

# Human Resource Issues in the Preservation of Heritage Buildings

Research Report



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## EXECUTIVE SUMMARY

This report addresses a number of issues pertaining to human resources (HR) in preservation, *specifically the restoration, rehabilitation, maintenance and repair* of our built heritage and conservation of historic sites. During the last three decades, a workforce of built heritage preservation professionals and trades people has emerged in Canada. Even after thirty or more years of accomplishments, however, the cohort of trades and professional heritage conservation workers is not adequately recognized or understood.

This situation needs to be rectified, not least because of the potential future demand for skilled workers and the threat to our remaining built heritage if we do not meet this demand. If we use the conservative estimate that 10% of pre-1941 buildings possess heritage value, then there are approximately 128,000 residential properties *with heritage value* that require ongoing maintenance, repair and preservation work. The materials and characteristics of this older building stock are fundamentally different from newer stock.

Evidence suggests that there is unmet demand for staff with heritage skills in both the trades and the professions. A number of studies point to the emerging importance of work in repair, renovation and restoration. With its distinct working conditions and skills requirements, further analysis of contractors, workers and training in this area is required.

### ***Education, training, and certification—trends, gaps and needs***

The Heritage Canada Foundation's (HCF) survey of educational institutions and subsequent research discovered that the offerings at both the university and college/vocational level are limited. The multidisciplinary nature of built

heritage preservation is reflected in the range of university departments and faculties amongst which heritage-related courses are scattered. There are only a few dedicated programs, however, and what little university training occurs exists almost exclusively within the framework of advanced studies. Two colleges provide training in heritage trades as the primary focus of a program, one of which is in its first year. Two others have been identified that include heritage as a component or add-on.

The need for heritage education in the planning professions, in addition to architecture, is vital. If people in positions of planning, policy and program creation at the municipal, as well as provincial and federal levels do not have knowledge of, or at least sensitivity to, heritage matters, then the climate for conservation suffers. More generally, an awareness of heritage preservation that begins at the elementary and high school level would encourage a culture of conservation. Raising awareness at this time in a child's life through such means as HCF's educational package, which it sends to thousands of schools across Canada each year, could spawn a generation sensitive to and vocal about the importance of our built heritage.

Because work on heritage buildings requires some distinct skills from more general renovation work, widely integrating heritage skills training with contemporary trades training is a prudent system for both students and employers. Inclusion of heritage sensitivity in the requirements for certification at the provincial and possibly at the national (i.e., *Red Seal*) level, too, could be explored. Canada Mortgage and Housing Corporation (CMHC) recognizes that Canada's housing stock represents an "enormous pool of private capital," and renovation

choices have a direct impact on the integrity, longevity and performance of these homes. Accordingly, the strong influence contractors have on building owners' decisions underscores the need for widespread heritage sensitivity in the trades as well as the professions. As one heritage trades educator pointed out: "our graduates can explain to their clients the difference between renovation and restoration."

Apprenticeship is integral to the development of a skilled pool of human resources in many sectors of the economy. Concern about apprenticeship is felt throughout the building industry. A review of research initiatives on training and apprenticeship reveals key issues facing the building trades that centre on an imminent shortage of skilled tradespeople, and problems related to market volatility, which is less pronounced in the renovation than the new construction market.

Preservationists emphasize the importance of maintenance and repair of the existing building stock. Often requiring only modest means, it is more important than many a luxury rehabilitation. Moreover, regular inspections result in the avoidance of major repairs to buildings. A knowledgeable workforce that could undertake a strong inspection and maintenance program would relieve the emergency mentality that often exists amongst owners and site guardians. It was readily apparent throughout a major study of heritage structures in Ontario that most major restoration work could have been avoided had regular inspections taken place and small problems been addressed as they occurred.

### ***Defining built heritage***

*The work of those involved in the preservation of heritage buildings is not well recognized in Canada. Built heritage*

has only a tenuous connection with the concepts of "culture" and "heritage" and it is therefore often overlooked in the definitions of these. Second, in terms of industry and the labour force, heritage preservation work is often subsumed in the larger context of "renovation" or "building trades." The widely used North American Industrial Classification System (NAICS) includes classifications for historical sites, museums and similar institutions, but these categories do not account for most of the work of heritage preservation, which is undertaken in the private sector. Similarly, the National Occupation Classification system (NOC) does not disaggregate at a level that is useful for understanding human resources in built heritage preservation, by providing categories such as "heritage architect", "heritage planner" or "heritage mason."

*Definitions are essential in qualifying how built heritage is explicitly included or excluded from broader sectors such as "culture", "heritage" and "the renovation industry". In turn, if built heritage is excluded from official definitions of heritage, for example, data collection, policy creation, and public and private sector actions that affect built heritage subsequently suffer.*

### **Data availability, collection and analysis—gaps and needs**

*Data on the entire enterprise of preserving heritage buildings is extremely limited.* The complexity of the built heritage sector and the challenge in defining, classifying and collecting data on the built heritage preservation industry is not unique. Very recently, the burgeoning environment sector was in much the same position. Attempts had been made to identify environmental goods and services in existing classifications, but without appreciable success. Statistics Canada received funding from Industry Canada to develop a national

statistical database on the industry, and began a program consisting of new surveys, modifications to existing surveys and integration of statistics from various components of its economic statistics framework. Similarly, the Cultural Statistics Program (CSP) at Statistics Canada was established in 1972 in response to difficulties associated with data in the culture sector. There is an acknowledged gap in the data required to adequately understand the built heritage preservation field. Data is needed for descriptive analyses, planning, understanding the role and contribution of built heritage to the economy, and monitoring.

A review of Statistics Canada's latest Draft *Framework for Culture Statistics* (FCS) largely excludes built heritage from its definition of culture. The FCS states that the culture output is the plan; therefore, construction of the building or the building itself is not part of the culture infrastructure of interest, or considered a culture product. Given this definition, architects, planners and the like, of highways, airports, land subdivisions, commercial, institutional and residential buildings, are part of the culture industry, as are individuals primarily engaged in developing plans for renovation; however, a highly skilled carpenter or stonemason is not. Built heritage in some other countries is not so excluded from cultural statistics. The Draft FCS acknowledges that further work needs to be initiated on defining which occupations should be identified as culture.

The Government of Canada recently recognized the need to deepen its commitment to ensure that Canadians will be able to enjoy their rich built heritage, most notably through the Historic Places Initiative (HPI). Part of the HPI is the establishment of a national heritage register, and Statistics Canada officials did suggest that, once it is operational, the register could

provide an important base from which these buildings could be surveyed and monitored. Despite the current lack of funds for new data initiatives at Statistics Canada, during recent communications with officials it was also pointed out that, if the proposed tax incentives offered by the federal government come to fruition, Statistics Canada might then be able to provide measures of the activity associated with the heritage building stock.

Special data requests are also available from Statistics Canada on a cost-recovery basis. In addition to data mining, possibilities include the addition of a question to an existing survey, and specialized research projects (surveys or statistical analysis). There may also be unexplored promise in obtaining data from building and construction surveys. In the future, however, emphasis needs to be placed on the fact that renovation without regard for heritage bears little relation to restoration or rehabilitation. To benefit data collection in the heritage preservation field, this distinction could be made in studies of the construction industry, the carpentry and masonry trades, and training programs.

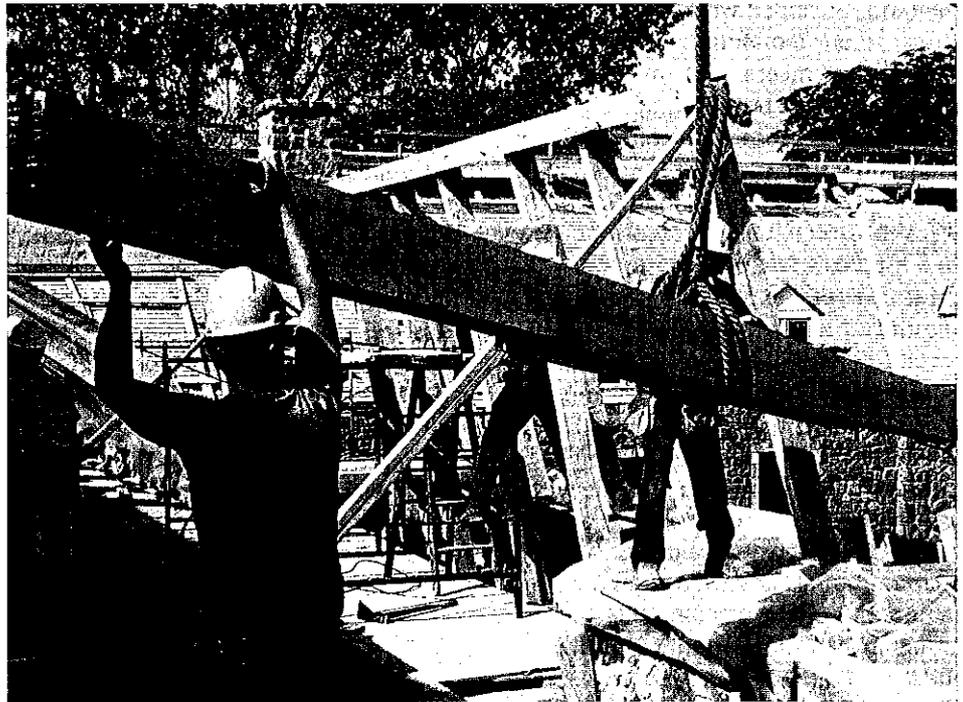
By assessing evidence from a number of sources, one can begin to cobble together a picture of human resources in the heritage preservation field. Still, we have neither systematically collected data, nor a national built heritage human resources strategy. There are signs of a growing awareness that heritage buildings and HR issues are a distinct and important sub-sector that needs to be addressed. Future development of an HR strategy for built heritage preservationists would place built heritage alongside the many other sectors in which the development of human resources has been recognized as essential to the future well-being of Canada, and by so doing we would help safeguard Canada's heritage buildings.

## INTRODUCTION

During the last thirty years, a workforce of built heritage preservation professionals and tradespeople has emerged in Canada. The sharing of knowledge has created a cohesive discipline with a great deal of experience in the conservation of cultural properties and sites.<sup>1</sup> Unfortunately, we know very little about the workforce that preserves our built heritage. This varied workforce includes the architects, planners, carpenters and stonemasons with specialized knowledge of heritage buildings, as well as the apprentices and labourers supporting the physical tasks of preservation. This report addresses a number of issues pertaining to human resources in the preservation of our built heritage and conservation of historic sites.

### *What we know*

Built heritage preservation in Canada is now commonly recognized as a laudable goal for society. We know that there is a small but growing number of educational institutions with specialized programs and auxiliary offerings in the field (see Appendix 1). Some, such as the Heritage Trades and Construction Program at Algonquin College in Perth, Ontario, have graduated over 300 tradespeople since 1991. Having benefited from a blend of theory and hands-on training, these graduates enjoy almost full employment in their field. Statistics Canada surveys also tell us how many people work as architects, carpenters, and bricklayers, and that about \$27 billion is spent on renovation work each year in Canada.<sup>2</sup> This data, however, is not sufficiently disaggregated to inform us about the human resources involved in preserving our built heritage.



### *What we do not know*

A literature review of research on human resource issues reveals little about the built heritage preservation field. There are many related surveys and reports, ranging from the renovation construction industry, to an enumeration of cultural workers in Canada; however, these sources do not have the detail required to inform us about the preservation of heritage properties. Even after thirty or more years of accomplishments, the cohort of trades and professional heritage restoration workers is not adequately recognized or understood.

To begin with, we do not know how many people make their living, either wholly or partly, from the preservation of our built heritage. Current data collection methods and surveys do not account for the architect who does 20% of his work in heritage preservation,

the carpenter sought after for her skill and knowledge in the sensitive restoration of old windows, the interior painter who has spent two years refurbishing old theatres, the many self-employed carpenters who do a substantial amount of their work on heritage buildings, or the labourer in a large restoration project who is defined as a general construction worker. We do not know where, how, or how many people make a living from the preservation of heritage buildings or are training to work in this field. In short, we do not have information at the national, provincial or even local level\* that informs us about the human resources that are required to preserve our built heritage.

### *Filling a need*

This situation needs to be rectified, not least because of the potential future

<sup>1</sup> International Council on Monuments and Sites Canada (ICOMOS), Foreword to *Momentum* by Nathalie Desrosiers 6, 2 (1997), p. 1.

\* There is a notable exception. The Eastern Ontario Heritage Structures Restoration Partnership (EOHSRP) recently documented restoration work completed in the area and will be tracking the planned restoration of heritage buildings over the next two decades. See Box 3 for a summary of this project.

<sup>2</sup> Canada Mortgage and Housing Corporation (CMHC), 'Renovation Market Highlights.'

See Web site: [http://www.cmhc-schl.gc.ca/en/homadoin/maintrst/foan/remahi\\_001.cfm?renderforprint=1](http://www.cmhc-schl.gc.ca/en/homadoin/maintrst/foan/remahi_001.cfm?renderforprint=1)

## METHODOLOGY

demand for skilled workers and the threat to our remaining built heritage if we do not meet this demand. Despite the great loss of built heritage in the last several decades, data collected in 1997 show that 15.7% of houses were constructed before 1941, and 9.9% were constructed before 1920, equating to a total of 1,281,000 houses built prior to 1941.<sup>3</sup> In addition, there are a significant number of older apartment dwellings and other, non-residential buildings. Proper maintenance and repair are essential to keep these buildings in good condition. In most cases, architects and tradespeople with knowledge of heritage materials and the ability to sensitively restore and adapt buildings to current uses are required to preserve the heritage fabric and character of a building. If we use the conservative estimate that 10% of pre-1941 buildings possess heritage value, then there exist approximately 128,000 residential heritage properties alone\*\* that require ongoing maintenance, repair and preservation work.

This study attempts to provide an initial description of the field of human resources in those disciplines relating to the restoration, rehabilitation, maintenance and repair of the built heritage of Canada. The professional and technical practices addressed in this report do not include all of those disciplines relating to what is generally understood to be historic preservation, but only those relating to interventions to the fabric that comprises the heritage character of buildings. The rationale for this approach is based on the urgency for a coherent human resources policy framework for building preservation in Canada, based on the staggering rate of loss of recognized heritage buildings during the past thirty years.

In addition to the literature survey, and discussions with officials in Statistics Canada, Human Resources Development Canada (HRDC) and the Department of Canadian Heritage, this study is also based on interviews with those working and teaching in the building preservation field, represented by a sampling of twelve professional and technical practitioners in various regions of Canada. Of the forty-six educational institutions identified in the initial scan, twelve were surveyed with a questionnaire, and six responded.

After completion of the initial scan, several more colleges, university departments and technology institutes were identified as having, or being in the process of developing, courses or programs in heritage preservation.

A comprehensive study of human resources in heritage preservation would include disciplines such as architectural history, environmental planning, the scientific conservation of materials, and others related to cultural resource management. Such a comprehensive study would be vital in order to explore fully human resources in heritage preservation, and this report is only a first step towards that goal.

Future development of a human resource strategy for built heritage preservationists would require more in-depth research. The development of such strategies typically utilizes focus groups, usually augmented by extensive surveys of professional/trades organization members or others working in the field.<sup>4</sup> As well, the resources and expertise of an established government body, such as Statistics Canada, would be required to fill existing data gaps and create national baseline data on the preservation of built heritage.

<sup>3</sup> Natural Resources Canada, Office of Energy Efficiency, *1997 Survey of Household Energy Use: Detailed Statistical Report* (Ottawa: Her Majesty the Queen in Rights of Canada, December 2000), p. 36.

\*\* Note that in 2000 there were 158,296 heritage sites under legal protection in Canada. Margaret Carter, *Towards a National Trust*, Proceedings, Heritage Canada Foundation Conference, September 14-17, 2000, Calgary (Ottawa: Heritage Canada Foundation, 2001), p. 32.

<sup>4</sup> See for example: Human Resources Development Canada (HRDC), *Carpentry Trade Human Resources Analysis, Final*, prepared by Prism Economics and Analysis (December 2000); Canadian Museums Association (CMA), *People, Survival, Change and Success: A Human Resource Action Strategy for the Canadian Museum Community* (1995); R. J. Sparks Consulting Incorporated and WGW Services Limited, *Residential Construction Labour Market Issues Study*, commissioned by HRDC (January 2000), p. ii.

## BACKGROUND

### *The importance of built heritage preservation*

In examining the whole area of heritage property, it is essential to consider the types of places and environments that people want to live in. For instance, it has been found that the importance of non-economic reasons overshadowed the economic sacrifices required of people that chose to live in wilderness counties of the western USA.<sup>5</sup> In the case of built heritage, the increasing desire to live in walkable neighbourhoods<sup>6</sup> has put a premium on older urban and central areas whose land-use patterns tend to facilitate the movement of people rather than cars. Built heritage preservation can also reduce our impact on the environment<sup>7</sup>, and our built heritage is essential to Canada's tourism industry.<sup>8</sup> With each passing decade, however, the proportion of older building stock relative to the total is eroding.

In the last 30 years Canada has lost 21% to 23% of pre-1920 building stock to demolition. Commercial and industrial buildings in areas of high industrial growth have been demolished at a higher rate (33.3% and 26.3% respectively). A recent study also found that 3.4% of older buildings are currently in danger from neglect and 10.9% from redevelopment pressures, making a total of 14.3% at risk. Buildings were *more* threatened in rural areas—21% are at risk (where there are few programs to help preserve them).<sup>9</sup> Other statistics tell a similar story. A

longitudinal survey estimated that the number of dwellings (including apartments) built before 1941 dropped from 1,862,000 in 1987, to 1,756,000 by 1996<sup>10</sup>, a loss of 106,000, or 5.6% in 9 years.

The materials and characteristics of the older building stock are fundamentally different from newer stock. Wood in older buildings is likely old growth, which is of superior quality, but also a 1997 survey found that wood has practically disappeared as a sole facing/ exterior cladding in houses built since 1993. In houses built between 1990 and 1997, only 3% had a sole facing of wood, as opposed to 13.7% of houses built before 1941.<sup>11</sup> In the case of windows, older houses were much more likely to have single-paned windows—over half in houses built before 1941. Durable and reparable old growth timber was usually the material used in their construction. Interestingly, the incidence of window changes is fairly constant across a number of parameters, including region, type of dwelling, type of population centre, type of household, and date of construction. During 1997 alone, 9.7% of households replaced or added windows, 3.9 of them on average. Note, however, that by period of construction, the most likely houses to undergo window changes were those built 1961 to 1977 (12.7%), followed by 1941 to 1960 (11.8%), and then before 1941 (9.1%). Those built 1978 to 1982, 1983 to 1989, and 1990 to 1997 had an incidence of window changes of 8.0%,

8.1% and 4.1%, respectively. In the case of the older houses, there is no data to determine how many of the windows discarded were of potential heritage value, nor do we know how many were unnecessarily replaced. (See Box 1: Why Windows? pg. 30)

In 1982, the Federal Cultural Policy Review Committee stated that, throughout Canada, much greater recognition of the value of our built heritage was required. Moreover, recycling a heritage building to meet contemporary building code and client requirements "admittedly presents difficulties, but such a solution... should always be the first consideration." The report put the onus on the federal government to demonstrate a high priority for its own heritage properties so that "Canada's built heritage *receives from others the recognition, protection and preservation required to ensure that Canadians never lose their sense of place and continuity with the past.*" (italics in original).<sup>12</sup>

The Government of Canada recently recognized "the need to deepen its commitment" to ensure that Canadians will be able to enjoy their rich heritage.<sup>13</sup> Through the Historic Places Initiative, the federal government's aim is to support the preservation of Canada's historic places by creating the tools to help Canadians play a role in preserving our historic places and in finding appropriate new uses for them. "This is an important first step in its strategy to create a

<sup>5</sup> Gundars Rudzitis and Rebecca Johnson, "The Impacts of Wilderness and Other Wildlands on Local Economies and Regional Development Trends," *USDA Forest Proceedings RMRS-P-15*, 2 (2000), p. 24.

<sup>6</sup> Dowell Myers and Elizabeth Gearin, *Housing Policy Debate* 12, 4 (2001), p. 635.

<sup>7</sup> Heritage Canada Foundation (HCF), *Exploring the Connection Between Built and Natural Heritage*, prepared by Cynthia Gunn (Ottawa: HCF, 2001)

<sup>8</sup> HCF, *Built Heritage: Assessing a Tourism Resource*, prepared by Cynthia Gunn (Ottawa: HCF, 2002).

<sup>9</sup> Margaret Carter, *Towards a National Trust*, Proceedings, Heritage Canada Foundation Conference, September 14-17, 2000, Calgary (Ottawa: HCF, 2001), p. 31.

<sup>10</sup> Statistics Canada, *Household Facilities and Equipment 1996* (Ottawa: Minister of Industry, October 1996), p. 35.

<sup>11</sup> Natural Resources Canada, *1997 Survey of Household Energy Use*, pp. 44, 54, 55, 58.

<sup>12</sup> Government of Canada, Information Services, Department of Communication, *Report of the Federal Cultural Policy Review Committee* (Ottawa: Minister of Supply and Services Canada, 1982), p. 110.

<sup>13</sup> Canadian Heritage, 'Historic Places Initiative: Engaging Canadians in Preserving Our Heritage, Fact Sheet - V,' May 2, 2001. See Web site: <http://www.pch.gc.ca/special/tomorrowstartstoday/fs-5.htm>

climate of heritage conservation across Canada." The Government of Canada also emphasizes that the survival of Canada's historic places requires leadership and quick, concerted action from governments and citizens alike, recognizing that economic pressures, social and technological changes and lack of public awareness have contributed to their decline.<sup>14</sup>

The Historic Places Initiative is the result of a great deal of work and cooperation amongst heritage representatives from federal, provincial, territorial and local governments, and the private and voluntary sectors. Following the announcement in the February 2000 Budget that the federal government would begin exploring the means to address the loss of the nation's built heritage, in May 2001 the first phase was unveiled, and the second and third are under development. The first phase committed \$24 million over three years to establish and maintain a national register of designated heritage buildings; to develop national conservation standards and guidelines; and to establish a certifying function, which will be performed by the Department of Canadian Heritage. The Parks Canada Agency has established a Historic Places Program Branch to manage the HPI. The three elements of the first phase, expected to be operational by April 2003, are prerequisites for fiscal incentives for restoration and rehabilitation activities. These incentives are important because

they would be national in scope and, it is hoped that, where fiscal incentive programs do not already exist, these will encourage other levels of government to follow suit.

The announcement about financial incentives for heritage buildings made in the February 2003 Budget did not include tax incentives, although it did pledge to create a three-year contribution program of \$10 million per year to compensate owners for a portion of the costs incurred in restoring heritage buildings.<sup>15</sup> The program will be designed and administered by the Department of Canadian Heritage. This is a small but important step in the right direction. HCF will continue to work with federal officials to create the fiscal incentives that have proven so effective elsewhere.

### **Defining culture and heritage**

The struggle to define the cultural sector is a common lament. Similarly, determining the number of heritage professionals or cultural workers is a difficult task.<sup>16</sup> Built heritage suffers from this fate to perhaps a greater degree. First, it is often overlooked in the definition of "heritage" and "culture." Second, in terms of industry and the labour force, it is often subsumed in the larger context of "renovation" or "building trades." As the Australian Bureau of Statistics notes, the ability to determine parameters is not an easy task, particularly

given the complexities inherent in terms such as "culture", and connections and overlaps with other terms. As well, underlying concepts and definitions are often not comparable or complementary.<sup>17</sup> A recent cultural sector HR study found that the definition of the areas of activity included in each sub-sector is often unclear or open to different interpretations.<sup>18</sup> The matter of definitions would not be of such importance except for the fact that, if and how built heritage is defined, and explicitly included or excluded from broader definitions of sectors such as "culture", "heritage" and "the renovation industry", subsequently affects data collection, policy creation, and public and private sector actions that affect built heritage.

According to *The UK Cultural Sector: Profile and Policy Issues*, the cultural sector covers built heritage, film, libraries, literature, museums and galleries, performing arts, public broadcasting and the visual arts.<sup>19</sup> A project in Finland described built heritage as the "cultural heritage existing in the form of buildings."<sup>20</sup> For Historic Scotland, "heritage" embraces ancient monuments, historic buildings and sites; land of scenic, scientific or historic importance; printed books, manuscripts, archives and other records; museums and galleries connections; industrial transport and maritime heritage.<sup>21</sup> United Nations Educational, Scientific and Cultural Organization (UNESCO)

<sup>14</sup> Canadian Heritage, 'Tomorrow Starts Today. Fact Sheet - I Historic Places Initiative: Engaging Canadians in Preserving Our Heritage.' May 2, 2001. See Web site: <http://www.pch.gc.ca/tomorrowstartstoday/en-back-2001-06-08-fs1.html>

<sup>15</sup> Department of Finance Canada, *The Budget Plan 2003* (Ottawa: Her Majesty the Queen in Rights of Canada, 2003), p. 111.

<sup>16</sup> Canadian Heritage Information Network (CHIN), Professional Programs, *Internet Use by Canadian Heritage Professionals: A Study by the Canadian Heritage Information Network*, report prepared by Wendy A. Thomas (June 2000), p. 3.

<sup>17</sup> Australian Bureau of Statistics, *Australian Culture and Leisure Classifications*, Chapter 1: Introduction (June 2000), p. 2. See Web site: <http://www.abs.gov.au/Ausstats/abs%40.nsf/66f306f503e529a5ca25697e0017661f/3b7c3a3b47b1d4d5ca256ab5008365eb!OpenDocument>

<sup>18</sup> Mercadex International Inc., "Highlights of Literature Review," *Face of the Future: A Study of Human Resource Issues in Canada's Cultural Sector* (Cultural Human Resources Council (CHRC, December 2002), p. 6.

<sup>19</sup> Sara Selwood, "Introduction and Observations," *The UK Cultural Sector: Profile and Policy Issues*, ed. by Sara Selwood (London, UK: Policy Studies Institute, 2001), p. x.

<sup>20</sup> The National Board of Antiquities Finland, 'Management of the European wooden building heritage—principles of the restoration of old and modern wooden buildings,' p. 1. See Web site: [http://www.nba.fi/INTERNAT/project/eurwood\\_eng.htm](http://www.nba.fi/INTERNAT/project/eurwood_eng.htm)

<sup>21</sup> Historic Scotland, 'Faq's', p. 4. See Web site: <http://www.historic-scotland.gov.uk/re-faqs-conservationconsents>

posits that culture can be viewed as that part of human activity that produces tangible representations, including heritage.<sup>22</sup>

In Canada, the concepts of "culture" and "heritage" have a tenuous connection with built heritage. At the federal level, Statistics Canada does not have a formal definition of built heritage and, as a sector, it is basically excluded from its cultural portfolio. The topics covered by the Heritage Institutions Survey and other related surveys do not accurately define and account for built heritage.<sup>23</sup> Statistics Canada currently considers culture industries to be publishing, film and video, broadcasting, recording industry, and new media. It also includes the Arts, comprised of stage performances, visual arts and crafts, architecture services, design, photography, and advertising. Finally, the heritage grouping includes museums, public art galleries, archives, libraries, and other heritage institutions.<sup>24</sup> In summary, neither Statistics Canada's definition of "culture" nor "heritage" denotes or accommodates built heritage.

The Department of Canadian Heritage does not utilize a working definition of "heritage," but rather finds a fluid conception of heritage more useful and appropriate.<sup>25</sup> Heritage and built heritage are sometimes defined in relation to particular programs and policies, however. The 1982 Federal Cultural Policy Review Committee clearly placed "built

heritage" in the cultural policy portfolio, as did the recent federal government's *Tomorrow Starts Today* strategy, wherein "built heritage" is understood to include "historic sites, heritage buildings, monuments, and archeological sites."<sup>26</sup> Conversely, The Canadian Heritage Information Network (CHIN), a Special Operating Agency in the Department of Canadian Heritage, was created in 1972 to foster sound management of the knowledge and collections developed by museums and "to broker effective access to Canadian and international heritage information," but does not include built heritage in its mandate.<sup>27</sup>

Built heritage preservationists find the situation of definitions problematic. In its February 2000 submission to the federal government, the Canadian Association of Professional Heritage Consultants (CAPHC) addressed their concerns about the Government of Canada's omission of built heritage in one report, and (narrow) definition of "heritage" in another, which CAPHC noted "tempts one to mistake the agencies preserving Canadian heritage ...for the thing itself."<sup>28</sup> This situation has recently been redressed by the Historic Places Initiative, and by explicitly addressing built heritage and placing it squarely in the cultural field in the February 2003 Budget under the section "Promoting Canadian Culture and Values, Cultural and Heritage Programs".<sup>29</sup>

The CAPHC itself found the matter of definitions difficult in defining members' disciplines in its own directory. The result is a somewhat arbitrary list of areas of practice with numerous overlaps.<sup>30</sup> These disciplines nevertheless reflect the type and range of professions required to sustain Canada's built heritage, in addition to some professions in the museum and curatorial field. Indeed the CAPHC's broad definition of heritage professions mirrors the U.S. National Center for Preservation Technology and Training's (NCPTT) definition of preservation technology, which includes "any equipment, methods, and techniques that can be applied to the discovery, analysis, interpretation, restoration, conservation, protection, and management of prehistoric and historic sites, structures and landscapes."<sup>31</sup> The NCPTT was created in response to the need for a national preservation initiative that could promote and enhance national preservation efforts. Its creation fulfilled the recommendations of a 1988 report to Congress prepared by the Office of Technology Assessment (OTA) to develop and distribute skills and technologies to meet this need.<sup>32</sup> Like the NCPTT, the Canadian Conservation Institute (CCI), a special operating agency of the Department of Canadian Heritage, was created in 1972 to promote the proper care and preservation of Canada's cultural heritage and to advance the practice, science, and

<sup>22</sup> UNESCO, "Statistics in the Wake of Challenges posed by Cultural Diversity in a Globalization Context." International Symposium on Cultural Statistics organized by UNESCO Institute for Statistics and Observatoire de la culture et des communications du Quebec. Montréal, October 21 to 23, 2002. See Web site: [http://www.colloque2002symposium.gouv.qc.ca/PDF/Bouchenaki\\_opening\\_complete.pdf](http://www.colloque2002symposium.gouv.qc.ca/PDF/Bouchenaki_opening_complete.pdf)

<sup>23</sup> John Gordon, *Towards a National Trust*, Proceedings, Heritage Canada Foundation Conference, September 14-17, 2000, Calgary (Ottawa: HCF, 2001), p. 33.

<sup>24</sup> Statistics Canada, Cultural Statistics Program, *A Canadian Framework for Culture Statistics*, Draft (August 2002), p. 61.

<sup>25</sup> Brian Reagan, Department of Canadian Heritage, Heritage Policy and Research. Personal interview. October 30, 2002.

<sup>26</sup> Department of Canadian Heritage, 'Backgrounder, *Canadian Arts and Culture: Tomorrow Starts Today*, Preserving Our Built Heritage,' May 19, 2001. See Web site: <http://www.pch.gc.ca/special/tomorrowstartstoday/en-back-2001-06-19.html>

<sup>27</sup> CHIN, *Network News 7* (Summer 1995); CHIN, 'CHIN today.' See Web site: [http://www.chin.gc.ca/English/About\\_Chin/chin.html](http://www.chin.gc.ca/English/About_Chin/chin.html)

<sup>28</sup> Catherine Macdonald, 'Position Paper on Federal Heritage Policy,' *Forum* (Winter 2000). See Web site: <http://www.caphc.ca/federal-heritage-policy.asp>

<sup>29</sup> Department of Finance Canada, *The Budget Plan 2003*, p. 111.

<sup>30</sup> Hal Kalman, 'Kalman Looks at CAPHC's Past and Future,' *Forum* (July 1997). See Web site: <http://www.caphc.ca/forum/forum-index.asp>

<sup>31</sup> NCPTT, 'The National Center for Preservation Technology and Training.' See Web site: <http://www.ncptt.nps.gov/>

<sup>32</sup> NCPTT, 'Background.' See Web site: [http://www.ncptt.nps.gov/about\\_background.stm](http://www.ncptt.nps.gov/about_background.stm)

technology of conservation. The CCI focuses on works of art, interior furnishings, textiles and other movable artifacts, but also has technical expertise in decorative painted wall and ceiling treatments, wooden mouldings, metal fixtures and building components as well as conservation-related building systems specifications for lighting, fire, security and climate-control.<sup>33</sup> The multidisciplinary approach of these three organizations makes important links between the science of conserving the physical fabric of cultural heritage with the broader context of management, policy and interpretation. These links are required to raise awareness of built heritage, encourage a culture of conservation, and create supporting policies.

### **How definitions affect data collection and analyses**

Defining the built heritage preservation sector is especially important in light of the recent spate of initiatives and reports related to the economic impact of what is variously known as the "cultural sector", the "creative economy," and the "heritage sector," amongst others. The observation that there is currently an "apparent emphasis on the industrial-trade potential of the arts and culture" in Canada<sup>34</sup> has similarly been made in the UK, amongst other places. In a climate where public subsidies are increasingly required to create and account for a monetary return, emphasis has been placed on the added-value effects of culture, including built heritage preservation.<sup>35</sup> It is therefore essential to take note of

the discussions and descriptions of "cultural resources", "heritage resources", "heritage" and the like so as to understand how built heritage is conceptualized and might be positioned in this context.

There are numerous examples wherein built heritage is overlooked in the discussion and definition of culture and heritage and, by extension, in studies and policy discussions in which it has a presence or stake in the outcome. To take one example, in 1996, the Greater Vancouver Regional District authorized an inter-municipal task group to undertake a number of studies to understand better the regional cultural sector. An interim report was published in 1997, *Arts & Culture in Greater Vancouver: Contributing to the Livable Region*, followed by a representation by the City of Vancouver to the House of Commons Standing Committee on Canadian Heritage (April 1999). These findings subsequently created interest in provincial and federal spending on culture.

The problem for built heritage lies in the way culture is defined in the report, which was based on Statistics Canada's definition of culture. Of the 14 categories included, some built heritage preservation activities would be reflected in "historic parks & sites", and also "museums" and "other heritage."<sup>36</sup> Not reflected by such a definition, however, are the many heritage buildings used for business, institutional and private purposes. By creating a sense of place, these buildings positively impact other aspects of the cultural sector. Similarly, in a report

published by the City of Kelowna's Arts Development Office, *The Economic Impact of Arts & Culture in the Central Okanagan* (1998), built heritage cannot be considered a "primary contributor", defined as those businesses, institutions, individuals and organisations that contribute directly to the production, facilitation, performance and servicing of arts and cultural activity within the region. Yet the recommendations include the identification of supporting infrastructure, the establishment of artists' live/work studios, and the creation of the Okanagan-Similkameen Film Commission,<sup>37</sup> all of which typically draw on built heritage.

Elsewhere, *The Creative Economy Initiative* is a recent project that focused on defining the cultural sector in the New England region of the US with a view to determining the extent and impact of the sector. Through discussion and extensive examination of thought and research on the subject from Europe, Australia and Canada, the research team decided to adopt the Canadian framework, definitions and guiding principles extensively because of their thoroughness, despite some of the shortcomings just outlined. It is worth noting that in refining the definition for New England, however, a number of criteria were used to determine creative industries more germane to the region. For example, while the textile and apparel industries were included in the definition in England, the design element is not a critical component in these industries in New England and they were therefore omitted.<sup>38</sup> By reversing this line of reasoning, one could ask of built

<sup>33</sup> Canadian Conservation Institute (CCI), 'Canadian Conservation Institute.' See Web site: [http://www.cci-icc.gc.ca/main\\_e.shtml](http://www.cci-icc.gc.ca/main_e.shtml)

<sup>34</sup> Monica Gattinger, "The Liberals' 'Reinvestment' in Arts and Culture: From Patron to Patronage?" *How Ottawa Spends: 2002-2003: The Security Aftermath and National Priorities*, ed. by Bruce Doern (Don Mills, Ontario: Oxford University Press Canada, 2002), p. 200.

<sup>35</sup> Sara Selwood, "Introduction and Observations," *The UK Cultural Sector: Profile and Policy Issues*, ed. by Sara Selwood (London, UK: Policy Studies Institute, 2001), pp. x1vi-x1vii; Michael Coupe, English Heritage, "The Built Environment," *The UK Cultural Sector*, pp. 7-9.

<sup>36</sup> *Government of British Columbia Expenditures on Culture, 1987-88 to 1996-97. A Report of the Regional Cultural Plan Steering Committee. An Intermunicipal Project Supported by the Greater Vancouver Regional District, July 20, 1999, pp. 1, 5, 10.*

See Web site: <http://www.city.vancouver.bc.ca/commsvcs/socialplanning/oca/Region/provstats/BCsupport.htm>

<sup>37</sup> City of Kelowna, Arts Development Office, *The Economic Impact of Arts & Culture in the Central Okanagan*, 1998, pp. 1-2.

<sup>38</sup> The New England Council, *The Creative Economy Initiative: The Role of the Arts and Culture in New England's Economic Competitiveness*, Technical Appendix (May 15, 2001), pp. 1-2.

heritage preservation: Does it have a critical element of "creativity" to include it in a definition of "creative occupations"? The New England study did something very similar to this, concluding that three additional categories be added to the "creative cluster": archivists & curators; cabinet makers & bench carpenters; and hand painters, coaters & decorators.<sup>39</sup> Similarly, one could argue that the line between an artist, craftsman and someone in the masonry or carpentry building trades can also be hazy, and that a heritage mason or carpenter could likewise be added to the "creative cluster."

Statistics Canada states that a wide range of data is required to obtain an overview of the role of all players in a particular sector. Data is needed for descriptive analyses, planning, understanding the role and contribution of a sector to the economy, and monitoring. In the case of culture, a "comprehensive statistical concept or definition of culture is therefore needed to fully delineate all the measurable aspects of culture.... How we define culture has a major impact on a number of research analytical activities, in particular, how we measure the size" of sector activities.<sup>40</sup>

A review of Statistics Canada's latest Draft *Framework for Culture Statistics* (FCS) largely excludes built heritage from its definition of culture. This omission exists despite the fact that built heritage falls into its statistical definition of culture, which is based on the quantitative (as opposed to the qualitative) dimension of culture, with a primary focus on creative artistic

expression and "human and historical heritage." This exclusion is important because the framework is intended to provide "the basis for developing a coherent strategy for the collection, analysis and presentation of culture data in Canada."<sup>41</sup> Statistics Canada officials did suggest that once the national heritage register is operational, it could provide an important base from which these buildings could be surveyed and monitored.<sup>42</sup> Such action would answer the recommendation made in 1982 by the Federal Cultural Policy Review Committee who recognized the need for research and easy access to information about existing heritage buildings to facilitate research and management.<sup>43</sup> Currently, however, the built heritage sector generally is considered too small and its parameters too difficult to delineate to warrant immediate research and data collection priorities.<sup>44</sup> We return to the issue of data collection and analysis below.

### ***The current state of human resources in built heritage preservation***

A series of intensive studies of cultural human resources was undertaken during 1993 and 1994 to obtain information on the structure, characteristics, and training needs of the culture labour force generally, and the sub-sectors specifically. Throughout the 1990s, there was increasing awareness and evidence that the culture sector was a large and growing part of the nation's economy. This was confirmed when data in the 1999 Labour Force Survey showed that 809,000 individuals

worked in the *culture labour force*. Of these, 278,000 people worked in culture *industries* as culture workers, and 362,000 worked in culture *industries* but are not cultural or artistic-skilled workers. The remaining 169,000 are culture workers in other industry sectors.<sup>45</sup> Employment in architecture-related disciplines specifically increased 5.9% from 1990-1999, and 23.3% from 1998 to 1999.<sup>46</sup>

In collaboration with HRDC and Canadian Heritage, the Cultural Human Resources Council (CHRC) in May 2002 launched another national initiative to support effective, strategic human resources planning for the culture sector and released *Face of the Future, A Study of Human Resource Issues in Canada's Cultural Sector* in January 2003. Unlike the first sector study, this one is entirely qualitative. Its findings are based on a broad international literature review and on interviews with a representative sample of 175 artists and cultural workers from across the country. The report identifies current trends and challenges, assesses government and sectoral initiatives, and identifies gaps and action plans to address needs. While "heritage" is amongst one of the six subsectors examined,<sup>47</sup> like the previous studies, the strategy does not address the preservation of built heritage. Rather, the heritage sub-sector includes all activities related to libraries, archives depositories and document management centres, as well as museums and exhibit centres.<sup>48</sup> The report covers four broad human resource (HR) areas: employment status, recruitment and retention,

<sup>39</sup> The New England Council, *The Creative Economy Initiative*, p. 9.

<sup>40</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, pp. 5-6, 29.

<sup>41</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, pp. 6, 8.

<sup>42</sup> Michel Durand, Statistics Canada. Personal interview. November 29<sup>th</sup>, 2002.

<sup>43</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, p. 111.

<sup>44</sup> Michel Durand, Statistics Canada. Personal interview. November 29<sup>th</sup>, 2002.

<sup>45</sup> CHRC, *Newsletter* 4, 4 (June 2001), p. 2.

<sup>46</sup> Jacqueline Luffman, "Culture Jobs Increasing: Update on the Culture Labour Force using the Labor Force Survey," *Focus on Culture*, Statistics Canada - Catalogue no. 87-004 12, 2 (2000), p. 7.

<sup>47</sup> CHRC, 'Building a Human Resource Strategy for Canada's Cultural Sector', Press Release, May 16, 2002.

<sup>48</sup> Mercadex International Inc., "Highlights of Literature Review," *Face of the Future*, p. 13.

access to training, and demand for new competencies. Comments on the report will be consolidated and discussed at a major HR Roundtable that CHRC is planning for the fall of 2003. An HR Strategy with time frame and responsibilities will then be released.<sup>49</sup>

The omission of built heritage preservation from *Face of the Future* and other HR studies has potentially negative consequences for the field. The elevated function of human resources in recent years marks a fundamental shift in company and organizational development and leadership. Human resources is now a key component to ensuring the creation of improved work environments, job performance, and innovation.<sup>50</sup> It should not be surprising, therefore, that HRDC has undertaken or supported studies and developed HR strategies for a wide variety of professions, trades and sectors, ranging from the cultural to the aerospace and residential construction sectors, fish harvesters, geomatics, carpenters, masons and sheet metal and roofing. Provincially, HR studies and strategies in the various sectors and trades of the construction industry have also recently been completed.<sup>51</sup> (See Appendix 2) While no dedicated HR studies or strategy for the built

heritage field currently exist, there are signs that HRDC and others are gaining awareness that heritage buildings and HR issues are a distinct and important sub-sector. The recently completed study by Eastern Ontario Heritage Structures Restoration Partnership (EOHSRP) that documented restoration work in Eastern Ontario, and will be tracking the planned restoration of heritage buildings over the next two decades (see Box 3), was funded by HRDC. This is undoubtedly the most comprehensive—and from a review of the literature possibly the only—research undertaken that focuses specifically on the heritage trades and heritage buildings. The goal of the project was to develop an understanding of the issues surrounding built heritage as seen by the owners and to understand how they used firms in the masonry industry in particular when restoring and rehabilitating or renovating their properties.

In the early 1990s, one study estimated that there were about 200 heritage professionals working in the building field.<sup>52</sup> Ten years later, there is anecdotal and other evidence that suggests there are now considerably more heritage professionals and tradespeople. Some

of this evidence stems from data generated by the EOHSRP study, the CAPHC directory of members, and the data base of graduates from the Algonquin College Heritage Trades Program. Interviews revealed that at least one large engineering firm has ten staff directly related with heritage work. By tracking heritage awards across the country, it has been determined that dozens of architects and other architectural and engineering firms work in the built heritage field. Additionally, the CCI has about eighty staff, some of whom offer their expertise in built heritage preservation both domestically and internationally through its Architectural Heritage Conservation Services. Public Works and Government Services Canada's Heritage Conservation Program has over fifty employees who provide professional and technical conservation and architectural engineering services. There is also a heritage millwork firm in BC that has a full-time staff of sixteen, as well as numerous self-employed carpenters and masons who work on heritage buildings. Still, we have neither systematically collected data on human resources in the built heritage preservation field, nor a national built heritage HR strategy.

<sup>49</sup> CHRC, 'What's New?' See Web site: <http://www.culturalhrc.ca/english/index.htm>

<sup>50</sup> Conference Board of Canada, *Adding Value: The Role of the Human Resource Function*, prepared by Prem Benimadhu (Ottawa: Conference Board of Canada, October 1995), pp. 1-2; CHRC, 'Executive Summary', 2003. See Web site: [http://www.culturalhrc.ca/english/study/study\\_e.htm](http://www.culturalhrc.ca/english/study/study_e.htm); See also Dianna Thompson, 'CMA Perspectives: What the HR Strategy Is All About.' See Web site: <http://museums.ca/publications/muse/1994/winter94/thompson.htm>

<sup>51</sup> For example, a series of studies in BC were undertaken to assess the HR needs and impact of various sectors, including construction. See Web site: [http://www.cedco.bc.ca/publications/construction/Con\\_Report.pdf](http://www.cedco.bc.ca/publications/construction/Con_Report.pdf)BC; see also HRDC, *Carpentry Trade Human Resources Analysis, Final*, prepared by Prism Economics and Analysis (December 2000).

<sup>52</sup> William B. Hockey, "Evaluation of cost in the reuse of buildings, particularly heritage stock, and the influence of preconstruction decision making in establishing intervention methodology." Master of Environmental Design Thesis. Faculty of Architecture, Technical University of Nova Scotia, 1992, p. 19.

## INDUSTRY OVERVIEW

### *The construction and renovation industry*

Changes in the construction sector have recently prompted numerous studies to help the industry adjust and meet future demands. In addition to those already mentioned, the Residential Construction Labour Market Issues Study identified and analyzed key labour market issues facing residential construction to develop possible strategic directions and suggested actions to assist the sector meet labour requirements.<sup>53</sup> The impending shortages in the trades have likewise been cause for a series of recent and extensive national construction analyses of labour market conditions, technology and training capabilities for construction trades in Canada, including masons and carpenters. Each of these studies prepares a strategic plan for the national development of human resources over the next ten years. Findings focus on gaps in the skills and any supply/demand imbalance in the trades. Results form the basis for recommendations on national training, certification and labour market mobility issues. Each of these studies includes a survey of workers, analysis of emerging technologies, interviews with contractors, projections of labour force supply and demand, and an inventory of training facilities. Funding was provided by HRDC through their National Sectoral Adjustment Services program (1995–2001).<sup>54</sup> There is also an ongoing CMHC project *Potential Elements of a Human Resources Development Strategy for the Residential Construction Industry*<sup>55</sup> and numerous other construction industry and trades studies.

Built heritage preservation is in many ways a distinct sub-sector of the renovation industry, entailing specialized work in both the residential and the industrial, commercial and institutional (ICI) markets. It is worth noting some significant differences that exist between the ways in which residential and ICI construction operate. In residential construction there is:

- a greater amount of subcontracting;
- a higher percentage of small contractors;
- a closer connection to the ultimate customer;
- a different legislative/regulatory environment;
- the existence of warranty programs;
- probably more work undertaken in the underground economy;
- short lead-time on new housing projects and even shorter on renovations; and
- a smaller percentage of certified workers.

The renovation sector is also considered quite distinct from new construction, and it is generally accepted that some of the skills required in each segment are different.<sup>56</sup> Nevertheless, the typically smaller and specialized nature of preservation projects means that, whether residential or ICI, there are similarities in the way heritage preservation projects *operate*, which is often fairly closely aligned with those aspects just listed above. It should be made clear that “renovation” as such, is not compatible with rehabilitation or restoration when this process destroys

the physical fabric of a building that comprises its heritage character.

Although we do not know how much of the renovation market is due to the specialized built heritage preservation sub-sector, we do know that renovation is a vital and growing part of the housing industry. More money is spent on renovation than on new construction, and it generates more jobs. Renovation activity is increasing in large part because the aging of the existing housing stock is increasing the need for repairs and updating. It is worth again mentioning that approximately 1.7 million of these dwellings were built before 1941. As well, the shrinking level of household formation results in the need for fewer new units. CMHC reports that the outlook remains very bright for the renovation sector. The upward trend in renovation spending began in 1996, and climbed to \$27.1 billion in 2001.<sup>57</sup> Moreover, according to CMHC research, spending on renovation creates more work than does new construction—on average, every \$1 million spent on renovation projects creates almost 28 full-time jobs.<sup>58</sup> These markets were less volatile, offer more steady growth opportunities, and require greater skill breadth than new construction work.<sup>59</sup> Provincially rates vary, but to take two examples, in Newfoundland, about two thirds of total construction spending in the residential sector is in renovation and in Ontario, recent spending on renovation and repair has been approximately 60% of total spending. As can be expected, there is more overlapping between renovation and new construction in smaller markets. To this

<sup>53</sup> R. J. Sparks Consulting Incorporated and WGWS Services Limited, *Residential Construction Labour Market Issues Study*

<sup>54</sup> Prism, ‘Project Experience.’ See Web site: <http://www.prismconomics.com/Experience.htm>

<sup>55</sup> Canada Mortgage and Housing Corporation (CMHC), “Potential Elements of a Human Resources Development Strategy for the Residential Construction Industry,” *Current Housing Research* 9, 1 (Summer 2002), p. 69.

<sup>56</sup> R. J. Sparks Consulting Incorporated and WGWS Services Limited, *Residential Construction Labour Market Issues Study*, p. i.

<sup>57</sup> CMHC, ‘Renovation Market Highlights,’ See Web site: [http://www.cmhc-schl.gc.ca/en/homadoin/maintstrst/foan/remahi\\_001.cfm?renderforprint=1](http://www.cmhc-schl.gc.ca/en/homadoin/maintstrst/foan/remahi_001.cfm?renderforprint=1)

<sup>58</sup> “Preservation Creates Jobs,” *Canadian Heritage News* 1, 2 (October 2002). See Web site: [http://www.pch.gc.ca/pc-ch/min/info-news/vol\\_01/no\\_02/preservation\\_e.cfm](http://www.pch.gc.ca/pc-ch/min/info-news/vol_01/no_02/preservation_e.cfm)

<sup>59</sup> HRDC, *Carpentry Trade Human Resources Analysis, Final*, prepared by Prism Economics and Analysis (December 2000), p. ii.

end, the reports stress that carpenters must have renovation skills to be employable in the residential sector.<sup>60</sup>

CMHC recognizes that Canada's existing housing stock represents an "enormous pool of private capital," and renovation choices have a direct impact on the integrity, longevity and performance of these homes. Despite the magnitude of the renovation market, there exists little information about it, and what is collected tends to be highly aggregated. One CMHC report, however, reveals important findings. A 1994 study found that homeowners do not typically have the knowledge required to assess the needs of their homes. Specifically, they have a general lack of knowledge when it comes to structural maintenance, upgrading, and energy performance, and an inability to assess the need for these improvements.<sup>61</sup> Because of this knowledge gap, the study concluded that renovation contractors are in a unique position to influence homeowners' renovation decisions because they are often the only experts who are actively involved in the decision-making process.<sup>62</sup> This is a significant finding when we consider the strong influence contractors could have on owners of heritage buildings. It underscores the need for widespread heritage sensitivity in the trades and professions. As one heritage educator pointed out: "our graduates can explain to their clients the difference between renovation and restoration."

### **Classifying systems for occupations and industries**

Human Resources Development Canada (HRDC) produces "job futures" nationally and for each province.

Information is compiled from a number of sources and can be found on relevant Web sites. Occupations are arranged according to the North American Industry Classification System (NAICS) and/or National Occupational Classification (NOC) codes. The NAICS is an industry classification system developed by the statistical agencies of Canada, the United States and Mexico. It is designed to provide common definitions of the industrial structure of the three countries and a common statistical framework to facilitate the analysis of the three economies. NAICS is constructed in such a way that economic units that have similar production processes are classified in the same industry. The NAICS divides the economy into twenty sectors, and many sub-sectors, industry groups, and industries, which are identified by codes. The international NAICS agreement standardizes the first five digits of the code. The sixth digit, where used, identifies subdivisions of NAICS industries that accommodate user needs in individual countries, provided that this additional detail aggregates to the NAICS level. The NAICS replaced Standard Industrial Classification codes (SICs) in 1997, and goes through periodic updates and changes. The NAICS includes classifications for historical sites, museums and similar institutions, but this does not account for most of the work of heritage preservation, that done in the private sector.

The NOC was implemented in 1992 to classify occupations, as opposed to industries. Note also that Statistics Canada's revised occupational classification for 2001 is called NOC-S 2001 to distinguish it from the NOC used by

HRDC. The two classifications differ only in the aggregation structure of the classification, however, and both provide a complete listing of all the categories under which Canadian jobs are classified and their descriptions.<sup>63</sup> Basically then, the four-digit code NOC is a classification system used to compile, analyze and communicate information about occupations in the Canadian labour market. It includes approximately 25,000 titles coded into 522 occupational groups by skill level and skill type. The NOC does not disaggregate at a level useful for understanding human resources in built heritage preservation. It does not specify categories such as "heritage architect", "heritage planner" or "heritage mason." There are, however, a number of categories useful for museum and other cultural activities, including conservators (of artefacts belonging to museums, galleries and owners of cultural property).

### **The trades—needs and trends**

It is widely recognized that there is an imminent shortage in many building trades. As a result of this shortage and other societal and economic factors, the trades are experiencing a renaissance. At the high school level, one vice-principal in Ontario observed that at no time in the past thirty years has he witnessed such enthusiasm for the trades. This resurgence of interest opened an opportunity to develop a Pre-Apprenticeship Focus program for the heritage trades in his school.<sup>64</sup> In Victoria, B.C., a city with a strong sense of heritage, awareness of the important role of heritage trades was prompted by the restoration of St. Ann's Academy, a 19th- and early

<sup>60</sup> HRDC, *Carpentry and Allied Trades Human Resources Analysis, Ontario*, prepared by Prism Economics and Analysis (December 2000), p. 3.; HRDC, *Carpentry and Allied Trades Human Resources Analysis, Newfoundland*, prepared by Prism Economics and Analysis (December 2000), p. 3.

<sup>61</sup> Davis Foster, *The Renovation Market and Renovation Consumers*, prepared for the Research Division of CMHC by Energy Pathways Inc. (Ottawa: CMHC, 1994), p. 3.

<sup>62</sup> Foster, *Renovation Market*, p. 46.

<sup>63</sup> Statistics Canada, 'Standard Occupational Classifications.' See Web site: <http://www.statcan.ca/english/concepts/occupation.htm>

<sup>64</sup> Jack Hamilton, Presentation at EOHSRP Conference, Kingston, Ontario, November 1, 2002.

20th-century structure that was the home and place of work and worship for the Sisters of Saint Ann for one hundred years. After a period of neglect and partial vacancy in the 1980s and 1990s, it was finally decided that the building would have to be demolished or restored; the latter was chosen, at a cost of \$16.7 million. Interestingly, the site photographer soon realized that an initial focus on the architecture and the grounds was misguided, since it was the tradespeople that were clearly the essential part of the restoration.<sup>65</sup>

A similar choice was made in favour of preservation of the Young Building at Camosun College, also in Victoria, which created demand for professional and trade skills in built heritage preservation (see Box 2 pg. 32).

Interviews with employers revealed that most had experienced a shortage in heritage tradespeople, or perceived a current or future shortage. The potential influence of the Historic Places Initiative, particularly the financial incentives, is generally expected to increase demand for preservation of buildings and therefore heritage trades. The EOHSRP study of heritage restoration in Eastern Ontario confirms the demand for heritage masons, reporting that some firms have had to refuse work because they did not have staff with heritage skills. Site owners, town planners, municipal officials, and comptrollers of large corporations, all mentioned the numerous calls they receive from people looking for tradespeople, particularly carpenters and masons. They suggested that this has been the case since the early 1980s. The study pointed out that, since masons are no longer being replaced in large numbers by immigrants, nor

are family members being trained on the job as they once had been, it will be essential to train masons for heritage work in Canada through apprenticeship programs in order to meet future restoration demands.

Surveys of earnings and employment status of recent graduates in all programs at Algonquin College are regularly undertaken, and the latest data indicate the current demand for heritage skills. Findings report that 94% of recent graduates of the heritage carpentry and millwork program were working in the field, and earned an average of \$28,090/yr, compared to \$24,247/yr for those graduating from the non-heritage carpentry program. According to HRDC "job futures", average hourly earnings for carpenters in Canada are \$16.97/hr, unemployment stands at 11% and the current and future job outlook is limited. Heritage masonry program graduates enjoy similar success, with 88% of recent graduates working in the field, earning an average \$40,248/yr, one of the highest earnings of any program.<sup>\*\*\*</sup> Nation-wide, masonry and plastering trades enjoy fair prospects, though unemployment stands at 11%. They earn an average of \$19.31/hr. In Ontario, the average starting wage for masons in 1999 was \$15.17/hr.<sup>66</sup>

Work on heritage buildings requires some skills distinct from more general renovation work. Most employers interviewed expressed a preference for employees with in-school heritage training. They also noted, however, that a good education includes grounding in the traditional basics of one's trade (e.g., joinery) and that, given this base, it is possible to train employees

for heritage work. Often, heritage-trained employees are not available, but with good basic skills and an opportunity to work on a heritage project with knowledgeable people, employees showed great enthusiasm for learning and skill development. *Sensitivity* to heritage materials and techniques was cited as the key attribute for success. One respondent agreed that a lot of good work is done by those not specifically trained in heritage, but emphasized that heritage features are sometimes lost because they simply do not know all the elements that are important and how to preserve them.

In addition to providing dedicated heritage trades programs, such as the ones at Algonquin College in Perth, Ontario one avenue of imparting heritage sensitivity is by exposing students to a heritage component in regular trades programs, something that a few in Canada now do, with one or two more on the horizon. As one educator trained in Europe commented, trades training included both new and old building techniques and materials as a matter of course. The EOHSRP study likewise found that tradespeople need strong heritage masonry skills in addition to traditional masonry skills, lending support to the argument that integrating heritage skills training with contemporary trades training is the most prudent system for both students and employers. Inclusion of heritage sensitivity in the requirements for certification at the provincial but possibly at the national (i.e., *Red Seal*) level, too, could also help fulfil this aim. Take for example Newfoundland's heritage carpentry program, which is fully articulated

<sup>65</sup> Government of Canada, Industry Canada, Canada's Digital Collections, 'St. Ann's Academy community enrichment, spirituality & charity, restoration.' See Web site: [http://collections.ic.gc.ca/saintanns/places\\_restoration.html](http://collections.ic.gc.ca/saintanns/places_restoration.html)

<sup>\*\*\*</sup> Note that, in this survey, a graduate is not classified as working in the field unless they are employed as tradespeople. For example, according to this definition, a supervisor in architectural services at Parks Canada, or a sales person for a supply company selling tools for the carpentry business, is not considered employed in the field. Also, a few take the course to work on their own buildings, but not as paid workers. If these graduates were classified as working in the field, there would be close to 100% employment.

<sup>66</sup> HRDC, Job Futures National Edition, 'Browse Occupations by Alphabet.' See Web site: <http://jobfutures.ca/noc/browse-occupations-alphabet.shtml>

with the *Red Seal*<sup>†</sup> Construction Carpentry program, allowing graduates greater opportunity for employment. To date, however, *Red Seal* does not work in reverse, i.e., no knowledge of heritage is required to obtain the *Red Seal* certification. The issues of training and certification are discussed further below.

It is important to note that patterns of employment, earnings, outlooks and type of work vary greatly from province to province. For instance, oil and gas construction dominates the construction sector in some provinces while, in both Saskatchewan and Ontario, "job futures" makes particular mention of "restorative work on older structures" as being an important part of the work of bricklayers, and a trend that requires more sensitivity and judgement on the part of tradespeople. There are differences in demand between rural and urban practices as well. The result is that, those in certain regions or working outside urban areas are often required to undertake a range of projects and in the case of heritage work, this means that rarely can an architect or tradesperson make a career solely from this specialization.<sup>67</sup>

### ***The professions—needs and trends***

Several heritage tradespeople who were interviewed for this study commented on the many good restoration architects now practicing in Canada. In addition to bringing a passion for heritage buildings to their work, they are also in tune with what is required of the

trades and labour force to carry out the necessary tasks and are most willing to consult with them. Such a process, one source stressed, is only possible if the trades are versed in the requirements of heritage restoration. Another pointed out that, in his experience, even if architects were not knowledgeable about heritage preservation, they were sensitive to the issues and more than willing to listen and be open-minded about solutions.

Heritage trades practitioners and educators did not perceive a shortage in heritage architects, partly because of their positive experiences with heritage and other architects. Heritage architects interviewed did not share this view, but rather felt that there was a real lack of heritage education available in Canada, both in architecture and in relevant disciplines from which planners and other heritage professionals develop. Heritage architects and educators in universities pointed out that they, and most of their colleagues, either gained their training overseas, or through passion of interest and diligence in professional upgrading after graduating. Some commented that, with one or two exceptions in Quebec, no architecture schools in Canada have a strong heritage component, and that the Cultural Resource Management diploma program at the University of Victoria is the only other notable professional heritage program. One felt that, "no university in Canada has taken on heritage preservation with vigour". The state of training is spotty and graduates of the few programs offered are not always well-trained, stated one architect,

adding that they have experienced difficulties finding qualified people at all levels. Another source indicated that some future heritage professionals in Canada might indeed emerge from non-architectural disciplines such as geography. Echoing a comment by another professional, they found architecture students' heritage sensitivity so tenuous that guest lecturing at architecture schools is disheartening. An overview of heritage conservation training concurred, stating that in Canada little university training occurs and where it does, it exists almost exclusively within the framework of advanced studies.<sup>68</sup>

The need for heritage education in architecture as well as the planning professions is vital. As two professionals explained, if people in positions of planning, policy and program creation at the municipal, as well as provincial and federal level do not have knowledge of, or at least sensitivity to, heritage matters, then the climate for conservation suffers. There are land-use planning and related issues that can greatly affect the preservation of built heritage such as brownfield development and urban sprawl. It is essential that planners understand the connections and financial realities of these interrelated aspects. As a developer in southern Ontario observed, an overall planning scenario is necessary for downtown development (including restoration) to compete fairly with urban sprawl. Greenfield development on the edge of town is based on the car and its heavily subsidized infrastructure. We need programs that are supportive of

<sup>†</sup> To ease interprovincial movement of tradespeople, workers in 45 trades are recognized by the Interprovincial Standards *Red Seal* Program. Through the program, apprentices who have completed their training and certified journeypersons are able to obtain a "Red Seal" endorsement on their Certificates of Qualification and Apprenticeship by successfully completing an Interprovincial Standards Examination. The "Red Seal" allows qualified trades persons to practice the trade in any province or territory in Canada where the trade is designated without having to write further examinations. (See Web site: [http://www.hrdc-drhc.gc.ca/hrhb/hrp-prh/redseal/english/redseal\\_e.shtml](http://www.hrdc-drhc.gc.ca/hrhb/hrp-prh/redseal/english/redseal_e.shtml))

<sup>67</sup> HRDC, 'Saskatchewan Job Futures, NOC 728 – Masonry and Plastering Trades.'

See Web site: [http://saskjobfutures.ca/profiles/profile\\_print.cfm?noc=728&lang=e&site=txt](http://saskjobfutures.ca/profiles/profile_print.cfm?noc=728&lang=e&site=txt); HRDC, '7281 Bricklayers.'

See Web site: [http://www.on.hrdc-drhc.gc.ca/english/lmi/aid/ofj/7281\\_e.html](http://www.on.hrdc-drhc.gc.ca/english/lmi/aid/ofj/7281_e.html)

<sup>68</sup> Odile Roy, "La formation en architecture de conservation : bilans des acquis d'ici d'ailleurs."

See Web site: [http://canada.icomos.org/bulletin/vol6\\_no2\\_roy\\_f.html](http://canada.icomos.org/bulletin/vol6_no2_roy_f.html)

peoples' choice to live, work and shop downtown.<sup>69</sup> In the United Kingdom, where a much stronger heritage sensitivity exists, even the matter of a government department separation between heritage on the one hand, and planning and environment on the other, led to a gradual weakening of heritage interests within mainstream government policy. According to English Heritage: "This is most notably marked by a failure to accept the 'green' credentials of the historic environment, or to appreciate its relevance to the application of sustainability principles (such as the preference for adaptive re-use of existing buildings over an unthinking resort to demolition and redevelopment)."<sup>70</sup> Consequently, human resource development programmes might be utilised not only to fill gaps in labour shortages, but also to influence attitudes, decisions, behaviours and, ultimately, outcomes.<sup>71</sup>

The aforementioned Canadian Association of Professional Heritage Consultants (CAPHC) is a membership based professional association founded

in 1987 to establish standards of practice for heritage preservation, represent the interests of professional practitioners in many related fields of heritage conservation, and provide owners of heritage properties with a referral service. CAPHC provides a directory of Canadian professional heritage consultants offering a wide array of services and skills focused in the field of heritage conservation and preservation in Canada. Their membership includes professionals from all regions of Canada, though current representation is heavily weighted in Southern Ontario and particularly the Toronto region. Accordingly, the organization has not yet achieved a truly national scope and indeed, there are full-time heritage tradespeople in the West who are not even aware of its existence. Increasing the representation nation-wide is one of the CAPHC's pre-eminent goals, along with the professionalization of the heritage field. The current president of CAPHC also noted that virtually everyone working in the heritage field is in their mid-40s to 60s, partly as a result of the stall in the nascent progression of

education and professionalism in heritage preservation that was evident in Canada in the 1980s. He emphasized the need to train the next generation.

Finally, it should be pointed out that Canadian professional expertise is highly regarded in many parts of the world. It is a market in which there is export potential for those trained in heritage preservation.<sup>72</sup> As mentioned, the Canadian Conservation Institute exports its expertise internationally, as do some architects and tradespeople. As well, International Council on Monuments and Sites Canada (ICOMOS), founded in 1977, is the focus of international cultural resources exchange in Canada, sharing preservation information and expertise worldwide. Specialized Committees and Interest Groups generate ICOMOS Canada's scientific activity. These include: cultural landscapes; heritage legislation; historic area management; stone; training and education; vernacular architecture; and wood, among others.<sup>73</sup> We do not have reliable data on the extent of the built heritage preservation export market, however.

<sup>69</sup> Andrew Dobson, Kincore Holdings of Kingston, Presentation at EOHSRP Conference, Kingston, Ontario, November 1, 2002.

<sup>70</sup> Michael Coupe, "The Built Environment," *The UK Cultural Sector*, p. 8.

<sup>71</sup> Gerald Shortt, "Attitudes of tourism planners: implications for human resource development," *Tourism Management* 15, 6 (1994), pp. 447-449.

<sup>72</sup> Hal Kalman, 'Kalman Looks at CAPHC's Past and Future,' *Forum* (July 1997); CCI 'Welcome to CCI'

See Web site: [http://www.cci-icc.gc.ca/welcome\\_e.shtml](http://www.cci-icc.gc.ca/welcome_e.shtml)CCI

<sup>73</sup> ICOMOS Canada, 'Specialized Committees and Interest Groups: Comités spécialisés et groupes d'intérêts.'

See Web site: <http://canada.icomos.org/com.html.en>, pp. 1-3.

## EDUCATION AND TRAINING

### *Educational institutions and human resource development*

As part of its interest in human resource issues, the Heritage Canada Foundation recently undertook a survey of Canadian educational institutions offering training in the built heritage preservation field. The survey and subsequent research discovered that the offerings are currently limited. There are a scattering of heritage-related courses at the university, college and vocational level, and only a few dedicated programs. Several are under development or being discussed.

The multidisciplinary nature of built heritage preservation is reflected in the breadth of university departments and faculties that offer heritage-related courses. These range from Communication and Culture, to Architecture, Geography, Canadian Studies, Environmental Design, and Fine Arts. The Université de Montréal offers one of the few dedicated programs, the Option Conservation of the Built Environment (CEB) in the Department of Architecture. The program has a fully developed course structure and internship CEB. Courses cover subjects such as: history and theory of conservation; site evaluation; architectural and urban language; research methods and information gathering; cultural landscapes; Canadian architecture before 1940; conservation of wood, stone and masonry; and planning. Laval University's School of Architecture offers a concentration in architectural conservation, as well as a summer program. The University of Victoria provides professional development post-graduate courses leading to a diploma in Culture Resource Management. Carleton University's

Heritage Conservation program in the School of Canadian Studies allows students to focus their graduate work in the built heritage field, and the University of Calgary's School of Environmental Design offers a Certificate in Heritage Resource Management. A few other universities offer heritage conservation related courses within other programs. Another overview of the state of training in architecture conservation also found that, despite the increasingly significant place of architectural conservation in the whole construction industry in the past thirty years, training in Canada's architecture schools is still directed towards the production of new architecture.<sup>74</sup>

In colleges and other vocational training institutions, only two dedicated heritage trades programs exist, and a few others offer one or more relevant courses or a heritage stream. To give some context, an inventory documented 237 carpentry courses/programs offered in Canada in 1996.<sup>75</sup> Dedicated programs include the Heritage and Construction Trades programs at Algonquin College, which continue to receive anecdotal information on students' professional success. The College of the North Atlantic in Newfoundland offers Heritage Carpentry in its Industrial Trades Program, and the École des Métiers et occupations de la construction de Montréal offers a four-month, hands-on heritage masonry program. There is also an optional one-semester specialization in Architectural Heritage and Building Renovation in the Architectural and Building Technologies Program at the Saskatchewan Institute of Applied Science and Technology (SIAST). The new Bachelor of Technology in Architectural Science (BTech) at the British Columbia Institute of Technology (BCIT) will

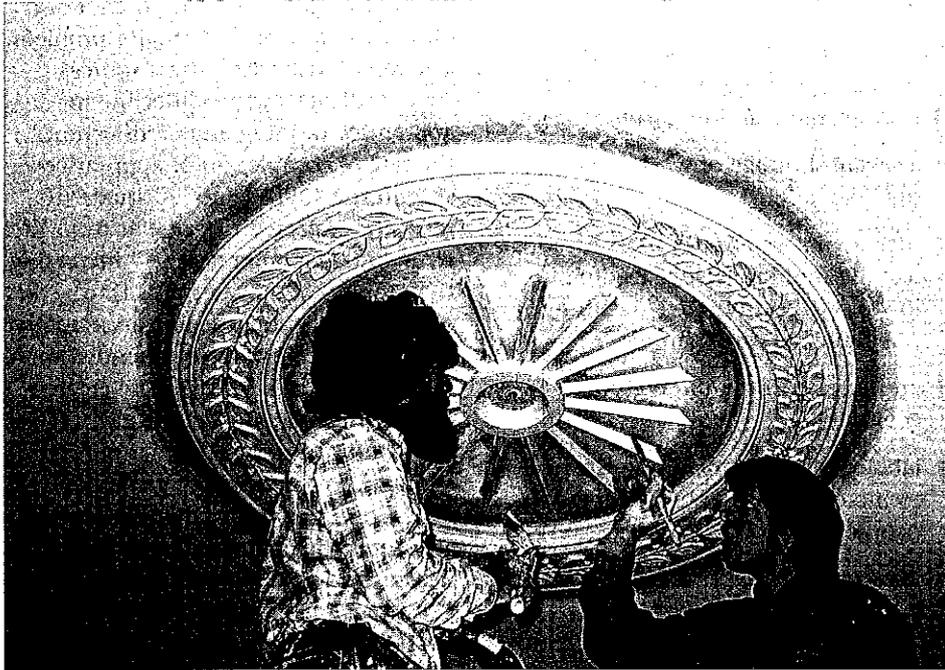
soon be offering a heritage stream and has developed numerous heritage-related courses. Some carpentry programs, while not explicitly addressing heritage trades, do provide solid training in traditional skills. At BCIT, for example, students graduate with sound general training about their craft, and they will soon have access to students and possibly courses in the heritage stream of the BTech program just mentioned. As well, some instructors have heritage knowledge. A full summary of heritage-related programs and courses in colleges, vocational institutions and universities can be found in Appendix 1.

ICOMOS is unequivocal about the need for skilled craftspeople and heritage knowledge in the preservation of built heritage. It asserts that globalisation and mass production techniques displace the historic techniques and thus prevent the possibility of repair with authentic materials and techniques "that is so critical for preservation." Such practices endanger rehabilitation work, particularly when properly trained professionals and other preservation specialists are not available at all, or in sufficient numbers. When this occurs, well-meant preservation measures fail. Moreover, ICOMOS emphasizes that the maintenance and repair of the existing building stock, which would often require only modest means, is more important than many a "luxury" rehabilitation.<sup>76</sup> The EOHSRP report similarly argues that it "seems that a goal of government should be to require proof that certified workers have been used to complete heritage work on historical or heritage buildings that is commissioned by any government agency at any level or work that receives recognition in terms of tax incentives or grants... there is [also] some very real advantage to providing funds for inspections of some non-

<sup>74</sup> Odile Roy, "La Formation en Architecture de Conservation."

<sup>75</sup> National Industrial Adjustment Committee for the Carpentry Craft, *A National Inventory of Training Resources for Carpenters*, prepared by The ARA Consulting Group and John O'Grady Consulting Ltd. (March 1997), pp. 1, 8.

<sup>76</sup> ICOMOS, 'Heritage at Risk 2001-2002: Introduction', p. 2. See Web site: <http://www.international.icomos.org/risk/2001/intro.htm>



governmental buildings and for the ongoing provision of adequate and appropriate maintenance.<sup>77</sup> A strong inspection and maintenance program would relieve the emergency mentality that exists amongst owners, site guardians, and masons when major failings occur. A manual developed for the EOHSRP report put it this way: "Preservation is maintenance. The million-dollar restoration project will end up as a poor investment if the building does not continue to be maintained in a vigilant manner. The restoration work is not the end but rather the beginning of long term care for the structure."<sup>78</sup>

The EOHSRP study found that one of the challenges for the school system during the past four decades has been to encourage young people to enter the trades. This problem exists because teachers and counsellors typically know little about the trades, and much more

about universities. As well, there is a general lack of understanding about the intellectual challenge presented by the trades today. The result is that most if not all students do not have an opportunity to weigh the advantages of a life in trade-related occupations against a life in a career stemming from a university education.<sup>79</sup> More generally, an awareness of heritage preservation that begins at the elementary and high school level would encourage a culture of conservation. An architect observed that raising awareness at this time in a child's life through such means as HCF's educational package, which it sends to thousands of schools across Canada each year, would create a more vocal demand for heritage training in the trades and professions when those students mature.

A final point relates to the geographical area of heritage practice. While some

professionals as well as tradespeople work nationally and internationally, most interviewed work locally or regionally. As the EOHSRP study found with masonry, it is a highly localized activity—only the very large firms work outside the region. In addition, because heritage buildings tend to be built with local materials, which vary across the country, heritage training should be offered in numerous places to reflect regional differences.

### **Apprenticeship and certification**

Apprenticeship is integral to the development of a skilled pool of human resources in many sectors of the economy. The Canadian Apprenticeship Forum, formed in June 2000 to address key issues and concerns of sectors and occupations, goes so far as to argue that, "without the work of these skilled individuals, the Canadian economy would simply cease to function."<sup>80</sup> It has recently been iterated that: "Apprenticeship is the best system for certifying workers and the evidence shows that workers and employers are satisfied with this model."<sup>81</sup> What is broadly understood to be the "trades" has traditionally relied on apprenticeship as an effective training system. Apprenticeship normally includes learning on the job while working for an employer and in-school training. In the building trades, students can write exams after four years to obtain journeyman's papers in carpentry, for example. If a mark of over 70% is obtained, some provinces award the interprovincial *Red Seal* certification. In other provinces a separate exam qualifies journeypersons for *Red Seal* certification. Note, however, that most

<sup>77</sup> Eastern Ontario Heritage Structures Restoration Partnership (EOHSRP) under the auspices of the Fort Henry Historical Group, *Feasibility Study: Eastern Ontario's Built Heritage Response to Masonry and Other Trade Needs in Eastern Ontario* (forthcoming 2003), p. 122.

<sup>78</sup> André Scheinman, "Building Inspection: An Exercise in Awareness," in EOHSRP, *Feasibility Study*, p. 161.

<sup>79</sup> EOHSRP, *Feasibility Study*, p. 120.

<sup>80</sup> Canadian Apprenticeship Forum, 'About Us'. See Web site: <http://www.caf-fca.org/english/about.htm>

<sup>81</sup> Canadian Masonry Human Resources Committee (CMHRC), 'Committee to Establish an Inventory of Training.' See Web site: <http://www.cmhrc.ca/committees/inventory/main.htm>

building trades are not required to be certified in most provinces, with the exception of Quebec.

Formalization of apprenticeship training for many trades under provincial legislation has taken place at varying times throughout the country. In many cases it was done with little or no reference to procedures in neighbouring provinces, resulting in the development of separate and often different systems of training and certification. To ease interprovincial movement of tradespeople, workers in 45 trades are recognized by the Interprovincial Standards *Red Seal* Program. The program increases comparability between provinces by encouraging similar standards and certifying the proficiency of tradespeople with regard to certain tasks that can be found in the Occupational Analysis Program. Under the guidance of the Canadian Council of Directors of Apprenticeship (CCDA), and sponsored by HRDC, this program has developed a series of analyses for all regulated trades in Canada. These are used to identify and group tasks performed by skilled workers in particular occupations, to prepare interprovincial *Red Seal* examinations and curricula for training leading to the certification of workers, and to supply employers and employees with analyses of the tasks performed in particular occupations.

There have been scores of studies on apprenticeship training in recent years. Likewise, numerous new programs and initiatives have been launched. These have been undertaken nationally and provincially, amongst industry sectors (e.g., residential construction) as well as trades (e.g., carpentry). A review of research initiatives on training and apprenticeship reveals key issues facing the building trades. These include:

- an aging workforce;
- fewer entrants to the trades;
- the need to attract new entrants, including non-traditional cohorts (e.g., women, aboriginals);
- a severe shortage of workers is predicted;
- increased specialization/less breadth in skills and knowledge leading to lower certification rates/declining popularity of certification;
- an increase in the underground economy;
- labour mobility (including the need to increase the proportion of tradespeople with *Red Seal* certification);
- market volatility;
- the effect on the workforce of periods of unemployment; and
- the need to increase apprenticeship training programs and job placements.

Concern about apprenticeship is felt throughout the building industry. Contractors in a nation-wide study on the carpentry trade expressed particular concern that apprentices were not getting the needed breadth of work experience on the job. The declining popularity of certification has led to a troubling specialization unsuitable to the breadth of skills required for renovation and supervision in particular. Of a sample of 3,600 carpenters surveyed, 57% reported certification (outside of Quebec, where it is mandatory), and this varies widely from province to province. Also, results were highly correlated with age, with 74% of the non-apprentice sample over 35 reporting certification compared to just 58% of the younger non-apprentice sample reporting certification.<sup>82</sup> Data compiled for apprenticeship registration, withdrawals and completions indicates that participation has declined steadily

during the 1990s and that withdrawal during the program is a major problem. The report states that these sources "may indicate a general decline in apprentice training and certification.... the rate of completion of apprenticeship in the 1990s is not adequate to meet the expected rate of exit from the trade in the coming decade." Increasing the number of new entrants into carpentry has now become an industry priority. The report recommended that a national carpentry group be created for the purpose of promoting the creation of a national human resource strategy for the "carpentry craft."<sup>83</sup> One aspect the strategy would have to address is the changing demographics. Recent evidence suggests that apprenticeship is increasingly an option for those in their twenties looking for a career path. The average age of apprentices in carpentry is 32 years, reflecting the contrast to past generations when apprenticeship began after leaving high school.<sup>84</sup> As well, a concerted effort would have to be made to attract women and aboriginals to the trades. Finally, because of the emerging importance of work in repair, renovation and restoration with its distinct working conditions and skills requirements, the report adds that: "Further analysis of contractors, workers and training in this area is required."

The findings of a masonry trade human resource analysis tell a similar story. Initiated by the National Sector Adjustment Service (NSAS) Committee for the Masonry Trades, the report states that the rate of admission (and completion) of apprentices must be increased. There were also some interesting findings in relation to "restoration work." The Committee estimates that restoration work represents a large market, yet only 10% of the sample reported an active role in this area. The report notes that the

<sup>82</sup> HRDC, *Carpentry Trade Human Resources Analysis, Final*, pp. iii, v, viii.

<sup>83</sup> HRDC, *Carpentry Trade Human Resources Analysis, Final*, p. xii.

<sup>84</sup> HRDC, *Carpentry Trade Human Resources Analysis, Final*, pp. v, x, xi, xv.

work requires a broad range of skills, and is technically and physically demanding. It is surmised that other trades and younger non-union workers might be gaining a larger share of this market. It also points out that: "restoration and renovation work is important and potentially represents a growing and less volatile market for masonry work."<sup>85</sup> The report also points out that certification is expected to increase the employability of workers as employers recognize the skills and offer jobs to them first. Based on the recommendations of the study, the new Canadian

Masonry Human Resources Committee (CMHRC) was created and established several Task Committees. Among these is the Committee to Establish an Inventory of Training, expected to complete its report by March 2003.

The EOHSRP study looked more closely at apprenticeship and certification in the heritage masonry trade. Of the 40 mason contractors surveyed, 68% had worked with apprentices in the past. For those who did not, when asked why they did not hire from the apprenticeship program, six of eighteen

said they had not been approached, four others said they had no time to do the training, and others mentioned the fact that they did not feel the programs produced *workers*. By this it was meant that they felt that young people today seemed unwilling to exert the necessary energy and work ethic to find success in *any* of the trades.<sup>86</sup> It is noteworthy that less than a third of the building owners knew the certification status of the mason they hired, even though most felt that there was some heritage expertise.

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<sup>85</sup> HRDC, *Carpentry Trade Human Resources Analysis, Final*, p. ii.

<sup>86</sup> EOHSRP, *Feasibility Study*, p. 104.

## DATA COLLECTION AND ANALYSIS

Statistics Canada recognizes that access to objective statistical information is vital. Such information provides a solid foundation for informed decisions by elected representatives, businesses, unions and non-profit organizations, as well as individuals. To this end, Statistics Canada produces data on many facets of Canadian life that help Canadians better understand their country—its population, resources, economy, society and culture. In Canada, providing statistics is a federal responsibility. As the central statistical agency, Statistics Canada is legislated to serve this function for the whole of Canada and each of the provinces. In addition to conducting a Census every five years, there are about 350 active surveys on various aspects of Canadian life.<sup>87</sup>

The difficulty in defining, classifying and collecting data on the built heritage preservation industry is not unique. Very recently, the burgeoning environment sector was in much the same position. The situation was explained by noting that: "The environment "industry" does not exist as an explicit element in any existing classification.... [it] consists of business involved in activities that span a number of different industries in the Standard Industrial Classification (SIC). Attempts have been made to identify environmental goods and services in existing classifications, but without appreciable success. It was necessary to develop new ways and new tools to obtain the information."<sup>88</sup> Accordingly, Statistics Canada received funding from Industry Canada, under Initiative 8 of the federal government's Canadian

Environment Industry Strategy, to develop a national statistical database on the environment industry. Statistics Canada began a program consisting of new surveys, modifications to existing surveys and integration of statistics from various components of its economic statistics framework.

### *The Culture Statistics Program and NAICS*

Data challenges in certain sectors, such as environment, tourism and built heritage, stem in large part from the use of the North American Industrial Classification System (NAICS). New categories were added to the NAICS when it replaced SIC and although these are more inclusive and accurate in the definitions of arts and cultural sectors, including an explicit reference to heritage industries, there is still no distinguishable category for built heritage.<sup>89</sup> Statistics Canada plans to adopt the NAICS definition of the culture sector as the starting point for its culture data collection system using the Framework for Cultural Statistics (FCS). Relevant culture industries will be identified by the five digit codes.<sup>90</sup>

One of the difficulties with the NAICS is that businesses and establishments can be classified into only one category. A business's primary source of income determines the category, allowing for other sources of income to be omitted. As well, because of the dominance of the large multinationals, sample surveys normally undertaken "have a tendency to 'bury'" stories from smaller companies.<sup>91</sup> Similarly, a limitation of the Labour Force Survey from which data

is mined is that data are collected only on primary activity. Individuals whose primary job is not in the sector are not enumerated as working in the field. For built heritage, one key drawback is the aggregation of industries and occupations in categories such as "carpenters" "architectural services" or "residential construction." The situation is not unlike that for typesetters, an occupation that one study noted is often excluded from statistics because it is a small trade where data are less reliable and complete. Sources like Statistics Canada suppress data for smaller groups because of lower statistical reliability.<sup>92</sup>

The Cultural Statistics Program (CSP) at Statistics Canada was established in 1972 in response to some of the difficulties associated with the use of SICs. It was thought necessary at that time to carry out census surveys that went beyond SICs. The CSP also produces analytical studies that deal with: the economic impact of culture; culture trade and investment; the culture labour force; culture tourism; government expenditures on culture; consumption of culture; and the health and vitality of components of the cultural sector. Note that the Tourism Satellite Account was similarly developed to overcome the incompatibilities of the NAICS with the tourism industry. Statistics Canada states that, because of the difficulty and expense of developing satellite accounts and other systems to overcome the shortfalls of the NAICS for the culture sector, the benefits would be minimal. For built heritage, such an account would likewise not be feasible.<sup>93</sup> Despite some of the

<sup>87</sup> Statistics Canada, 'What We Do.' See Web site: <http://www.statcan.ca/english/about/overview.htm>

<sup>88</sup> Statistics Canada, *Environment Industry Survey: business sector, 2000* (August 20, 2002).

See Web site: <http://www.statcan.ca/english/IPS/Data/16F0008XIE.htm>

<sup>89</sup> See U.S. Census Bureau, 'NAICS-North American Industry Classification System.' See Web site <http://www.census.gov/epcd/www/naics.html>

<sup>90</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, pp.7, 79.

<sup>91</sup> John Gordon, *Towards a National Trust*, p. 33.

<sup>92</sup> HRDC, *Canadians Building Canada: Performance Through Partnership, National Masonry Human Resources Analysis*, prepared by Prism Economics and Analysis (2000), p. ii. See Web site: <http://www.prismeconomics.com/Masonry.pdf>

<sup>93</sup> Michel Durand, Statistics Canada. Personal interview. November 29<sup>th</sup>, 2002; Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, p. 54.

difficulties associated with the NAICS, Statistics Canada concludes that, overall, it serves the culture sector "quite well".<sup>94</sup>

For a number of years the CSP, with input from working groups, has been developing a statistical framework for Culture Statistics. The purpose of the Framework for Culture Statistics (FCS) is "to develop and document the conceptual, definitional, and methodological aspects and issues relating to measuring culture sector activities." Use of standard concepts, indicators and definitions will foster the reporting of uniform data within political and government circles, when reported by the media, and in other official capacities. Identification of an "official statistical concept of culture" is necessary to distinguish it from that used by academics, interest groups and others that prefer to adopt a broader approach when defining culture. Furthermore, when statistics, indicators, and indices are developed into an analytical framework, "it is then possible to obtain an overview of all the "players" in the culture sector and, from there, users may explore particular dimensions of culture to discern various relationships which may exist." Over the last decade, the demand for culture statistics has become greater and increasingly sophisticated.<sup>95</sup> A number of other countries have also developed a common framework for drawing the various sources of culture information together.<sup>96</sup>

One of the objectives of the FCS is to develop a set of standard key culture indicators to measure the health and vitality of the culture sector.<sup>97</sup> Some of

these indicators are macro-information modules, such as "value of government spending on culture" and "value of culture-tourism", as well as targeted economic and labour market analyses, and technical papers and strategic plans. The suite of statistics that would be required to develop such indicators would include, for example:

- number of organisations, institutions, etc.;
- labour force (total, and targeted occupations);
- revenue;
- consumer expenditures;
- economic impact (contribution to GDP, employment, etc.);
- participation and spending on cultural activities and events by domestic tourists and by foreign tourists; and
- programs' share of government expenditures.<sup>98</sup>

Similarly, the UNESCO Institute for Statistics is currently undergoing a renewal of its culture statistics programme and in doing so is attempting to answer an "important question: what kind of statistics will we need in order to evaluate and concretely guarantee individuals access to their own culture, but also to effectively measure the effectiveness of policies?"<sup>99</sup>

According to the Cultural Statistics Program (CSP) of Statistics Canada, the culture labour market is made up of culture workers involved in the culture sector, non-culture workers working in the culture sector, and culture workers

outside the culture sector. The draft FCS acknowledges that further work needs to be initiated on defining which occupations should be identified as culture.<sup>100</sup> Cultural services are almost always found in culture industries and institutions and in activities that fall within the scope of the services delivered by the culture sector. The FCS considers architectural services (project management, consultation, building restoration, etc) amongst this group.

Many other industries are thought to support the culture sector. In these, culture industries represent only a small portion of that business. Data exist for some of these services but for many, data are not available and are currently outside the scope of the Framework. "Construction services" are amongst the non-cultural services considered integral or directly supportive of the creation or creative production of cultural property. These are considered particularly significant in the location shooting and culture-tourism areas (e.g., transportation, food, and accommodation expenditures).<sup>101</sup>

The consumption of culture has an expenditure and a participation (time-use) component, as well as a volunteer aspect. In terms of participation rates and built heritage, we are limited to the use of statistics on heritage institutions, some of which encompass built heritage, as well as statistics on tourism demand for built heritage. We also know that volunteer workers are a large and essential part of heritage institutions. In terms of consumption of culture goods and services and assessing consumer demand, we are currently limited by the scope of

<sup>94</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, p. 78.

<sup>95</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, pp. 2, 19.

<sup>96</sup> Australian Bureau of Statistics, "Chapter 1: Introduction," *Australian Culture and Leisure Classifications*, (June 2000), p. 2. See Web site: <http://www.abs.gov.au/Ausstats/abs%40.nsf/66f306f503e529a5ca25697e0017661f/8e85755685bbb8cfca256ab500836Sec1OpenDocument>

<sup>97</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, p. 19.

<sup>98</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, pp. 22, 85.

<sup>99</sup> UNESCO, "Statistics in the Wake of Challenges posed by Cultural Diversity in a Globalization Context," p. 2.

<sup>100</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, pp. 39, 45.

<sup>101</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, pp. 48-50, 81.



coverage, quality and level of detail available in the household expenditure data, the primary source of information. The only expenditure data on "built heritage" is admission to museums, which may or may not be relevant to built heritage.<sup>102</sup> FCS iterates that it is a challenge to identify which goods and services should be part of the scope of analysis.<sup>103</sup>

Statistics Canada's insistence on a constant definition of "culture" is not without good reason. A recent critique of economic impact studies in the UK culture sector found that they suffered from a number of drawbacks. Differences in definitions of terms such as "multiplier", let alone the cultural sector, makes comparing studies difficult.<sup>104</sup> Similarly, an important finding for heritage advocates that emerged from an inventory of carpentry training is the confusion about the difference between renovation and restoration,

and how the lack of use of standard definitions affects the ability to interpret findings. One of the principal aims of the inventory was to document the sufficiency of training in areas that are expected to expand or be altered by new technology. One of these was "restoration-related skills," including those related to energy conservation retrofitting. According to the study, British Columbia puts the heaviest emphasis on restoration training, with 37 percent of the courses there offering training in restoration skills. Nova Scotia, Newfoundland and Ontario also put a fairly heavy emphasis on this area.<sup>105</sup> No definition of restoration skills is offered, however, and it could be surmised that what is meant by restoration is renovation skills. The Building Restoration Technician program at George Brown College similarly addresses the severe shortage of skilled people in the "restoration industry", but this includes building

techniques used at time of construction, be that 5 or 100 years ago, and work on highways, stadiums and other structures. Renovation with little regard for heritage bears little relation to restoration. In the future, a similar inventory might make a distinction between restoration and renovation. The EOHSRP study did just this to insure that the subject was clearly separating renovation from rehabilitation and restoration.<sup>106</sup>

### ***The challenge for the built heritage sector***

The complexity of the built heritage sector is a challenge for information collection and analysis. At the Heritage Canada Foundation's recent annual conferences, Statistics Canada officials agreed that a strategic data and research plan are needed to remedy information gaps. In particular, data are essential in describing the various dimensions of built heritage activity, and analytical components are required to conduct, for example, labour market analysis. While more information could be collected, there is also the possibility of "mining" information, whereby data collected for other purposes in a variety of surveys are then "mined" and put together to create a picture. It was noted that CSP is currently working with the Department of Canadian Heritage to improve the collection and analysis of cultural statistics.<sup>107</sup>

The National Advisory Committee on Culture Statistics (NACCS) was created in 1984. Its mandate is to provide advice for the development of statistical activities related to "all aspects of art and culture" in Canada. The difficulties experienced with defining built heritage

<sup>102</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, pp. 50-51.

<sup>103</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, p. 52.

<sup>104</sup> Peter Johnson and Barry Thomas, "Assessing the Economic Impact of the Arts," *The UK Cultural Sector*, pp. 212-215.

<sup>105</sup> National Industrial Adjustment Committee for the Carpentry Craft, *A National Inventory of Training Resources for Carpenters*, pp. 1, 8.

<sup>106</sup> EOHSRP, *Feasibility Study*, p. 27.

<sup>107</sup> Brad Ruth, *Preservation Pays, The Economics of Heritage Preservation*, Proceedings, Heritage Canada Foundation Conference, Toronto, October 11-13, 2001 (Ottawa: HCF, 2002), pp. 29-30.

and the effect of this on data collection was also reflected in the agenda for the NACCS meeting of October 2000, which included the issue of data gaps. Like some other components of the cultural sector (e.g., the visual arts, crafts, music industry, and the library areas), built heritage suffers from fragmented and incomplete statistics. In this meeting, nine key areas were identified where the program should expand. Built heritage was not among them,<sup>108</sup> despite the documented lack of data pertaining to this sector.<sup>109</sup> Built heritage in some other countries is not so excluded from cultural statistics. In the UK, for example, *Cultural Trends*, a quarterly journal published by the Policy Studies Institute, is devoted to the statistical needs of the cultural sector, which covers four broad subjects: built heritage, media, performing arts and material culture. Since 1989, the journal has provided interested parties with credible, peer-reviewed statistical information and in-depth analysis of cultural studies issues.<sup>110</sup>

The concept of the economic chain from creation to retail distribution is viewed as essential to an understanding of the relationships among all culture players involved in the supply of goods and services.<sup>††</sup> Statistics Canada states: "Without all aspects of the economic chain, it is impossible to fully appreciate and understand the factors contributing to the health and vitality of the culture sector."<sup>111</sup> The industrial structure adopted by the FCS comprises a two-dimensional matrix: scope of industry

activities defined by culture content categories, and seven functional elements, which include creation, production, support activities, manufacturing, wholesale distribution, and retail distribution.

Department of Canadian Heritage and other public sector activities primarily associated with the development and administration of cultural policy and programs have been incorporated in the support services function.<sup>112</sup>

Because the definition of culture originates from the function of artists and their output,<sup>113</sup> architectural plans are considered a cultural output. "Since the culture output is the plan (rather than the building) construction of the building or the building itself is not part of the culture infrastructure of interest, or considered a culture product." According to this definition, architects, planners and the like of highways, airports, land subdivisions, commercial, institutional and residential buildings are part of the culture industry, as are individuals primarily engaged in developing plans for renovation.<sup>114</sup> A highly-skilled carpenter or stonemason is not, however. Another curiosity exists. A table in the draft FCS lists the economic impacts of the selected culture activities and supporting infrastructure. In the matrix, architecture is listed as a culture content category, and of the corresponding functional elements, two apply: creation and production. Preservation, according to this matrix, accounts for zero GDP. However, in another section of the FCS draft, "detailed culture sector description",

heritage restoration activity is included under "production", and pertains to *institutions* engaged in preservation and conservation of Canada's natural and culture heritage. Primary activities include the restoration of conservation areas and historic towns, historic sites, monuments and other building types, historic residential, administrative, commercial and religious buildings.<sup>115</sup>

### Other possible data sources

*Face of the Future*, the recent HR report on Canada's culture sector, concluded that a large proportion of Canada's existing census data has not been fully exploited because of the government's limited resources. Accordingly, special data requests are available from Statistics Canada, but on a cost-recovery basis. In addition to data mining, possibilities include the addition of a question to an existing survey, and specialized research projects (surveys or statistical analysis). Due to the high costs involved, a consortium of interested parties often combines to spread out the cost.

Despite the current lack of funds for new data initiatives at Statistics Canada, during recent communications with officials there were a number of options discussed. Data mining is currently the most likely—and cheapest—option for the built heritage sector. It was also pointed out that if the federal government's proposed fiscal incentives come to fruition, it could be a big step forward. Statistics Canada might then be able to provide measures of the

<sup>108</sup> Statistics Canada, "Working together: An update on the National Advisory Committee on Culture Statistics," *Focus on Culture* 12, 3, pp. 9-10; Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, pp. 32, 34-35, 56, 58.

<sup>109</sup> Ruth, *Preservation Pays*, pp. 29-30; Gordon, *Towards a National Trust*, p. 33; Michel Durand, Statistics Canada. Personal interview. November 29<sup>th</sup>, 2002.

<sup>110</sup> See Web site: <http://www.culturaltrends.org.uk/About/background.htm>

<sup>††</sup> Note that the goods and services will need to be harmonized and reconciled against the North American Product Classification System currently being developed and negotiated.

<sup>111</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, p. 12.

<sup>112</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, p. 14.

<sup>113</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, p. 9.

<sup>114</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, p. 68.

<sup>115</sup> Statistics Canada, *A Canadian Framework for Culture Statistics*, Draft, pp. 34, 71-72.

activity associated with the heritage building stock. Moreover, once the *Canadian Register of Historic Places* is established, there may be opportunities for a sample survey of registered properties. Additionally, the Survey of the Construction Industry could be refined by adding a question dealing with built heritage, as could the government spending on heritage survey, to identify government spending on built heritage. With such additional data, it might then be possible for Statistics Canada to produce a report, *The Health and Vitality of Canada's Built Heritage*, on a cost-recovery basis. Several such reports, which integrate an assortment of collected and calculated measures related to the subject in question, have been completed on other sectors, cities and regions.<sup>116</sup> Other suggestions included tracking what is happening to municipal cultural policy generally, which often leads to a heritage

component. It was thought that there is probably enough information available about cultural policy to begin developing a picture of the sector that could be used to gauge the importance of built heritage. They concurred that defining the category is the first step required before data can be collected. Finally, it was noted that Statistics Canada is developing a new social/cultural capital survey.

There may be unexplored promise in obtaining data from existing building and construction surveys. For example, the amount spent on (legal) renovation is known through the granting of building permits, and this data is compiled by Statistics Canada. Statistics Canada also undertakes the homeowner repair and renovation survey, which collects data on the value of repairs and renovations. Importantly, it also collects data on the date in which the

dwelling was built.<sup>117</sup> Given these two data sets, it would be possible to calculate how much is spent on dwellings that were built in 1920 or earlier, or 1945 and earlier. Then, using the CMHC statistic of 28 jobs created per \$1 million spent on renovation work, one could estimate the number of workers needed to repair and maintain our older dwellings, and to work on rehabilitation and restoration projects when commissioned by site owners. This could be a starting point for a strategy to develop human resources in heritage preservation so that the demand for tradespeople, architects and other professionals with heritage skills could be met, thereby ensuring that this activity actually helps conserve heritage buildings, rather than removes or destroys heritage architectural elements.

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<sup>116</sup> Gordon, *Towards a National Trust*, p. 33.

<sup>117</sup> Homeowner Repair and Renovation Survey (HRRS). See Web site: <http://www.statcan.ca/english/sdds/3886.htm>

## SUMMARY OF FINDINGS



This report addresses a number of issues pertaining to human resources in the preservation of our built heritage and conservation of historic sites. During the last three decades, a workforce of built heritage preservation professionals and tradespeople has emerged in Canada. Even after thirty or more years of accomplishments, however, the cohort of trades and professional heritage conservation workers is not adequately recognized or understood.

This situation needs to be rectified, not least because of the potential future demand for skilled workers and the threat to our remaining built heritage if we do not meet this demand. If we use the conservative estimate that 10% of pre-1941 buildings possess heritage value, then there exist approximately 128,000 residential heritage properties alone that require ongoing maintenance, repair and preservation work. The materials and characteristics of this older building stock are fundamentally different from newer stock.

Interviews with employers provided anecdotal evidence that most had

experienced a shortage in heritage tradespeople, or perceived a current or future shortage. The Eastern Ontario Heritage Structures Restoration Partnership (EOHSRP), which recently collected information from 300 heritage building owners and site guardians and 40 masonry contractors, confirms the demand. It found that some firms have had to refuse work because they did not have staff with heritage skills. Site owners, town planners, municipal officials, and comptrollers of large corporations all mentioned the numerous calls they receive from people looking for tradespeople, particularly carpenters and masons. They suggested that this has been the case since the early 1980s. A recent nation-wide study on the carpentry trade concluded that because of the emerging importance of work in repair, renovation and restoration (with its distinct working conditions and skills requirements), further analysis of contractors, workers and training in this area is required.

Built heritage preservationists find that definitions can be problematic. First, in Canada, built heritage has a tenuous connection with the concepts

of "culture" and "heritage" and it is therefore often overlooked in definitions. Second, in terms of industry and the labour force, heritage preservation work is often subsumed in the larger context of "renovation" or "building trades." The widely used North American Industrial Classification System (NAICS) includes classifications for historical sites, museums and similar institutions, but this does not account for most of the work of heritage preservation, which is undertaken in the private sector. Similarly, the National Occupation Classification system (NOC) does not disaggregate at a level that is useful for understanding human resources in built heritage preservation. Categories such as "heritage architect", "heritage planner" or "heritage mason" have yet to be included.

The matter of definitions would not be of such importance except for the fact that, if and how built heritage is defined, and explicitly included or excluded from broader definitions of sectors such as "culture", "heritage" and "the renovation industry", subsequently impacts data collection, policy creation, and public and private sector actions that affect built heritage.

### ***Education, training, and certification—trends, gaps and needs***

The Heritage Canada Foundation's survey of educational institutions and subsequent research discovered that the offerings at both the university and college/vocational level are limited. The multidisciplinary nature of built heritage preservation is reflected in the range of university departments and faculties amongst which heritage-related courses are scattered. There are only a few dedicated programs, however, and what little university training occurs exists almost exclusively within the framework of advanced studies. Two colleges provide training in heritage trades as the primary focus of a program,

one of which is in its first year. Two others have been identified that include heritage as a component or add-on.

The need for heritage education in the planning professions, in addition to architecture, is vital. If people in positions of planning, policy and program creation at the municipal, as well as provincial and federal levels do not have knowledge of, or at least sensitivity to, heritage matters, then the climate for conservation suffers. More generally, an awareness of heritage preservation that begins at the elementary and high school level would encourage a culture of conservation. Raising awareness at this time in a child's life through such means as HCF's educational package, which it sends to thousands of schools across Canada each year, could spawn a generation sensitive to and vocal about the importance of our built heritage.

Because work on heritage buildings requires some distinct skills from more general renovation work, widely integrating heritage skills training with contemporary trades training is a prudent system for both students and employers. Inclusion of heritage sensitivity in the requirements for certification at the provincial and possibly at the national (i.e., *Red Seal*) level, too, could be explored. Take for example Newfoundland's heritage carpentry program, which is fully articulated with the interprovincial *Red Seal* Construction Carpentry program for certification, allowing graduates greater opportunity for employment. Conversely, however, no knowledge of heritage is required to obtain *Red Seal* certification. CMHC recognizes that Canada's existing housing stock represents an "enormous pool of private capital," and renovation choices have a direct impact on the integrity, longevity and performance of these homes. Accordingly, the strong influence contractors have on building owners' decisions underscores the need for

widespread heritage sensitivity in the trades as well as the professions. As one heritage trades educator pointed out: "our graduates can explain to their clients the difference between renovation and restoration."

Apprenticeship is integral to the development of a skilled pool of human resources in many sectors of the economy. Concern about apprenticeship is felt throughout the building industry. A review of research initiatives on training and apprenticeship reveals key issues facing the building trades that centre on an imminent shortage of skilled tradespeople, and problems related to market volatility, which is less pronounced in the renovation than the new construction market.

Preservationists emphasize the importance of maintenance and repair of the existing building stock. Often requiring only modest means, it is more important than many a luxury rehabilitation. Moreover, regular inspections result in the avoidance of major repairs to buildings. A knowledgeable workforce that could undertake a strong inspection and maintenance program would relieve the emergency mentality that exists amongst owners and site guardians. It was readily apparent throughout a major study of heritage structures in Ontario that most major restoration work encountered could have been avoided had regular inspections taken place and small problems been addressed as they occurred.

#### ***Data availability, collection and analysis—gaps and needs***

The complexity of the built heritage sector and the challenge in defining, classifying and collecting data on the built heritage preservation industry is not unique. Very recently, the burgeoning environment sector was in much the same position. Attempts had been made to identify environmental goods and services in existing classifications,

but without appreciable success. It was necessary to develop new ways and new tools to obtain the information. Statistics Canada received funding from Industry Canada to develop a national statistical database on the environment industry. Statistics Canada began a program consisting of new surveys, modifications to existing surveys and integration of statistics from various components of its economic statistics framework. Similarly, the Cultural Statistics Program at Statistics Canada was established in 1972 in response to some of the difficulties associated with data in the culture sector. There is an acknowledged gap in the data required to adequately understand the built heritage preservation field. Data are needed for descriptive analyses, planning, understanding the role and contribution of built heritage to the economy, and monitoring.

A review of Statistics Canada's latest Draft *Framework for Culture Statistics* (FCS) largely excludes built heritage from its definition of culture. Statistics Canada explains: "Since the culture output is the plan rather than the building construction of the building or the building itself is not part of the culture infrastructure of interest, or considered a culture product." According to this definition, architects, planners and the like of highways, airports, land subdivisions, commercial, institutional and residential buildings are part of the culture industry, as are individuals primarily engaged in developing plans for renovation. A highly skilled carpenter or stonemason is not, however. Built heritage in some other countries is not so excluded from cultural statistics. The Draft FCS acknowledges that further work needs to be initiated on defining which occupations should be identified as cultural.

The Government of Canada recently recognized the need to deepen its commitment to ensure that Canadians will be able to enjoy their rich built

heritage, most notably through the Historic Places Initiative (HPI). Part of the HPI is the establishment of a national heritage register, and Statistics Canada officials did suggest that once the register is operational, it could provide an important base from which these buildings could be surveyed and monitored. Despite the current lack of funds for new data initiatives at Statistics Canada, during recent communications with officials it was also pointed out that, from a survey-taker's point of view, if the proposed tax incentives offered by the federal government come to fruition, Statistics Canada might then be able to provide measures of the activity associated with the heritage building stock.

Special data requests are also available from Statistics Canada on a cost-recovery basis. In addition to data mining, possibilities include the addition of a question to an existing survey, and specialized research projects (surveys or statistical analysis). There may also be unexplored promise in obtaining data from building and construction surveys.

In the future, however, emphasis needs to be placed on the fact that renovation without regard for heritage bears little relation to restoration or rehabilitation. To benefit data collection in the heritage preservation field, this distinction could be made in studies of the construction industry, the carpentry and masonry trades, and training programs. The EOHSRP made just this distinction in its recent study of work undertaken on heritage buildings.

By assessing evidence from a number of sources, one can begin to cobble together a picture of human resources in the heritage preservation field. Some of this evidence stems from data generated by the EOHSRP study, the CAPHC directory of members, and the data base of graduates from the Algonquin College Heritage Trades Program. Interviews revealed that at least one large engineering firm has ten staff directly involved in heritage work. By tracking heritage awards across the country, it has been determined that dozens of architects and architectural and engineering firms

work in the built heritage field. Additionally, Public Works and Government Services Canada's Heritage Conservation Program has over fifty employees who provide professional and technical conservation and architectural engineering services. There is also a heritage millwork firm in BC that has a full-time staff of sixteen, as well as numerous self-employed carpenters and masons that work on heritage buildings. Still, we have neither systematically collected data, nor a national built heritage human resources strategy. There are signs of a growing awareness that heritage buildings and HR issues are a distinct and important sub-sector that needs to be addressed. Future development of an HR strategy for built heritage preservationists would place built heritage alongside the many other sectors in which the development of human resources has been recognized as essential to the future well-being of Canada. By so doing we would help safeguard Canada's heritage buildings.

## ADDITIONAL CONSIDERATIONS

### *The role of research*

In order to create a culture of conservation and improve the underlying understanding of the particular characteristics of heritage buildings and how they function, ongoing research is essential. To give a few examples of the range of research required, below are outlined four endeavours, from narrow technical projects to a broad review of impacts on and threats to heritage.

- The National Center for Preservation Technology and Training (NCPTT) in the US observes that one of the principal reasons for the alarming rate of attrition of older buildings is an inability to accurately assess the load-bearing capacity of wood floor systems. Currently, there are no standard methods for examining and assessing the integrity of wood floors. Building inspectors often assign overly conservative load bearing capacities as a result, making it difficult or unfeasible to continue the use of these buildings. To address this shortcoming the NCPTT is helping the Purdue University and the United States Department of Agriculture (USDA) Forest Products Laboratory develop a rapid, cost-effective method for nondestructively evaluating the structural integrity of wood floor systems in older buildings. With continuing trials it is hoped the compiled data will form the basis of computer software that will help structural engineers make accurate assessments of the load-bearing capacity of older wooden floor systems.<sup>118</sup>
- In 1996, a four-storey, 30-unit, 86-year-old apartment building located in Prince Albert, Saskatchewan was completely gutted

and renovated. Because the project called for the addition of interior insulation, and this practice was, and continues to be, contentious, it attracted the attention of CMHC's Research Division. After 1.5 years of monitoring, the renovation of the building appears to be successful. The addition of interior insulation has not adversely affected the performance of the wall system, and does not show signs of the commonly perceived problems associated with this action. CMHC concludes that, if successful over the longer term and in other locations, "interior insulation retrofits will increase the options available to [the] housing industry in the renovation of apartment buildings."<sup>119</sup> Ongoing monitoring of the project shows that the wall systems are thus far performing well.<sup>120</sup> Another project is assessing a number of similar case studies, wherein investigations of previously retrofitted solid masonry walls have been performed to determine the impact of the interior insulation on the durability of the walls. Case studies include a 120-year-old solid masonry building, several 1900s vintage apartment buildings, and a 50-year-old solid masonry office building. Preliminary indications are that the interior application of insulation has not adversely affected the durability of the walls.<sup>121</sup>

- The independently verified research by English Heritage published in *The Heritage Dividend* provided the necessary evidence to back the assertions of English Heritage about the positive impacts of conservation-led development. This demonstrated the "potency of EH's area conservation

grants, operated in partnership with local authorities, in helping to deliver key outputs aligned closely with the government's national policy objectives."<sup>122</sup>

- A recent project in Finland consisted of a series of seminars whose objectives were to identify the threats to built heritage, improve practices and policies connected with the management of built heritage and to develop the skills of professionals. With a focus on wooden buildings, it was felt that the skills developed could also be applied to newer wooden buildings. It was stressed that not only was preservation a cultural goal, it was also economically important, not least because "restoration and subsequent maintenance of the buildings are a good means of creating employment opportunities."<sup>123</sup>

### *Related issues*

- *Need for awareness and fair coverage in industry publications and marketing material*

Misconceptions about the importance and efficacy of repairing heritage architectural elements (rather than replacing them) abound. Industry publications, marketing material and other sources of information frequently either make no mention of heritage material, or erroneously lead the building owner to conclude that an element must be replaced. This is very often the case with windows, as was alluded to in Box 1.

Renovation materials provided by CMHC, amongst others, unfortunately do nothing to improve this situation. The window renovation guide at

<sup>118</sup> Mark Gilberg, "Preservation Technology from the Ground Floor," *NCPTT Notes* 42 (Summer 2002), pp. 1-2.

<sup>119</sup> CMHC, "The Renovation of an Apartment Building with Solid Masonry Walls," Technical Series 2000-134, p. 4.

<sup>120</sup> CMHC, "Hygrothermal Modelling of the Interior Insulation Retrofit of a Solid Masonry Building," *Current Housing Research* 9, 1 (Summer 2002), p. 17.

<sup>121</sup> CMHC, "Guideline for the Retrofit of Uninsulated Walls," *Current Housing Research* 9, 1 (Summer 2002), p. 28.

<sup>122</sup> Coupe, "The Built Environment," *The UK Cultural Sector*, pp. 8-9.

<sup>123</sup> The National Board of Antiquities Finland, 'Management of the European wooden building heritage,' p. 1.

CMHC makes no mention of historic windows.<sup>124</sup> When making changes to windows (or doors), CMHC suggests five items to be considered, none of which make reference to their potential heritage integrity. Indeed, the emphasis on "high performance units" could easily lead the building owner to believe that old windows are inherently energy inefficient by the simple virtue of their age. As well, when CHMC states that replacing old windows is a common "upgrade",<sup>125</sup> it further promotes the idea that old windows are inherently in need of replacement. On the other hand, CMHC stresses the use of "durable materials that will last longer and minimize future waste in landfill sites." A minor addition of information, noting that it is often more economical and energy efficient to repair old windows than replace them with new ones,<sup>126</sup> could go a long way to reduce the unnecessary waste and destruction of heritage windows. Similarly, in "Hiring a Contractor"<sup>127</sup> CMHC suggests asking how the health and energy aspects of the job will be dealt with. An additional question could simply be added that asks how any architectural heritage elements of the building will be addressed. Hydro and other utilities and gas programs also commonly promote the replacement of windows—frequently picturing an old wooden window in the advertisement.

#### ■ *Exposure to heritage matters*

Building on the fact that it is repair and maintenance that matters most to the preservation of heritage buildings, certification programs and training syllabi might require additional items related to heritage. In the Occupational Analyses Series for Carpenters (1998), one of the sub-tasks listed is: "Uses codes, regulations and standards."

Knowledge is required of a number of these, including the *National Energy Code*, the Canadian Standards Association (CSA) standards, applicable Occupational Health & Safety Acts (OHSA) and Regulations, including the *Labour Code* and the *Workplace Hazardous Materials Information System (WHMIS)*, and national, provincial and municipal codes and regulations (employment, health, environmental, security regulations and standards).<sup>128</sup> It is conceivable that Parks Canada's *Standards and Guidelines for the Conservation of Historic Places in Canada* could be added to this list.

In keeping with this notion, an HR Carpentry Analysis (2000) recommends that well-rounded carpenters are needed for the burgeoning renovation market. Further, after completion of a standardized carpentry apprenticeship, the industry and the trade should develop specialized endorsements to recognize advanced skills in specific areas, such as renovation. Perhaps heritage restoration should be added to the list. Expansion of heritage training at the trades as well as university levels must be commensurate with the increased demand for trained professionals and the need for learning about heritage matters by those in planning and related professions.

An example helps elucidate the need for increased exposure to heritage matters. The current president of CAPHC explains that governments are forced by their own policies to hire the lowest bidder, which can be detrimental to heritage restoration. In the last ten years, government purchasers in Toronto (pre-amalgamation, i.e. central Toronto) are beginning to require CAPHC membership as a requirement for bidding on contracts recognized as

restoration work. Nevertheless, restoration is still an uphill battle and will remain so until the public becomes more aware of its importance and manifests greater support for preserving our built heritage. It is only then, with public pressure, that the zoning and other laws will be put in place that support preservation rather than new construction, as they do now.

Finally, instilling heritage sensitivity is about more than teaching history and heritage. Children need *exposure* to heritage buildings to gain knowledge at the visceral level, the level that makes people understand and truly value these buildings. For students who do not go to school in the dwindling supply of old schools, or do not live in an older neighbourhood, it is essential to get them out and involved in some aspect of their community's heritage.

#### ■ *Keeping current funding levels in perspective*

Recent announcements about federal funding for built heritage are a promising first step, and represent the strongest commitment in decades. Comparing this level to other funding commitments, however, reminds us that there is still a long way to go before built heritage receives funds commensurate with its importance to our sense of place, let alone economic and environmental agendas.

Consider, for instance, the \$24 million that constitutes the first phase of the Historic Places Initiative, which is to address a heritage universe that includes, in addition to heritage buildings, historic sites, monuments, archaeological sites, and other historic places. The \$24 million constitutes only 4.3% of the total \$560 million funding package for arts and culture

<sup>124</sup> CMHC, "About Your House: Before You Start Window and Door Renovations," (Ottawa: CMHC, 2000), p. 2.

<sup>125</sup> CMHC, "About Your House: Assessing the Renovation Project," (Ottawa: CMHC, 2000), p. 2.

<sup>126</sup> Craig Sims, "Saving Historic Windows Makes Dollars and Sense," *Frontenac Historic Foundation* 24, 1 (February 1998), pp. 1-4.

<sup>127</sup> CMHC, "About Your House: Hiring a Contractor," (Ottawa: CMHC, 2001), pp. 1-2.

<sup>128</sup> Interprovincial Partnerships and Occupational Information Division, Human Resources Partnerships Directorate, *Occupational Analyses Series Carpenter* (1998), p. 7.

**Table 1**  
**Promoting Canadian Culture and Values**

	2003-2004	2004-2005
	(millions of dollars)	
<b>Cultural and heritage programs</b>		
Historic places	10	10
Canadian Television Fund	75	75
Katimavik	5	12
Official languages	37.5	77
<b>Other initiatives</b>		
Legal aid	44.5	44.5
New Citizenship Act	10.6	10
Amateur sport	5	5
<b>Total</b>	<b>187.6</b>	<b>233.5</b>

Source: Department of Finance Canada, *The Budget Plan 2003* (Ottawa: Her Majesty the Queen in Rights of Canada, February 18, 2003), p. 114.

under the Tomorrow Starts Today Initiative. The most recent federal Budget released in February 2003 furnishes another example. The Canadian Television Fund will receive \$150 million in the next two years, while Historic Places receives \$20 million (see Table 1), which represents two thirds of the \$30 million of financial incentives the Historic Places Initiative will receive over the next three years. While this is a positive step, clearly there is room for increased public awareness and government priority when television receives 7.5 times more funding than does preserving our historic places.

■ *What should we measure and how?*

1) A better understanding of the economics of heritage preservation is vital. Nevertheless, it is essential that we not lose sight of the fact that heritage preservation, while an important contributor to employment and other goals, has other important dimensions that have received less attention. In 1982,

the Federal Cultural Policy Review Committee "observed a tendency to treat cultural policy as a means to other ends—social, economic and political. The apparent belief by some that culture is an instrument, not an end in itself, has consequences which this Committee must regard as undesirable. First, it contributes to a muddling of cultural goals with other national goals....we must respectfully observe that as much as possible they should be kept distinct from cultural goals."<sup>129</sup> A recent report from the UK echoed this argument and instead suggested an altogether wider research agenda, one that would focus more on the measurement and valuation of the impact of the activities of the arts sector on the enjoyment and appreciation of those whom they influence—in other words, the cultural impact. There has been little or no attempt to measure such subtle social or "individual psychic benefit[s]" that result from the increased vitality of cities, for example.<sup>130</sup>

2) Now that the EOHSRP study is complete, it may prove useful to carry out similar studies in other regions. Some possible locations include Victoria where, at the University of Victoria, urban geographer Larry McCann and students have compiled a data base of every house ever built in the neighbourhood of Oak Bay.<sup>131</sup> The data on 7,000 houses could be used as a starting point for a longitudinal study on built heritage preservation activity. Other research agendas might sample survey architects, carpenters and masons about their heritage preservation work.

3) Affordable housing programs account for a massive input of funds into the housing stock, some of which is directed at rehabilitation of older building stock. The Government of Canada, through the various initiatives of CMHC, works on many levels to supply affordable housing. It is supported by partnerships with provinces, municipalities, community-based groups and the private sector. Such programs could be utilized to track and better understand the human resources required to rehabilitate these structures. To give some perspective, consider that, building upon the considerable federal/provincial housing programs that are already in place, \$18.63 million in new federal money directed for affordable housing was announced for Nova Scotia in 2002. With matching contributions from the province and others, a total of \$37.26 million will be available to create or preserve up to 1,500 new affordable housing units in the province over the next five years. This affordable housing agreement resulted from the Government of

<sup>129</sup> Government of Canada, *Report of the Federal Cultural Policy Review Committee*, p. 8.

<sup>130</sup> Johnson and Thomas, "Assessing the Economic Impact of the Arts," *The UK Cultural Sector*, pp. 215-216.

<sup>131</sup> Leah Pence, "Mapping the development of Oak Bay," *UVic knowLEDGE: Research and Discovery at the University of Victoria* 2, 4 (2001).

See Web site: [http://communications.uvic.ca/edge/v2n04\\_28jun01.pdf](http://communications.uvic.ca/edge/v2n04_28jun01.pdf)

Canada's \$680-million commitment to helping Canadians in need of affordable housing. In total, the Government of Canada currently spends more than \$1.9 billion annually to address the housing needs of lower-income Canadians. The CMHC funding for Nova Scotia will be used for four provincially designed programs that will support the creation of new affordable rental housing and homeownership, and the rehabilitation or conversion of existing housing, which is at risk of loss from the housing stock. It is recognized that there is a need in Nova Scotia to complete major repairs on affordable housing that would be otherwise lost.<sup>132</sup>

#### ■ *Building materials*

It is critical that properly trained tradespeople have access to appropriate building materials. During interviews, most tradespeople and those in the professions expressed some difficulty in sourcing building materials. One heritage millworker commented that finding old growth wood, which is essential for quality architectural restoration and reproduction, is an ongoing issue. Another engineer stated that, "the availability of matching stone is always an issue. The knowledge of the local geology and quarries is a key asset to the success of a project....Both the number of quarries that are economically viable and the sources for wood will continue to be a problem." He added that,

currently, importing wood from outside of Canada is only necessary in rare situations, such as when an extremely strong species is required.<sup>133</sup> Another professional found during the course of a commercial rehabilitation project that stone used in the original construction and blasted off in some places during past "upgrades" no longer existed in the size and quality that matched the original. Two related points emerge from this issue. First, the sources of materials from which our heritage buildings were constructed have in some cases been exhausted, and often severely depleted. Second, broader land-use planning issues clearly impact on the material requirements of restoration and rehabilitation projects.

<sup>132</sup> 'Speaking Notes for the Honourable David Collenette, Minister of Transport and Minister responsible for Canada Mortgage and Housing Corporation Announcement of the Affordable Housing Program Agreement Between the Government of Canada and the Government of Nova Scotia. Halifax, Nova Scotia.' September 13, 2002. See Web site: [http://www.cmhc-schl.gc.ca/en/News/spba/spba\\_50.cfm](http://www.cmhc-schl.gc.ca/en/News/spba/spba_50.cfm)

<sup>133</sup> Andy Huctwith. E-mail. January 15, 2003.

## BOX 1: Why Windows?

"Your original windows are the appropriate ones for your old house," Bill Murphy of Vintage Woodworks in Victoria, BC explains. Very rarely do you need to replace the original windows. When replaced, most windows are not even half-way through their lifespan, particularly north-facing ones. Bill stresses that you should not let anyone convince you otherwise, an issue that John Leeke sees as: "How to avoid falling under the spell of the window replacement salesman."

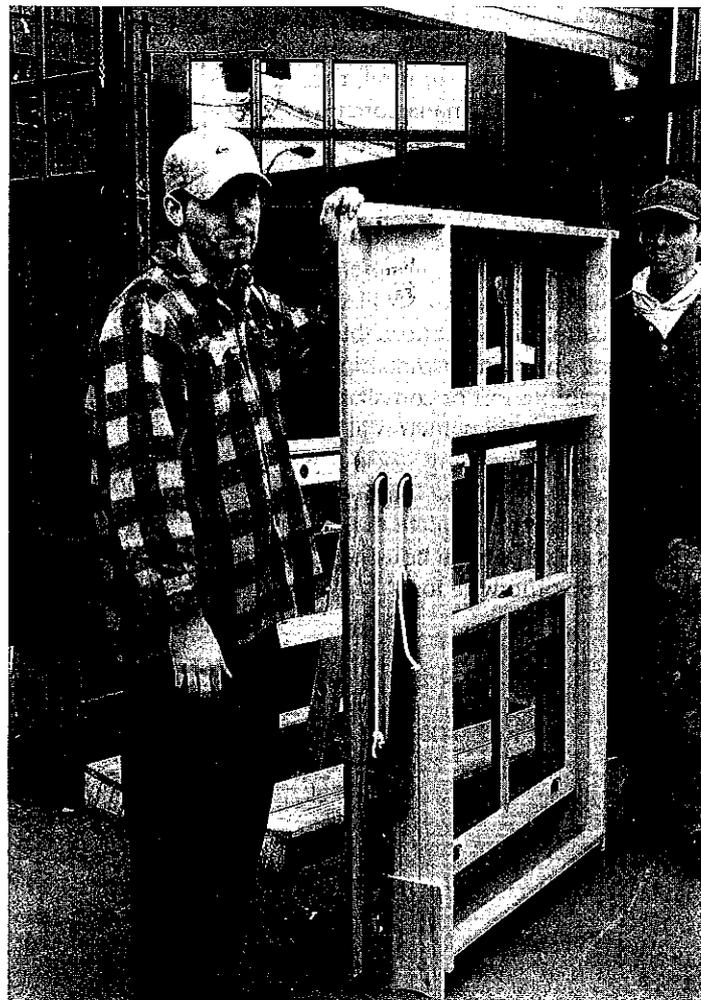
Original windows are one of the most significant character-defining features of a heritage building, be they highly decorative, unusually shaped, or the repeated but simple multi-paned windows on many industrial buildings. Accordingly, the BC Heritage Trust stresses that because rehabilitation projects frequently include proposals to replace windows partially or wholly in order to improve thermal efficiency or to create a new appearance, it is essential that the contribution of windows to the character of the building and their physical condition be properly assessed to avoid unnecessary changes. When undertaking modifications to a heritage building, the contractor must be aware of these aspects in order to make an informed assessment.

When it comes to thermal efficiency, original old windows can hold their own against replacement options, such as contemporary sealed thermal units made of metal or aluminum. The addition of wooden storm windows is cost-effective, and a far better method of avoiding heat loss, deadening sound, retaining original windows and protecting them from the elements. Studies have shown that an historic window with a high quality storm window is comparable in thermal efficiency to a new double-glazed window. Craig Sims, an architectural preservation consultant, notes that "historic windows represent proven sustainable systems" that can easily be thermally upgraded. Problems with drafts, moisture and window deterioration are also sometimes a function of air circulation, rather than the window itself.

While one usually thinks of historic windows being made of wood, historic steel windows are also worthy of preservation. Yet they, too, are often mistakenly replaced with new windows. As with wooden windows, repair and retrofit of these windows is frequently more economical than replacement. Replacement units are also often unlike the original in design and appearance.

### **Maintaining and Repairing Windows**

Ensuring regular maintenance can increase the longevity of historic windows. Lack of routine attention can contribute to more serious—and costly—window problems. Even when there is extensive deterioration, however, windows are repairable. Repaired windows typically have a much longer lifespan than contemporary replacements (20 to 30 yrs), eliminating the need to repeatedly replace windows.



The U.S. National Park Service defines three levels of repair to wooden windows. The Repair Class I techniques can be applied by an unskilled person with minimal training and experience. Minor repairs are relatively uncomplicated, though labour intensive. For example, replacing old weatherstripping is an integral part of any repair process, a task easily accomplished by "do-it-yourselfers". On small projects, this means homeowners can save money by maintaining and repairing their windows. On larger projects, this means that time and money that might otherwise be spent on the removal and replacement of existing windows can be spent on repairs, often at a much reduced cost.

Repair Class II involves the repair of damaged fabric using relatively simple processes such as waterproofing, patching, consolidation and repainting to greatly extend the life of a window. Repair Class III techniques require more skill and are more expensive than the previous methods, but are only necessary when there is advanced deterioration of the original fabric. Total removal of the sash and/or affected parts of the frame may be required, and a carpenter or woodworking



mill will need to reproduce damaged or missing parts. In extreme cases, the window frame may need to be removed. Most windows should not require the extensive repairs in this Class, however. Such conditions are usually found in buildings that have been abandoned for long periods or have totally lacked maintenance for years.

Finally, the quality of wood in historic windows outperforms most contemporary replacements (unless great care is taken in choosing the lumber) because the quality of the old growth timber is superior to most wood used today. The durability is largely a function of the density of old growth

wood, which has many more rings per inch than second growth timber. Craig Sims points out that we have many thousands of windows 100 years old or older that still exist, despite a general lack of well-informed maintenance. This is a testament to the quality of materials and workmanship employed in their construction. In other words, in a typical residential building, whether it be mid-eighteenth-century or mid-twentieth-century, unless windows are falling apart it is more economical in the long term to repair original windows than replace them.

Put simply, the repair and weatherization of existing historic windows is more practical than most people realize. Lack of awareness means that many windows are unnecessarily replaced. As a result, these important historical architectural features are destroyed and relegated to the garbage heap. Taking their place are inappropriate windows that will have a shorter life span than the originals, had they been repaired and retained.

Sources: Bill Murphy, Vintage Woodworks, Victoria, BC; "Your Old House: Wood Windows," Victoria Heritage Foundation, 2000; Bill Murphy, personal com; Robert Lemon, *Rehabilitation Principles and Guidelines*, Technical Paper Series 11, British Columbia Heritage Trust, Ministry of Municipal Affairs, Recreation and Culture, Victoria, BC, November 1989; John H. Meyers, *The Repair of Historic Wooden Windows*, Preservation Briefs 9, U.S. Department of the Interior, National Park Service, Washington, D.C., 1981; Sharon C. Park, *The Repair and Thermal Upgrading of Historic Steel Windows*, Preservation Briefs 13, U.S. Department of the Interior, National Park Service, Washington, D.C., September 1984; John C. Leeke, *Practical Restoration Report - Save Your Wood Windows*, Portland, Maine, 2000; Craig Sims, "Saving Historic Windows Makes Dollars and Sense," *Frontenac Historic Foundation*, Vol. 24 (1), February, 1998.

**BOX 2: Built Heritage Preservation vs. New Construction**

Built heritage preservation involves the retention of an older building. It may be used for its original function, such as a library or residence. Alternatively, it may be adapted for a different function. A school may be converted into apartments, for example, or a bank into an education centre.

There are a number of different types of new construction. In North America, it typically refers to greenfield development, which means a building is constructed on a site that has not been built on before and frequently has not previously been serviced by sewers, roads, transit or other such public amenities. It can also mean demolition of an existing building so that an entirely new building can be constructed on the site in its place. Infill development is also a form of new construction, wherein vacant land between other buildings is used as the building site. Brownfield development involves the reuse of industrial buildings or, sometimes, simply an industrial site, which may require clean-up before it can be utilized for non-industrial uses.

How do the costs of conservation vs. new construction compare? Each case is different, but often conservation costs the same as or less than, constructing a new building. Moreover, when comparing the relative costs of new construction vs. conservation, the considerable costs that may be carried by the greater community as a result of new construction—and greenfield development in particular—are not reflected in the balance sheet. These include the costs related to urban sprawl as well as resource use and disposal.

*Case Study: The Young Building, Camosun College, Victoria, BC*  
The Young Building, a heritage designated structure on the Lansdowne Campus of Camosun College in Victoria, BC was showing signs of advanced deterioration after more than 80 years of use. In late 1997, the College was authorized to proceed with a feasibility study for the restoration and preservation of the building.

The team of professionals reported some interesting findings. Structurally, the building was in good condition. It was not designed for resistance to seismic activity, however, and would require extensive remedial work to bring it up to current standards. The majority of original windows and doors were still in use and in good condition, as they had been well maintained over the years. The interior inspection, however, revealed that, due to partial window blockages and other modifications, the original ventilation system was no longer operable. Basically, it had consisted of vertical sash windows with only the bottom sash opening, coupled with a hopper sash directly above. Fresh air comes in the bottom,

and stale air vents out the top. When in operation, this system would have been “extremely effective and low on energy consumption.”

Unfortunately, the exterior cladding was in such bad shape that one assessor stated that the stone deterioration was “the worst he has seen in over 37 years of professional experience.”

The two main culprits for the deterioration were poor quality design of the exterior, combined with the use of inappropriate building material for the cladding. Taken together, these elements had already caused visible damage to the building due to moisture penetration by 1917—less than three years after its opening in 1915. Interestingly, the original plans called for imported terracotta facing rather than the Denman Island sandstone subsequently used. The former was abandoned due to cost considerations, transportation issues related to World War I, and to meet goals for maximum use of local materials and labour. The expensive repairs required in later years could have been largely ameliorated had terracotta been used, however. In the end, the costs of repairs could equal the original savings!

The feasibility report produced a number of cost estimates for the building. First, if the existing building was to be demolished and replaced with a new building replicating the old, the cost would be approximately \$13,714,000. Second, the cost of replacing the existing building with a new non-heritage one to current Ministry standards would be \$7,198,000. Third, three repair options that account for variations in cladding were estimated to cost: \$6,852,600, \$7,096,000 and \$8,994,100. The report stresses that “...renovations incorporating heritage facade replication Option 2, is slightly less costly than providing a new non-heritage structure to Ministry standards, and would yield a building of both significantly higher quality and longevity while maintaining the building’s heritage integrity.”

The College followed the recommendations, and restoration was completed in 2001 at a cost of \$7.6 million. The project was the recipient of two awards in 2001: the Louis Award of The Hallmark Society of Victoria and the Corporate Architect Award of The Heritage Society of British Columbia.

*Sources: “The Young Building, Camosun College: A Feasibility Study for Restoration and Preservation,” Carl E. Peterson Architects Inc. and Team, April 1998; Jonathan Yardley, Architect and Heritage Consultant on the Team, personal com.; Jonathan Yardley, “The Young Building in Victoria: Its Restoration and Upgrade”, *Forum*, Canadian Association of Professional Heritage Consultants (CAPHC), Fall 2001.*

### **BOX 3: The Future for Heritage Trades: Case Study in Eastern Ontario**

The Eastern Ontario Heritage Structures Restoration Partnership (EOHSRP), based in Kingston, Ontario, recently completed research on selected heritage buildings. The study investigated restoration that has already taken place, and that which is planned over the next twenty years. It sought to identify the efforts made by owners to maintain these sites, the attitude of owners towards restoration and the workmanship involved in that endeavour, the use made of various trades, the general pattern and extent of spending on restoration, and the kind of support owners desired. The main goal is to determine the availability of skilled workers to complete planned restoration work, with a particular emphasis on masonry. The project is funded through a Human Resources Development Canada (HRDC) grant and sponsored by the Fort Henry Historical Group.

To determine the amount of heritage work planned, the study team interviewed a broad range of site owners and guardians. From the approximately 3500 sites in Eastern Ontario designated in the Ontario Ministry of Tourism, Culture, and Recreation's *Heritage Properties Database*, 300 were selected for the interviews. In addition, researchers interviewed 40 masonry contractors from across the region to determine the availability of masons to complete the anticipated heritage work. During the process to select heritage sites to include in the study, it became apparent that there were three distinct owner groups: (1) large businesses with several heritage buildings, (2) small businesses, churches and museums located in a heritage building, and (3) homeowners. Each group brought a different perspective to the process. The various types of structures included in the study were large woollen mills built from the mid to late nineteenth century, houses, churches, museums, and hotels. In addition, commercial buildings in the core areas of cities, towns and villages, which today house stores, offices, apartments, and municipal operations, were included.

The research team collected information not previously available. It found, for example, that 85% of those interviewed had completed restoration projects in the last decade. The total value of this work was \$212 million. Fully 85% indicated that they would be scheduling restoration work in the next decade. For 137 projects where costs were known or had been estimated, the total estimated value of the work is \$196 million. However 60% of the projects had a value of less than \$50,000.

Churches, large businesses, and developers—those groups with legally responsible boards—indicated that regular inspections resulted in the avoidance of major repairs to their buildings. In contrast, very few homeowners or small businesses undertook the added expense of a regular inspection. This is significant, in that it was readily apparent throughout the study that most major restoration work encountered could have been avoided if a regular inspection

had taken place and small problems had been addressed as they occurred.

The study estimates that 900 new masons will be needed in the next ten years in Eastern Ontario, partly as a result of retirements, and partly to meet increased demand. The potential shortage of heritage masons could be particularly profound. The current masonry workforce was for the most part imported from Europe. Many "old world" techniques have been applied to heritage needs in this country, which closely resembled construction needs in the countries from which these masons had come, namely Portugal, Italy, and the United Kingdom. For nearly three decades that workforce trained incoming workers on the job, often passing the trade from generation to generation within families or within networks of families. As a result, slightly more than one-quarter of masons in the sample felt comfortable with heritage work, despite the lack of formal training programs for heritage masons in Canada. The immigration of masons has almost ceased, however, and the familial system of training has begun to falter. Already, some firms have had to refuse work because they did not have staff with heritage skills. Companies are finding it difficult to find and train people, which strongly suggests that a major training effort is needed in the region in order to meet future restoration demands.

During the study, numerous businesses were encountered that capitalized on built heritage. The owners of the businesses often mentioned that their customers and clients made a habit of supporting businesses that found accommodation in heritage buildings, usually because it gave them an opportunity to see those buildings, but also in many instances because they were conscious of the conservation movement and its importance. It was apparent that heritage sites have an attraction that impacts directly on the economy of the neighbourhood or area in which they are located. Not surprisingly, shops, boutiques, inns, restaurants, offices (particularly investment and legal offices), retailers in the central area of towns and cities, and living complexes emphasized the heritage nature of their site. If this were not the case, developers could not and would not risk the investment levels they do to locate in heritage buildings.

For the most part, owners understood the importance of their holdings and made unusual efforts to maintain and share them. They felt that built heritage is irreplaceable and should be protected and nurtured. Many felt that they were fulfilling that role and suggested that the governments who encouraged preservation of our built heritage, and benefited from it in terms of taxes and revenue generated, should develop the means of helping this cause. They also expressed concern that governments should be designating and protecting more sites than they do.

There is no doubt that the restoration work completed on heritage buildings can and should be considered as a "public

good". Citizens benefit from the recognition of our heritage and our history and this benefit would be lost if the heritage structures were not maintained and restored. To this end, the report suggests several avenues of support, including financial incentives in the form of incremental increases in property tax over several years. In this way, municipalities still increase revenue, but it takes the "sting" out of the immediate burden of greatly increased taxes that often follow a major restoration. Support could also take the form of inspection and feasibility studies, with a view to ensuring proper maintenance that would ward off the need for future costly—and ultimately unnecessary—repairs to damaged structures.

Data collected suggests that there is considerable but unco-ordinated activity around maintaining built heritage in Eastern Ontario. The report concludes that it would be difficult for and probably beyond the mandate of individual

government agencies to co-ordinate the activities suggested by the questionnaire results. Rather, an Eastern Ontario Masonry Institute is proposed, which would:

- Actively recruit, support, and co-ordinate the efforts of masonry contractors who will hire apprentices.
- Advocate and contract for courses to be offered that address the needs of the built heritage community.
- Develop and manage an interactive registry, which lists trades contractors, built heritage owners, guardians, and agencies that support aspects of heritage conservation.

*Source:* Eastern Ontario Heritage Structures Restoration Partnership under the auspices of the Fort Henry Historical Group, *Feasibility Study: Eastern Ontario's Built Heritage Response to Masonry and Other Trade Needs in Eastern Ontario*, 2003 (*forthcoming*).

## APPENDIX 1

### *Survey of Education and Training Programs in Canada*

As part of its study on human resource issues in heritage preservation, the Heritage Canada Foundation undertook an investigation of educational institutions offering post-secondary programs in technical and professional disciplines relating to the heritage field.

The first step in the process was to identify all universities and colleges in Canada that may have had heritage-related programs or courses. Heritage Canada's 2001 *Heritage Directory* had previously documented some of these institutions. The initial scan identified forty-six institutions, which were then contacted by email and provided with a brief background on the Heritage Canada Foundation and the purpose of the survey.

The contacts at the educational institutions were asked to confirm if a heritage-related program or course was offered. If they felt that this basic criterion was met, they were each asked to provide the name of a spokesperson. This person was then asked to confirm and identify the course(s) or program. If appropriate, they agreed to reply to a written survey that would be sent by mail. In addition to those that agreed to respond to surveys, there were also several responses to initial queries indicating that, while a dedicated program or course was not offered, an architectural historian is on staff (e.g., McGill School of Architecture), or there is a heritage component to a course (e.g., heritage tourism). In the end,

12 spokespersons were sent surveys, and 6 completed surveys were received by HCF.

After completion of the initial study, several colleges, university departments and technology institutes were identified as having, or being in the process of developing, a heritage course or program component. This information was obtained as a result of other research by the Heritage Canada Foundation, which discovered that the initial contact person at an educational institution, such as a recruitment or communications officer, may not have been aware that, in fact, there was a heritage course or component offered at the school. In other instances, the initial information about a program or course was elicited from personal interviews with a heritage architect or tradesperson. It is worth pointing out that some educators in the heritage field are unaware of heritage programs or courses being offered at other educational institutions. In a few cases, the existence of heritage courses or components at colleges was simply discovered during general searches for information on human resources. As a final note, several interviewees mentioned a college or university that at one time had a heritage program or course(s), but had since ceased to offer it, usually due to the loss of an individual faculty member with heritage training or knowledge.

In summary, it was discovered that there are only five dedicated university programs

offering a degree, diploma or certificate in built heritage preservation.<sup>1</sup> In addition, a building technical degree program with a voluntary heritage stream will be offered in 2003/04. Eight universities have been identified as offering a heritage focus, component or course in some of their undergraduate, graduate and post-graduate programs, and two other related degree programs are under development. Four colleges provide heritage trades training as the primary focus of a program, one of which is in its first year. Two are entirely heritage-focussed, one includes heritage as an add-on applied certificate, while another addresses both contemporary and historical restoration. There are a number of other institutions that have a potentially relevant focus and some of these are mentioned below. Overall, the lack of training in Canada for heritage trades and heritage professionals was equally recognized by those institutions contacted, as well as during subsequent interviews.

In addition to those educational institutions mentioned here, various other bodies, such as the Federal Heritage Buildings Review Office (FHBRO), occasionally offer professional development courses. It should be emphasized that such opportunities in no way make up for the need for dedicated programs in which the next generation can obtain adequate training, whether it be at the university or trades level, or both.

### *Institutions Offering Heritage Preservation Programs (Credential)*

<b>Institution:</b>	<b>University of Victoria, Victoria, BC</b>
Program:	Cultural Resource Management Program, Division of Continuing Studies, History in Art Department, Faculty of Fine Arts
Delivery:	One year full-time and up to five years part-time. Courses offered as on-campus six-day immersion format; some as distance education. Primary audience is people in professional practice. For Diploma, must complete 18.0 units of work.
Credential:	Diploma (post-graduate)
Date Founded:	1983
# Faculty Members:	20 part-time
# Students Accepted 2002:	8 full-time, 120 part-time (this includes 45 ongoing Diploma students as well as unclassified)
# Students Graduated:	150 Diploma; 5000 course participants
Heritage Component:	Offers heritage conservation, museum studies or cultural management knowledge and skills to professionals throughout Canada. Courses blend theory and practice, and range from principles of conservation, to inventory and evaluation of historic resources, and masonry conservation techniques.

<sup>1</sup> To give an example from the UK, the University of Central Lancashire is one of many schools that offer heritage programs. Here, the student can choose from three heritage-related postgraduate Masters degrees in the Department of Built Environment: International Conservation Heritage; Architectural Materials Conservation; and Building Heritage & Conservation.

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<b>Institution:</b>	<b>Université de Montréal, Montréal, Quebec</b>
Program:	Option Conservation of the Built Environment (CEB), Department of Architecture, Faculty of Planning
Delivery:	Graduate courses as required. Thesis and non-thesis options.
Credential:	MSc Architecture (Option Conservation of the Built Environment)
Date Founded:	1989
# Faculty Members:	2 full-time, 1 part-time. Also 3 or 4 professors participate in 1 course or other activities.
# Students Accepted 2002:	5 full-time, 6 part-time
# Students Graduated:	About 85; about 180 program participants
Heritage Component:	Fully developed separate course structure and internship to obtain the Option CEB. Courses cover subjects such as: history and theory of conservation; site evaluation; management and professional practices; architectural and urban language; research methods and information gathering; cultural landscapes; Canadian architecture before 1940; conservation of wood, stone and masonry; and planning practices.

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<b>Institution:</b>	<b>Laval University, Québec City, Quebec</b>
Program:	Regional Planning and Development (Aménagement du territoire et développement régional—ATDR)
Method:	As part of the master's program, a three-credit course of 45 hours is offered in "Downtown Revitalization".
Accreditation:	Master's Degree in Planning
Founded:	Beginning of the 1990s
Teaching staff:	An instructor from the Rues Principales Foundation
Students accepted in 2002:	35 students took this course
Graduating students:	Approximately 35 students obtain this master's degree each year
Heritage component:	The goal is to raise participants' awareness about the importance of protecting the heritage of a community. The participants are trained in how to restore old buildings and respect the natural and physical characteristics of their surroundings.

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<b>Institution:</b>	<b>Laval University, Québec City, Quebec</b>
Program:	Continuing Education
Method:	The program is offered to people working in municipal affairs (elected representatives, city officials, representatives from the RCM, LDC, CFDC, etc). Professionals in the private sector (urban planners, architects, contractors, etc) also take this course.  The course is offered twice a year (one week in the spring and one week in the fall) for four days each time. Participants are not required to take the four days even though more than half of them do.
Accreditation:	After 10 one-day courses, participants receive a continuing education certificate from Laval University.
Founded:	1993
Teaching staff:	Instructors from the Rues Principales Foundation
Students accepted in 2002:	30
Graduating students:	Approximately 4-5 each year
Heritage component:	The instruction deals with either the economic or physical revitalization of downtown cores. The courses combine theory and case studies.

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<b>Institution:</b>	<b>Laval University, Québec City, Quebec</b>
Program:	Bachelor's Degree in Architecture
Method:	This course is part of the BA program—the portion on restoring old buildings.
Accreditation:	Bachelor's Degree in Architecture
Founded:	N/A
Teaching staff:	Two instructors
Students accepted in 2002:	25
Graduating students:	N/A
Heritage component:	The goal is to convey to the students the methods used in constructing old buildings and how to restore them.

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<b>Institution:</b>	<b>University of Calgary, Calgary, Alberta</b>
Program:	Faculty of Environmental Design, delivered through the Faculty of Continuing Education
Delivery:	Designed and offered in distance education format (since late-1980s). A series of intensive courses to be taken over a period of one or more years, part-time. Option courses are taken on campus. Transfer credits are permitted from students' university (on approval). All students must complete a practicum. While most students are graduate or post-graduate working professionals, undergraduates are welcomed.
Credential:	Certificate in Heritage Resource Management
Date Founded:	1984
# Faculty Members:	1 full-time and experts as appropriate to the particular course.
# Students Accepted 2002:	8
# Students Graduated:	Over 50 by 1997; hundreds have participated in the Program
Heritage Component:	Courses include heritage resource management. Objective is to make participants aware of the process of managing heritage resources from an interdisciplinary perspective. There are also two heritage-related graduate courses offered in the Faculty of Environmental Design: heritage conservation (since 1976) and heritage tourism (since about 1988).

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<b>Institution:</b>	<b>Ryerson University, Toronto, Ontario</b>
Program:	Architectural Preservation and Conservation, Division of Continuing Education
Delivery:	Part-time offered at graduate level
Credential:	Certificate
Heritage Component:	This is a highly technical certificate program consisting of eight courses focused on subjects related to building renovation, restoration, and rehabilitation, and historical preservation and conservation. The program is designed to provide graduates with specific knowledge and skills in architectural preservation and conservation. While the core courses provide a strong grounding in general issues, the electives allow the students to choose an area of interest or specialization: history, project management, or preservation technologies.

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<b>Institution:</b>	<b>Algonquin College, Perth, Ontario</b>
Program:	Heritage Carpentry and Millwork and Heritage and Traditional Masonry, Heritage and Construction Trades, Algonquin College Heritage Institute
Delivery:	Full-time, two years; also available on part-time basis.
Credential:	Diploma
Date Founded:	Carpentry, 1989; Masonry, 1991
# Faculty Members:	3 full-time, 6 part-time
# Students Accepted 2002:	35 Heritage Carpentry, 16 Heritage Masonry
# Students Graduated:	Carpentry, 120 since 1997; Masonry, 54 since 1999 (estimated 16-18 Carpentry and 12 Masonry graduates/yr. since program began).
Heritage Component:	Focuses on hands-on technical training in heritage trades; historical Canadian architecture; construction methods and principles of conservation; drafting and business management; and modern construction or masonry techniques. Opportunity to visit and work on heritage projects integral part of program.

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<b>Institution:</b>	<b>College of the North Atlantic, Carbonear Campus, Carbonear, Newfoundland</b>
Program:	Heritage Carpentry, Industrial Trades Program
Delivery:	Full-time, about one and one half years. The first component is 9 to 10 months and focuses on residential carpentry construction, followed by the 6-month heritage carpentry component, delivered as a hands-on module in which individualized performance-based tasks are completed.
Credential:	Certificate
Date Founded:	2002
# Faculty Members:	1 full-time heritage instructor
# Students Accepted 2002:	15, with 18 on waiting list
# Students Graduated:	None yet. First group will graduate approximately March 2004.
Heritage Component:	Developed to train carpenters to work on restoration projects, particularly wood frame buildings. Aims to instill in graduates specialized skills in restoration, a background on architectural styles in Atlantic Canada and Quebec, and a responsible attitude towards the trade. Fully articulated with Red Seal.

<b>Institution:</b>	<b>Saskatchewan Institute of Applied Science and Technology (SIASST), Palliser Campus (Moose Jaw)</b>
Program:	Architecture and Building Technologies Program, Architectural Heritage and Building Renovation,
Delivery:	Three-year program. The material for the applied certificate is included in the fourth semester. Three of the six courses, totalling 180 hrs (amount required for an applied certificate), are based on heritage issues.
Credential:	Applied certificate
Date Founded:	About 1997
# Faculty Members:	6; 4 with heritage knowledge
# Students Accepted 2002:	N/A
# Students Graduated:	Approx. 70; approx. 70 others have taken a course
Heritage Component:	Provides knowledge and skill development in assessing, renovating and marketing older buildings. Requires students to undertake case studies, such as the development of a detailed and heritage-sensitive renovation plan for a property.

<b>Institution:</b>	<b>École des Métiers et occupations de la construction de Montréal, Montréal, Quebec</b>
Program:	Restauration de maçonnerie (Restoration masonry)
Delivery:	Full-time; 500 hours December-March. Hands-on construction site on campus; 90% practical, 10% theory. Also, one and one half years ago did a six-week work excursion with 15 students from each of Canada, Italy and France to work on heritage construction sites in each country.
Credential:	Diploma
Date Founded:	1997
# Faculty Members:	1 full-time
# Students Accepted 2002:	24-26
# Students Graduated:	Approximately 100
Heritage Component:	The course teaches already certified masons (or equivalent through work experience) how to do heritage masonry. The program is an active member of Héritage Montréal.

### ***Institutions Offering Heritage Preservation Courses or Components***

<b>Institution:</b>	<b>Carleton University, Ottawa, Ontario</b>
Program:	Heritage Conservation Program, School of Canadian Studies
Delivery:	As appropriate
Credential:	MA, PhD
Date Founded:	MA 1988; PhD 2000
Heritage Component:	Covers a broad spectrum of areas, including the built, the natural and cultural landscapes. Carleton University's School of Canadian Studies and the Frost Centre for Canadian Studies and Native Studies at Trent University jointly offer the PhD.

<b>Institution:</b>	<b>University of Waterloo, Waterloo, Ontario</b>
Program:	School of Planning, Faculty of Environmental Studies
Delivery:	Post-graduate and professional development course
Credential:	Post-graduate course
Date Founded:	1996; beginning in Winter 2003 it will become a regular course in School of Planning, cross-listed in Leisure and Recreational Studies. It is hoped that other heritage-related courses will be added, perhaps eventually leading to a sub-specialty certificate being offered.
# Faculty Members:	1 full-time and guest speakers
# Students Accepted 2002:	10 students plus 5 non-students (continuing education professionals/volunteers)
# Students Graduated:	N/A. 50 have taken the course since it began.
Heritage Component:	On completion of course, students' knowledge should include: concepts, theory, planning, legislation and regulation, economic aspects, business opportunities and challenges of professional work, methods of research, measurement and evaluation, conservation strategies and techniques, volunteerism, and ability to articulate own conservation concerns.

<b>Institution:</b>	<b>Simon Fraser University, Vancouver, BC</b>
Program:	Public History, Department of History
Delivery:	As an undergraduate, on its own, or as a post-graduate
Credential:	Certificate (in conjunction with a Major History Degree) or Diploma (post-graduate) in Public History
Heritage Component:	One of core courses is entitled "Heritage Preservation," and deals with the historical, social and political aspects as well as nature of physical structures and techniques for preservation. Other courses focus on archives, Canadian and local social and cultural history, and communications.
<b>Institution:</b>	<b>Memorial University of Newfoundland, St. John's, Newfoundland</b>
Program:	Diploma program in Heritage Resources, Faculty of Arts
Delivery:	The program requires completing six credit hours beyond the minimum required for an undergraduate degree.
Credential:	Diploma
Heritage Component:	Includes broad range of heritage resources—including objects, sites, landscapes, documents—and specific skills to deal with the public presentation of objects. The diploma in heritage resources helps prepare students to work in the expanding heritage and cultural tourism sectors. Graduates will be better able to compete for contracts involving heritage policy and planning, positions in museums and historic sites, employment with heritage consultants, and places in graduate school.
<b>Institution:</b>	<b>University of Calgary (The Nickle Arts Museum), Calgary, Alberta</b>
Program:	Museum and Heritage Studies, Faculty of Communication and Culture
Delivery:	Must complete five full-course equivalents from authorized list.
Credential:	Minor as part of undergraduate degree
Date Founded:	1996
# Faculty Members:	3 full-time, 1 part-time
# Students Accepted 2002:	6 full-time, unknown continuing education
# Students Graduated:	26; 79 program participants. Note 43 practicum students as of Winter 2001.
Heritage Component:	Course subjects include: Critical Issues in Museum and Heritage Studies; Advanced Seminar and Practicum; Canadian Architecture in its Social and Historical Context; Principles and Practice of Historic Preservation; and Architecture of Canada to 1900.
<b>Institution:</b>	<b>University College of Cape Breton, Sydney, Nova Scotia</b>
Program:	Certificate in Heritage Preservation, Graduate Certificate Program, School of Arts and Letters and School of Community Studies, offered in conjunction with the Fortress of Louisburg National Historic Site
Delivery:	Over four weeks during the month of July. Classes and seminars on campus, laboratories and practicums at the Fortress and other sites. Followed by a work placement of at least 12 weeks.
Credential:	Certificate
Date Founded:	Summer 1997
Heritage Component:	Courses include: heritage preservation (museums and heritage institutions); collections management, archaeology, material culture (mostly artefacts, but includes architecture), and presentation methods.
<b>Institution:</b>	<b>University College of the Fraser Valley, Chilliwack, BC</b>
Program:	Two senior courses in Department of Geography
Delivery:	Courses
Credential:	Part of an undergraduate degree
Date Founded:	About 1993
# Faculty Members:	1 full-time
# Students Accepted 2002:	28
# Students Graduated:	280 have taken the course
Heritage Component:	Two senior-level historical geography courses, both of which include a substantial number of instructional hours on applied historical geography, heritage conservation, heritage fieldwork, and heritage planning.

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<b>Institution:</b>	<b>Simon Fraser University at Harbour Centre, Vancouver, BC</b>
Program:	City Program, Continuing Studies
Delivery:	Public lectures, mid-career professional development courses, and new Urban Design series of courses
Credential:	Urban Design Certificate Program
Date Founded:	Fall 2002
Heritage Component:	<i>Professional Development Courses:</i> Towards the Canadian Heritage Register: Implications for Heritage Conservation Policies; Incentives for Heritage Conservation. <i>Urban Design Certificate Courses:</i> Urban Design: Downtown Revitalization. <i>Free Public Lectures:</i> Facilitating Heritage Conservation Projects: Creating a Win-Win Scenario.

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<b>Institution:</b>	<b>George Brown College, Casa Loma Campus, Toronto, Ontario</b>
Program:	Building Restoration Technician, Centre for Advanced Building Technologies
Delivery:	Full-time, two years
Credential:	Diploma
Heritage Component:	Meet demand for understanding building techniques used at time of construction, be that 5 or 100 years ago. Focus, however, is on highways, stadiums and other structures. States that the program is unique in Ontario.

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### ***Programs Under Development***

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<b>Institution:</b>	<b>British Columbia Institute of Technology (BCIT), Burnaby, BC</b>
Program:	Bachelor of Technology in Architectural Science, School of Construction
Delivery:	Full-time, two years (after completing the two-year diploma program in Architectural & Building Engineering Technology)
Credential:	BTech (Architectural Science)
Date Founded:	2003 (pending final approval)
Heritage Component:	Students will be able to pursue a heritage preservation stream. Courses will cover subjects such as architectural history, heritage preservation and management, building envelope, sustainability and green design, restoration.

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<b>Institution:</b>	<b>Carleton University, Ottawa, Ontario</b>
Program:	Masters of Public History, Department of History
Delivery:	N/A; anticipated to include a summer placement aspect
Credential:	MA (Public History)
Heritage Component:	Will have a heritage component that will be linked to the Heritage Conservation concentration at the Institute of Canadian Studies. Broader than heritage architecture or administration; preoccupation with issues of public commemoration and memory.

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<b>Institution:</b>	<b>Nova Scotia College of Art and Design, Halifax, Nova Scotia</b>
Program:	Museum Studies
Delivery:	As appropriate to MA level degree.
Credential:	MA (Museum Studies)
Heritage Component:	To be determined.

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***A number of institutions have programs, or are planning programs, that lend themselves to the inclusion of heritage issues.***

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**Institution:** **University of Waterloo, Waterloo, Ontario**

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Program: No dedicated program/course, School of Architecture  
 Delivery: N/A  
 Credential: N/A  
 Heritage Component: No specific training programs/courses in heritage presently, though undertake research work in heritage areas. Planning to establish a Centre for Built Heritage in the new University of Waterloo School of Architecture in Cambridge, which will be in a renovated former industrial building.

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**Institution:** **Trent University, Peterborough, Ontario**

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Program: Frost Centre for Canadian Studies and Native Studies  
 Delivery: As appropriate; full-time or part-time.  
 Credential: MA, PhD  
 Date Founded: MA 1986; PhD 2000 (as above)  
 Heritage Component: While not focused on built heritage, some theses have been heritage-related. See above for joint PhD program with Carleton University.

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**Institution:** **British Columbia Institute of Technology (BCIT), Burnaby, BC**

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Program: Joinery (Cabinetmaking) and Carpentry, School of Construction  
 Credential: Certificate  
 Heritage Component: Basic theory and related information along with hands-on shop practice in basic tasks. There is currently no heritage component in the carpentry or joinery trades programs at BCIT. With the start of the new BTEch program and heritage stream at BCIT (see above), students in this and other trades programs will be encouraged to interact with each other.

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**Institution:** **Mount Allison University, New Brunswick**

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Program: Rural and Small Town Program  
 Delivery: Geography courses  
 Date Founded: 1984  
 Credential: Course credit  
 Heritage Component: Holds great potential for formal inclusion of heritage issues. An independent research centre dedicated to exploring and resolving social, environmental, and economic issues facing small communities in Canada. Each year four Geography courses are provided by RSTP staff.

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**Institution:** **Selkirk College, Castlegar, BC**

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Program: Fine Woodworking  
 Delivery: Full-time, 9 month  
 Credential: Certificate  
 Heritage Component: Currently focuses on furniture, kitchen, stair construction, etc. of original design; however, the stress on traditional skills and fine workmanship lends itself to heritage sensitivity and skills.

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***Interviews with program heads in several heritage preservation programs were conducted during subsequent research. Four of these are summarized here.***

**British Columbia Institute of Technology (BCIT)**

The development of this program was prompted by a number of factors. One issue was a desire to provide students of the two-year diploma program in Architectural & Building Engineering Technology with further education leading to a Bachelor and, if they chose, Masters degree.

Another strong prompt came from industry. Their views were elicited through a mail-out survey to the members of the Architectural Institute of BC, and tracking of past graduates of the diploma program and the construction and engineering firms in which they had found employment. Respondents indicated that they would like to see more emphasis on sustainability, green design and heritage preservation. To BCIT, these issues are intertwined, and the courses and teaching will reflect this perspective. Any plans to provide incentives or support for sustainable design, green building technologies and heritage preservation would benefit from financial incentives and other support, such as the federal Historic Places Initiative.

BCIT is in a particularly strong position to provide this program. In addition to having an established Diploma program, ideally, the program could draw on trades skills program instructors with expertise in heritage skills. Often, students of the diploma program will drop into the studios of the trades programs and vice versa. This sort of interaction will continue to be encouraged.

The first intake is expected to be limited to 24 students. Most of these will be rollover students from the diploma program, and therefore they will have to take two more years to complete their Bachelor degree.

**Saskatchewan Institute of Applied Science and Technology (SIASST)**

Students learn the basics of Canadian and Saskatchewan architectural history, Parks Canada criteria for conservation, and current building codes and their impact on heritage

conservation and renovation. Students are required to visit both residential and commercial properties and develop renovation proposals which are sensitive to market and client interests, as well as conservation principles and traditional methods and materials.

While the focus of the program is on new construction, the heritage option allows the student to include an interest in older building styles and techniques, and increase their competitiveness in the labour market. It also sensitizes students to heritage matters if they had little previous interest or knowledge of heritage buildings.

It is important to emphasize that the program's heritage component was started largely as a means to encourage awareness of heritage buildings amongst all building tradespeople, rather than a select few. The Saskatchewan Architectural Heritage Society approached the college with this idea and it was ultimately felt that this aim could best be achieved by including heritage training in the general program rather than by creating a specialized program. Also, the reality of economics and the building stock in Saskatchewan, which is largely less than one hundred years old and of modest design, would make it very difficult for a heritage specialist to make a career in the field. Awareness of the province's built heritage is relatively recent.

Most students take the course on campus, though some are off-campus students who take this component in a summer semester. Workshops are also offered on a demand basis when requested by heritage groups, professionals and homeowners, though this path rarely leads to a certificate. There is no change expected in the demand for or creation of space for the heritage courses or the applied certificate. The Program Head is not aware of any similar programs offered in Western Canada.

**Algonquin College Heritage Trades Program**

In the 1980s, there was no program in Canada or the US with a set curriculum focused on heritage trades. Consequently, a needs analysis was undertaken and Algonquin College decided to develop a program in heritage trades. The Program

Head is not aware of any similar programs offered in Canada.

There is adequate demand from industry to easily absorb the addition of more classes of heritage carpenters and particularly masons. Getting word out that the program exists, however, is an ongoing problem. The program would welcome more applicants. The number of applicants and classroom space determines the number of students. There is a broad range in age of students, with the average being about 27, a little older than in other trades programs.

A higher percentage of masons work on a higher percent of restoration and rehabilitation projects after graduation than do carpentry grads. While fewer carpentry grads work on "heritage buildings", they use their traditional skills and the quality of work is of a high standard. Moreover, students can explain the difference to clients between restoration and renovation. Department of Canadian Heritage Standards and Guidelines are a backbone of training, and sensitivity to traditional skills, scale, and other factors affects all work done. Note that principles of preservation are taught, rather than planning and policies.

The program has little association with professional organizations. Sourcing building materials has not been a particular problem. It was noted that there is good integration between architects and trades on restoration projects, partly because heritage preservation is a small field. Also, adequately trained restoration tradespeople create a professional atmosphere. There are many good restoration architects now, and they are passionate and in tune with what is required.

A need was expressed for an inventory of old buildings, but one that could be utilized to plan employment, such as the condition of the building stock and what repairs and maintenance would be required.<sup>2</sup> It was added that this program should not even have to exist, as this training should be a part of all training programs for carpentry or masonry. In Canada, training is all in new construction. Offering financial incentives, increased certification, and good apprenticeship placings after obtaining the diploma could encourage heritage preservation.

<sup>2</sup> Since 1982, CMHC had sponsored an occupant self-assessment "need for repair" question on the Household Facilities and Equipment (HFE) surveys (discontinued October 1996), which were administered as supplements to the Statistics Canada Labour Force Survey (LFS).

**Restauration de maçonnerie (Restoration masonry), École des Métiers et occupations de la construction de Montréal, Montréal, Quebec**

This is the largest trade training school in the province, offering an apprenticeship program in 17 trades. It has an enrolment of approximately 1200 full-time students, with many more taking upgrade courses during the construction low season.

The masonry restoration program was initiated seven years ago when industry approached the school stating their needs for tradespeople with specialized skills in heritage masonry. A curriculum was developed, the government was approached, and the program subsequently began in 1997. The first year's intake was approximately 15 participants, whereas now there are about 25. It is estimated that about 100 tradespeople have graduated from the program since it began.

Most students are from Quebec, particularly Montréal. A significant number of participants are immigrants. The significance of this extends to an observation that this

population of newcomers to Canada have a heightened sense of the inherent value of older buildings and quality (durable) materials, which could positively impact on the preservation of heritage buildings in the future.

Further to the participant exchange component mentioned in the Table above, there may be future such exchanges to northern European countries that share climates similar to Canada (particularly freeze/thaw cycles). The UK, Belgium, Hungary, Czechoslovakia (Prague) and Sweden are all possibilities. France remains interested in future exchanges. There is sustained interest in the program from Europe as well as across Canada, and the program director is pursuing collaborative opportunities. The program is an active member of Héritage Montréal.

The current volume of restoration work in Montreal is not perceived to be high enough to warrant the addition of another class. It is expected that, as attitudes towards heritage change and more financial incentives are offered, the demand from industry for the

skills, and from tradespeople for the training, will grow. The need for financial incentives to reach home and small business owners, and not just religious and other institutional building owners, was emphasized as a necessary precursor to increased awareness and restoration activity of heritage properties. Such incentives are required to offset the sometimes higher costs of good restoration work, especially in the short-term (e.g., better quality and longer lasting materials) and, in some cases, to discourage demolition. The effect of mild winters on the demand for the program was also noted; with a longer working season, some masons choose to keep working rather than take four months off to upgrade their skills.

Many calls are received by the school for referrals for tradespeople with specialized heritage skills, including masonry, roofing, floor installation, and window restoration. There are few that have these skills, and it is not always possible to provide an available referral. The director states that it is the only such program in Quebec, and possibly Canada.

## APPENDIX 2

### Sample of Surveys and Reports in Related Fields

#### List of Selected Statistics Canada Surveys

Survey Name	Description/Comments/Purpose	Frequency/Effective Date/ Release Date
<b>Culture and Arts</b>		
Survey of the Culture Labour Force	To provide first comprehensive portrait of people working in arts, cultural industries and heritage. To be used in development of training and employment programs. 14 domains of interest, by province and territory. Sample of workers in culture selected.	One time  Effective date 1994-95
Survey of Heritage Institutions	To gain better understanding of not-for-profit heritage institutions and help in development of policies, conduct of program evaluations and policy reviews, and area of advocacy in heritage sector.	Biennial Effective date 1938 (latest one delayed one year due to lack of funds)
Sound Recording	Census of all recording companies in Canada. Constructed to monitor the development of the industry to assist governments in the review of policies and programs.	Occasional (latest release 2002)
Motion Picture Theatres	Collects employment and financial data from motion picture and drive-in theatres in Canada.	Occasional (latest release 2002)
Federal Government Expenditures on Culture	Collects data on federal government expenditures on culture in Canada in the framework of functional and economic classification.	Annual Effective date 1976/77
Book Publishers and Exclusive Agents	Unit of analysis is the company, which reports important revenue and expense items. Sales by market and customer category also collected. Analysis can distinguish between the production of own titles and titles distributed for other companies.	Annual (latest release 2000)  Effective date 1972/73
Radio Listening Data Bank	Combination of survey data and administrative data permit the analysis of radio listening both by the demographics of the viewer and characteristics of the station.	Occasional (latest release 2000)
Performing Arts	Information on finances, personnel, performances, and attendance of professional not-for-profit Canadian performing arts companies. Theatre, music, dance and opera are all covered, regardless of size. To create national data base on the not-for-profit performing arts companies.	Occasional (latest release 2001)
College Enrolment System	Collects data on enrolment and number of graduates of post-secondary programs of community colleges and related institutions.	Annual on demand

<b>Survey Name</b>	<b>Description/Comments/Purpose</b>	<b>Frequency/Effective Date/ Release Date</b>
Canadian Culture in Perspective: a Statistical Overview	3rd edition. Incorporates data from all surveys in SC Cultural Statistics Program, as well as data from other internal and external sources. Sections on: economic impact; cultural activities by tourists; int'l trade position of culture sector; social dimensions, including CLF; and various sectors such as heritage, performing arts, visual arts and libraries	Biennial (usually)  Published 1995, 1997, 2000
<b>Construction/Housing</b>		
Survey of Household Energy Use	For NRCan. Includes age of house, cladding type, window-type, by province. Sub-sample of households from the <i>Labour Force Survey</i> . Computer aided personal interview (CAPT).	1993, 1997 Also complementary, small-scale annual survey
Survey of the Construction Industry	Financial and operating data (NAICS code 23) includes building, renovating and repairing all types buildings and structures. Both incorporated and non-incorporated businesses, employer and non-employer included.	Annual  Effective date March 1998
Homeowner Repair and Renovation Survey	Information on spending by homeowners in the provinces on maintenance, repairs, renovations, additions and new installation/replacement of equipment.	Annual Effective date 1987
Rental Repair and Renovation Expenditure Survey	By SC for CMHC. Contains information about landlord expenditures on privately owned rental dwellings in Canada. Expenditures are divided by type, as are the dwellings to which they apply. Includes the year in which the building was built.	Occasional (latest release Dec. 2002)
Building Permits	On-line publication: permits issued for building renovation and demolition; value of building permits; average value of dwellings; type of project; type of work.	Monthly Effective date 1910
Annual Survey of Architectural Services	Objective is the collection and publication of data necessary for the statistical analysis of Architectural Services. The target population consists of all statistical establishments classified as Architectural Services (NAICS 541310) according to the NAICS.	Annual  Effective date 1982
<b>General/Other</b>		
Census of Population	Labour force status, age, sex, family status, immigrant status, ethnic origin, income by type, schooling, school attendance, hours worked, weeks worked, detailed industry (3-digit SIC), detailed occupation (4-digit SOC), detailed place of residence, and place of work, geographic mobility, dwelling characteristics.	Every 10 years 1861 to 1951; every 5 years since 1951.
Environment Industry Survey: business sector, 2000	SC received funding from IC to develop a national statistical database on the environment industry. SC began a program consisting of new surveys, modifications to existing surveys and integration of statistics from various components of its economic statistics framework.	Biennial (latest release 2002)

Survey Name	Description/Comments/Purpose	Frequency/Effective Date/ Release Date
General Social Survey, Time Use 1992 and 1998	Age, sex, educational attainment, employment information, family composition, detailed time use during a sample week. Includes participation in sports and cultural activities.	To be replaced by a social/cultural capital survey (under development)
National Graduates Survey	To provide information on the education and work experiences of graduates. To discern the integration of recent grads or completers into labour market, in terms of match between education/training and occupation.	Occasional (expected Summer 2003)
Survey of Household Spending	To obtain detailed information about household spending. Permits the separate analysis of expenditures on numerous cultural activities, goods and services. Replaced the Family Expenditure Survey in 1997.	Irregular (latest release 2000)
National Survey of Giving, Volunteering and Participating	Results will help build a better understanding of these activities that can in turn be used to develop programs and activities to support them.	Occasional (latest release 2001) Effective date 1997
Survey of Labour and Income Dynamics (SLID)	Nature and pattern of labour market activity, work experience, characteristics of jobless spells, job characteristics including industry (SIC-3) and occupation (SOC-4) for up to six jobs per year. Reputed to be the best source of survey data on labour market dynamics for the time period 1993 onwards.	Annual Effective date 1993  <i>SLID replaced the earlier Labour Market Activity Survey (LMAS)</i>
Labour Force Survey	Labour force status, age, sex, family status, schooling, school attendance, hours worked, union status (as of January 1997), industry (3-digit SIC) and occupation (4-digit SOC). revised twice, in 1963 and 1976. Also, number of surveys administered as <i>supplements to LFS</i> : (e.g. <i>Survey of Household Energy Use</i> ; also, CMHC has sponsored since 1982 an occupant "need for repair" question on <i>Household Facilities and Equipment Surveys</i> ).	Monthly
Household Facilities and Equipment Survey	Supplement to LFS. Includes date structure built. Starting with the 1997 survey year, replaced by the <i>Survey of Household Spending</i> .	Annual Effective date 1947. Discontinued 1996.

### Other Selected Surveys and Reports

Report or Survey Name	Publisher/Sponsor	Description/Comments	Release Date
<b>Arts and Culture</b>			
The Workforce of the Future: Competencies for the Canadian Museum Community	CMA/HRDC	Profiles competency levels, shared competencies and functional competencies required by the museum workforce as it faces the challenge of the 90s and positions itself for the new millennium.	1997
People, Survival, Change and Success: A HR Action Strategy for the Canadian Museum Community	CMA	A discussion document developed by the Canadian Museums HR Planning Committee to: raise awareness and understanding of issues relating to museum workers in Canada; initiate ongoing dialogue on problems and solutions; obtain feedback; encourage action; and make investment in people a reality. Five main themes for HR strategy developed.	1995

Report or Survey Name	Publisher/Sponsor	Description/Comments	Release Date
Creative Management in the Arts and Heritage: Sustaining and Renewing Professional Management for the 21st Century	Canadian Conference of the Arts in collaboration with CHRC.	Final Report on Phase 1 deals with how the field can keep current experienced managers and administrators and provide for their professional renewal. Also, how to attract, develop and retain new recruits. Phase 2 collected info for an action plan and Phase 3 will be devoted to advocacy on implementation of the plan (2003).	2002

### ***Selected HRDC HR Strategies 1996-present<sup>1</sup>***

Shaping Canada's Future by Design	HRDC	HR study on five sectors of Canadian design: industrial design, interior design, communications design, architecture and landscape architecture.	1996
Sheet Metal and Roofing HR Analysis: Roofing Final Report	HRDC sponsored.	NSAS Committee for the Masonry Trade approached HRDC with a request to undertake a labour market analysis for their trades in 1996. This report is the result. This Committee was created with representatives from all provinces, related trades and several associations.	1997
Study of HR Needs in the New Media Industry	Financial support of IC, HRDC and DCH.	Objectives: assess HR needs for new media industry, analyze problems, shortages, capacity of training institutions.	1998
HR in the Canadian Environment Sectors	HRDC	Result of a 3-phase project initiated by the Canadian Council for Human Resources in the Environment Industry. Designed to provide information required to effectively deal with HR, training and employment issues.	2000
Masonry Trade HR Analysis—Final	Initiated by National Sector Adjustment Service (NSAS) Committee for the Masonry Trade with support of HRDC.	Mandate is to create HR strategy for the masonry industry. There is a large group of workers and businesses with a stake in the future of the sector, which, until now, has been fragmented.	2000
Advanced Wood Product Manufacturing	HRDC	Situational analysis designed to define boundaries of sector; conform HR info about sector and highlight current HR trends; identify existing info gaps and suggest ways to fill them; and identify priority areas requiring action from the sector. NAICS 321; some exclusions. Includes millwork	2002 (expected)

### ***Trades and Construction***

National Survey of Attitudes Towards the Skilled Trades and Technologies	Skills Canada	Skills Canada has been conducting extensive research into Canadians' perceptions of trades as a sound career choice.	Draft 2001
Residential Construction Labour Market Issues Study	HRDC	Commissioned by HRDC to determine the issues facing the residential sector, which are quite distinct from the industrial, commercial and institutional sector.	2000

<sup>1</sup> For full listing of HR studies by HRDC see Web site: [http://www24.hrdc-drhc.gc.ca/def/pub/pub\\_1.asp?VarMenu=1&VarAlpha=2&Param\\_Lang=0&Switch=pub\\_1.asp](http://www24.hrdc-drhc.gc.ca/def/pub/pub_1.asp?VarMenu=1&VarAlpha=2&Param_Lang=0&Switch=pub_1.asp)

<b>Report or Survey Name</b>	<b>Publisher/Sponsor</b>	<b>Description/Comments</b>	<b>Release Date</b>
Summary Report on Apprenticeship Reform Consultations	Government of Ontario, Ministry of Education and Training	To learn the views of the various partners about what works in the existing system and what could work better. The government also wanted to know what types of changes stakeholders would recommend.	1997
<b><i>Provincial and other Initiatives</i></b>			
Inventory of Provincial Sectoral and Occupational Initiatives	HRDC	Provides example of what could be done for the heritage field.	1999
Quebec Department of Education Relance Survey	Quebec Department of Education	Includes placement for vocational training gradates.	Annual
Report on Consultations about HR Needs in the Cultural Sector	Cultural Careers Council Ontario	Undertook consultations 2002. As a result sees the need for a more widespread and professional view of HR in culture and need to define HR issues in practical ways.	2002
Creative Economy Initiative	The New England Council	A multi-year initiative that provides a framework for understanding the role of the cultural sector in the New England economy and a comprehensive strategic action plan for stimulating the sector.	1999-2001
Community Promise: A Local Labour Market Study. Volume 3: Report on the Construction Sector	HRDC funded. Prepared by CEDCO Victoria	Research into the construction sector was conducted between August 2001 and April 2002, including a literature review, survey of local construction businesses and interviews with employment counsellors, employers and affiliates.	2002
Results from the Survey of Self-employment in Canada	Survey By SC on behalf of HRDC.	April 2000 survey data on socio-demo characteristics of self-employment, hrs, experience, attitudes, etc. Results compiled by HRDC.	2002
HRDC Industry Sector Profiles	HRDC	Numerous. See HRDC Web site: <a href="http://www24.hrdc-drhc.gc.ca/def/profind/prs2.asp?Param_Lang=0&amp;Switch=prs2.asp&amp;VarMenu=2&amp;VarAlpha=2">http://www24.hrdc-drhc.gc.ca/def/profind/prs2.asp?Param_Lang=0&amp;Switch=prs2.asp&amp;VarMenu=2&amp;VarAlpha=2</a>	various
Numerous studies on HR issues in a variety of construction-related industries/occupations	HRDC and others. Prepared by Prism Economics and Analysis.	Prism focuses on labour/human resources, international trade and industrial economic analysis. Assignments often cover the impact or contribution of government policies in these areas. See Web site: <a href="http://www.prismeconomics.com/">http://www.prismeconomics.com/</a>	various

## GLOSSARY

**Character-defining elements:** the materials, forms, spatial configurations, uses, and cultural associations or meanings that together comprise the *heritage value* of a *historic place*, and which must be retained in order to preserve its *heritage value*.

**Conservation:** all acts or processes that are aimed at safeguarding the *character-defining elements* of a cultural resource so as to retain its heritage value and extend its physical life. This may involve *preservation*, *rehabilitation*, *restoration*, or a combination of these acts or processes.

**Heritage value:** the aesthetic, historic, scientific, social, or spiritual importance or significance for past, present or future generations. The *heritage value* of a *historic place* is embodied in all the materials, forms, spatial configurations, uses, and cultural associations or meanings that together comprise its *character-defining elements*.

**Historic place:** a place that has been designated for its *heritage value* by a competent authority such as a government. A *historic place* may include a structure, building, group of buildings, district, landscape, and/or archaeological site(s).

**Preservation:** the act or process of protecting, maintaining, and/or stabilizing the existing materials, form, and integrity of a historic place, or of an individual component, while protecting its *character-defining elements*.

**Rehabilitation:** the act or process of making possible a continuing or compatible contemporary use for a *historical place*, or for an individual component, through repair, alterations, and/or additions, while protecting its *character-defining elements*.

**Renovation:** the act or process of making changes or repairs to an existing building of any age, usually by replacing with or adding new elements. From a *conservation* or *preservation* perspective, renovation of an older building adheres to no codes, standards, or guidelines relating to interventions in the *character-defining elements*.

**Restoration:** the act or process of accurately revealing, recovering, or representing the state of a *historic place*, or of an individual component, as it appeared at a particular period in its history, while protecting its *character-defining elements*.

*Source:* except for "Renovation", all definitions are derived from *Standards and Guidelines for the Conservation of Historic Places in Canada*, Parks Canada Agency, Ottawa, Canada, Fourth Draft, October 2001, pp. 167-170.

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