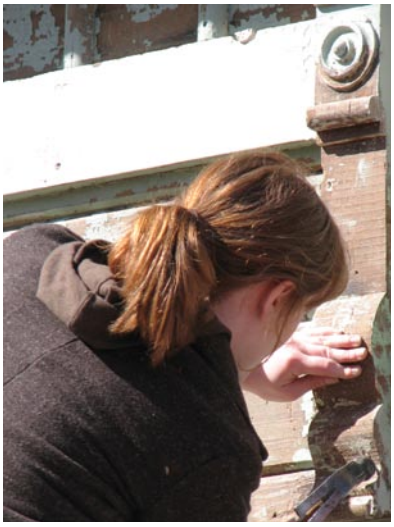
Introducing Preservation Trades to High School Students



College of the Redwoods, Eureka, CA

Randolph CTC, Detroit, MI

A fast, easy and low-cost approach for high school instructors, preservation trade practitioners and preservation organizations to introduce preservation trades in technical high schools.

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NCPTT National Center for Preservation Technology and Training

Coordinated and Produced by the Michigan Historic Preservation Network

Michigan Historic Preservation Network

Executive Summary

The demand for craftspeople to appropriately preserve America's aging building stock is increasing even as the supply of people with the hands-on tools skills and materials knowledge is decreasing. The Michigan Historic Preservation Network (MHPN) and the National Center for Preservation Technology and Training (NCPTT) have partnered to explore how a model developed in Michigan for introducing preservation trades education can be promoted and replicated across the United States. Experts from a wide range of preservation trades organizations and educational institutions convened in the spring of 2008 in Detroit, Michigan. The goal of the summit was to bring together preservation education leaders from across the country who have experience in implementing preservation trades programs to share and document their knowledge and ideas. They reviewed the successful grassroots approach used at Detroit's Randolph Career and Technical Center (CTC) to introduce students to the preservation trades.

As a result of this meeting, MHPN developed this guide to show how preservation trades' advocates could replicate the Michigan model in their communities. The guide reviews the steps taken in the initiation and implementation of the Randolph CTC Historic Preservation project.

The initial success at the Randolph CTC hinged on several basic precepts:

1. Historic Preservation was an adjunct or overlay to the existing curriculum.

2. Little or no extra work was assigned to existing staff and administration.

3. Students were self-selected, from those students who had selected career training in the building trades. Second, they had selected Historic Preservation as a specialty interest within their trade.

4. Historic Preservation instructors were recruited and vetted for their work experience and appropriate teaching skills. They were also paid for their services.

5. Students worked in the field on historic buildings performing valuable restoration work and providing a service to their community.

6. There was an active partnership between governmental agencies, volunteers and organizations.

7. There is a person inside the system who has the vision and passion to pursue the idea.

The guide also compares and contrasts the characteristics of a modest sampling of existing educational programs, and places the Michigan model in the context of other efforts to promote preservation trades education.

In the fall of 2008, a second convening was held during the National Trust for Historic Preservation national conference in Tulsa, Oklahoma. The purpose of that meeting was to develop strategies for promoting the initiative and marketing the guide Part two of this document outlines the results of that meeting in a set of strategies based on four core strategic assumptions.

INTRODUCTION

In 1968, the National Trust for Historic Preservation approved the *Whitehill Report on Professional and Public Education for Historic Preservation*, a study to examine how future generations could be better prepared to further the preservation of America's historic structures.

The Whitehill Report made two complementary recommendations. The first was that specialized historic preservation education at the graduate level would be the most effective way to advance and strengthen the academic elements of historic preservation. A second, equally important recommendation was to encourage hands-on training in the preservation trades. In the forty years since the Whitehill Report, the first recommendation has largely been implemented while little attention has been given to the development of preservation trades education. To date, there are over 40 universities offering graduate degrees in Historic Preservation while there are only eight community colleges that have preservation trades focused programs. Nearly all of the preservation trades programs have been developed during the last ten years.

This guide has been created in the hope that others can utilize the practices of emerging and existing programs to introduce preservation trades training into high school Career and Technical Centers (CTCs),

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By seeding preservation trades education into what were formerly called vocational schools, the NCPTT and MHPN hope to generate an increasing supply of people who see the appropriate preservation of America's historic fabric as a viable and rewarding career. We hope this helps to bring the second Whitehill Report recommendation to fruition in the first years of the 21st Century.

BACKGROUND

For some time, Roddy Rivers, a teacher at the A. Phillip Randolph Career and Technical Center in Detroit, Michigan had wanted to introduce his students to preservation and traditional building techniques in addition to new construction. After some initial work at the school to get the preservation effort off the ground Roddy contacted The City of Detroit Historic District Advisory Board (HDAB), and the Michigan Historic Preservation Network (MHPN). HDAB staff provided encouragement and offered to meet with students and to develop a "preservation field trip". Board members and staff at MHPN had long wanted to see preservation trades taught at the high school level and had developed a working relationship with many skilled preservation crafts persons throughout the state. This relationship allowed the expedient identification and recruitment of skilled and knowledgeable instructors. A cooperative partnership was formed and the approval of a modest grant from the State Historic Preservation Office set the project in motion.

It became immediately evident that adding a new curriculum component approved at the state level department of education would be very difficult. Michigan, like every other state, has a state school bureaucracy that has a very long and difficult process for reviewing curriculum changes. The only successful example of this "top down" approach has been the Brooklyn High School of the Arts Historic Preservation Curriculum. In 1997 The World Monuments Fund enlisted Kate Burns Ottavino, Director of Preservation Technology at the New Jersey Institute of Technology to develop and implement a comprehensive high school curriculum that integrated precepts of Historic Preservation into required general education subjects at all high school levels.

After 11 years, the first students will graduate with both New York State and City of New York approved, career-endorsed technical diplomas.

In Michigan, after attempts at a similar "top down" effort were frustrated, the partnership pursued a "bottom up" approach. This involved several elements and conditions coming together at Randolph CTC that resulted in a successful program implemented in one year.

The initial success at Randolph CTC hinged on several basic precepts:

1. Historic Preservation was an adjunct or overlay to the existing curriculum.

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2. Little or no extra work was assigned to existing staff and administration.

3. Students were self-selected, from those students who had selected career training in the building trades. Second, they had selected Historic Preservation as a specialty interest within their trade.

4. Historic Preservation instructors were recruited and vetted for their work experience and appropriate teaching skills. They were also paid for their services.

5. Students worked in the field on historic buildings performing valuable restoration work and providing a service to their community.

6. There was an active partnership between governmental agencies, volunteers and organizations.

7. There is a person inside the system who has the vision and passion to pursue the idea.

A year later, the Randolph School Preservation Trades Program was implemented. After the second year of continuing success, MHPN Board Member James Turner began a dialogue with the National Center for Preservation Technology and Training (NCPTT) about documenting the Randolph School success as a model for potential use in other high school CTCs across the United States.

MHPN volunteers and staff knew that there were other models and experts around the country. With funding from the NCPTT, they gathered experts from around the country to a preservation trades summit in Detroit in mid-March, 2008. The experts came from varied backgrounds and experience. Some were teaching at the community college level, others were owners of small preservation trades businesses, others had experience with high school preservation trades programs, and still others came from the preservation advocacy organizations. This guide is the result of the sometimes lively, always interesting discussion that followed.

The NCPTT grant also allowed for a follow up meeting in October in Tulsa attended not only by many of the Detroit attendees, but also several other interested and experienced preservation educators. At the Tulsa meeting, discussion centered on possible improvements to the guide and further steps to promote the effort. This document is the result.

A somewhat "in-between" program is being developed in Colorado, where High School students will be able to take Historic Preservation classes at Colorado Mountain College for dual credit toward an Associate of Applied Science degree in Historic Preservation.

Generally, the more preservation education-oriented and the more official the program is, the more difficult it is to get the program introduced. A less official and less preservation education-oriented program is easier to introduce but potentially harder to sustain since it isn't as institutionally accepted. Preservation trades training can therefore be thought of as existing on a continuum. The following chart summarizes the characteristics of programs along that continuum and shows where they are the same and where they are different.

Since this guide is aimed primarily at the educator or preservationist who wants to initiate a program, this guide will focus on how to get a preservation-oriented program introduced relatively quickly into an individual school. The program can be enhanced and strengthened over time.

To introduce a preservation trades program, this guide offers 21 steps divided into three phases—Making The Case, Implementing The Program, and Sustaining The Program.

Supplementing this guide in Appendix I is a summary of the best practices found in programs ranging from high school through four-year colleges that teach preservation trades. Appendix II is a sample of duty task sheets for the most commonly utilized trades. A sample evaluation document is included as Appendix III.

Continuum Of Existing Programs

	Minimum Randolph Career and Technical Center Detroit Public Schools	In-Between Colorado Mountain College High School Program	Maximum Brooklyn School of the Arts
Trades Education	Introduce basic trades of building conservation	Teach basic trades of building conservation and historic preservation	Teach basic trades in an integrated preservation curriculum
Hands-On Experience	• Real Experience • Internship • Project-based	• Real Experience • Internship • Project-based	• Real Experience • Internship • Ongoing projects
Support Generation	• Champion • Admin & Teachers • Preservation Organizations • Advisory Council • Gov. and Comm.	• Champion • Admin & Teachers • Preservation Organizations • Advisory Council • Gov. and Comm.	Integrated into school system • Champion • Admin & Teachers • Preservation Organizations • Advisory Council • Gov. and Comm.
Community Integration	• Preservation Orgs • Trades Professionals	• Preservation Orgs • Trades Professionals	• Preservation Orgs • Trades Professionals • Related educational institutions • Volunteer opportunities
Certification	• Vocational high school diploma	• Vocational high school diploma; informal certificate identifying building trades conservation competencies	• Industry-endorsed diploma • Preservation Arts stamp embossed on diploma
Evaluation	• Curriculum Review	• Curriculum Review • Program Review	• Program Review • Measurable results

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A HOW-TO GUIDE

From the discussions in Detroit and Tulsa, it was clear that there were three stages in a successful implementation: Making the Case, Implementing the Program, and Sustaining the Program during Change. Outlined below are the 21 steps typically required to move through these stages. The best practices and lessons learned are illustrated by real-life examples from the practitioners themselves and presented in their own words.

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STAGE 1:
MAKING THE CASE

The initial stage is to bring together the resources necessary to advocate for the program concept.

STEP 1. Identify a Champion

The first step in implementing this strategy is to identify a champion. There is usually one person who has the initial vision and passion to pursue the idea. This champion starts the ball rolling and brings others along as the effort gains momentum. This person must be from inside the school system or have strong contacts and acceptance within the system.

I just like old buildings…the craftsmanship, quality of construction, and the beauty. I wanted to show all that to my students and help them to understand how they were built."

Roddy Rivers, Instructor, Randolph Career and Technical Center

"My family has been in the building trades business for three generations. We've also been educators. It was important to me to find a way for the next generation to learn preservation trades in the context of historic preservation where they could gain an intellectual appreciation and a working understanding of the built environment."

Kate Burns Ottavino, Preservation Program Coordinator, Brooklyn School of the Arts

STEP 2. Conduct exploratory conversations

The champion will want to initiate exploratory conversations to gauge the level of support for moving forward and lay the ground-work for overcoming obstacles in the future. Depending on the circumstances, this can be inside or outside of the CTC. The goal is to identify who would understand the value of the program or benefit the most from its implementation.

STEP 3. Present the idea to career counselors

In a CTC, the teachers may see the preservation trades curriculum as an added burden to their already full workload. High school career counselors may be a good first approach, since it is in their best interest to create opportunities for students to be more employable. Exposure to preservation trades means students could be hired into both new and preservation construction fields. Whether the first conversation is with guidance counselors, teachers or administrators, care must be taken to present the preservation trades curriculum as an adjunct to the existing curriculum, without an inordinate amount of extra work.

STEP 4. Present the idea to other teachers

Once the career counselors are on board, the champion can take the idea to teachers who might get excited about the program and be willing to undertake any extra work the program would entail. These conversations can help to outline the pros and cons of moving forward so that the champion can have a well thought-out plan when he or she has that first conversation with someone in the administration who may say "no."

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STEP 5. Broach the subject with the principal

With the major points fleshed out and with allies, the champion can then broach the subject with the school principal. If the principal can be convinced, at a minimum, that the idea merits further exploration, then the champion can reach out beyond the school walls.

STEP 6. Make contact with core partners who can bring resources

Once initial exploratory conversations have occurred and the champion decides to move forward with a preservation trades curriculum overlay, he or she must begin to gather the necessary resources. The most effective way is to create

partnerships with individuals and organizations with similar goals, and who would benefit from the creation of a preservation trades curriculum. A local or statewide preservation organization, a historic district advisory board, or a local historical society are all examples of potential partners.

"I was looking for help and I called the City and they gave me the Historic District Advisory Board (HDAB). I talked with them and they gave me the number for the statewide preservation nonprofit, the Michigan Historic Preservation Network. Getting preservation trades training taught at the high school level had long been a goal of several board members serving on MHPN's Education Committee so a partnership was formed." Roddy Rivers, Instructor, Randolph CTC

STEP 7. Create a team of school staff and preservation advocates

School staff, preservation advocacy staff, and/or volunteers form the core of the team. Ideally, the preservation advocacy volunteers should include some preservation trades professionals. Each of the team members should bring special resources to the effort. Time and funding are important, but contacts, expertise, education, and knowledge about particular bureaucracies are also important resources that can help tip the balance in favor of a positive outcome.

STEP 8. Arrange meeting between principal and team

With outside partners involved and at least some teachers on board it is much easier to get the attention and time of top administrators in order to give the idea serious discussion and consideration. Considerable persistence and flexibility may be necessary in order to overcome obstacles that will threaten to derail the effort from a number of directions. The primary obstacle is likely to be resistance to change from other stakeholders who may perceive the change as risky.

"I just kept pushing it at the administration. When the principal expressed concern about transporting students off school grounds to the work-site, I worked with my team to provide solutions and kept coming back to the principal until he said yes."

Roddy Rivers, Instructor, Randolph Career and Technical Center

STEP 9. Discuss with the students' home high school teachers who may be potentially impacted

While the career and technical high school is usually regional, students must spend the other half of their day at their regular academic (home) high school. Since students may be working entire days at the preservation work-site, the students' home school schedules could be affected. The CTC teachers need to help the home high school teachers understand the benefits of their students' participation in the program.

"The outcome of project based education is not just a greater tactile learning, but a gift back to the community as historic resources are preserved to tell their stories. Ultimately, the student leaves with not only employable skills, but as important, the sense of pride that lasts a lifetime." Bill Hole College of the Redwoods Eureka CA

STEP 10. Formalize team into an advisory council

Once the internal stakeholders are in agreement to move the program forward, it is important to reach out to the community to create a greater pool of support and resources. The best way to do this is to formalize the group into an advisory council.

Potential Advisory Council Members:

- Faculty at both CTC and academic schools
- Preservation organization representatives
- Industry trades-people (e.g., masons, carpenters, plasterers, painters)
- Individual business people and/or organization representatives (if local)
- Students
- Parents
- Former students
- Local foundations
- Retirees in any field above
- Building trades unions

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Members offer different perspectives, contacts and resources to the Advisory Council, the primary consideration should be their appreciation and support for the traditional trades approach to building conservation. Eventually, after the program is up and running, the following people could be added:

- Education Development Officer
- Principal or Dean
- School board members and/or district representatives

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Role of the Advisory Council

Generally, the Advisory Council provides support and advice to the champions as needed. More specifically, the Advisory Council provides the following functions:

- Networking
- Advocacy
- Curriculum review
- Project suggestions
- Funding and in-kind donations
- Materials for student projects
- Feedback and problem-solving
- Publicity
- Mentoring
- Volunteer for class demonstrations and on-site work

The role may change over time depending on the stage of the effort and the needs of a particular program. Group actions can be complemented with support and advice from individuals.

"A friend of one of the teachers wanted to help and heard that transportation was one of our issues so he went out and bought a van. It was like an 'angel investor' coming out of nowhere and making the program possible.

Later on, we were having trouble getting an inspection on one of our projects and we weren't able to proceed. An advisory council member used his contacts to get the bureaucratic impasse resolved."

Roddy Rivers, Instructor, Randolph Career and Technical Center

When should the Advisory Group be formed?

The Advisory Group should convene very early in the process—as soon as the partnership between the champion and the core partners is formed and the initial approval is received from school administration. This early formation helps to expand the partnership, which creates more networking and resource opportunities and helps to create the external support needed to convince reluctant administrators of the value of the effort. It also can help to expose early potential detractors so that a strategy for overcoming their lack of enthusiasm can be developed before too much time has elapsed.

Advisory Groups will need to meet often in the early stages and then less frequently after the program is successfully launched.

"At the Randolph School, the Advisory Group met monthly during the startup and now meets twice a year." Jim Sweeney, Instructor, Randolph CTC

STEP 11. Make the case

The CTC school principal must give the go-ahead—typically as a result of a presentation or proposal by the champion and the advisory group. Make sure that you have a valid case statement. The better organized you are (and the more issues that you have considered beforehand), the easier it will be to make your case.

"In order to show support for the program, we brought all of the New York preservation organizations to the Department of Education to show the broad level of support the program enjoyed."

Kate Burns Ottavino, Preservation Program Coordinator, Brooklyn School of the Arts

Randolph CTC, Detroit, MI

Stage 2
IMPLEMENTING THE PROGRAM

Once the go-ahead is acquired, the hard work of developing the program in detail begins. While using the Advisory Council for program development may increase the time expended up front to finalize the program details, it will also yield a better product and more buy-in for the program in the long run. The first task of the advisory council is to help develop the curriculum overlay. The second task is to help develop good on-site project and internship possibilities.

STEP 12. Develop curriculum overlay outline

The fastest way to get the program adopted is to create an overlay to the existing curriculum rather than trying to get the school district to adopt a new one. As an overlay, the school officials do not have to try to convince the district administration, board, and perhaps the state education bureaucracy to change the curriculum. Adoption of a new curriculum can take years and very considerable and persistent effort.

An overlay is easier to implement, but care must be taken because the overlay will be non-mandated, additional work that the vocational teachers take on. It should not be unduly burdensome to the teaching staff. The overlay should expose students to the types of construction techniques that have traditionally occurred in the school's region. Nearly all overlays will include the basics such as masonry, carpentry, painting and decorating, and many will include metalwork. General CAD/Architecture can also be overlaid with an introduction to architectural styles, an exploration of character-defining features, and other architectural aspects of working with older buildings. Some overlays can explore more preservation-oriented topics such as the Secretary of the Interior's Standards for Rehabilitation.

"The historic building really is the best textbook a career technical student can have, especially when trade professionals can interpret the stories and present the materials and techniques to repair and conserve." Bill Hole College of the Redwoods Eureka CA

STEP 13. Develop real, hands-on, on-site experiences

A critical element for a successful program is the creation of real-world opportunities for students to experience traditional preservation trades. The overlay should have a practicum built in for school credit. Working on a school building, other government- or nonprofit-owned structures, or affordable housing is ideal as these are less likely to have a firm deadline. The project should be a rehab of a building using local building materials. Optimally, the class project is part of an ongoing project with local, regional, or national significance. This type of project can generate interest from the community, trades-people, preservationists, and the media. Student projects should not be perceived as taking work from existing professional contractors. Emphasis should also be placed on the fact that the student is providing community service and gaining an appreciation of the local built environment.

"I have often found that companies, including my own, that have taken the time to provide internships for students have benefited in immeasurable ways. It is difficult to say whether or not the production is at all aided by the presence of student workers. In fact a case could be made that introducing labor that requires constant management is inefficient. In the short term this may be true. But over the long run, I believe that the benefits show themselves in more subtle ways. The morale on a construction site is often lifted by the added energy and optimism that young people innately possess." Rick Rockwell, Preservation Instructor, College of Charleston

In the second year, an internship gives students an opportunity to learn with expert craftspeople. Over time, this link of school experience to professional opportunities will create a pipeline of good job placement opportunities for the CTC school graduates. There should be an agreed-upon scope between the contractor, the school, and the student. Ideally, these are one-to-one situations with the master craftsperson working with the intern, but one-to-two or one-to-three is doable. More than that will probably not yield the quality of experience desired.

Unpaid internships are better than no internships at all, but paid internships are better experiences and may actually be required by the contractor in order to meet workers' compensation and insurance regulations. Monetary incentives early on reinforce the idea that preservation craft is important and that superior knowledge and craftsmanship will bring rewards.

" My employees have consistently expressed two prevailing thoughts after working with student interns. First, surprise that what they were doing was something worth teaching and sharing with young people. Second, pride and affirmation that what they have learned and acquired as carpenters or masonry workers has made them experts. From a human resources perspective this can lead to a huge increase in company morale."

Rick Rockwell, Preservation Instructor, College of Charleston

Other issues often must be taken into consideration. Age may be a concern for using dangerous tools and may be governed by locale statute. Also, in highly unionized places, internships may be difficult to provide, as they are outside the union structure. Even the historic preservation training creates a distinction that may upset the union's negotiated production standards.

Students should keep a journal documenting their work. This enriches the experience for the student and gives both the classroom and preservation instructors a good handle on what is going on at the site. This is good practice in written communication and can help build a student's portfolio, which can include digital images of projects.

"Journal entries not only build good communication skills but also provide an additional learning tool in developing good trades practices. Good trades practices build good business practice."

James Turner, MHPN Board member and Owner, Turner Restoration

"A key goal of the Cultural Heritage Element of Lancaster County's (PA) Comprehensive Plan was to develop classes that would help train people interested in the construction trades to preserve Lancaster county's historic structures."

John Fugelso, Lancaster County, PA

Working together strategically on developing the classes, the Preservation Trades Education Committee consists of representatives from the Lancaster County Planning Commission, Pennsylvania Historical and Museum Commission, Thaddeus Stevens College, Harrisburg Area Community College, the Lancaster County Career and Technology Center, and the Lancaster County Workforce Investment Board.

John Fugelso, Lancaster County, PA

"I went around and contacted all the nonprofit museums in the county and asked them for a 'wish list' of things that they either wanted done for the museum buildings. Then I used those wish lists and implemented what I could into the curriculum. I had to use my judgment as to what was practical for the time periods as well as student skill level. This created a win-win situation. Our program never ran out of 'real' projects to do and the nonprofits were able to accomplish some things on their list that could not be completed by their volunteer base. In effect, our students became the volunteers."

Rhonda L. Deeg, formerly of Harford Community College

"I try to get college students with an interest in this area for my general labor. It's a way to get a motivated employee who I can also help by exposing them to a historic preservation work-site project."

Roddy Rivers, Randolph Career and Technical Center

"Getting students involved in volunteer preservation trades projects has benefits very similar to the Heritage Education projects that started out of the Heritage Louisiana project we grew at the National Center for Preservation Technology and Training. Students are responsible for generating authentic, primary research and presenting their findings to an audience beyond their classmates and peers. This creates a sense of pride, responsibility and connectedness between the student and the larger community. The community gains tangible benefits from the students' work. I would imagine that preservation trades projects have the same benefits to the students and the community as well."

Christine Faith, National Center for Preservation Technology and Training

STEP 14. Develop a marketing plan

Develop a simple marketing plan with an initial introductory phase of simple actions and a second phase of more complex actions once the program is running. The plan should be only a page or two in length in order to avoid getting bogged down on this issue. Initially, a brochure and word-of-mouth are the most appropriate vehicles for promoting the program. Presentations to high school guidance counselors and teachers—both at the regional vocational high school and at the home schools—are a good next step.

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There can be presentations at parent-teacher conferences. Parents and grandparents are excellent allies and spokespersons for moving the program forward. Initially, the school needs their permission to enroll the student in the program. As the parents see the interest and pride of accomplishment in their student, they become strong advocates for the program and are well-positioned to exert influence, Parents place a high value on the potential job opportunities that the program creates.

"Parents quickly grasp that there will be more job opportunities in a restoration economy than found in the traditional economies throughout the Midwest. Training in the Preservation Arts offers the student a skill that is portable and sustainable."

James Turner, MHPN Board member and Owner, Turner Restoration

"Newsletters can be a way to share the good work of your students and their projects. They become a vehicle for the community and the institution to find out what is going on as well as they can be used as an archive of the program. A catchphrase is crucial like the one I developed for Harford Community College's Building Preservation and Restoration program i.e. "Saving Yesterday for Tomorrow." It is important to have this phrase be something that is easily understood and noticed quickly. Students can also identify with it. A graphic logo attached to your catchphrase will build an identity for your program."

Rhonda L. Deeg, formerly of Harford Community College

STEP 15. Initiate the program

With all the pieces in place, the program can be initiated. Getting students interested can be a challenge. Teachers can use a self-selecting mechanism in order to make preservation trades an option that selects only the truly interested students. After a general presentation, students are invited but not required to sign up if they are interested in more information. With those students, the teachers can go into more detail on the curriculum overlay and show the preservation project. This further culls the ranks of the remaining students to the ones whose interest is truly sparked by the project.

"At Randolph CTC, we used a self-selecting enrollment approach. We would make a presentation and see who was interested. Then we'd have a more extensive presentation at the project site. That would narrow it down more. Later, as work began on the project and word-of-mouth between students spread we'd get increased interest by other students in getting into the program."

Roddy Rivers, Randolph CTC

"The Timber Framers Guild held a demonstration workshop at Floyd Bennet Field that successfully publicized the Brooklyn School of the Arts preservation program in New York City."

Rudy Christian, Executive Director, Preservation Trades Network

STEP 16. Evaluate the program

During and after the first year, the Advisory Council should review the program to see how well it is meeting the goal of giving students exposure to the range of techniques and types of structures traditionally found in the region. Attention should also be paid to the particular needs of contractors for the varying types of skilled labor currently in demand. Advisory Councils can also be helpful in evaluating other aspects of the program including the finished on-site product, the support given the teachers by the administration, the budgets, timing, and difficulty of projects, etc.

Ideally, periodic reviews of each facet and stakeholder of the program should occur. At a minimum the teachers should evaluate the students, the students evaluate their hands-on experience, and the contractors review their interns. If timing and resources allow, a 360-degree review between faculty, students, advisory council, administration, and contractors where each reviews the others is ideal.

Outside validation should not be overlooked as an evaluation mechanism. Applying for recognition can be a useful exercise and winning awards can validate a successful effort.

"The Randolph School program won an award from the Michigan Historic Preservation Network for the program. We also had our students compete in the Skills USA competition as a result of being in the program." Jim Sweeney, Instructor, Randolph Career and Technical Center

Given the focus on academic proficiency it is important to track not only students' progress in vocational capacity but their performance at their home high schools in their academic subjects as well.

"At the Brooklyn School of the Arts, 79% of the program participants are performing above the class average." Kate Burns Ottavino, Brooklyn School of the Arts

Randolph CTC, Detroit, MI

STAGE 3:
SUSTAIN PROGRAM THROUGH CHANGE

Over time, there will be a need to maintain its health during difficult circumstances and a desire to grow the program as it matures. The following steps outline a suggested strategy for approaching these issues proactively.

STEP 17. Expand marketing

The second phase of marketing is to create vehicles that reach out to a wider audience and that celebrate the successes of the program. A web site greatly expands the audience and can give credibility to the program. It can provide ongoing information, links to other web sites, and an easy mechanism for building support.

Engaging the media for articles in the newspaper and TV and radio spots on the local news can spread the word to a wider audience at no cost and with minimal effort. Self-written articles take more effort but can be placed in newsletters and other publications. Connection to a research partner to do an in-depth documentation of the project can also produce written articles.

"As an overlay to an existing curriculum, we avoided the bureaucratic and legal obstacles that would have delayed or prevented implementation. However, a press release that we sent out celebrating an early success of the program got us in hot water when the district administration saw it. We had to revise it to conform to district expectations. We then had a meeting between members of the advisory council and district representatives, showed them how successful the program was, and received formal support for the program."

Roddy Rivers, Instructor, Randolph Career and Technical Center

Due to the highly visual nature of the subject and the impact on the lives of the students, videos are an extremely effective tool for capturing the worth of the program and explaining it to potential stakeholders and contributors. The words of students themselves are very important. The videos can be viewed at conferences and meetings including preservation, trades, and education conferences (both CTC and home high school conferences), and on local access cable. Students, like everyone else, love to see themselves on-screen doing something at which they excel. It can be a subtle motivator and brings respect to the work.

Participation at preservation and trades fairs can give a core group of potential supporters a good understanding of the program. Open houses and "blitz days" at the work sites can bring both potential resource providers and the general public to the site where they can see the program in action. A good time of the year to do these is during Preservation Month. T-shirts for the students are an excellent way to identify the group to outsiders as well as reinforcing a sense of teamwork in the students. Additionally, social media, like Facebook and Myspace, creates effective ways to show what is going on and communicate the program to students by their peers.

"At the reception that we held for the Randolph School students at the end of the school year, the mother of the only female student in the class told me that her daughter was having a difficult time academically at her home school. She was so excited to be a part of and to complete the Fort Wayne project that she worked really hard to improve her grades at her home school—a requirement for her participation at Fort Wayne. Her mother felt that her daughter's participation in the project had been a huge boost to her self-esteem." Nancy Finegood, Executive Director, Michigan Historic Preservation Network

As the program grows, integration with the broader school system and community is increasingly important in order to ensure that the program is sustainable over time despite administration, teacher, and budget changes. Getting the program into the media is an essential step for creating community awareness and buy-in. Other actions include having parents of the students and neighbors of the site to visit the project. A "blitz day" can also be used to open the site to the community to participate in a day of work

"When you encourage parents to be involved, it can create a domino effect in which parents speak 'word of mouth' to others about the program. The enthusiasm can be contagious…I have had parents, when introducing their children to the program, be so excited about such an opportunity that they themselves would like to enroll!" Rhonda L. Deeg, formerly of Harford Community College

STEP 18. Generate additional administration and teacher support

Reinforcing the program by creating increased buy-in inside the district and its CTC can be done by instituting "externships".

Internal marketing should be done periodically and whenever there is a new stakeholder. Tours, presentations and videos should be given to the new stakeholder to introduce and reinforce the value of the program even before there is any contemplation of a change in direction.

"When the principal at Randolph School changed, we organized a tour of Ft. Wayne, our project site, with the new principal and members of our Advisory Council. By that time we also had a video about the program that we played for the new principal. We got immediate buy-in and never had to worry that the program would get cut because of the change in the administration."

Roddy Rivers, Randolph Career and Technical Center

STEP 19. Institutionalize program through teaching partnerships

As a medium-term strategy, the preservation trades curriculum overlay courses can be linked to other academic classes. Creating a relationship between a preservation trades project and the coursework in a history class is one such example. Architecture, mathematics, physics, and engineering can all be related. Examples are available in the curriculum at the Brooklyn School of the Arts: As students study the rise of transportation in the 1880s in history class, they read the novels of Edith Wharton and others of the time period. In math, students learn about percentile equations, used in designing cables for the Brooklyn Bridge. Earth science focuses on developing an understanding of wind, waves and erosion so students can discover how the bridge resists environmental forces.

STEP 20. Create sustainable funding sources

Initial funding is likely to dry up eventually. Partnerships with local trades businesses and organizations, local preservation organizations, foundations, and economic development agencies should all be cultivated to create a diverse and sustainable set of resources. An established and mature program might

partner with a nonprofit to rehabilitate a house and then sell it to provide work experience and program funding.

"In 2005, the Pennsylvania Historical and Museum Commission recognized the need to provide internship or apprenticeship opportunities for students and others interested in entering the preservation and traditional trades. We started an apprenticeship program and to augment our own apprenticeship positions, we brought in one nonprofit organization partner and several private-sector partners to offer more than a dozen paid apprentice positions for 12 weeks every summer at locations throughout Pennsylvania. The apprenticeships include a three-day training program with both theory seminars and hands-on training by master craftsmen in various preservation and traditional trade skills. Apprentices get to work on preservation projects at state and local historic sites or privately owned historic buildings under the guidance of a master craftsman."

Barry Loveland, Pennsylvania Historical and Museum Commission

"Universities are often looking for ways to engage communities in creative ways and we very much wanted to partner with community colleges and high schools in order to expand interest in our program from a variety of disciplines."

Robert Ogle, Associate Professor in Historic Preservation, Colorado Mountain College

STEP 21. Enhance program through official recognition

Additional value and credibility can be created by official recognition. At the lowest level, basing a portion of the class grade on the preservation trades certifies the program and gives the students a level of credibility out in the working world. A second level of certification could be developed for subsets of hands-on activities that make up a student's portfolio. This would be similar to what's been done in the automotive repair industry where a technician can get certified in different aspects such as brakes or transmissions, etc.

"When I was a high school instructor, I created a list of skill competencies for each of the trades that were taught and printed them on the back of the certificate each student received. For each student, I would check off and sign this unofficial certification. Students would add the certificate to their portfolio. Students have relayed how useful this listing has been in helping them explain their skills to potential employers. It also increased the credibility of our program in the community."

Rhonda Deeg, formerly of Harford Community College

External validation has also been useful to students. A third level of certification is an external award. Certificates work!!!

"Each Randolph School student gets a community service award signed by both the Michigan Historic Preservation Network and the Randolph School. Students have also received awards from the Randolph School and the Detroit City Council."

Roddy Rivers, Instructor, Randolph Career and Technical Center

The preservation trades curriculum can become a recognized diploma track course in which the school district has a specific diploma based on the preservation trades program. The Brooklyn School of the Arts is an example, where, after working seven years to get the approvals, there is now a preservation-based program in which all of the courses have a relationship to preservation trades.

"Each year the Building Preservation and Restoration (BPR) program at Harford Community College hosts a "Preservation Fair." This fair is co-sponsored by the BPR student club—the Historic Preservation Guild. The Fair is used as an educational outreach tool to the community as well as a networking opportunity for the students. Instructors and alums demonstrate their skills and showcase their projects. Preservation craftspeople are also brought in to demonstrate methods and techniques. Local and statewide nonprofit historical organizations are also invited to exhibit."

Rhonda Deeg, formerly of Harford Community College

Randolph CTC, Detroit, MI

Conclusion

As has been evident throughout this guide, integrating the program into the community is critical to the success of the undertaking. The following table summarizes the likely partners and the activities described above in each of the three stages: Making the Case, Implementing the Program, and Sustaining the Program.

Making the Case	Organization	Implementing the Program	Sustaining the Program during Change
Preservation Organizations • Statewide and local HP nonprofits • State Historic Preservation Officer, Historic District Commission, or Historic District Advisory Boards • National Parks Service or National Trust Historic Preservation regional office	• Planning partnership • Grass roots support • Networking	• Resources • Publicity • Advocacy • Internships	• Advocacy
Trades Professionals	• Grass roots support • Help make the argument that there are jobs for graduates	• Internships • Speaking in class • Donate materials • Provide good projects • Volunteer on Advisory Council • Participate in job fairs	• Advocacy
Trade organizations • Local remodeling organizations • Local building associations • National organizations such as Preservation Trades Network and Timber Framers Guild	• Grassroots support	• Resources • Source to find trades professionals • Source to identify good volunteers • Source of training and professional development	• Advocacy

Appendix I:
best practices from existing models

SUCCESSFUL FEATURES

• Focus is on all buildings built with traditional methods—historically designated, old buildings that aren't designated, and even newer buildings built using traditional methods

• Traditional trades are best taught in the context of both historic preservation and local culture

• High school traditional trades are ideally taught as an introduction that would be a basis for traditional building trades employment, new and old building trades employment or college

• Real-world experience must be part of the curriculum

Experienced and knowledgeable historic preservation trades-persons must be identified, vetted and recruited to teach students.

"Sustainable Building" and "Green Building" are the look to the future of the construction industry. Old buildings and their preservation will be increasingly relevant.

A traditional preservation trades curriculum overlay can be introduced with a minimum of historic preservation and no changes to the curriculum and be sufficient. Over time it is also possible to move towards a more integrated program that could even included changes to the official school district curriculum.

• National Center for Construction Education and Research (NCCER) – Module Certification which is portable nationally and has a "Baseline apprentice training program"—national standards but must be able to fit into multiple frameworks

• Insert preservation conditions in above NCCER Modules

• Lobby local Association of Building Contractors and then engage in training vocational teachers

• Association for Preservation Technology/Preservation Trades Network recognition

• Promote program to local community colleges

• No preservation project is purely traditional building—use that to expand the pie, solve political problems, and give students better employability

• Assume a pre-qualification/ "self-selection" process for students

VOCATIONAL HIGH SCHOOLS

Phillip Randolph CTC, Detroit, MI

• Partnerships with MHPN and others

• Expose students to traditional building techniques and potential job opportunities (without putting an additional teaching burden on the instructor)

• Hands-on, real projects, preferably ongoing projects

• Involved parents

• Basic, introductory training

• Developed duty task sheets (see Appendix II)

• Supportive teachers/administration

• Positioned preservation trades curriculum as an adjunct to the existing curriculum—not a replacement

• Had a champion

Canaan Memorial High School, Canaan, VT

• Originally just building trades but evolved into preservation trades over time

• Partner with preservation (conservancy) organization to work on buildings they had bought

Smithfield High School, Smithfield, RI

• Creating partnerships with Preserve Rhode Island

• Partnerships with contractors

• Has administration support but no funding

• Has a champion

• Has volunteer activities

GENERAL HIGH SCHOOLS

Brooklyn School of the Arts, Brooklyn, NY

• Same as Randolph School for first eight practices

• Integrated teaching

• Industry-endorsed diploma

• Preservation Arts stamp embossed on diploma

• Measurable results

• Well prepared for architecture and drafting community college programs

• Marked skills development gained from internships

• Whole person development (thinking, creative)

COMMUNITY COLLEGE (Two-year College Degree Programs)

Belmont Technology College, St. Clairsville, OH

• Outside lecturers

• Very immersive

• Adjunct Centers—student employment

College of the Redwoods, Eureka, CA

• Associate of Science degree includes Historic Preservation, Construction, Woodworking, Material Sciences, Computer Drafting

• Redwoods Academy is on-campus high school branch that allows dual credit for coursework

• Community based Field School component as hub of hand-on courses

• Material Sciences teach traditional and modern contexts of materials and tools

• Branch of Construction Technology new residential building program (40 yrs. old)

• Local craft/trade and preservation theory experts teach the courses

• Building Analysis teaches “Anatomy of the Built Environment” and is basis for teaching Existing Conditions Assessment documentation

Theory and project-based learning revolve around community’s built environment with a focus on giving back through education

Colorado Mountain College, Leadville, CO

• Has a high school component in which junior year High School students can take preservation course for dual credit

• Currently working with three high schools and is working directly with Brooklyn School of the Arts

• Community College creating demand

Harford Community College, Bel Air, MD

• Building trades instructor involved with community college project

• In-kind donations

• Preservation fair

Snow College, Ephraim, UT

• Started with project and then created community college relationship

COLLEGE AND UNIVERSITY

American College of the Building Arts, Charleston, SC

• Liberal Arts education with building trades instruction for both new construction and traditional building rehabilitation.

Thaddeus Stevens College of Technology, Lancaster, PA

• Each continuing education hour worth a fraction of a credit hour in the school so that continuing education eventually counts towards a degree

• Workforce development program partnership creates a subsidy because of the pre-commitment to employment

• Program exposes students to professionals in the workforce

OTHER

Sleeping Bear Dunes Career Technology Center, Empire, MI

• Not focused on historic preservation but fully supported by business

• Connected to college

Texas Slave Descendent Society

- Internships involve community, neighborhood, and teachers
- Works with junior high and high school
- Stories told by actors serve to help community get involved
- Teachers can get credit for training

World Monument Fund, New York, NY

- Education collaboration with nonprofits and the University of Florida
- Nine credit hours and AIA CES credit
- True real-world experience on a jobsite

Randolph CTC, Detroit, MI

Appendix II:
Sample Duty Task Statements

In Michigan, the CTC curriculum is defined and driven by what are called Duty/Task statements. They outline the general "duties" that will be assigned within a given trade area and then define the acceptable and appropriate "tasks" required to complete the duty. Here are some sample Duty/Task statements that can be used to guide preservation oriented lessons.

TRADE AREA: Carpentry

DUTY: Repair wood sash from double-hung window

DUTY NO.

TASK NO.

TASK: Remove sash from double-hung window

ACHIEVEMENT INDICATORS:

THE LEARNER: YES NO

☐ Wore safety glasses

☐ Broke paint seal as necessary

☐ Removed inside stop without damage to any parts

☐ Inspected for weight pulleys and pocket door

☐ Temporarily suspended weights if indicated

☐ Removed bottom sash

☐ Loosened and lowered top sash

☐ Removed parting stop without damage to any other parts

CRITERIA: Competence in the task will be recognized when the achievement indicators are performed successfully according to instruction and trade standards.

TOOLS AND EQUIPMENT: Safety glasses, tools to remove the sash.

RESOURCES: Graphic showing window components, National Park Service's *Preservation Brief 9*, various *Old House Journal* articles.

TRADE AREA: Carpentry

DUTY: Repair sash from a double-hung window

DUTY NO.

TASK NO.

TASK: Replace broken glass in a wooden sash

ACHIEVEMENT INDICATORS:

THE LEARNER: YES NO

- ☐ Wore safety glasses
- ☐ Removed glazing and broken glass
- ☐ Cleaned and scraped rabbet
- ☐ Primed or oiled rabbet
- ☐ Installed back glazing
- ☐ Measured and cut glass
- ☐ Installed glass with glazing points
- ☐ Installed new glazing

CRITERIA: Competence in the task will be recognized when the achievement indicators are performed successfully according to instruction and trade standards.

TOOLS AND EQUIPMENT:

RESOURCES: Graphic showing window components, National Park Service's *Preservation Brief 9*, various *Old House Journal* articles.

TRADE AREA: Carpentry

DUTY: Repair wood sash from a double-hung window

DUTY NO.

TASK NO.

TASK: Repair deteriorated wood from wood window sash

ACHIEVEMENT INDICATORS:

THE LEARNER: YES NO

☐ Wore safety glasses

☐ Determined cause of deterioration

☐ Eliminated cause of deterioration

☐ Determined extent of deterioration

☐ Determined method of replacing deteriorated wood

☐ Used wood consolidant if indicated

☐ Mixed and applied plastic resin fillers if indicated

CRITERIA: Competence in the task will be recognized when the achievement indicators are performed successfully according to instruction and trade standards.

TOOLS AND EQUIPMENT: Safety glasses, work gloves when working with chemicals, ice pick or awl, consolidant, plastic resin filler, knife, applicators for materials.

RESOURCES: Graphic showing window components, National Park Service's *Preservation Brief 9*, *Old House Journal*.

TRADE AREA: Carpentry

DUTY: Repair wooden double-hung window

DUTY NO.

TASK NO.

TASK: Replace sash cords in a wooden double-hung sash after it is removed and repaired

ACHIEVEMENT INDICATORS:

The learner: YES NO

- ☐ Wore safety glasses
- ☐ Removed old knot from sash
- ☐ Removed weight pocket door without damaging any other parts
- ☐ Removed weight, removed old rope from weight
- ☐ Selected appropriate sash cord
- ☐ Cut to correct length and installed with new knot in sash cord
- ☐ Inspected and lubricate pulley (remove, clean per needs)
- ☐ Fed new cord through pulley and sash pocket door
- ☐ Tied appropriate knot to weight at correct length
- ☐ Reinstalled weight in weight pocket
- ☐ Reinstalled weight pocket door
- ☐ Reinstalled sash and window stops
- ☐ Tested for smooth, tight operation

CRITERIA: Competence in the task will be recognized when the achievement indicators are performed successfully according to instruction and trade standards.

TOOLS AND EQUIPMENT: Safety glasses, scissors, lubricant, sash cord.

RESOURCES: Graphic showing window components, National Park Service *Preservation Brief 9*, *Old House Journal*.

TRADE AREA: Masonry

DUTY: Re-point masonry wall in 19th-century building

DUTY NO.

TASK NO.

TASK: Analyze colors and sizes of aggregate in existing mortar

ACHIEVEMENT INDICATORS:

The learner: YES NO

☐ Investigated cause of deterioration

☐ Visually surveyed wall for extent of localized deterioration

☐ Collected appropriate representative samples of existing mortar

☐ Pulverized one sample

☐ Removed lime from sample

☐ Rinsed and dried sample

☐ Secured and stored sample as test for matching aggregate

CRITERIA: Competence in the task will be recognized when the achievement indicators are performed successfully according to instruction and trade standards.

TOOLS AND EQUIPMENT:

RESOURCES: National Park Service *Preservation Brief 2, Old House Journal.*

TRADE AREA: Masonry

DUTY: Re-point masonry wall in 19th-century building

DUTY NO.

TASK NO.

TASK: Install new matching mortar in prepared areas

ACHIEVEMENT INDICATORS:

The learner: YES NO

☐ Wore safety glasses

☐ Mixed appropriate amount of matching mortar to proper consistency

☐ Selected appropriate re-pointing tools and equipment

☐ Transferred mortar to hawk

☐ Installed new mortar in prepared and raked joint

☐ Tooled joint to match existing treatment at proper consistency

CRITERIA: Competence in the task will be recognized when the achievement indicators are performed successfully according to instruction and trade standards.

TOOLS AND EQUIPMENT: Bucket, mixing tool, mortar components, safety glasses, gloves, hawk, and smoothing tool.

RESOURCES: National Park Service's *Preservation Brief 2, Old House Journal*.

TRADE AREA: Construction, Painting, and Decorating

DUTY: Repair stress cracking in wood lath plaster wall

DUTY NO.

TASK NO.

TASK: Prepare stress cracking in plaster wall for repair

ACHIEVEMENT INDICATORS:

The learner: YES NO

☐ Investigated for cause of stress cracking

☐ Visually surveyed wall for extent of localized deterioration

☐ Determined soundness of plaster keying

☐ Raked out cracks to appropriate depth and shape

☐ Removed all dust and debris from prepared crack

☐ Applied bonding agent as appropriate

CRITERIA: Competence in the task will be recognized when the achievement indicators are performed successfully according to instruction and trade standards.

TOOLS AND EQUIPMENT: Scrapers to clean out cracks, cloths, bonding agent and applicator.

RESOURCES: National Park Service's *Preservation Brief 21, Old House Journal.*

TRADE AREA: Construction, Painting, and Decorating

DUTY: Repair damaged decorative molded plaster cornice

DUTY NO.

TASK NO.

TASK: Prepare for repair of missing molded plaster cornice

ACHIEVEMENT INDICATORS:

The learner: YES NO

☐ Investigated cause and extent of damage

☐ Determined soundness of surrounding plaster and keying

☐ Accurately duplicated shape and size of existing cornice profile

☐ Designed and built appropriate mold

☐ Determined whether to be cast in situ or remotely

CRITERIA: Competence in the task will be recognized when the achievement indicators are performed successfully according to instruction and trade standards.

TOOLS AND EQUIPMENT:

RESOURCES: National Park Service's *Preservation Briefs 21 and 23, Old House Journal.*

TRADE AREA: Construction, Painting, and Decorating

DUTY: Duplicate cast decorative plasterwork detail

DUTY NO.

TASK NO.

TASK: Prepare for duplication of cast decorative plasterwork

ACHIEVEMENT INDICATORS:

The learner: YES NO

☐ Set up proper work area

☐ Cleaned and made minor repairs to existing as necessary

☐ Applied proper mold release

☐ Applied proper mold material in appropriate amounts

☐ Applied appropriate stiffeners and backing to mold

☐ Removed completed mold from original pattern

CRITERIA: Competence in the task will be recognized when the achievement indicators are performed successfully according to instruction and trade standards.

TOOLS AND EQUIPMENT:

RESOURCES: National Park Service's *Preservation Briefs 21 and 23, Old House Journal.*

TRADE AREA: Construction, Painting, and Decorating

DUTY: Duplicate cast decorative plasterwork detail

DUTY NO.

TASK NO.

TASK: Make duplicate decorative plasterwork detail

ACHIEVEMENT INDICATORS:

The learner: YES NO

☐ Set up duplicate mold in proper work area

☐ Applied proper mold release

☐ Mixed appropriate amount of proper casting plaster

☐ Poured into mold and let cure

☐ Removed duplicate detail from mold and inspect for voids

☐ Repaired and applied finish as indicated

CRITERIA: Competence in the task will be recognized when the achievement indicators are performed successfully according to instruction and trade standards.

TOOLS AND EQUIPMENT:

RESOURCES: National Park Service's *Preservation Briefs 21 and 23, Old House Journal*.

Apendix III:

Sample Evaluation

The following test items were developed to evaluate High School student knowledge after attending HP classes for 24 days. They are intended to measure basic knowledge and understanding of general historic preservation concepts, and best practices in preservation trades.

1. Properties with high historic significance can be listed on _____ ?

   a. National Register of Historic Places c. The Federal Register

   b. The National Park Service d. America's Ten Most Wanted

2. The Cabinet level agency in charge of dealing with historic preservation issues in the U.S. is _____ ?

   a. The Federal Register b. The National Preservation Corps

   c. The National Historical Service d. The Department of the Interior

3. A basic principle in historic preservation is to repair rather than replace.

   a. True b. False

4. A building must be over 100 years old before it is considered "historic".

   a. True b. False

5. Portland Cement has been used in mortar since about _____ ?

   a. 1850 b. 1700

   c. 1900 d. 1950

6. What renewable resource was the most popular building material in the 19th century?

   a. Glass b. Ceramics

   c. Stone d. Wood

7. What causes the most deterioration in all historic buildings?

   a. Termites b. Arson

   c. Uncontrolled moisture d. Wind

8. The most popular type of window used in old houses is _____ ?

   a. Vinyl b. Double Hung

   c. Casement d. Replacement

9 Working around lead paint is dangerous because it can cause brain damage.

a. True b. False

10. Lime for historic mortars and plaster is made by heating _____.

a. Sandstone b. Bedrock

c. Limestone d. Portland Cement

11. In preservation work it is always best to use the most aggressive cleaning method available.

a. True b. False

12. The Michigan statewide non-governmental organization promoting historic preservation is _____.

a. The State Historic Preservation Office

b. The National Park Service

c. Michigan Historic Preservation Network

13. Timber framed buildings are held together with _____ joints.

a. tongue and groove b. mortise and tenon

c. heavily nailed d. many glued

14. The four treatments of Historic Properties are "Preservation", "Reconstruction", "Restoration" and _____.

a. Remodeling b. Rehabilitation

c. New Building d. Antique Building

15. When replacing severely deteriorated building material, it is best to replace it with a like kind material.

a. True b. False

16. The wooden part of a window that holds the glass is called the _____.

a. muntin b. casing

c. sash d. frame

17. If a property is listed on the National Register there are lots of restrictions on what the owner may do to it.

a. True b. False

18. "Cut nails" were used in wood buildings until about _____.

a. 1850 b. 1800

c. 1900 d. 1950

19. The name of the material between the bricks in a brick wall is _____.

a. asphalt b. brick set

c. mortar d. masonry

20. Working with putty and a putty knife to fix a window is called _____ .

a. glazing b. sealing

c. puttying d. slicking

21. To check if a large layout is square you can use a "3-4-5" triangle.

a. True b. False

22. When we say that two lines are "square" it means that the lines are also _____ .

a. parallel b. straight

c. flat d. perpendicular

23. For sketching purposes each wall of a building is called a(n) _____ .

a. floor plan b. section

c. view d. elevation

24. Which of the following is not commonly called a building style?

a. Richardson Romanesque b. Tudor

c. Federal d. Primary

25. The type of drawing that shows the perimeter of the walls and interior room arrangement is called a _____ .

a. floor plan b. elevation

c. rendering d. wall plan

26. The purpose of sash weights is to balance the weight of the sash.

a. True b. False

27. A good general treatment for dry, old wood is to apply _____ .

a. linseed oil b. gasoline

c. mineral spirits d. wax

28. It is always best to use Portland cement in repairing an old brick wall.

a. True b. False

29. The part of plaster that hooks behind the lath is called the _____ .

a. keeper b. drip

c. slump d. key

30. When cutting glass, the first thing you should always do is _____ .

a. put on safety glasses b. dip the cutter in water

c. mark the glass to be cut d. do a little dance

31. You should assume that all older houses (50 years old or more) have lead paint in them.

a. True b. False

32. Which is NOT a common type of historic window?

a. Double hung b. Casement

c. Bay d. Vinyl

33. Which is not a character-defining feature on a building?

a. Dormer b. Porch

c. Columns d. Electrical system

34. Epoxy should never be used in fixing an older building.

a. True b. False

35. Old windows should always be replaced with new vinyl ones.

a. True b. False

36. In the preservation field the initials NPS refers to the_____ .

a. National Postal Service b. National Park Service

c. Normal Preservation System d. National Press System

37. “Preservation Briefs” are free and can be downloaded from the web.

a. True b. False

38. Historic preservation best practices on many topics, furnished by the National Park Service are called_____ .

a. Best Practices b. Preservation Briefs

c. Best How To d. How To Guides

39. An old house is always less energy efficient than a newer one.

a. True b. False

40. In painting buildings the _____ is the most important part.

a. number of coats b. type of paint

c. preparation d. masking

41. All the energy that went into building a structure is called _____ energy.

a. wasted b. embodied

c. high d. power

42. When rehabilitating an old building, it is always best to tear out all the old plaster.

a. True b. False

43. When working on an older building it always best to assume that it contains _____.

a. lead paint b. leaded gas

c. low energy d. weak structure

44. The trim on the wall around doors and windows is called _____.

a. jambs b. framing

c. muntins d. casing

45. The horizontal layers of bricks in a wall are called _____.

a. courses b. wythes

c. mortar d. levels

46. In an architectural sketch the "scale" refers to the relationship between the actual size and the _____ size.

a. real b. sketch

c. paper d. floor plan

47. The "greenest" building is one that is already_____.

a. painted b. destroyed

c. insulated d. built

48. Usually, an old building can be made energy efficient.

a. True b. False

49. Tearing down old buildings is generally good for the economy.

a. True b. False

50. Old buildings are inherently "green" buildings.

a. True b. False

Part Two

MHPN/NCPTT Preservation Trades Educators Meeting, Friday, October 24, 2008, Tulsa OK

INITIATIVE TO INTRODUCE PRESERVATION TRADES

A collaborative, partnership-based strategy to promote the Michigan model for seeding fast, low-cost introductions to the preservation trades in technical high schools

Introduction

The Michigan Historic Preservation Network (MHPN) and the National Center for Preservation Technology and Training (NCPTT) have partnered to explore how the Michigan model for introducing preservation trades education can be promoted across the United States. Experts from a wide range of preservation trades organizations and educational institutions convened in the spring of 2008 in Detroit, Michigan. They reviewed a successful grassroots approach to introduce Detroit's Randolph Career and Technical Center high school students to preservation trades techniques. Based on this convening, MHPN developed a step-by-step guide for seeding the program in technical high schools. The guide showed how this model fit within other efforts and how preservation trades advocates could replicate the Michigan model in their communities.

In the fall of 2008, a second convening was held during the National Trust for Historic Preservation national conference in Tulsa, Oklahoma to develop strategies for promoting the initiative and marketing the guide. This document outlines the results of that convening in a set of strategies based on four core strategic assumptions.

The implementation strategies are categorized in three work sections, Guide, Marketing and Partnerships. The primary basis for the strategies is to form a series of separately funded partnerships that cause the initiative to gain momentum over time. While there are a wide range of interested parties who believe strongly in this initiative, it is not so central to any organization's mission that one organization is willing to shoulder this initiative alone. As each can contribute only a portion of their resources towards pushing this initiative forward, careful stewardship and partnership are necessary to bring about the desired impact.

Specific strategies include publishing an improved guide both in print and on the Internet, publicizing both the initiative and the guide and developing the series of partnerships. In particular, an effort to develop a set of partnerships to expand the initiative in the upper Midwest is suggested due to the concentration of existing resources that can be deployed cost-effectively. The initial thrust would be to mimic the existing successful model by engaging statewide preservation organizations to partner with technical schools and local preservation trades representatives to sow the program in several new venues.

Core Strategic Assumptions

The strategies to implement preservation trades education in high school level CTCs are based on several core assumptions. Following the assumptions and their explanation are italicized statements regarding how the assumption affects strategy formation.

1. Resources are limited but include more than funding. Resources include knowledgeable individuals willing to take the time to promote the initiative, robust relationships with statewide preservation organizations and preservation trades organizations, grant funding to pay travel costs, preservation trades-oriented colleges, and governments and foundations interested in creating or expanding "green" jobs to help combat their difficult economies.

An effective strategy must initially focus on outcomes that maximize existing resources. While some resources may be garnered at the national scale, a near-term focus should focus on inexpensive actions that take full advantage of non-financial resources.

2. Resource deployment must be cost-effective.
The distribution of existing resources is diluted if the scope is large and broad rather than small and targeted.

An effective strategy that initially targets a region with the highest concentration of existing resources will likely yield greater benefits than an anemically funded national approach.

3. No single organization has this initiative as its core mission.
Representatives from preservation, preservation trades and preservation trade education organizations have all expressed strong support for this initiative. However, the grassroots propagation of high school hands-on preservation trades programs is not so central to the mission of any of the organizations that they can shoulder this initiative alone.

An effective strategy will be made of a series of partnerships that meet the needs of the organizations while giving them an opportunity to participate. While there are potential hazards to not having any single organization in charge, a collaborative relationship best reflects the existing organizational momentum and allows the participants to take advantage of the power of collaboration.

4. Existing success should be replicated as much as possible.
At least initially, additional seeding of these programs should follow the format that has already proved successful.

Solutions that take advantage of as many elements that made the initial Michigan model successful should be preferred over untried methods.

STRATEGIES

The following list of strategies projects is gleaned from the breakout groups sessions held at the second convening and structured based on the core strategic assumptions.

Guide

G1. Revise Guide to Make it More User-Friendly
The initial edition of the guide focused on accurately portraying a successful process for introducing preservation trade education and experience to technical high school students. The guide needs to be made more user-friendly by shortening the title, adding photos and other visuals to break up the text and be professionally laid out to improve its readability.

G2. Make Guide Easily Available in Print and Electronic Formats.
Work is already underway to publish a revised guide. Additionally, an electronic version of the revised guide needs to be made available to a wide range of organization websites where interested parties can access it.

G3. Make Continual Improvements to Guide
The guide should continue to be revised to reflect improvements that become evident as the guide is used and programs are started. Additionally, the format could be improved to include quotes from students and members of the communities that have become involved in a preservation trades education program. Resources would have to found to accomplish this long-term strategy.

Marketing

M1. Promote Guide via the Internet
The most cost-effective way to promote the guide is to market it on websites that preservationists, preservation trades people, and technical high school instructors visit. This includes the websites of the National Trust for Historic Preservation, the Preservation Trades Network, the National Center for Preservation Training and Technology, statewide Preservation organizations, the State Historic Preservation Officer pages on state government websites, and national organizations involved in the preservation education and technical/career high school education.

M2. Outreach to SHPOs
A relatively simple action would be to introduce the State Historic Preservation Officer of each state to the initiative and the guide. This can be done through their national association, the National Conference of State Historic Preservation Officers (NCSHPO) or by direct contact.

M3. Explore Replicating Michigan Success by Networking with Nearby Statewide Preservation Organizations
A more involved but still relatively straightforward outreach effort would be to interest other statewide preservation organizations in starting similar efforts to MHPN's initial effort. This is the model that was successfully implemented in Detroit and is now being expanded to Battle Creek, Michigan.

Given the large number of interested parties in the states bordering Michigan, the cost-savings in travel from focusing on areas proximate to these parties make it preferable to focus on Ohio and Indiana. Ohio is home to Preservation Trades Network Executive Director, Rudy Christian, Belmont Technical College, and a vibrant statewide preservation organization. Indiana has a very strong and well-funded statewide preservation organization and is home to Rhonda Deeg who developed innovative programs at Harford Community College.

Additionally, funding to help pay for travel costs is available to statewide preservation organizations for peer-to-peer mentoring from the Richard H. Driehaus Foundation. Additional funding to pay for time and other costs may be available from other foundations or even the National Trust as part of their new partnership on sustainable development.

M4. Develop a national marketing plan
A more long-term and ambitious goal is to create a national marketing plan. Some of the components of the plan would be a strong tie-in with the burgeoning national recognition of sustainable design and green jobs. Other elements include innovative marketing techniques aimed at youth like Facebook or other social marketing sites. Promoting preservation trades as recession-proof and small business-oriented is an additional timely tie-in to national trends.

These tends may make it possible to enroll a nationally known leader to champion this initiative. Such a spokesperson would be part of a national campaign involving TV, radio and print media. Given that resources are likely to continue to be being constrained, a potentially less expensive avenue towards national media would be to interest PBS in documenting the Michigan model.

Partnerships

P1. Continue NCPTT/MHPN/PTN Partnership to Enhance Communication Through PTN's ListServe.
Preservation Trades Network extensive website is home to the listserve for initiative participants. Using a common vehicle for communication will help to sustain the momentum of this initiative.

P2. Develop Participation Agreement Protocol
As part of the effort to expand the initiative in the upper Midwest or across the country, a protocol should be developed which illustrates how participating organizations and/or individuals are compensated and acknowledged for the time and energy they expend. As a series of partnerships, this initiative may have more than one organization taking a lead role on different aspects or at different times. Answering these questions proactively can allow these organizations and individuals to focus on the initiative without distraction.

P3. Explore Partnership with WMF
One likely potential partner is the World Monuments Fund which has expressed a strong interest in support efforts to increase the number of young, trained preservation trades professionals.

P4. Explore Partnership with ACHP

Another potential partner is the Advisory Council for Historic Preservation which also met at the National Trust for Historic Preservation Conference to discuss "Involving Youth in Historic Preservation." The panel discussion included representatives from the History Channel and two student participation projects.

P5. Explore Green Jobs and Sustainability Trends

As previously mentioned there have been strong recent trends towards both green jobs and sustainable design. Preservation trades straddles both of these trends. There are a number of organizations that are involved in one or the other of these trends and may prove to be good partners in moving this initiative forward.

Future Possibilities

FP1. Work with NCPE to Train the Trainers

While not an immediate need, the National Council for Preservation Education (NCPE) could be potential partner to help educate high school teachers about this initiative in order to bring it to more schools. Eventually, NCPE may also want to get involved in certification standards for preservation trades high school programs.

G4. Survey Existing Preservation Trade Efforts Worldwide.

As part of an ongoing dialogue about the importance of this initiative it is necessary to further understand what else is being done in the U. S. and other parts of the world. In Europe, for example, local unions support preservation trades youth education. Surveys, which illuminate the existing state of preservation trades education, can help inform what the next best steps should be for the initiative.

G5. Enhance Trades People Involvement

One of the most effective (and cost-effective) aspects of the Michigan model is the involvement of trades people as program instructors. This allows the high school principal to minimize the amount of CTC staff time invested. Trades people in the Michigan program have enjoyed passing their knowledge on and expressed support for this method of increasing the pool of trained potential employees. Further involvement, via internships and other vehicles, will help to place trained individuals in businesses where the value of the education is immediately realized.

CONCLUSION

The second convening of the Initiative to Introduce Preservation Trades was organized to bring the initiative from planning to implementation. To that end, twelve strategies have been developed based on the four core strategic assumptions.

In sum, as categorized in three main work sections, Guide, Marketing and Partnerships. The strategy calls for:

1. An improved guide to be published both in print and on the internet,

2. that a robust effort should be made to publicize the initiative

3. and that these two efforts can only be done through a series of partnerships.

A core effort could be to expand the initiative in the upper Midwest due to the concentration of existing resources and the potential for effective partnerships. The initial thrust would be to replicate the existing successful model by engaging statewide preservation organizations to partner with technical schools and local preservation trades representatives to sow the program in several new venues.

While this document proposes a strategy how the initiative can be expanded, it does not detail who will take on these strategies or how they will be funded. While progress will necessarily depend on the answers to those remaining questions, the track record and interest of the participants bodes well for the future of this important initiative.

Michigan Historic Preservation Network

107 E. Grand River Avenue
Lansing, MI. 48906

Phone: 517-371-8080

Fax: 517-371-9090

E-mail: info@mhpn.org

www.mhpn.org