non- or limited-English language speakers were getting adequately trained. The decision that OSHA has made is that if translation is required, then the course must be a 20-hour course. She also was concerned that companies maybe holding the cards of their employees,

especially if the company has paid for the training. If an employee leaves or is fired or laid off, they may not get their card back.

She believes that there are higher standards for training now and some auditing, but there is a lack of resources for enforcing the quality of training. Bates reflected on the most important impact of the training: it exposes the workers to the fact that they have health and safety rights and gives them a general awareness that there are hazards. However, she felt that if there is no or a limited safety program on the site, then the 10-hour training will have minimal impact. Some workers will communicate about hazards or refuse unsafe work or take other individual actions to improve conditions. She did feel that if supervisors or other construction management are in the class with the workers (not open enrollment, but employer-specific training) it stimulates a discussion about practical safety matters. She also felt that the fact that the boss knows that the workers have been trained about their rights potentially changes the dynamic and may help build their programs.

Bates' recommendations:

- more training effectiveness evaluation
- cards expiring every five years with a required refresher;
- a 30-hour required training for supervisors, or they can "test" out;
- a safety training requirement for construction personnel who have been determined to be the person responsible for safety, the highest onsite official and anyone with the authority to purchase tools and equipment.

Marcia Lawton is the Executive Director of the Associated Small Contractors of MA (ASM), a construction industry advocacy and education organization. The ASM co-convenes the Massachusetts Safety Roundtable with OSHA/DLS.

Despite not having offered safety training programs to its members in the past, when the standard was put in place, ASM expected to begin offering classes for its members' employees. Instead of offering classes themselves, however, they refer members to a list of reputable training organizations. Lawton feels that most of the ASM members had no problems accessing training.

Lawton described the initiative for the 10-hour rule coming from the building trades unions, but as being quickly endorsed by the Association of General Contractors who felt that the bill was a "worthy cause" and that its passage would not profoundly affect its members since they already had this requirement for their workers. However ASM participated in offering suggestion regarding implementation and enforcement. It was clarified that everyone would be responsible for their own employees and that general contractors would not be responsible for assuring the training of their subs' employees. Following the passage of the rule, the ASM participated in a task force the Attorney General's office set up to develop an advisory that would clarify the requirement and promote it. While safety on construction sites is as popular as "motherhood and apple pie," there were some implementation concerns such as that if a person didn't have a card on them that they would not be thrown off the worksite.

Response to the new rule from ASM members was acceptance in general, although there might have been some minor grumbling by members about paying for the training. In general, it has not been perceived as an economic burden. Lawton feels that the construction industry has come a long way in recognizing the value of a safe and trained workforce from the human and economic point of view. From the subs point of view, such training makes for a better chance of landing projects with general contractors.

In the case of open shop companies, she has heard a mix of experiences about who pays for training for the non-union employees (the union employees have it through their unions). She said that some will subsidize the cost of the course and the time away to take it and others make employees take it on their own time. Lawton felt that the rule in the public sector has influenced the private sector to require the training on those projects too, and she feels that the entire industry has progressed substantially in terms of safety. She said that the ASM has not taken a

position on the proposal to require recertification of training every five years. She said that she thought the record keeping might be burden.

Lawton's perception is that the rule has been well implemented. The general contractors are well aware of the requirement and they get their subs to provide certification of training. In her meetings with the Attorney General's office, there has been very little discussion about it and she felt that if there was a lot of violations or a rash of non-compliance, they would have heard about it. In general, Lawton felt that it brought some non-union subs along, but that most union companies were only minimally effected by the rule because they were providing the training anyway.

As for the training itself, Lawton's perception is that there is a good quantity of training available and variable quality. She knows that some are using online resources but does not know about its quality. She was also not clear on how well non-English speaking workers were getting trained and was unaware of the OSHA requirement that workers receive training in the language that they need.

Lawton was not sure about the impact of the training rule on contractor's health and safety programs or on site safety. She feels that these have improved, but probably more due to the influence of insurers, OSHA and general contractor requirements that subs have safety programs as a condition of prequalification. She felt that for smaller contractors or new contractors, the OSHA 10 requirement helps them establish a baseline of safety training and that is a benefit of the rule. In sum, Lawton felt that the rule was "working." She is certain that workers received training that they wouldn't have otherwise and that there has to be improvement as a result. However, she also thought that this baseline training was becoming "industry standard" anyway.

Lawton did not have specific recommendations. She was neither opposed nor supportive of card renewal requirements and she was not clear how a revision to require the 30-hour for supervisors could be enforced, since it might be hard to define who were supervisors.

Chris Zeigler is the Safety Director for the Association of General Contractors, which is a membership organization for general and subcontractors, both union and non. Zeigler runs the OSHA Training Institute at the AGC which includes running train the trainers (OSHA 500 level), general safety training including OSHA 10s and specialized construction safety training. Zeigler conducts more construction safety training than anyone else in the region. In addition to doing training, he also provides inspections, safety audits, and safety programs for member firms.

The AGC was not involved in the development of the rule – it landed on their desk, but the AGC supported it and is now working for a five-year refresher requirement (with union support). He reports that the sub-contractors are opposed to it. Zeigler's understanding of the origins of the 10-hour rule is that Rhode Island unions brought it to Massachusetts and then the unions brought it to the AGC.

Prior to the rule, the AGC was doing a lot of OSHA 10 training because of general contractor requirements or, in some cases, owner requirements. After the rule came into effect, "the barrage hit" and he ran 65 10-hour classes in a year. Now it's trickled off, but every class he runs has 8-10 people in it. After the rule, there was demand from companies that either were working on public projects or wanted to be qualified to do public projects. "It did a good thing – it stimulated a lot of training, especially among small companies who want to 'master' safety for their company." It particularly makes a difference when company owners take the class, but he did not feel that that it was likely to stimulate much program building. Additionally, Zeigler feels that the rule did not result in more training in the residential construction sector and may have had less effect on the workforce outside of the Route 495 metro Boston area.

In general, he believes that the baseline of OSHA 10 training was well underway at the time the requirement came into effect, but at a slow pace. The law stimulated a lot more training, especially as it came at a point where construction was slowing in the private sector, so firms started to deal with the obstacles that had been keeping them from state work, e.g. the 10-hour requirement. Harvard University's requirement for this training was also a

significant incentive, because Harvard was involved in a lot of construction projects and was expected to into the future. Thus the public works and large owner requirements for compliance with health and safety training provided an economic incentive for the higher level playing field.

Zeigler feels that the requirement for the OSHA 10 to be taught over two days is very detrimental to in-class group training and will send a lot of training “online.” AGC members are telling him that they are interested in on-line training. Zeigler has reviewed online training and finds them “terrible” and far from the benefits of in-class training. Zeigler knows that there are a lot of trainers out there and has heard horror stories about bad trainers and trainers who “throw the cards on the ground and walk out the door.” He has been audited twice. His business is going down due to the cost of his training compared to lesser quality training.

He feels that the two-hour introduction to OSHA is the biggest waste of time, because it puts everyone to sleep or is “how to screw your employer.” Zeigler feels that many people object to that much of the time devoted to OSHA think that the course would be better with time for elective topics.

In general, Zeigler’s view is that non-English speaking workers are not getting well trained. He has had workers in the class that don’t speak English and has cancelled a class because all the workers were non-English speakers. He tried to partner with local churches and OSHA to provide Spanish training, but the project fell apart.

In summary, Zeigler feels that the training rule has had a positive impact on construction safety, although the momentum in that direction began with the Big Dig. The training rule was “the frosting.” It has raised awareness of workers to be part of the safety culture on sites and look out for others. He knows that, at least from his classes, workers feel they learned something and the classes have helped to change attitudes and inspire actions to improve safety.

Zeigler’s recommendations:

- Card expiration after five years with a four-hour refresher as a minimum.
- 30-hour supervisor training should be required, not with a four-day requirement.
- Eliminate two day requirement for 10 hour.
- Does not support a testing requirement for a card, but does support more student evaluation.
- Training auditing could be expanded.
- Enhance requirements for trainers to be able to become trainers.
- Require continuing education for trainers.
- Eliminate on-line training, or require two hours of the training to be in person.

Letitia Davis is the director of the Occupational Health Surveillance Program at the Massachusetts Department of Public Health.

Davis’ main connection to the OSHA 10 rule was through her department’s work with young workers. Prior to the adoption of the rule, Davis was participating in vocational school meetings where, in anticipation of the rule, the schools adopted the OSHA 10 as a graduation requirement. She facilitated the training of vocational school teachers in the OSHA 500 trainers course so that they could teach their own students the OSHA 10 course. She observed that many teachers struggled initially to teach it because it was very “slides-based” and not participatory. Increased emphasis on teaching methods in the 500 course has been a help in that regard. From the perspective of youth safety at work, it is not possible to single out and credit the OSHA 10, but there has been a decline in “youth” worker compensation claims compared to adults. She feels that the OSHA 10 has helped young construction workers have an expectation of a safer construction workplace. Additional impacts include strengthening the state infrastructure for construction safety – more state officials are aware of safety in construction issues. As for improvements, she would suggest that the trainings increase in quality and become more dynamic, action-oriented and targeted to the hazards likely to be faced by the workers being trained.

Ken Corbett is the administrator of the Massachusetts Division of Industrial Accidents (DIA) Office of Safety, which has the primary responsibility for the Commonwealth's Safety Grant Program. The Safety Grant Program administers \$800,000 in grant funds a year in the form of \$25,000 grants. Half the funding goes to OSHA 10 classes and 75% of these funds go to union apprenticeship training programs. The remaining OSHA 10 training funds go to small business or non-union programs such as those offered by the regional associations of the National Association of Homebuilders. Through the grant program applications, DIA is able to assure that trainers are certified and qualified. They monitor trainer payment and quality. They do not fund on-line training or webinars.

Corbett felt like more training was happening in Spanish and Portuguese, but he wasn't specifically aware of any, nor had funded any through the safety grants, although translation is a category of expense that they would fund. Corbett felt that the OSHA 10 requirement had lead to an increase in general safety awareness and an increase in demand for 30-hour training for supervisors. For revisions, he supported the expiration of cards and a requirement for a refresher. The DIA is concerned with training quality and supports efforts to monitor the quality of trainers and their recertification.

Rony Jabour is a certified OSHA trainer who teaches the OSHA 10 class, generally in Portuguese to immigrant Brazilians. He is a residential construction worker and began his health and safety training through the Brazilian Immigrant Center in Somerville in 2007 as part of a NIOSH/NIEHS funded program called COBWEB based at UMass Lowell, MassCOSH and the Brazilian Immigrant Center.

As volunteer for OSHA, he translated the slides for the course to Portuguese, which is included (along with English and Spanish) on OSHA's 10-hour course CD. These classes were advertised in the Brazilian newspapers and radio. When he began training in 2007, he ran a 10-hour class almost every week. At the end of COBWEB in 2009, these free, well-attended classes largely ceased. He feels that "everybody now has the 10-hour card" amongst the large companies and that 20-30% of small companies' workers have the training. He feels that GC's compel subcontractors to train their workers and that the OSHA 10 training is a reassurance for contractors. Jabour's experience on job sites is that he could see the impact of the training in terms of awareness of safety rules and workers' rights, inspection of ladders and other safety actions, and in use of personal protective equipment. Additionally, the classes helped the Brazilian Immigrant Center respond to problems brought to them by member construction workers. He thinks that now that many Brazilian workers are trained, the contractors are paying more attention to safety. This is owing to increased enforcement by OSHA and by virtue of the fact that workers know their rights and now contractors know that the workers know how to call OSHA. Jabour feels that the training resources are adequate to meet the needs of construction workers and contractors. He uses materials from the U.S. and Brazil to teach the courses. He does find that he has students for his Portuguese classes that have been trained in English, but didn't learn. He supports the OSHA requirement that translated training for non-English speaking workers be 20 hours, since the rule will encourage training in the language of the trainees.

A greater impact would be had if the contractors were required to take the class and learn what the workers learn. Jabour said:

The bosses send their workers for the training. But many bosses do not show up for the training. We teach the workers what to do and how to do it. But the bosses never get the same training. After the course, the bosses want that the workers to keep working like they were before. Then the workers call me and say, "Hey Rony, my boss does not care for what I learned on the training, what should I do?" Almost every worker I train says: "My boss should be here to hear this." I think OSHA has to do something to force the bosses be trained as well.

As for recommendations for improvements to the policy, Jabour suggested

- the card expire every five years and a refresher be required
- 30-hour OSHA supervisor training be required
- company owners should have a 10-hour card
- more OSHA evaluation and supervision of training.

Mary Vogel is the Executive Director of The Construction Institute, a construction safety training and advocacy group. When the Mass Building Trades Council brought forward the bill, Vogel provided advice on it and provided testimony and support to get it passed into law. The Construction Institute is a training institute and initially provided many OSHA 10 classes, however they do very few now because the union apprentice programs now provide most of the union-sector training. In the past they provided the OSHA 10 class for construction-affiliated non-union personnel such as the non-union personnel for signatory contractor or insurance company staff. Vogel noted that unionized construction workers had the OSHA 10 training prior to the rule.

Her sense is that the rule has been well implemented and that training resources are adequate, but that not all training is good quality – something that could be addressed through more attention to training methods in the 500 class. She does not believe that on-line training is good quality training. Unionized workers have had the opportunity for the OSHA 10 card as part of their trade training, but if they miss this training, then they may have to pay for it.

Non-English speaking workers are probably not getting trained in their language. She is aware that some of the trades offer the class in Spanish. Vogel's view is that contractors don't perceive the requirement as a burden, although she is aware that there are complaints about the costs of the requirement that the training take place over two days. However, she feels that the two-day requirement makes for better training. Vogel feels that the impact of the training has been to increase awareness and training overall in all sectors of the construction industry. Workers who are not generally working public jobs are getting trained as well because their companies want to be prepared for public work. She feels that the training has made people aware of OSHA. The training is a limited introduction to health and safety, but more than many were getting before. Conditions on construction sites have improved and training is a part but limited part of that trend. However, the training has raised the bar so that workers may be more likely to be aware enough to report unsafe condition or discuss safety on site. In short, she feels that it has helped raise expectations for safety. As well, the OSHA 10 requirement has increased the appetite for more training, for example the OSHA 30 supervisor training, which in some cases is required. Still, the non-union sector lags in training, in part because they are mostly confined to private sector work where there is no training requirement. Although part of the motivation for the Building Trades bringing this rule forward was to even the playing field between union and non-union construction contracting companies as far as the minimum training their workers receive, Vogel did not know if it had achieved this "equality." Another impact of the rule is that it strengthened and supported the activities of the Massachusetts Construction Safety Roundtable.

Vogel's recommendations include:

- Support for the requirement for renewal or a refresher of six hours every five years,
- Online training should be eliminated.
- There should be more resources for participatory learning strategies, to make the training more dynamic. The 500 could include more instruction in training.
- The 10-hour course should include more to motivate improvements in safety culture and safety
- Work towards more peer to peer training of the OSHA 10.

TEXT OF THE OSHA 10-HOUR TRAINING RULE

Chapter 306 of the Acts of 2004

AN ACT RELATIVE TO THE HEALTH AND SAFETY ON PUBLIC CONSTRUCTION PROJECTS.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1. Section 39M of Chapter 30 of the General Laws, as appearing in the 2002 Official Edition, is hereby amended by striking out subsection (c) and inserting in place thereof the following subsection:-

(c) The term "lowest responsible and eligible bidder" shall mean the bidder: (1) whose bid is the lowest of those bidders possessing the skill, ability and integrity necessary for the faithful performance of the work; (2) who shall certify, that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (3) who shall certify that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; (4) who, where the provisions of section 8B of chapter 29 apply, shall have been determined to be qualified thereunder; and (5) who obtains within 10 days of the notification of contract award the security by bond required under section 29 of chapter 149; provided that for the purposes of this section the term "security by bond" shall mean the bond of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the awarding authority.

SECTION 2. Said chapter 30 is hereby amended by inserting after section 39R the following section:-

Section 39S. (a) As used in this section the word "person" shall mean any natural person, joint venture, partnership corporation or other business or legal entity. Any person submitting a bid for, or signing a contract to work on, the construction, reconstruction, alteration, remodeling or repair of any public work by the commonwealth, or political subdivision thereof, or by any county, city, town, district, or housing authority, and estimated by the awarding authority to cost more than \$10,000, and any person submitting a bid for, or signing a contract to work on, the construction, reconstruction, installation, demolition, maintenance or repair of any building by a public agency, estimated to cost more than \$10,000, shall certify on the bid, or contract, under penalties of perjury, as follows:

(1) that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (2) that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and (3) that all employees to be employed in the work subject to this bid have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration.

(b) Any employee found on a worksite subject to this section without documentation of successful completion of a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration shall be subject to immediate removal.

(c) The attorney general, or his designee, shall have the power to enforce this section including the power to institute and prosecute proceedings in the superior court to restrain the award of contracts and the performance of contracts in all cases where, after investigation of the facts, he has made a finding that the award or performance has resulted in violation, directly or indirectly, of subsection (b), and he shall not be required to pay to the clerk of the court an entry fee in connection with the institution of the proceeding.

SECTION 3. Paragraph E of subdivision (2) of section 44E of chapter 149 of the General Laws, as so appearing, is hereby amended by striking out the second paragraph and inserting in place thereof the following paragraph:-

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and

who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards made subject to section 44A.

SECTION 4. Paragraph I of subdivision (2) of section 44F of said chapter 149, as so appearing, is hereby amended by striking out the first paragraph and inserting in place thereof the following paragraph:-

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards of subcontracts subject to section 44F.

SECTION 5. This act shall take effect on July 1, 2006. 't+2

House of Representatives, July 30, 2004. 't+2

