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Evaluation of the Opportunities and Challenges of Digitizing the Practice of Conducting Field Surveys and Compiling Resource Inventories in the Preservation Profession

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A thesis in Historic Preservation Presented to the Faculties of the University of Pennsylvania in Partial Fulfillment of the Requirements of the Degree of Master of Science in Historic Preservation 2008.

Advisor: David Hollenberg

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Evaluation of the Opportunities and Challenges of Digitizing the Practice of Conducting Field Surveys and Compiling Resource Inventories in the Preservation Profession

Abstract

As technology advances, changes inevitably occur within the preservation community in the practice of conducting field surveys and compiling and managing building inventories. The days of hand written forms and tedious data entry are passing as digital survey forms and hand held personal digital assistants (PDA's) make information compilation more efficient. Digital cameras simplify the process of capturing images and appending them to reports. Through the easy steps of pointing, shooting, uploading, and inserting, data is smoothly and clearly illustrated. With these advancements come both exciting possibilities and questions of effects. At this time, as the process of data compilation is changing, it is important as a professional community to reevaluate what it is we aim to achieve as we conduct surveys and compile inventories, and whether and to what extent the evolving technologies are serving those goals.

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RESOURCE INVENTORIES IN THE PRESERVATION PROFESSION

Kimberly Diane Forman

A THESIS

in

Historic Preservation

Presented to the Faculties of the University of Pennsylvania in
Partial Fulfillment of the Requirements of the Degree of

MASTER OF SCIENCE IN HISTORIC PRESERVATION

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Dedication

This thesis is dedicated to Ray and Kathleen Forman, grandparents of the author. Without their love and support, attending the University of Pennsylvania, obtaining a master's degree, and writing this thesis would not have been possible.

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Introduction

As technology advances, changes inevitably occur within the preservation community in the practice of conducting field surveys and compiling and managing building inventories. The days of hand written forms and tedious data entry are passing as digital survey forms and hand held personal digital assistants (PDA's) make information compilation more efficient. Digital cameras simplify the process of capturing images and appending them to reports. Through the easy steps of pointing, shooting, uploading, and inserting, data is smoothly and clearly illustrated. With these advancements come both exciting possibilities and questions of effects. At this time, as the process of data compilation is changing, it is important as a professional community to reevaluate what it is we aim to achieve as we conduct surveys and compile inventories, and whether and to what extent the evolving technologies are serving those goals.

Currently, there are approximately 5 million historic properties and 500,000 survey reports included in State Historic Preservation Office (SHPO) inventories nationwide. Over the last seventeen years the Historic Preservation Fund (HPF)¹ has provided over \$150 million to SHPO's to conduct archeological and historical surveys. During these years, 1.8 million historic properties were added to the SHPO inventories. These inventories are accessed and used by SHPO staff, consultants, students, other state agencies, Federal agencies, and the public.² A significant amount of time and money is dedicated to the survey process, and a broad range of the profession and the public depend on the information in the resulting inventories.

This thesis reviews these efforts, towards a determination of whether they have resulted in products worthy of the associated time, effort, and money. Because the purpose of surveying is to gain information about an area which enables us to make informed decisions about its future, attention should be dedicated to ensuring the credibility and applicability of our surveying process. The author identified issues and problems which she aims to address through this thesis:

¹ The Historic Preservation Fund is a grant program funded by the U.S. Congress that provides matching grants to encourage private and non-federal investment in historic preservation efforts nationwide.

² CRGIS, From Paper File to Digital Database, December 2007, available from <http://www.nps.gov/history/hdp/standards/CRGIS/paper.htm>; Internet; accessed 01 January 2008.

- No officially sanctioned nationwide standards for conducting digital surveys exist which firms and practitioners can access when planning the design of a survey form.
- Firms typically hire database managers or software specialists (professionals unaffiliated with the preservation community) to design their surveys. Disconnects frequently if not inevitably occur between those who design the survey form, those who fill out the survey form, and those who rely on the information of the resulting survey report to make planning and management decisions.
- As digital devices and database managers make the surveying process more and more efficient, what is being sacrificed? We as humans have the natural desire to categorize, which resonates in our profession as the desire to conduct surveys of districts and produce inventories of buildings and sites. However, the nature of our profession as preservationists is ephemeral and difficult to define. We deal with values, which cannot be easily cataloged. As we streamline the process more and more, are we venturing further away from the "fundamental" nature and purpose of our field?
- Through the use of digital devices such as PDA's and digital cameras, we have the ability to link our survey data with Global Information System (GIS) maps and interactive online documents. While the potential to reach a greater portion of the public through

the accessibility of the internet presents an exciting opportunity, it also presents challenges of coordination and integrity. How can we be sure that the information we are producing is helpful, correct, and understandable? Furthermore, how do we ensure that the right information is reaching the proper audiences?

- While time is put into conducting field surveys, significant time and thought must also be reserved for designing the survey form, planning the survey process, and testing the survey tools (PDA's, digital cameras, manpower). The initial stages of design and planning warrant more attention.
- How often are existing surveys updated? Who manages and checks their content?
- As the survey process evolves from a paper based format towards a digital format, what happens to inventories compiled prior to the format change? What measures are being taken to convert these paper-based, inaccessible inventories into a digital, accessible format?

Such questions illustrate that the purpose of this thesis is to trace how data collection and building inventorying has changed through the introduction of digital technologies such as digital cameras and PDA devices; what resulting practices and improvements are being implemented by firms, organizations,

and institutions throughout the country; and how the challenges and opportunities of digitization are being addressed.

According to the National Register of Historic Places, the term survey “means a process of identifying and gathering data on a community’s historic resources.”³ This data is gathered through a field survey—“the physical search for and recording of historic resources on the ground”⁴—which is supplemented by planning and background research conducted prior to the survey. The survey process results in an inventory, defined as an “organized compilation of information on those properties that are evaluated as significant.”⁵ Each of these steps—planning and background research, field surveying, and compilation of an inventory—has seen the effects of an ever-increasing accessibility of information, the interrelation of multiple technologies and professional practices, and the digitization of retrieving and compiling data.

Through the use of GIS software, data collected by historic preservationists and architectural historians can be linked to data collected by city planners and other professionals and practitioners. Once linked, this information can be used to create interactive maps and documents. Furthermore, through

³ Derry, Anne et al. *Guidelines for Local Surveys: A Basis for Preservation Planning*. (National Register Bulletin Number 24, 1977; revised 1985), 2.

⁴ Ibid.

⁵ Ibid.

the accessibility of the internet, these maps and documents can be posted on city websites, making them accessible to city residents, visitors, scholars, and consultants. A resident who accesses the city's web page to find information about building codes or zoning ordinances can also find information about the history of his or her neighborhood. Visitors to a new area can access the city's website to find information about the city's historic resources. This has the potential to draw more tourism to historic areas. Scholarly research can be supplemented as students and researchers are given the ability to easily access information about the historic resources of an area. The work of consultants can be facilitated in the same way, as needed information is made more accessible.

Digital technology offers the opportunity to take information dissemination a step further. While the ability to access a historic resource's survey form, photograph, and location on a map is helpful, the ability to access more information about the resource is invaluable. Beyond survey information, information such as historic photographs, original building documents, and biographies of people associated with the historic resource can be linked to the resource's digital entry. Libraries, museums, archives, and other institutions have made many documents available online. The internet allows these documents to be linked to each other and to information on other websites. By digitizing historic resource inventories, cities and states can utilize

material and information from other sources. In this way, a great deal of information about the historic resources of a neighborhood, city, or state can be made available to the public.

The City of Fort Worth, Texas participated in such a project. In the summer of 2007, the City of Fort Worth hired LopezGarcia Group, a civil engineering and environmental planning firm based in Dallas, Texas, to conduct an intensive architectural survey of four historic neighborhoods in the city. The proposed five year project includes the investigation of over 4,000 residential buildings, requiring consultation of city archives, the gathering of oral histories, and the completion of field surveys. PDA's were used by survey teams to quickly and efficiently record data about individual houses, including information about the history of the house, including the architect, contractor, and date of construction; the physical characteristics of the house, such as building footprint, number of stories, materials, and stylistic influence; and the historic integrity of the house, including information about National Register of Historic Places eligibility for individual properties.

This thesis includes case studies of survey projects such as this that rely on new technologies utilized by firms, organizations, and entities across the country, including LopezGarcia Group. The survey conducted by LopezGarcia Group deals with surveys on a neighborhood level. A survey conducted in post-

Katrina New Orleans by Goodwin & Associates for the Federal Emergency Management Agency (FEMA) deals with surveys conducted after a natural disaster. A survey by the Preservation Design Partnership in Philadelphia deals with surveys conducted on a city-wide level. The author selected each case study so as to offer insight into specific challenges and opportunities relative to digital survey practices.

Questions to be addressed include:

- By what means does the firm, organization, or entity conduct historic surveys and compile building inventories?
- For what purposes are surveys conducted (local historic or conservation districts, National Register districts, Section 106 compliance, public education, NEPA compliance)?
- How has the inclusion of digital technology changed the way in which surveys are conducted?
- How much time is dedicated to designing survey forms and planning the survey process?
- What qualifications are presumed to be necessary in order to utilize the forms?
- What information and relevance has been gained or lost through the conversion to a digital format?

- When surveys are conducted, who is involved in the process? Does the firm seek assistance or advice from other professionals such as city planners, GIS specialists, database managers, or community representatives?
- In what ways is the completed inventory made accessible to the public?
- Does the public have the opportunity to offer feedback in any way?

To answer such questions, interviews with firm members, project partners, and clients involved in the survey projects were conducted, and objectives and deliverables were assessed with the intent of gathering and comparing information to determine the best practices occurring throughout the country. Issues which have been overlooked and which beg attention were also identified. In addition to these focused case studies, effort was made to contact the SHPO in each state to gain an understanding of the current survey and inventory practices and future plans of each. This information led to an understanding of how each state is tackling the challenges of evolving from a paper-based office to a digital office. Information was also gathered which identified how technology has enabled SHPO's to more easily conduct surveys, to more responsibly manage information, and to more fully make information about historic resources available to professionals and to the public. Background research was aided by National Register bulletins

addressing guidelines for evaluating and documenting historic structures.⁶

Books and articles addressing the interdisciplinary relationship of historic preservation and other professional practices, the documentation of historic structures, and the relevance and effects of architectural surveys were referenced.

This thesis is written from the perspective of a user. The author does not claim to be a technology expert, nor does she claim to have a full understanding of the opportunities available through digital technology. This purpose of this thesis is not to offer solutions to the design of digital software or digital programs. Rather, the purpose is to offer insight into practical ways in which digital technology can best be incorporated into the practice of conducting field surveys and compiling resource inventories.

The field surveys and building inventories that are the subject of this thesis are absolutely fundamental to the practice of historic preservation. They are, when done correctly, an irreplaceable resource. According to the National Register of Historic Places,

From the standpoint of opportunities, survey data can be used to identify the historic contexts and their constituent elements—

⁶ *Historic Residential Suburbs: Historic Guidelines for Evaluation and Documentation for the National Register of Historic Places and Guidelines for Local Surveys: A Basis for Preservation Planning* National Register Bulletin and *Guidelines for Local Surveys: A Basis for Preservation Planning*. National Register Bulletin Number 24.

buildings, streetscapes, building uses, cultural activities, and other resources—on which community development can build in order to make the most of the community's unique historic qualities. Ideally, development planning should use survey data to identify opportunities for the use of the community's historic character in creating its future, to minimize conflicts between preservation and development, and to provide for the orderly resolution of those conflicts that inevitably occur.⁷

By involving city planners, historic preservationists, local government administrators, community-based preservation organizations, members of preservation commissions, developers, Federal and State agency officials, and other interested persons, the practice of property inventorying can gain significant power and relevance. However, as we streamline the process and involve more parties, we must not lose sight of the initial and fundamental purposes of our profession. Through a greater understanding of what is made possible by existing technology and what is being accomplished and potentially overlooked by firms, organizations, and institutions across the country, conclusions can be drawn which have the potential to inform and instruct other practitioners.

⁷ Derry, Anne, 65.

Review of Existing Standards

The following is an overview of existing guidelines and standards regarding the practice of recording and documenting historic resources. Each guideline addresses measures that must be taken and standards that must be upheld while conducting paper-based survey projects. Currently, no standards exist regarding measures that must be taken when conducting survey projects which utilize digital technology.

Secretary of the Interior's Standards for Historical Documentation, 1983

The Secretary's Standards address documentation as a "treatment" for historical properties that lays the groundwork for further treatments, such as rehabilitation plans or interpretive programming. Because documentation is considered a treatment, the plan for the process must be outlined clearly and followed closely. Furthermore, the product of the documentation process must be understandable to future researchers.

Standard I: Historical Documentation Follows a Research Design that Responds to Needs Identified in the Planning Process

The needs of the project must be identified and addressed specifically in the research design. The research design is intended to create a guide for methodology and evaluation.

Standard II: Historical Documentation Employs an Appropriate Methodology to Obtain the Information Required by the Research Design

Efficiency is the most important consideration when methods and techniques are considered. Consulted sources must be identified so that future researchers can locate the information themselves.

Standard III: The Results of Historical Documentation Are Assessed Against the Research Design and Integrated Into the Planning Process

The research process yields two products: documentation and information concerning the effectiveness of the research design. Once this information is gathered, the results of research must be assessed against the research design, and then incorporated into the existing body of knowledge in order to assess their implications for the planning process.

Standard IV: The Results of Historical Documentation Are Reported and Made Available to the Public

The results of the process must be accessible to potential researchers. Both the professional community and the public at large must be informed through the availability of completed reports. The availability of this information must be considered in relation to the possibility of undertaking actions that could affect properties discussed in the report.⁸

Secretary of the Interior's Standards for Architectural and Engineering Documentation, 1983

These Standards address the compilation of documentation for historic buildings, sites, structures and objects. Documentation typically includes measured drawings, photographs and written data, and is meant to be easily accessible for researchers, scholars, preservationists, architects, engineers and other members of the public interested in historic properties.

Documentation may also offer information about a property that is to be demolished. The standards are meant to be used by parties developing documentation for the *Historic American Building Survey* (HABS) and the *Historic American Engineering Record* (HAER) collections in the Library of Congress.

⁸ National Park Service, Secretary of the Interior's Standards and Guidelines for Historical Documentation. 2007, available from http://www.nps.gov/history/local-law/arch_stnds_5.htm; Internet, accessed 28 September 2007.

Standard I: Documentation Shall Adequately Explicate and Illustrate What is Significant or Valuable About the Historic Building, Site, Structure or Object Being Documented.

Drawings, photographs, and other forms of documentation should convey the historic significance of the building, site, structure or object of the project. The values of the property, including historical, architectural, engineering or cultural, should determine the level and methods of documentation. The *HABS/HAER Guidelines* must also be met.

Standard II: Documentation Shall be Prepared Accurately From Reliable Sources with Limitations Clearly Stated to Permit Independent Verification of the Information.

An accurate record of historic properties is created only when documentation includes information that allows for assessment of its validity.

Standard III: Documentation Shall be Prepared on Materials that are Readily Reproducible, Durable and in Standard Sizes.

Standard IV: Documentation Shall be Clearly and Concisely Produced.

The future usefulness of information depends on the ability of future researchers to access and understand the documentation products.⁹

⁹ National Park Service, *Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation*, 2007, available from

Historic American Buildings Survey and Historic American Engineering Record Standards, 1983 [reissued 1990]

The *HABS/HAER Standards* provide guidelines for producing measured drawings, large format photographs, and written histories to be included in the *Historic American Building Survey* and/or the *Historic American Engineering Record*. Once compiled, these reports are made available to the public through the Library of Congress.

The American Institute of Architects, the American Society of Civil Engineers, and the other engineering societies provide technical guidance to compilers of the reports. The standards are intended for use in creating mitigation documentation in accordance with the National Historic Preservation Act of 1966, as amended, in creating documentation to be donated to the *HABS/HAER Collection*, and in creating documentation as a part of a *HABS/HAER* recording project.

The Standards incorporate the *Secretary of the Interior's Standards for Architectural and Engineering Documentation* and add a section on definitions which clearly articulate what is included in a *HABS/HAER* recording project. No mention is made concerning who can or cannot participate in projects, but the standards do mention that the National Park Service often

http://www.nps.gov/history/local-law/arch_stnds_0.htm; Internet; accessed 28 September 2007.

employs summer teams of student architects, engineers, historians and architectural historians who conduct their work under the supervision of National Park Service professionals. Requirements for each project are as follows:

Standard I: Content

The value of the historic building, site, structure or object being documented must be clearly stated. Various levels of documentation are acceptable, and should directly relate to the nature and significance of the historic building, site, structure, or object being documented, with level I signifying the highest level of significance. At documentation level III, an architectural data form is acceptable as the written data portion of the project. At documentation level IV, a *HABS/HAER* inventory card is the only product of the project. Once a project is completed, the *HABS/HAER* staff inspects it and offers comments.

Standard II: Quality

The finished product must be prepared correctly from reliable sources. Any limitations encountered during the process should be clearly stated. Standards for measured drawings, large format photographs, and written histories are given.

Standards III and IV: Materials and Preservation

Ease of reproduction, storage and handling must be considered. Specific requirements are given. It is explicitly stated that all *HABS/HAER* records are intended for reproduction, with the intent to make information readily available, standardized, and easily understood.

The standards state that *HABS/HAER* criteria may be used as a resource for creating requirements for other inventories. Accuracy, availability, and usefulness of documentation are addressed.¹⁰

Cultural Resources Geographical Information System Facility Guidelines

The Cultural Resources Geographical Information System (CRGIS) Facility, created in 1989, is a division of the National Park System. The mission of CRGIS is to institutionalize the use of Global Information Systems (GIS), Global Positioning Systems (GPS), and Remote Sensing technologies in historic preservation within the National Park system and within State Historic Preservation Offices (SHPO) and Tribal Historic Preservation Offices (THPO). CRGIS proposed an increase in the Historic Preservation Fund by \$5 million a year for five years, in order to automate existing state historic resource inventories through computerized databases or geographic information systems. Automation of these records would “produce significant proactive

¹⁰ Historic American Buildings Survey/Historic American Engineering Record Cultural Resources Program. *HABS/HAER Standards*. (Washington, D.C.: National Park Service, 1983 [Reissued 1990]), 4.

planning measures, reduce costs to Federal agencies engaged in regulatory activities, allow data sharing across state and local boundaries, and increase public access to historical sites.”¹¹ With necessary funding achieved, full automation of existing inventories will occur in fifteen years. However, if funding is not received and automation does not occur, CRGIS argues that the search and retrieval times of paper-based inventories will be unacceptable to most regulatory environmental review processes, including NEPA, historic preservation review processes such as Section 106, and their state and local equivalents, resulting in the “inadvertent loss of historic resources, increased expenditures on surveys, fewer nominations to the National Register, and an inability to respond to disasters.”¹² Inventory automation is thus the key to preservation's future.

The National Park Service has charged CRGIS with the task of developing standards for the collection, management, and distribution of cultural resource spatial data. These standards address the need for accurate locational information in relation to GIS mapping. CRGIS states that, “there is no umbrella organization of methodology for linking all the various cultural

¹¹ CRGIS. From Paper File to Digital Database, December 2007, available from <http://www.nps.gov/history/hdp/standards/CRGIS/paper.htm>; Internet; accessed 01 January 2008.

¹² CRGIS. From Paper File to Digital Database. December 2007, available from <http://www.nps.gov/history/hdp/standards/CRGIS/paper.htm>; Internet; accessed 01 January 2008.

resource databases together."¹³ Currently, each cultural resource database operates independently and cannot be integrated into a single database. However, through GIS, each database can be accessed through locational data. A single point on a map can link information from various databases. However, to date, locational data presents a problem in and of itself. It is the weakest element across the board for all cultural resource databases. If locational data (such as a single point on a map consisting of geographic coordinates) is used to link databases together, care must be taken to ensure that the linked data is clean. Standards would ensure that data is gathered consistently—across varying disciplines and databases. Unfortunately, no standards exist to ensure that coordinates are collected when surveys are administered. CRGIS is addressing this problem through its efforts to create standards that will generate consistent and accurate locational data.

While these efforts are pertinent, standards for conducting field surveys and compiling resource inventories must also be examined. At this time, as the practice of data compilation is advancing, and as new technologies create further educational opportunities for the field of historic preservation, the aim of our surveys and inventories must be reevaluated. Currently, standards do

¹³ CRGIS. Critical Nature of Spatial Data in Cultural Resource Management. December 2007, available from <http://www.nps.gov/history/hdp/standards/CRGIS/spatial.htm>; Internet; accessed 01 January 2008.

not exist which specifically address how digital survey forms are created, how digital surveys are conducted, or how digital inventories are managed. With no existing guidelines, we run the risk of generating information that lacks real value and applicability. Standards must be created which address both the opportunities and challenges of conducting surveys and managing inventories in the digital age.

Digitization Progress of Individual State Historic Preservation Offices

Professionals across the country are making progress towards incorporating digital technology into various aspects of the field of historic preservation. To gain an understanding for this thesis of the progress that is being made by individual state agencies to digitize the process of conducting field surveys and compiling resource inventories, efforts were made to contact the State Historic Preservation Office (SHPO) of each state. After a contact person was identified, questions were asked via phone or email to determine how and to what degree digital technology is being utilized in each office, and in accordance with which standards and requirements.

Various members of SHPO's, including state historic preservation officers, survey coordinators, database administrators, architectural historians, and state archaeologists provided information in response to the following series of questions that were e-mailed to each office:

- Does the SHPO provide a general survey form that can be used by preservationists and other consultants who are conducting field surveys in the state? If so, are these forms considered the standard by which state organizations, firms, etc. conduct their survey work?
- Are historic surveys conducted within the state done in a digital format (utilizing PDA's, digital cameras, and GPS devices?) If not, what is the format currently employed?
- Does the state have a statewide historic register? If so, is it digitized (contained in a searchable database)? If so, is it available online?
- If the statewide register is not digitized, is it in the process of being digitized? How complete is the digitization process (percentage of completeness)?
- Are there other historic resources inventories the state is working to digitize?
- Does the SHPO have a GIS department? Please describe the interrelatedness of the GIS department and the department responsible for surveys and inventories. Is inventory data linked to GIS layers? If so, are these maps accessible online?

Information acquired from the dissemination of these questions was then streamlined and organized to address the main issues about which the author aimed to gather information:

- Does the SHPO provide a general form to surveyors and is it considered a standard form?
- Are these forms modifiable to suit specific survey needs?
- Are surveys conducted utilizing PDA's, digital cameras, and GPS devices, or is data collected on paper?
- Is the inventory of surveyed resources contained in a searchable database?
- Does the SHPO have a GIS department?
- Does the public have access to information about surveyed properties?

Responses were then assessed to determine which states are employing the best practices for conducting field surveys and compiling historic resource inventories. The general findings are as follows:

Interactive Databases

While not all SHPO's have made their state register or inventory information available online, most have this information contained in a searchable database. SHPO's identified as the most digitally progressive have created databases that enable an interactive process between offices and surveyors.

For example, the Oregon SHPO has entered all of the state's National Register and surveyed properties into the Oregon Historic Sites Database, a

Microsoft Access database that contains over 40,000 surveyed properties in Oregon. When surveyors begin an individual project, the Oregon SHPO produces a customized database for the project. The customized database is then uploaded to a secure file transfer protocol (FTP) site where it can be accessed by the surveyors. From this database, survey forms can be generated and printed for use in the field. If a record exists in the master Oregon Historic Sites Database for a property that is in the survey project area, the information not recorded in the master database will appear on the form. From this, the surveyor can essentially check and edit any pre-existing data that may no longer be correct. For example, if a house in the master database has a listed construction date of 1910, this information is printed on the form for the surveyor. If the surveyor finds the same house and realizes that the house was actually constructed in 1930, this information can be recorded and updated in the database. If a property has not been previously recorded through survey work, the surveyor simply records the new information. After fieldwork is completed, the forms are entered into the custom database. When the data entry is completed, the entire database (survey information, photos, maps, etc.) is submitted back to the SHPO and uploaded into the master database. In this way, the master database is easily updated and checked for accuracy, and remains consistent across

the state.¹⁴ Washington,¹⁵ Florida¹⁶ and Kansas¹⁷ SHPO's have incorporated similar systems.

One Person/Outsourced GIS Departments

Most SHPO's do not have GIS departments. Among those that do, many departments consist of one person, usually with minimal training in GIS software and/or a job description which does not include performing GIS operations. Many SHPO's, such as the Oklahoma SHPO, that do not have GIS departments utilize the skills and labor of students at nearby universities. The Oklahoma SHPO works with the Oklahoma State University's Department of Geography to complete GIS projects.¹⁸

Standard and Suggestive Forms Provided

Most SHPO contacts indicated that a standard form is provided and required for Community Land Grant and Section 106 surveys, while a suggested, modifiable form is provided for other survey needs.

¹⁴ Kaser, Cara L., Architectural Historian, National Register Program, Oregon State Historic Preservation Office, "Re: Information Needed for Thesis Research," 2 April 2008, email to author.

¹⁵ Duvall, Megan, Certified Local Government Coordinator and Survey Program Manager, Washington Department of Archaeology and Historic Preservation, "Re: Information Needed for Thesis Research," 2 April 2008, email to author.

¹⁶ Birdsong, Vince, Supervisor/Database Administrator, Florida Master Site File, Division of Historical Resources, "Re: Information Needed for Thesis Research," 2 April 2008, email to author.

¹⁷ Meives, Caitlin, Survey Coordinator, Kansas State Historical Society, "Re: Information Needed for Thesis Research," 14 April 2008.

¹⁸ Gaston, Kelli E., Oklahoma State Historic Preservation Office, "Re: Information Needed for Thesis Research," 3 April 2008, email to author.

Experimental Electronic Survey Projects

Some states, including Indiana, are conducting experimental surveys which utilize PDA's and other digital equipment.¹⁹ These surveys are conducted to determine the best methodology for incorporating digital technology into the survey practice. Further information about such experimental projects is described in Case Study III.

Best Practices

Washington, Florida, and Kansas SHPO's have completed robust geospatial databases that link all the data maintained by their offices. External users, including federal and state agencies, local units of government, universities, private firms, tourists, students, etc., can use easily and, if need be, integrate into their own datasets. SHPO's that have created such databases utilize digital devices such as PDA's, digital cameras, and GPS devices to expedite the survey process. These SHPO's also have substantial GIS departments, consisting of multiple staff persons trained in GIS software who are solely responsible for GIS projects.

More specific information concerning the digitization progress and survey practices of individual states can be found in Appendix A.

¹⁹ Diebold, Paul C., Team Leader, Survey and Registration, Indiana Division of Historic Preservation and Archaeology, "Re: Information Needed for Thesis Research," 15 April 2008, email to author.

Case Study Justification

In choosing case studies, issues of structures and sites surveyed, field survey location, and the timeline of projects were considered. This thesis addresses the stages of planning, design, and implementation through analysis of field surveys conducted by three different organizations in three different areas of the country, each with different degrees of guidelines accessed, cooperation garnered, areas surveyed, and intention planned. Each of the projects began no more than five years ago and has a projected time span of at least four years. Field survey locations of the projects represent three areas of the country: the Southwest, the Southeast, and the Northeast.

Questions to be addressed in each case study include:

- Logistics

By what means does the firm conduct historic surveys and compile building inventories? Does the firm utilize a survey form provided by the

State Historic Preservation Office (SHPO)? Is this form utilized in a digital or paper format? Is information gathered during the survey uploaded into a searchable database? If so, is this database linked to other information such as a Geographic Information System (GIS)? Is any of this information made available to other professionals or to the public?

- Planning and Preparation

How much time is dedicated to designing survey forms and planning the survey process? Is the design of the survey form done by members of the survey team, or are database designers contracted to provide the service? Who is involved in the survey form design process?

- Involvement

When surveys are conducted, who is involved in the process? Does the firm seek assistance or advice from other professionals such as city planners, GIS specialists, database managers, or community representatives? Are survey projects considered an interdisciplinary collaborative, or are they conducted by one department to serve the purposes of that department only?

- Qualifications

What qualifications are presumed to be necessary in order to utilize the forms? Are surveys conducted by trained professionals or by volunteers? Must team members and/or volunteers undergo any training in order to participate in the survey process?

- Intention

For what purposes are surveys conducted (local historic or conservation districts, National Register districts, Section 106 compliance, public education, National Environmental Policy Act (NEPA) compliance)? Does a specific purpose necessitate a specific form, or is a general form adapted to serve the needs of the survey project?

- Inclusion of Digital Technology

How has the inclusion of digital technology changed the way in which surveys are conducted? Does the inclusion of digital technology speed up the process of conducting surveys, or does the learning curve cancel out any potential time savings? Must more time be committed to training employees, volunteers, and contractors who utilize digital technology? During which portions of the project is digital technology used? Are PDA's and digital cameras used during the survey process? Are GIS linked databases created during the report compilation process?

- The Benefits of Going Digital

What information and relevance has been gained or lost through the conversion to a digital format? Can the same information gathered during a paper-based survey be gathered during a digital survey that utilizes PDA's and Microsoft Access databases? Does the streamlining of the process compromise the validity of the information gathered during the survey process?

- Public Benefit

In what ways is the completed inventory made accessible to the public? Can the public access any or all of the information online? Is the information linked to maps and other information, or is the information gathered during the survey process the only information that the public can access? Are there levels of accessibility? Can preservation professionals and other consultants access information that the public cannot?

Through each case study, this thesis offers insight into what firms, organizations, and institutions are doing across the country. Through the analysis of information gained in the case study process, this thesis identifies both the best practices currently utilized and the specific needs that must be

addressed through the drafting of standards for conducting surveys and compiling inventories in the historic preservation profession.

Case Study I
LopezGarcia Group
Survey of Fort Worth, Texas Neighborhoods

Through research of this survey project, the author gained insight into the planning, design, implementation, and analysis of a residential survey. Over 4,000 structures were surveyed for the project, the majority of which are residential structures. The project thus presents the opportunity to gain deeper information and understanding about a single building type in a specific location.

In the summer of 2007, the City of Fort Worth hired LopezGarcia Group, a civil engineering and environmental planning firm based in Dallas, Texas, to conduct an intensive architectural survey of four historic neighborhoods in the city. Virtually all of the structures surveyed during the project are residential, so this case study offers the opportunity to explore a survey that is in essence focused on a particular building type.

The project is proposed to span five years. Tasks of the project include the consultation of city archives, the gathering of oral histories, and the completion of field surveys. PDA's were used by survey teams to quickly and efficiently record data about individual houses. This data includes

information about the history of each structure, including the architect, contractor, and date of construction; the physical characteristics of the house, such as building footprint, number of stories, materials, and stylistic influence; and the historic integrity of the house, including information about National Register of Historic Places eligibility for individual properties.

Specific issues to be addressed by this case study include the following:

- Because this survey is building type specific, was special care taken to create a survey form that would result in deeper or wider information gained about individual resources?
- If so, were surveyors trained to recognize the architectural styles prevalent at the time of each neighborhood's construction?

Case Study II

FEMA/Goodwin & Associates

Demolition Survey and National Register of Historic Places Re-Survey of Historic Structures in Post Katrina New Orleans, Louisiana

Through research into this survey project, the author gained insight into the planning, design, implementation, and analysis of a post-disaster survey. This survey project spans many years, and presents a case in which the surveyed buildings and sites are rapidly changing: some are exhibiting progressively worsening conditions, while others are undergoing repairs. Also, the overall context of these structures is undergoing dramatic changes as people return to their homes and the city is reclaimed.

Lindsay Hannah, the contact person associated with the project, works for Goodwin & Associates, a planning and compliance firm based in New Orleans, Louisiana, and in cooperation with the Federal Emergency Management Agency (FEMA) and the National Park Service to survey historic structures affected by Hurricane Katrina in New Orleans. The survey analyzed for this case study was developed by the National Park Service as part of its efforts to develop a survey that can be applicable nationwide in post-disaster situations. This case study thus presents the opportunity to address such issues as the coordination of multiple parties in survey planning, design, implementation, and analysis; the efficiency that digital formats offer in regards to revising and editing the process of data collection; specific measures that must be taken when structures and sites being surveyed are significantly damaged; and the possibility of creating a standard survey form that can be utilized nationwide in post-disaster situations.

Specific issues to be addressed by this case study include:

- How many different companies, organizations and institutions are involved in the process, from survey planning, design, implementation and analysis? Does the involvement of a broad range of practitioners and organizations make things more difficult, or do things run more smoothly when different tasks are assigned to different groups?

- Has the survey form designed by the National Park Service been revised in response to field conditions? Do surveyors find revisions easier to carry out since data is collected and stored digitally?
- What measures were taken during the planning process and through the extent of the survey to address the fragility of the structures and sites being surveyed?
- Can a generic survey form be utilized nationwide, or do site-specific factors require a more individualized approach?

Case Study III

Preservation Design Partnership/Preservation Alliance of Greater Philadelphia Parkside Historic District Nomination and City-wide Survey of Philadelphia, Pennsylvania

Dominique M. Hawkins, AIA, the contact person for this case study, is the principal architect of the Preservation Design Partnership in Philadelphia, Pennsylvania, a preservation and architectural design consulting firm that specializes in historic preservation, restoration, adaptive reuse, renovations, and evaluations of buildings, sites, and districts. Hawkins was recruited by John Gallery, Executive Director of the Preservation Alliance of Greater Philadelphia, to participate in the Alliance's project to develop a fully digital historic resources survey methodology for the City of Philadelphia. The project involved many participants, including preservation and design professionals and graduate students and faculty from the University of Pennsylvania's School of Design.

Hawkins is familiar with the issues, challenges, and opportunities presented by the inclusion of digital technology in the practice of surveying historic resources. She and other professionals worked to complete a survey project which was used as an experiment in which a methodology for implementing digital technology in survey practices was developed. The survey project was conducted in order to prepare a Philadelphia Historic District Nomination for the Parkside neighborhood of Philadelphia.

This case study presents the opportunity to understand how a methodology developed for a small scale neighborhood survey can be adapted and expanded to respond to the needs of a large scale city-wide survey. The city of Philadelphia presents many survey challenges, which are further complicated as digitization is implemented throughout the survey process.

Specific issues to be addressed by this case study include:

- Can the same methodology developed for a small scale survey project be used for a larger scale project?
- What modifications must be made to adapt the methodology to respond to the needs of a larger scale project?
- What is the best way to design a city wide survey? What steps must be taken, and in what order?

Through analysis of each case study, information was gained regarding the specific issues, challenges, and opportunities presented by the inclusion of digital technology in the practice of conducting surveys and compiling resource inventories.

Case Study I

Firm: LopezGarcia Group, Dallas, Texas

Contact: Renee M. Hutter, Architectural Historian

Project: Survey of Neighborhoods in Fort Worth, Texas

Project Timeline

In January of 2007, the City of Fort Worth sent out a request for proposals for a project involving the survey and documentation of four historic neighborhoods in Fort Worth, Texas, to be used as a planning tool for development of the city and as a vehicle for public education. LopezGarcia Group, an engineering design and environmental planning firm located in Dallas, Texas, was awarded the project in July of the same year. Kick off meetings, archival research, and research design submission began soon after the project was awarded. Field work began in September 2007 and continued until January of 2008. Once field work was completed, the report assessment and preparation began. Compilation of the report included survey form preparation, historic context preparation, and gathering of all materials for appendices. LopezGarcia Group presented the first draft of the report to the City of Fort Worth in March 2008.

Involvement

Three entities were involved as part of the consultant team in the multiple stages of the project: LopezGarcia Group, Cornerstone Historic Preservation Services, and Susan Kline, a local historian. LopezGarcia Group and Cornerstone were responsible for all fieldwork. Susan Kline was responsible for conducting archival research and writing historic context reports. Analysis and final report compilation was done by LopezGarcia Group.

Survey Process

LopezGarcia Group utilized a digital format for conducting all of the project's historic resource surveys. PDA's, digital cameras, and GPS units are used to input data, obtain images, and correctly identify the location of each resource surveyed. The database and survey form were modified from a pre-existing form provided by the State Historic Preservation Office. The digitized form worked to guide the surveyor through the documentation process with a series of easy to follow tasks:

1. Assign a field number to the resource
2. Identify the address of the property
3. Estimate dates of construction for the resource
4. Identify type of resource
5. Take digital photographs of each resource

6. Record photographs on a separate log and enter the data into the PDA
7. Identify architectural styles
8. Record basic and prominent features of each resource
9. Assess condition of resource
10. Evaluate integrity of resource
11. Evaluate whether the resource contributes to a potential historic district

LopezGarcia Group spent time during the planning process to devise a methodology for modifying the survey forms and for surveying the neighborhoods. The team of surveyors thought carefully about what data needed to be included in each form and what would be the best way to record all necessary information. Efficiency and cohesion were the main forces guiding the planning process. While the use of digital technology was available to streamline the process, consideration was paid to the issue of collecting data that was meaningful, understandable, usable, and accessible to professionals, researchers, and the public.

As a requirement, surveyors participating in the project hold master's degrees in fields related to historic preservation, such as architecture, architectural history, or historic preservation. While the survey teams spent time designing and revising the forms and using the technology to familiarize themselves with

the project and the process, the real test of the form's applicability and the technology's usefulness came when surveyors entered the field.

Assessment

The contact person for this survey, LopezGarcia Architectural Historian Renee M. Hutter, attests that the collaboration of multiple entities, including environmental planning and design firms such as LopezGarcia Group, historic preservation consultant firms such as Cornerstone Historic Preservation Services, and outside consultants such as local historians, meant less work in some areas but more work in others. More surveyors enabled more individual resource surveys to be completed in less time. However, with surveyors' education and experience influencing their opinions on the style, significance, and characteristics of each resource, conflicting ideas inevitably arose. Those conflicting ideas revealed themselves on the completed survey forms, as different terminology was used to describe the same feature, or as resources of similar significance were ranked higher by one surveyor and lower by another. Differences in opinion during the survey process meant more work at the end of the project, during the report compilation process. Assimilation of the information into a coherent form and final document required editing of previously recorded data. The main surveying process was completed quickly, but editing of data required extensive attention and time. In her next project, Ms. Hutter plans to establish

an agreement among all surveyors on the proper terminology to use, the items worthy of mention during the survey process, and the proper methodology for the project as a whole before field work begins. She believes that by doing so, issues that arose at the end of the Fort Worth neighborhoods project can be mitigated.

The Form in the Field

The survey form was not revised during the field survey portion of the project. Revisions and additions were noted, and will be used to improve forms used in future projects. Ms. Hutter stated that altering the form mid-project may have caused confusion among surveyors and difficulty in correctly aligning database information. Problems that arose during the survey process were used to inform and guide preparation for the next project.

The Digital Advantage

Ms. Hutter stated that the digital process has made it easier to perform surveys in the field, and quicker to compile information for reports. Previously, surveyors would use paper survey forms in the field, return to the office in the afternoons, and enter information from each form into a database. The cost and time needed to develop hard copy photographs and append them to reports was an issue before the conversion to a digital format was made. With digital cameras, photographs can easily be uploaded and appended

to project documents. While working with a paper based format, Ms. Hutter was able to survey approximately 35 resources a day. With the efficiencies of digital technology, that number was increased to over 70.

Ms. Hutter believes that more information will be gained during future survey projects through the conversion to a digital format. If the same survey can be performed in less time, she states, more time can be spent gathering other field information or deeper historic context documentation. The digital process will allow more resources to be surveyed, and more time to be spent on other areas of the project, thereby providing the opportunity to complete more complete surveys in less time.

Public Benefit

The City of Fort Worth plans to make the completed surveys available to the public through online. If plans succeed, users will be able to access information about the surveyed neighborhoods through the City of Ft. Worth's website. The neighborhood website will direct users to an aerial view of the surveyed neighborhoods. Once there, users will be able to click on certain areas of the neighborhoods and zoom to specific resources to access the survey forms, historic documents, and photographs of each surveyed resource.

Conclusion

This project illustrates the opportunities that the inclusion of digital technology offers, and the many challenges that converting to a new format presents.

While the use of digital technology such as PDA's aids the process of conducting surveys, these devices also change the way in which surveyors must address the project. When time is spent during the planning stages to ensure that all team members understand the format and individual fields of the survey form, confusion and incompatible data is less likely to arise during the inventory assembly stage of the project. Once the form is designed and uploaded onto the PDA's that will be used for the project, survey team members must assemble to familiarize themselves with the format and to agree on the terminology that will be used to describe resources and the rating systems that will be used to rank the significance of the resources. Once these measures have been outlined and agreed upon, they must be adhered to by each survey member throughout the entirety of the project. Regular coordination to ensure that these measures are upheld throughout the project is essential.

The survey of neighborhoods, both in this project and others, presents a wonderful opportunity for public involvement and benefit. Neighborhood residents, city residents, and visitors alike can benefit from the information gathered during the project. These members of the public can also add

another level of information about the resources that may not be have been gained during the survey project. By giving the public an opportunity to share their information and add to the project, not only is the history of the resources more fully understood, but a connection between people and places is also made. While the main reason for the Ft. Worth Neighborhoods project was to provide information to the City of Ft. Worth, the project could be taken further. Information could be provided to the people of Ft. Worth and those interested in the city and its historic resources. These people could also contribute to depth and validity of the project by providing their own information about the city and its historic resources.

Case Study II

Agency/Firm: FEMA/Goodwin & Associates

Contact: Lindsay Hannah, Historic Preservation Specialist, Goodwin & Associates

Project: Demolition Survey and National Register of Historic Places Re-Survey of Historic Structures in Post Katrina New Orleans, Louisiana

Project Timeline

Following the devastation of Hurricane Katrina in August of 2005, the Federal Emergency Management Agency (FEMA) began planning and developing an extensive survey project to identify and document damage and destruction incurred by historic resources and other properties as a result of the storm. Following the storm, home owners who assessed the damage caused to their property and who made the decision to have the structures on their property demolished were required to contact their local government to inform them of the decision to demolish. The local governments then compiled lists of properties requiring demolition which were identified by owners. These lists were then sent to the FEMA. FEMA then forwarded the lists to planning and compliance firms who served as survey contractors, and who handled all responsibilities associated with the survey and documentation of listed properties. These surveys are necessary for

Section 106 compliance and are one of approximately 15 steps property owners must undergo before demolition is approved.

By November of 2005, survey teams comprised of planning and compliance firm members from Goodwin & Associates, Coastal Environments, Inc., and EarthSearch, Inc., were organized to conduct the demolition survey of damaged structures in the Lower Ninth Ward in Orleans Parish, Louisiana. The project spread to include neighboring St. Bernard, Plaquemines, Jefferson, St. Tammany, and Washington Parishes. The demolition survey is still in the process of completion, although the majority of data has been collected.

In January 2007 a National Register of Historic Places (NRHP) resurvey began in New Orleans. Resurveys are conducted in previously surveyed and designated historic districts that have been adversely affected by natural disasters, demolition, etc. This project is also in the process of completion. The survey teams now alternate between the two surveys as needed, with the demolition survey always taking priority over the historic district survey. As of February 2008, Goodwin & Associates, a planning and compliance firm recruited to act as survey contractors, has surveyed a total of approximately 10,000 buildings for the demolition and historic district surveys.

Involvement

Lindsay Hannah, a survey coordinator for Goodwin & Associates, has been involved throughout the implementation of both the demolition survey and the NRHP historic district resurvey. The demolition survey originated with FEMA, utilizing a database created by the National Park Service that acted as a guiding framework for the project.

Three federal agencies, FEMA, the Army Corps of Engineers, and the National Parks Service; one state agency, the Louisiana State Historic Preservation Office (SHPO); three private firms, Goodwin & Associates, Coastal Environments, Inc., and EarthSearch, Inc.; as well as various parish and city government organizations, are involved in the demolition survey project. FEMA, upon receiving lists of properties proposed for demolition, organized the demolition survey. The survey is executed by members of planning and compliance firms, acting as project subcontractors. Data collected during the survey is then submitted to and reviewed by the Louisiana SHPO. Aside from the involvement of local governments, the project process for the NRHP historic district resurvey is essentially the same as that of the demolition survey. Completed survey data is simply submitted to the National Park Service rather than the Louisiana SHPO.

Subcontractors participating in the project are required to meet certain criteria. Senior level surveyors are required to hold a master's degree in historic preservation, architectural history, or an associated field. Junior level surveyors must hold a bachelor's degree in any field. Every survey team member undergoes a several day training period under a project manager, then works with an experienced member of the team to be familiarized with the survey process. Recurring and regular retraining sessions for all team members are conducted as necessary to ensure understanding and capability among the survey team and clarity and consistency in data collection.

Survey Process

For the demolition survey, FEMA provides contractors with a digital and hard copy list of the properties proposed for demolition. Survey teams then use hard copy maps to locate each address identified on the list. Each survey team is comprised of a senior level member and a junior level member. The senior uses a FEMA-issued hand held Trimble Global Positioning System (GPS) unit to record survey data of the structures found at each address into individual forms. The fields of these forms correspond to the fields in the database designed by FEMA. The junior records additional data, such as the GPS location information, address, photo name, and a short description of the structure on paper. He or she then takes a series of high resolution digital

photographs. Using a compass and a distance meter, the junior also collects the data for the offset GPS point.

At the end of each day, all the data and photographs are downloaded, an internal Quality Assurance/Quality Control (QA/QC) test is run to check for data consistency, and the data is e-mailed to FEMA. The digital photographs and information collected on paper is delivered to FEMA on a weekly basis.

During the demolition survey, surveyors often run into anomalies—buildings that raise questions with surveyors as to whether or not the building is actually proposed to be demolished. Anomalies can range from addresses not matching the lists provided by FEMA to homes that have already been actively gutted by volunteers. Many times these cases result from the lag in time between the parish slating the houses for demolition and the delivery of address lists to surveyors. These cases are compiled in a separate digital list which is sent to FEMA.

When a resource is surveyed, the most important decision for surveyors to make is whether or not the house is eligible for inclusion in the National Register of Historic Places (NRHP) under Criterion C, which refers to

[Resources] that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a

significant and distinguishable entity whose components may lack individual distinction.²⁰

The decisions made by surveyors concerning NRHP eligibility is reviewed by the Louisiana SHPO. If the resource is declared eligible by the SHPO, it undergoes further survey and documentation processes.

The survey process for the historic district resurvey is essentially the same. In this case, however, FEMA does not provide the lists of addresses or maps of survey areas. Contractors thus progress block by block in the defined NRHP historic district and determine the best methodology for executing the survey.

Assessment

Because the labor was strictly divided between agencies and firms, Ms. Hannah asserts that the majority of day-to-day operations ran smoothly. Problems arose mostly at the beginning of the survey when temporary team members made procedural decisions that affected the consistency of gathered data. As the survey progressed, the procedure was streamlined and permanent team members were able to mitigate the problems caused by temporary team members.

²⁰ National Parks Service, Listing a Property: Frequently Asked Questions, Summer 2007, available from <http://www.nps.gov/nr/listing.htm>; Internet; accessed 01 March 2008.

The Form in the Field

The survey form utilized for both projects underwent a series of revisions, primarily at the beginning of the project when plans made in theory met with the reality of field conditions. As new situations and unforeseen obstacles required special attention from surveyors, the form had to be revised to accommodate new information that was gathered. The form currently being used by surveyors has remained unchanged for over a year.

The National Park Service is working to create a survey form that can be used nationwide for all survey projects and is using methodology information developed through the New Orleans survey to guide the design. Ms. Hannah believes that while a nationwide framework can be designed, there must be a wide allowance for regional variations. These variations, which are best identified by local practitioners, would lead to a more specified form that would be appropriate for individual projects.

The Digital Advantage

By utilizing digital technology, the most tedious task in the survey project—that of transferring survey data from the paper to the computer—is eliminated. The tedium of the process itself contributes to possible inconsistencies in recorded data, as those responsible for entering the data often make careless errors. When data is recorded digitally, decisions about

specific building materials, date of construction, etc., is done in the field, while looking at the resource, rather than in the office, removed from the resource entirely. The use of Trimble hand held devices allowed surveyors to input data exactly as they saw it, while in the field. Digitization also allowed for expediting the process, a key consideration for a project on a quick and politically volatile schedule, such as post-Katrina New Orleans.

Public Benefit

Because the demolition survey was conducted to meet Section 106 compliance, the finished report will not be made available to the public. Once the historic district resurvey is completed, however, interactive maps of the survey sites and photographs and survey data of individual resources will be made accessible to the public online.

Conclusion

The demolition survey and NRHP resurvey of resources in post-Katrina New Orleans are examples of how digital technology can be utilized to address the specific challenges of certain projects. For these projects, issues of efficiency, cohesion, and conformability were key.

With resources in various states of disrepair, the step of conducting the field survey had to be addressed in the most time conscious manner. By

equipping surveyors with Trimble hand held devices and digital cameras, FEMA was able to speed the process dramatically. This not only allowed for more properties to be surveyed in less time, but also ensured cohesion of gathered data.

Digital technology allowed surveyors to modify the survey form to accommodate the situations they discovered. When surveyors encountered unforeseen anomalies, they were able to alter the survey form to accommodate unexpected information. As the project progressed and surveyors became more familiarized with the process and the resources, they became more certain of the information necessary for inclusion in each survey form. During the last year, as the project reaches completion, the survey form has remained unchanged.

These projects are also examples of how digital technology can aid in the documentation and dissemination of both historic and current information about surveyed resources. Once the NRHP survey is completed, interactive maps will be made accessible online. These maps will be linked to current information, such as recent photographs and survey information, as well as historic information, such as historic photographs, building documents, and stories of people who made their way through the surveyed parishes. In this

way, the public can gain knowledge of an area both as it is and as it once was.

Case Study III

Organization: Preservation Design Alliance, Philadelphia, Pennsylvania

Contact: Dominique Haskins, AIA

Project: Parkside Historic District Nomination and Digital Survey in Philadelphia, Pennsylvania

Timeline

Preservation Design Partnership (PDP) began discussions with the Preservation Alliance of Greater Philadelphia in the summer of 2005 concerning the potential of developing a fully electronic historic resources survey methodology for surveying the City of Philadelphia. PDP was chosen because of the digital survey development completed by the partnership for Tredyffrin Township, Chester County, Pennsylvania, in 2002-2003. Dominique M. Hawkins, AIA, of PDP, and other preservation professionals developed the digital survey working within guidelines and minimum data fields established by the Pennsylvania Historic and Museum Commission (PHMC). A user friendly Microsoft Access database was developed in conjunction with a Global Information System (GIS). Historic maps were incorporated into the GIS to help locate and identify historic resources. John Gallery of the Preservation Alliance was interested to see how the Tredyffrin project

approach could be applied to various urban neighborhoods within Philadelphia.

A small scale, trial project was completed so that team members could experiment with the various digital technologies and could sample city GIS data for inclusion in the planned neighborhood projects. Future projects will also include layers of historic maps scanned from the many Philadelphia Atlases, but that was not required in this first project. The team agreed on the Philadelphia neighborhood of Parkside as the survey site for the trial project. A past paper-based survey used in preparation of a Philadelphia Historic District nomination for the neighborhood was available for historic background. Parkside was selected due to such strategic assets as:

- The proposed Philadelphia Historic District area represents a portion of an existing National Register District.
- Due to the documentation previously collected for the National Register nomination, minimal historical research would be required.
- The Philadelphia Historical Commission reviewed the proposed National Register District and recommended a significantly smaller boundary for the local historic district.
- The buildings within the bounds of the proposed local historic district are architecturally cohesive and retain a high degree of integrity.

- The neighborhood is facing potential development that could negatively impact the historic resources.

In January 2006 the Preservation Alliance retained PDP through funding provided by the William Penn Foundation and the National Trust for Historic Places to complete the development of a digital survey methodology and a Historic District nomination for the neighborhood of Parkside. Methodology development and initial field work began soon thereafter.

Involvement

Dominique M. Hawkins, AIA, of Preservation Design Partnership, and Judy Peters, working as an individual consultant for the Preservation Design Partnership, were mainly responsible for the completion of the project. Ms. Peters was responsible for overseeing all digital information development and coordination, while Ms. Hawkins oversaw all other aspects of the project. John Gallery and Patrick Hauck represented the Preservation Alliance of Philadelphia as Project Director and Project Manager, respectively.

A portion of the experimental project was dedicated to evaluating whether or not individuals without extensive experience in surveying historic resources could reasonably complete the field documentation of individual buildings. For this portion of the project, six students from the University of Pennsylvania's

Master's Program in Historic Preservation assisted in the completion of field work. The students underwent minimal training, including familiarizing themselves with the equipment, consisting of PDA's and digital cameras. Because the students already had a working knowledge of the building materials and styles represented by historic resources in the Parkside neighborhood, they did not undergo training to familiarize themselves with the historic resources they would encounter.

Survey Process

The Parkside historic district nomination process began in January 2006 and was completed in June of the same year. The project included the surveying of 161 parcels identified by the Preservation Alliance and the Parkside Historic Preservation Corporation as resources worthy of inclusion in the historic district. Following an evaluation of the area, PDP limited the survey area to include only 126 parcels.

A GIS linked database was developed for the project with the intention of future expansion. The database included the basic fields and definitions established by PHMC for cultural resource surveys in Pennsylvania, plus additional fields specific to Philadelphia survey needs. User friendly forms and linked image tables were set up to simplify data entry and to yield colorful, informative reports. A simpler companion database was set up on handheld

units for the field surveyors. The GIS base map data came from the City of Philadelphia. The project GIS extracted and corrected that data into a standalone cultural resource layer.

The actual field survey was done in one Saturday in the early spring by six historic preservation graduate students from the University of Pennsylvania, supervised by the PDP team. The field survey and photography was completed in a few hours and all images and data were uploaded to the database and checked while the group enjoyed lunch. Doing so allowed all address and survey corrections to be made while the information was most fresh. After the field survey, Hawkins completed the database entry of past survey data, and made her professional significance assessments of each of the resources and the neighborhood as a whole.

With all of this information now in digital form, extensive reports and maps generated from any attribute were made available. The Historic Nomination package was written and submitted. Based on the results of the project, the Preservation Design Partnership team summarized the key steps for this and future neighborhood projects as follows:

1. Initial Meetings with Stakeholders

With many people involved in these projects, it is essential to ensure that each person understands his or her designated role, the goals of the project,

and the expectations of the team as a whole. Members of the Preservation Alliance, representatives from each neighborhood and members of the Philadelphia Historical Commission should be present during these meetings. These neighborhood meetings enable professional team members to obtain a greater understanding of the neighborhood's history, revitalization efforts affecting the neighborhood, and potential threats to historic resources.

2. Obtain Electronic Data from Philadelphia

To ensure the relevance of gathered information, linking it to specific, location-defined parcels is imperative. Spatial data will be obtained from the city, including a geodatabase with parcel data and real estate data. This information will serve as the base map for each neighborhood project.

3. Create a Project Walk-Through Map

This map will be created based on the information obtained from the city. This map outlines the boundaries of the project area and enables team members to conduct a preliminary walk through of the site.

4. Field Review of Project Survey Area

This critical step of the process involves reviewing the project survey area to identify areas of the base map that do not match the survey needs. The city data may combine several historically significant buildings into one parcel, or

may break up one large resource into several resources. During this step, anomalies in street addresses, numbers and shapes of parcels are identified to ensure that the data collected during the field survey portion of the project will cohesively merge with existing city data.

5. Assign a PhilaCRID Number

A Philadelphia Cultural Resource Identification Number (PhilaCRID Number) is a unique number used to identify a historic resource or property and its specific location. A unique number is assigned to each resource, regardless of whether the resource is among many located on the same parcel. This enables surveyors to collect and compile data on individual resources, rather than groupings of resources.

6. Create a PhilaCRID Mapping and Data Layer

Within the GIS, a PhilaCRID map layer is created to reflect actual survey conditions identified during the walk-through. The PhilaCRID provides the spatial links to all survey and historical data, as well as all images for the resource.

7. Load Historical Information into Database

This information will ideally be pre-loaded into the database to act as a reference tool for surveyors to utilize during the survey process.

8. Load Data onto PDA's

The specific fields required for the field survey are loaded onto the PDA's. Information such as address and parcel references and fields for information to be collected during the survey are included. Historical information such as construction dates and identified architects could also be loaded during this stage as reference material. Historic images could also be loaded.

9. Provide Field Surveyor Training

Train each surveyor in the understanding of building features, materials, and styles. An Illustrated Survey Manual is planned for future surveys with all the materials, features and styles found in the study area with definitions identifying the appropriate terminology to be entered in the PDA. The training also will include the proper usage of PDA's, digital cameras and other equipment. A walk-through of the survey area should be conducted to familiarize surveyors with the site and to develop their understanding of typical features, materials, styles and other terminology.

10. Complete Field Survey

With the use of PDA's and digital cameras, surveyors can record the information for each property in the survey area. Survey teams should attempt to complete this work between late fall and early spring, an ideal period for visibility and photography due to the absence of leaves on the

trees. For the project, teams of two people each should be assembled, with one team member responsible for data entry into the PDA and the other for taking digital photographs of the resource.

11. Download Images and PDA Data

The PDA data is uploaded to the main database.

12. Quality Control

Ensuring quality control during the survey process is a difficult task. Editing of data is therefore a crucial and time consuming step. Individuals with sufficient experience and expertise should be responsible for ensuring the accuracy of gathered data. The data should be reviewed digitally in its table format, property by property in the digital form for each resource, and as a printed draft copy of the report.

13. Add Additional Data and Assessment of Significance

The historical information that was not loaded before the field survey and additional information gathered during the survey process should be loaded during this stage of the project. The assessment of significance for each resource should be reviewed and checked for cohesion.

14. Create Maps of Historic Resources

With the use of GIS mapping software, maps of the study area should be produced using the data tables created throughout the project. Various maps should be created which correlate to information including the date of construction, assessment of significance, current or past use of resource, materials, etc.

15. Provide Final Digital and Paper Copies of Report and/or Nomination Package

Depending on the scope of each neighborhood project, the final submittal will include printed and digital copies of the full survey report with all images and maps. The GIS linked database will remain with Preservation Alliance.

The Digital Advantage

Because the experiment survey site was strategically chosen for its compatibility with the goals of this pilot survey project, it lent itself well to the digital survey process. Surveyors were able to complete the field work in a fraction of the time it would take using a paper based format. Once a day's work was completed, surveyors returned to the office to upload the gathered data into the database. Ms. Peters, who is knowledgeable about historic resources in Philadelphia and who is familiar with the historic resource survey process, was responsible for creating the database. Her knowledge and

experience enabled her to create a database into which data was easily entered and clearly managed. When steps are taken to ensure the database is properly designed and managed, the entire process of surveying, uploading, editing and compiling reports can be done smoothly.

The Form in the Field

The inclusion of digital technology in the historic resource survey process enables surveys to be completed in an efficient, cohesive manner. Because all information is gathered electronically, discrepancies in descriptions, locations, etc. can be eliminated. By limiting the possible entries for each field of the form, the margin for error can be greatly reduced. This margin, however, cannot be eliminated. Digital equipment still relies on a surveyor to gather information and to input that data into the device. Regardless of how much time is spent designing the survey form and managing the database, data is only as good as the person collecting it, and documentation is only as good as the person editing it. A great deal still relies on the personal and professional knowledge and judgment of individual surveyors.

Public Benefit

Historic documentation and resource information about the buildings, people, and places of Philadelphia is spread throughout the city. With digital technology and the internet, the public can be informed of the

documentation resources that exist, and can be guided to the institutions which house them. In a project such as Parkside, in which GIS linked databases are created, and in which all survey, location, and photographic information is collected digitally, the potential for public benefit is great. These survey elements—GIS maps, survey forms, digital photographs, etc.—can be made accessible online. Beyond that, these elements can be linked to websites of museums, city directories, and other institutions which house deeper information about the individual resources, the context of the neighborhoods, and the stories of the people who passed through them.

Conclusion

The Parkside project illustrates the way in which an entirely digitized survey project can be properly and effectively planned and executed. The project methodology followed steps which ensured its success, but which can be boiled down to one simple consideration: in each stage of the process, all project team members were knowledgeable about the subject, the process, and the survey intent. From the project director to the database manager to the field surveyor, all team members had an understanding of what was being surveyed, how it was being done, and what the final goals of the project were. Those not entirely familiar with the resources were trained to recognize the materials, building styles, and characteristic details they would encounter. This guidance material was also made available to surveyors

while they were in the field. Each team member knew what to expect and how to handle his or her specific roles. This careful planning and thorough preparation led to a survey process which was efficiently completed.

Conclusion

Digital technology presents many opportunities for the historic preservation profession, but tools and methodology must be incorporated and utilized in a responsible way in order for the available technology to live up to its full potential. When conducting field surveys and compiling resource inventories, the use of digital technology can speed the process, ensure cohesion of data, and make gathered data and information available to the public. The use of PDA's, digital cameras, and GIS software allow field surveys to be completed efficiently. By eliminating the tedious step of transferring gathered data from paper to database, digital technology also decreases the potential of inputting incorrect data. When data is entered in the field rather than in the office, surveyors are in direct contact with the resources, and can make proper judgments for entering information.

While a standardized methodology that can be utilized by surveyors across the country for any field survey is not a feasible or appropriate response to the issues digitization rises, certain standards must be upheld. Through the review of three case studies and through the analysis of information provided by State Historic Preservation Offices (SHPO's) across the nation, I propose six such standards:

1. Surveys projects are specific, and thus require specific forms

The practice of conducting field surveys covers a wide range of tasks and intentions. Section 106 surveys are conducted to satisfy compliance requirements; neighborhood surveys are conducted to provide planning tools to city governments; historic district surveys are conducted to assess the feasibility of including sites on local, state, and national registers; and demolition surveys are conducted to assess damages caused by natural disasters. These surveys require the gathering of various elements and levels of information.

In order to satisfy the needs of every type of survey, a standardized form would need to either be very specific, including fields for information necessary in each type of survey, or very generic, including fields for only the most basic of information. By requiring the use of such a form, surveyors

could potentially waste time gathering unnecessary information or worse yet, not include pertinent information because the survey form didn't allow for it.

The specific location of field surveys also adds to the impracticality of a standardized form. A historic district survey conducted in Philadelphia is not the same as a historic district survey conducted in Los Angeles. The differences in building forms, materials, and dates of construction require differences in survey forms.

2. Survey participants must design the form

Whether the form is a modified version of a form provided by the SHPO or generated from scratch, it must be designed by the survey team in collaboration with their client and the key agencies that will rely on it. Team members are best aware of what to expect in the field. Their knowledge of the resources that will be encountered and the situations that will arise during the survey process makes them the best candidates for designing the form. The entire survey team should be involved in this process, so that all participants can voice their opinions concerning necessary fields for inclusion, and so that all participants are familiar with the information that they will be gathering.

3. Survey participants must know what they're surveying: Sufficient time must be dedicated to familiarizing survey participants with resource characteristics

Because each team member represents a different level of education and experience, it is imperative to train each surveyor in the understanding of building features, materials, and styles. Problems arise in data collection when surveyors are met with building characteristics with which they are unfamiliar. When surveyors do not know the correct terminology for certain resource elements, and when they do not know the correct procedure for documenting anomalies, data cohesion and correctness is compromised.

Training methodology developed by the Preservation Design Partnership's historic district survey of Parkside includes a walk-through of the survey area to familiarize surveyors with the site and to develop their understanding of typical features, materials, styles and other terminology. A survey guide is also recommended to act as a "cheat sheet" for surveyors to access during the survey process. This guide includes photographs of materials, features and styles found in the study area with captions identifying appropriate terminology to be entered into the PDA. By equipping surveyors with this information—both during training and in the field—data cohesion and correctness is ensured.

4. Survey participants must understand their tools: Sufficient time must be dedicated to familiarizing survey participants with equipment

Data is only as good as the person collecting it, and documentation is only as good as the person editing it. While digital technology makes the survey process easier, it also requires the know-how of individual surveyors. Before the field survey begins, surveyors must be familiar with all digital devices that will be utilized in the field—PDA's, digital cameras, etc. Before conducting the Fort Worth Neighborhoods survey, LopezGarcia Group gathered the survey team together to introduce them to the technology and to provide them with guidance.

During training, survey participants underwent a “mock-up” training process. In the office, images of neighborhood buildings were projected on a screen, and surveyors—with PDA's in hand—went through the survey forms, inputting the data into the devices. This not only familiarized the team with the equipment, but also provided an opportunity for issues with the survey form and the survey process to be addressed. Team members agreed on procedures and terminology for describing buildings, and thereby ensured cohesion and efficiency of data collection.

5. Survey participants must revise the form as a team

Digital forms can be revised easily, but revisions must be agreed upon by all

team members. If one survey member comes in contact with an element that is not addressed by a field in the survey form, he/she should bring this to the attention of all surveyors. At the end of each day, surveyors should gather to discuss how—if necessary—the form should be revised. By doing so, everyone is informed of the changes, and everyone is aware of how the changes will affect the survey process.

6. A tiered approach to accessibility enables the public to interact with gathered information while protecting resources from potential harm

Digital technology can be used as a tool to disseminate survey information to the public. By creating online websites that include interactive maps of the survey sites, GIS software can be used to link survey information and photographic images of individual resources to their locations on the maps.

This information must be disseminated responsibly. By incorporating a tiered system of accessibility, the public will benefit and the resources will be protected. Members of the general public should be able to access information about their neighborhoods, cities, and places of interest, but should not be allowed access to sensitive information about sites that include vulnerable resources. This information should only be available to researchers and professionals recognized as trustworthy by the entity producing the website.

Because the purpose of surveying is to gain information about an area which enables informed decisions about its future, attention and time should be dedicated to ensuring the credibility and applicability of the survey process. By incorporating these six standards into the planning and implementation methodology of survey projects, digital technology can be integrated into the practice of conducting field surveys and compiling resource inventories so as to expedite the process, ensure clear and cohesive data, and inform the public of the historic resources throughout the country.

Bibliography

Case studies and contact interviews

Renee M. Hutter, Architectural Historian, LopezGarcia Group
Ms. Hutter is the principle investigator for the city of Fort Worth's neighborhood survey project. Through coordination with her, information was gained concerning the firm's approach to surveying and inventorying.

Lindsey Hannah, Historic Preservation Specialist, Goodwin & Associates
Ms. Hannah has conducted field survey research in post-Katrina New Orleans for the past few years. Her research is funded by FEMA and is aimed at developing a universal data collection system for cultural resource management. Through coordination with her, information was gained about the data collection process and the pitfalls of poor planning and rushed surveys.

Dominique M. Hawkins, AIA, Preservation Design Partnership
Ms. Hawkins worked with the Preservation Alliance of Greater Philadelphia on a Philadelphia Register of Historic Places Historic District nomination survey that was conducted to develop a methodology for surveying the entire city of Philadelphia. Through coordination with her, information was gained about the feasibility of conducting a small scale survey to address the challenges of conducting a city-wide survey.

Ames, David L. and McClelland, Linda Flint. *Historic Residential Suburbs: Historic Guidelines for Evaluation and Documentation for the National Register of Historic Places*. National Register Bulletin, 2002.

Anesty, Dr. Mary Therese, Historical and Architectural Survey Coordinator, Colorado Historical Society, "Re: Information Needed for Thesis Research," 2 April 2008, email to author.

Antonson, Jo, Alaska State Historian, "Re: Information Needed for Thesis Research," 16 April 2008, email to author.

Appleby, Joyce, Lynn Hunt, and Margaret Jacob. *Telling the Truth About History*. New York: W.W. Norton & Company, 1994.

Arctur, David. *Designing Geodatabases: Case Studies in GIS Data Modeling*. Redlands, California: ESRI, 2004.

- Arizona State Parks, *Survey and Planning*, [cited 29 April 2008]. Available from http://www.pr.state.az.us/partnerships/shpo/shpo_sp.html.
- Baughn, Jennifer V. Opager, Chief Architectural Historian, Mississippi Department of Archives and History, "Re: Information Needed for Thesis Research," 29 April 2008, email to author.
- Birch, Eugenie L. and Douglas Roby. "The Planner and the Preservationist: An Uneasy Alliance." *Journal of the American Planning Association*. 50 (2): 194-207.
- Birdsong, Vince, Supervisor/Database Administrator, Florida Master Site File, Division of Historical Resources, "Re: Information Needed for Thesis Research," 2 April 2008, email to author.
- Brown, Elizabeth, Alabama State Historic Preservation Officer, "Re: Information Needed for Thesis Research," 2 April 2008, email to author.
- Canaday, Tricia, Architectural Historian/National Register Coordinator, Idaho State Historic Preservation Office, "Re: Information Needed for Thesis Research," 7 April 2008, email to author.
- Cinadr, Tom, Survey and Information Management Coordinator, Minnesota State Historic Preservation Office, "Re: Information Needed for Thesis Research," 14 April 2008, email to author.
- Clark, J. "Historic Landscape Characterisation: A National Programme." *Conservation Bulletin*. 47 (Winter): 20-22.
- Courtney, Paul. "Interdisciplinary Approaches in CRM: Archaeology, History, and Geography." *Historical Archaeology*, 41(2): 8-9.
- CRGIS. *From Paper File to Digital Database*. [Updated December 2007; cited 01 January 2008] Available from <http://www.nps.gov/history/hdp/standards/CRGIS/paper.htm>.
- CRGIS. *Critical Nature of Spatial Data in Cultural Resource Management*. [updated December 2007; cited 01 January 2008] Available from <http://www.nps.gov/history/hdp/standards/CRGIS/spatial.htm>.
- DeDufour, Karen, Nevada State Historic Preservation Office, "Re: Information Needed for Thesis Research," 15 April 2008, email to author.

Department of Land and Natural Resources, State of Hawaii. *State Historic Preservation Division*. [cited 30 April 2008]. Available from <http://hawaii.gov/dlnr/hpd/hpgreeting.htm>.

Derry, Anne, H. Ward Jandl, Carol D. Shull and Jan Thorman. *Guidelines for Local Surveys: A Basis for Preservation Planning*. National Register Bulletin Number 24, 1977; revised 1985.

Diebold, Paul C., Team Leader, Survey and Registration, Indiana Division of Historic Preservation and Archaeology, "Re: Information Needed for Thesis Research," 15 April 2008, email to author.

Dolberg, Jill E., Historic Buildings Survey Coordinator, Nebraska State Historic Preservation Office, "Re: Information Needed for Thesis Research," 15 April 2008, email to author.

Dunne, Mary, Connecticut State Historic Preservation Officer, "Re: Information Needed for Thesis Research," 15 April 2008, email to author.

Duvall, Megan, Certified Local Government Coordinator and Survey Program Manager, Washington Department of Archaeology and Historic Preservation, "Re: Information Needed for Thesis Research," 2 April 2008, email to author.

Emidy, Jeffrey D., Project Review Coordinator, State of Rhode Island and Providence Plantations Historical Preservation and Heritage Commission, "Re: Information Needed for Thesis Research," 24 April 2008, email to author.

Fleischhauer, Carl and Charles K. Wolfe. *The Process of Field Research*. Washington, D.C.: American Folklife, 1981.

Frisch, Michael. *A Shared Authority: Essays on the Craft and Meaning of Oral and Public History*. Albany: State University of New York Press, 1990.

Fukushima, Ayako. "Cultural Resource Management and Interpretation with GIS: A Pilot Project for the Independence National Historical Park, Philadelphia, PA." Master's Thesis, University of Pennsylvania, 2004.

Gaston, Kelli E., Oklahoma State Historic Preservation Office, "Re: Information Needed for Thesis Research," 3 April 2008, email to author.

- Gibbs, Kenneth, Survey Coordinator, "Re: Information Needed for Thesis Research," 24 April 2008, email to author.
- Grevstad-Nordbrock, Ted, Historian/Information Coordinator, Michigan State Historic Preservation Office, "Re: Information Needed for Thesis Research," 15 April 2008, email to author.
- Haug, Jason, Historic Preservation Director, South Dakota State Historical Society, State Historic Preservation Office, "Re: Information Needed for Thesis Research," 4 April 2008, email to author.
- Historic American Buildings Survey/Historic American Engineering Record Cultural Resources Program. *HABS/HAER Standards*. Washington, D.C.: National Park Service, 1983 [Reissued 1990].
- Hobson, Edward. *Conservation and Planning*. New York: Spon Press, 1994.
- Hudson, John and Philip James. "The Changing Framework for Conservation of the Historic Environment. *Structural Survey*. 25 (3): 253-264.
- Illinois Historic Preservation Agency. *HAARGIS*. [updated 2007; cited 22 April 2008]. Available from <http://www.illinoishistory.gov>.
- Jamele, Suzanne, National Register Department, Vermont State Historic Preservation Office, "Re: Information Needed for Thesis Research," 18 April 2008, email to author.
- Johnson, Elizabeth M., South Carolina Deputy Historic Preservation Officer, "Re: Information Needed for Thesis Research," 8 April 2008, email to author.
- Kaser, Cara L., Architectural Historian, National Register Program, Oregon State Historic Preservation Office, "Re: Information Needed for Thesis Research," 2 April 2008, email to author.
- Kyvig, David E. and Myron A. Marty. *Nearby History: Exploring the Past Around You*. Nashville, Tennessee: The American Association for State and Local History, Tennessee, 1982.
- Little, Barbara J. "What are We Learning? Who are We Serving? Publicly Funded Historical Archaeology and Public Scholarship." *Historical Archaeology* 41 (2): 72-79.

Louisiana Division of Historic Preservation. *National Register Database*. [cited 30 April 2008]. Available from <http://www.crt.state.la.us/hp/>?

Macintire, Bill, Survey Coordinator, Kentucky Heritage Council, "Re: Information Needed for Thesis Research," 3 April 2008, email to author.

Martin, Ian. "Confined by a Design Community Blog." *Building Design*. (1781): 31-32.

Maryland Historical Trust. *Site Inventories*. [cited 30 April 2008]. Available from <http://www.marylandhistoricaltrust.net/>.

McGimsey, Charles Robert. *CRM on CRM: One Person's Perspective on the Birth and Early Development of Cultural Resource Management*. Fayetteville, Arkansas: Arkansas Archaeological Survey, 2004.

Meives, Caitlin, Survey Coordinator, Kansas State Historical Society, "Re: Information Needed for Thesis Research," 14 April 2008.

Missouri Department of Natural Resources. *Cultural Resources Survey*. [cited 30 April 2008]. Available from <http://www.dnr.mo.gov/shpo/Survey.htm>.

Mitchell, Barbara A., Architectural Historian and Deputy State Historic Preservation Officer, Iowa State Historic Preservation Office, "Re: Information Needed for Thesis Research," 16 April 2008, email to author.

National Park Service. *Listing a Property: Frequently Asked Questions*. [Updated 2007; cited 01 March 2008] Available from <http://www.nps.gov/nr/listing.htm>.

Nelson, Marie, Survey/Certified Local Government Coordinator, California Office of Historic Preservation, "Re: Information Needed for Thesis Research," 8 April 2008, email to author.

New Jersey Department of Environmental Protection. *Historic Preservation Office*. [cited 30 April 2008]. Available from <http://www.state.nj.us/dep/hpo/>.

- New Mexico Historic Preservation Division, *Registers of Cultural Properties*. [cited 30 April 2008]. Available from <http://www.nmhistoricpreservation.org/PROGRAMS/index.html>.
- New York State Historic Preservation Office. *Preservation Planning*. [cited 30 April 2008]. Available from <http://nysparks.state.ny.us/shpo/>.
- North Carolina State Historic Preservation Office. *Architectural Surveys*. [cited 30 April 2008]. Available from <http://www.hpo.dcr.state.nc.us/bldgsurv.htm>.
- Parker, Patricia L and Thomas King. *Guidelines for Evaluating and Documenting Traditional Cultural Properties*. National Register Bulletin Number 38, 1998.
- Pennsylvania Historical and Museum Commission. *Preservation Programs*. [cited 30 April 2008]. Available from <http://www.portal.state.pa.us>.
- Picha, Paul R., Chief Archaeologist, Historic Preservation Division, State Historical Society of North Dakota, "Re: Information Needed for Thesis Research," 24 April 2008, email to author.
- Powers, Barbara, Department Head, Inventory & Registration, Ohio Historic Preservation Office/Ohio Historical Society, "Re: Information Needed for Thesis Research," 18 April, email to author.
- Riebe, Erin M., National Register and Survey Coordinator, West Virginia SHPO, "Re: Information Needed for Thesis Research," 24 April 2008, email to author.
- Ryan, Mary Kate, Survey and Inventory Coordinator, New Hampshire Division of Historical Resources, "Re: Information Needed for Thesis Research," 16 April 2008, email to author.
- Secretary of the Interior's Standards and Guidelines for Historical Documentation*. [Updated summer 2007; cited 28 September, 2007] Available from http://www.nps.gov/history/local-law/arch_stnds_5.htm.
- Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation*. [Updated summer 2007; cited 28 September, 2007] Available from http://www.nps.gov/history/local-law/arch_stnds_0.htm.

- Smith, Gregory W., National Register Coordinator, History Programs Division, Texas Historical Commission, "Re: Information Needed for Thesis Research," 28 April 2008, email to author.
- Sprague, Paul E. Forum on the Meaningful Assessment of the Built Environment. Architectural Preservation Forum. The Society of Architectural Historians, Bulletin of the Committee on Architectural Preservation 1 (1).
- Stapp, Nicholas L. "Cultural Resource Management Using Computer Applications: A Case Study from Kotyiti, New Mexico. Master's Thesis, University of Pennsylvania, 2000.
- State of Delaware, *State Historic Preservation Office*, [cited 29 April 2008] Available from <http://history.delaware.gov/preservation/default.shtml>.
- State of Maine. *Maine Historic Preservation Commission*. [cited 30 April 2008]. Available from <http://www.state.me.us/mhpc/index.shtml>.
- State of Tennessee. *Tennessee Historical Commission*. [cited 30 April 2008]. Available from <http://www.tennessee.gov/environment/hist/>.
- State of Virginia. *National Register of Historic Places & Landmarks Register*. [cited 30 April 2008.] Available from <http://www.dhr.virginia.gov/>.
- Steinitz, Michael, Director of Preservation Planning Division, Massachusetts Historical Commission, "Re: Information Needed for Thesis Research," 2 April 2008, email to author.
- Still, Julie M., editor. *Creating Web-Accessible Databases: Case Studies for Libraries, Museums, and other Non Profits*. Medford, New Jersey: Information Today, 2001.
- Sutter, Steve, Wyoming Cultural Records Office, "Re: Information Needed for Thesis Research," 24 April 2008, email to author.
- Taylor, Martha Ross. *Cataloging the Decorative Arts: Database Design Principles and Applications*. Columbia: South Carolina Institute of Archaeology and Anthropology, University of South Carolina, 1991.
- Teorey, Toby J. *Database Modeling & Design: Logical Design*. Boston: Morgan Kaufmann Publishers, 2006.

Walker, Eldra D., Preservation Specialist, Washington D.C. State Historic Preservation Office, "Re: Information Needed for Thesis Research," 10 April 2008, email to author.

Wilcox, Ralph S., National Register & Survey Coordinator, Arkansas Historic Preservation Program, "Re: Information Needed for Thesis Research," 16 April 2008, email to author.

Wilmoth, Stan, Montana State Archaeologist, "Re: Information Needed for Thesis Research," 3 April 2008, email to author.

Wisconsin Historical Society, *Historic Sites and Museums*, [cited 30 April 2008]. Available from <http://www.wisconsinhistory.org/>.

Appendix A: State by State Analysis of the Digitization Progress of Individual State Historic Preservation Offices

Alabama

SHPO Website: <http://www.preserveala.org/>

Contact: Elizabeth Brown, Alabama State Historic Preservation Officer

Phone: (334)230-2667

Email: EBrown@preserveala.org

Required vs. Suggested Form(s)

The Alabama State Historic Preservation Office has a suggested form which is made available to surveyors across the state. This form is modifiable to suit the needs of individual survey projects.

Use of PDA/GPS/GIS

Structures surveys are completed on paper forms. The SHPO does not have a GIS department.

State Register/Inventory

Alabama has a state register, but the information for specific properties, districts, and sites exists only in paper files.

Searchable Database(s)

Although the Alabama state register is not digitized, the current archaeological database is completely digitized, mapped, and web accessible.

Plans for Digitization

All old archaeological survey reports are in the process of being digitized, with plans to digitize all of the state's archaeological information. Plans are in effect to model the structures inventory after the archaeological inventory, by digitizing the surveys and linking them to map data.

Public Access to Data

The Alabama SHPO does not make inventory or register information available to the public.²¹

Alaska

SHPO website: <http://www.dnr.state.ak.us/parks/oha/shpo/shpo.htm>

Contact: Jo Antonson, Alaska State Historian

Email: jo.antonson@alaska.gov

Required vs. Suggested Form(s)

The Alaska Office of History and Archaeology has created a general form for surveyors, but it is not considered a standard.

²¹ Brown, Elizabeth, Alabama State Historic Preservation Officer, "Re: Information Needed for Thesis Research," 2 April 2008, email to author.

Use of PDA/GPS/GIS

Various methods for gathering survey data are employed, including the use of PDA's, digital cameras, GPS devices and GIS software.

State Register/Inventory

Alaska does not have a statewide register or a statewide inventory

Searchable Database(s)

Alaska's survey projects are not contained within searchable databases.

Plans for Digitization

There are currently no plans to digitize any of Alaska's survey information.

Public Access to Data

The Alaska SHPO does not make information about state resources available to the public.²²

Arizona

SHPO website: <http://www.pr.state.az.us/partnerships/shpo/shpo.html>

Contact: William Collins

Phone: (602) 542-7159

Required vs. Suggested Form(s)

The Arizona SHPO provides standard forms to surveyors.

Use of PDA/GPS/GIS

Digital photography is allowed for survey projects.

State Register/Inventory

Arizona does not have a state register.

Public Access to Data

Arizona's historic resource survey information is not available online.²³

Arkansas

SHPO website: <http://www.arkansaspreservation.org/>

Contact: Ralph S. Wilcox, National Register and Survey Coordinator, Arkansas Historic Preservation Program

Email: Ralph@arkansasheritage.org

Required vs. Suggested Form(s)

The Arkansas SHPO provides a general survey which the staff and all contractors use when completing survey work.

²² Antonson, Jo, Alaska State Historian, "Re: Information Needed for Thesis Research," 16 April 2008, email to author.

²³ Arizona State Parks, Survey and Planning, available from http://www.pr.state.az.us/partnerships/shpo/shpo_sp.html; Internet; accessed 29 April 2008.

Use of PDA/GPS/GIS

While all surveys are completed using paper forms, capabilities exist to complete forms on handheld GPS units in order to more easily download information.

State Register/Inventory

Arkansas has a state register which includes properties that are significant to Arkansas history, but do not meet the National Register criteria for one reason or another.

Searchable Database(s)

The Arkansas state register is contained in a searchable database.

Plans for Digitization

Currently, the office is in the process of making all texts of register nominations and photographs of nominated properties available online. The process is approximately 50% complete. The office is also working to digitize its survey forms, which total over 30,000 forms.

Public Access to Data

The state register database is available online through the SHPO website.²⁴

California

SHPO website: www.ohp.parks.ca.gov

Contact: Marie Nelson, Survey, Certified Local Government Coordinator

Phone: (916)653-9514

Email: mnelson@parks.ca.gov

Required vs. Suggested Form(s)

The California SHPO has adopted the Department of Parks and Recreation (DPR) 523 series of forms for documenting resources. These forms are made available to surveyors via the SHPO website.

Use of PDA/GPS/GIS

Agencies, local governments, and consultants who access these forms use various methods and tools for completing survey projects, many of which include the use of digital devices.

State Register/Inventory

California has a statewide inventory which contains information about properties identified and evaluated by the Office of Historic Preservation (OHP), a division of the Parks Service.

Searchable Database(s)

The office has supported the development of the Cultural and Historic Resources Inventory Database through several Certified Local Government grants.

²⁴ Wilcox, Ralph S., National Register & Survey Coordinator, Arkansas Historic Preservation Program, "Re: Information Needed for Thesis Research," 16 April 2008, email to author.

Plans for Digitization

The California SHPO has digitized all survey information.

Public Access to Data

Information in the Historical Resources Inventory is managed by the office and is accessible to the public through one of 12 "Information Centers" which are under contract to manage the data. A searchable listing of all resources designated in one of the four registration programs (explained below) is available online.

Additional Comments

California has four registration programs: the California Register of Historic Resources, the California Historical Landmarks, California Historical Points of Interest, and the National Register of Historic Places. The City of Los Angeles is in the process of developing an electronic survey methodology and field tools to complete a citywide survey. Plans include the utilization of tablet computers and wi-fi cameras.²⁵

Colorado

SHPO website: <http://www.coloradohistory-oahp.org/index.html>

Contact: Dr. Mary Therese Anesty, Historical and Architectural Survey Coordinator

Phone: (303)866-4822

Email: MaryTherese.Anesty@chs.state.co.us

Required vs. Suggested Form(s)

The Colorado Office of Archaeology and Historic Preservation has several forms available for the recording of archaeological, historical, and architectural resources. Colorado does not have a standard form for reconnaissance surveys; the forms available are for intensive level surveys. While communities and consultants are thereby free to structure a form which best meets the needs of their project, a list of nine (minimum) items must be included on the form.

Use of PDA/GPS/GIS

Colorado requires the submission of hardcopies of all historical and architectural survey products (including forms, photos, etc.) Many consultants utilize digital formats to collect the information then print the information to a hard copy for submission. The office began accepting digital photos for historical and architectural survey projects in July 2005. The Information Management Department is responsible for GIS related issues, but does not work closely with the Office of Archaeology and Historic Preservation.

²⁵ Nelson, Marie, Survey/Certified Local Government Coordinator, California Office of Historic Preservation, "Re: Information Needed for Thesis Research," 8 April 2008, email to author.

State Register/Inventory

The Colorado State Register of Historic Properties is a listing of the state's significant cultural resources worthy of preservation for the future education and enjoyment of Colorado's residents and visitors. Properties listed in the State Register include individual buildings, structures, objects, districts, and historic and archaeological sites. The state register program is administered by the Office of Archaeology and Historic Preservation (OAHP) within the Colorado Historical Society.

Searchable Database(s)

The OAHP maintains an official list of all properties included in the state register. Properties that are listed in the National Register of Historic Places are automatically placed on the state register. Properties may also be nominated separately to the state register without inclusion in the National Register.

Plans for Digitization

Insufficient staffing prohibits scanning more than the National Register forms and nominations.

Public Access to Data

The Colorado Office of Archaeology and Historic Preservation operates an online database into which hardcopy information (nominations, any previous survey forms) on California National Register listed properties has been scanned.²⁶

Connecticut

SHPO website: <http://www.cultureandtourism.org/cct/>

Contact: Mary Dunne, Certified Local Government Grants Coordinator

Phone: (860) 256-2756

Email: mary.dunne@ct.gov

Required vs. Suggested Form(s)

The Connecticut SHPO provides a standard survey form which they require all surveyors to use.

Use of PDA/GPS/GIS

The office accepts a variety of formats for field surveys, but is beginning to encourage collection of GPS information. Digital photographs are also accepted. The Connecticut SHPO does not have a GIS department.

State Register/Inventory

Connecticut has a state register which is modeled after the National Register.

²⁶ Anesty, Dr. Mary Therese, Historical and Architectural Survey Coordinator, Colorado Historical Society, "Re: Information Needed for Thesis Research," 2 April 2008, email to author.

Searchable Database(s)

The Connecticut state register is not in a digital format. The office is beginning to input information on National Register properties into a searchable database.

Plans for Digitization

Plans do not currently exist to digitize state register information.

Public Access to Data

Register and survey information is not currently available to the public.²⁷

Delaware

SHPO Website: <http://history.delaware.gov/preservation/default.shtml>

Required vs. Suggested Form(s)

The Delaware SHPO provides specified survey forms which correlate with specific survey projects.

Use of PDA/GPS/GIS

The office utilizes a paper based format for completing resource surveys.

State Register/Inventory

Delaware does not have a state register.

Searchable Database(s)/ Plans for Digitization

Information unavailable.

Public Access to Data

Delaware resource survey information is not available online.²⁸

District of Columbia

SHPO website: <http://planning.dc.gov/planning>

Contact: Eldra D. Walker, Preservation Specialist

Phone: (202) 442-8839

Email: eldra.walker@dc.gov

Required vs. Suggested Form(s)

The SHPO provides a standard survey form which is customized by surveyors for the particular survey being conducted.

Use of PDA/GPS/GIS

Surveys are generally completed by hand, but can be completed using a laptop or PDA. Digital photographs are also encouraged. The office has a GIS department which creates layer files that can be used to create maps. These layer files are also made available to the public online.

State Register/Inventory

DC has a statewide historic registry called the DC Inventory of Historic Sites.

²⁷ Dunne, Mary, Connecticut State Historic Preservation Officer, "Re: Information Needed for Thesis Research," 15 April 2008, email to author.

²⁸ State of Delaware, State Historic Preservation Office, available from <http://history.delaware.gov/preservation/default.shtml>; Internet; accessed 29 April 2008.

Searchable Database(s)

The inventory is contained in a searchable database.

Plans for Digitization

The office plans to have a searchable database available online within two years. Implementation is currently 50% complete.

Public Access to Data

From the SHPO website, users can access a PDF containing an "Index of Historic Sites in DC," and a PDF containing narratives about historic sites and districts, "District of Columbia Inventory of Historic Sites." The index lists historic sites by street, while the narrative document lists sites and districts thematically and chronologically while providing important information about the site in paragraph form. The narrative document also contains an index which lists historic districts and sites in alphabetical order, which enables users to quickly find a site or district by name.

Additional Comments

The DC SHPO also has a Historic District Building Permit Database and digitized information regarding Historic Permit Easement and Tax Credits.²⁹

Florida

SHPO Website: <http://www.flheritage.com>

Contact: Vincent Birdsong, Supervisor/ Database Administrator, Florida Master Site File

Phone: (850) 245-6329

Email: VBirdsong@dos.state.fl.us

Required vs. Suggested Form(s)

The forms used to complete Florida Master Site File (FMSF, explained below) surveys are used by surveyors across the state.

Use of PDA/GPS/GIS

Completed forms include a map and a photo of the resource. While the SHPO does not require that digital photos and GPS data be collected for surveys, most surveyors take digital photos, which are included in the FMSF. Resource recording forms may be submitted in paper format or by using a customized data entry program, SmartForm II. The SmartForm II program enables data entry and printing of survey forms. Surveys funded by the state are required to use SmartForm II. All resources are recorded in a searchable database and locations are maintained in a GIS database. GIS functions are carried out by the staff of the FMSF and are integrated into the data processing procedures.

²⁹ Walker, Eldra D., Preservation Specialist, Washington D.C. State Historic Preservation Office, "Re: Information Needed for Thesis Research," 10 April 2008, email to author.

State Register/Inventory

Florida does not have a statewide historic register, but does have a statewide inventory, the Florida Master Site File (FMSF). Resources may be recorded on the FMSF if they are at least 50 years old and have been documented on a completed resource recording form.

Searchable Database(s)/Public Access to Data

GIS datasets and access to an online version of the database is available to consultants, academics and other state and local government agencies.

Plans for Digitization

The FMSF is completely digitized.³⁰

Georgia

SHPO Website: <http://www.GASHPO.org>

Contact: Kenneth Gibbs, Survey Coordinator

Email: Kenneth.Gibbs@dnr.state.ga.us

Required vs. Suggested Form(s)

The Georgia SHPO provides survey forms via their website. These forms are available to anyone wishing to utilize them.

Use of PDA/GPS/GIS

Georgia's Natural, Archaeological and Historic Resources Geographic Information System (NAHRGIS) was created by Information Technology Outreach Services at the University of Georgia.

State Register/Inventory

Georgia's State Register follows the same format as the National Register, and all resources listed in the National Register are automatically in the state register as well. The Georgia Historic Resources Survey is a web-based database available to the public online.

Searchable Database(s)/ Public Access to Data

Survey information is contained in searchable databases within the NAHRGIS.

Plans for Digitization

Survey fieldwork data, including digital photographs and GPS coordinates, is entered online using Georgia's NAHRGIS.³¹

Hawaii

SHPO Website: <http://hawaii.gov/dlnr/hpd/hpgreeting.htm>

³⁰ Birdsong, Vince, Supervisor/Database Administrator, Florida Master Site File, Division of Historical Resources, "Re: Information Needed for Thesis Research," 2 April 2008, email to author.

³¹ Gibbs, Kenneth, Survey Coordinator, "Re: Information Needed for Thesis Research," 24 April 2008, email to author.

Required vs. Suggested Form(s)

The Hawaii State Historic Preservation Division (SHPD) offers general forms to surveyors.

Use of PDA/GPS/GIS

Information unavailable.

State Register/Inventory

The SHPD maintains an Inventory of Historic Properties, which includes information on over 38,000 properties. The SHPD also operates the Hawaii Register of Historic Places program.

Searchable Database(s)/ Public Access to Data

Hawaii's Inventory of Historic Properties is available online. Users can access a map of the islands, zoom down to specific areas, and access information about individual resources.³²

Idaho

SHPO website: <http://www.idahohistory.net>

Contact: Tricia Canady, Architectural Historian/ National Register Coordinator

Phone: (208) 334-3861

Email: Tricia.Canady@ishs.idaho.gov

Required vs. Suggested Form(s)

The Idaho SHPO developed an inventory form that contractors are required to use for Community Land Grant (CLG) and Section 106 Surveys. While all contractors use these forms, the means by which data is collected varies from survey to survey, depending on the availability of technical resources and trained professionals.

Use of PDA/GPS/GIS

The Idaho SHPO has no GIS department and relies on one Information Technology (IT) staff member. Some members of the staff are self-taught in the use of database and GIS, and handle survey and inventory work.

State Register/Inventory

While Idaho does not have a state register, the state does have a Historic Sites Inventory, which has tens of thousands of inventory records on historic buildings and structures.

Searchable Database(s)/Plans for Digitization

Currently, the Idaho SHPO is approximately 25% finished with a two year project to digitize all records and to enter them into a database, which will then be linked to a GIS database.

³² Department of Land and Natural Resources, State of Hawaii, State Historic Preservation Division, <http://hawaii.gov/dlnr/hpd/hpgreeting.htm>, Internet; accessed 30 April 2008.

Public Access to Data

No plans exist to make survey information available online. Other records, such as National Register nominations and Historic American Building Survey/Historic American Engineering Record (HABS/HAER) documents will be made available online.³³

Illinois

SHPO Website: <http://www.illinoishistory.gov>

Required vs. Suggested Form(s)

The Illinois Historic Preservation Agency provides modifiable forms for surveyors working in the state.

Use of PDA/GPS/GIS

The Agency encourages the use of digital devices. The Agency also has an active GIS department.

State Register/Inventory

Information unavailable.

Searchable Database(s)/ Public Access to Data

The Preservation Services Division has created the Historic Architectural and Archaeology Resources Geographic Information System (HAARGIS) which enables the public to locate and download information about Illinois' cultural resources. The information is contained in a searchable database which is accessible online. The website is meant to be a research tool, but is not a constantly updated inventory. Users are encouraged to update the information by contacting the agency to alert them of incorrect or out of date entries.

Plans for Digitization

Resources of local designation or those included in local surveys are still in the process of being added to the system.³⁴

Indiana

SHPO Website: <http://www.state.in.us/dnr/historic/>

Contact: Paul C. Diebold, Team Leader, Survey & Registration, Indiana DNR-
Division of Historic Preservation and Archaeology

Phone: (317) 232-3493

Email: PDiebold@dnr.in.gov

³³ Canady, Tricia, Architectural Historian/National Register Coordinator, Idaho State Historic Preservation Office, "Re: Information Needed for Thesis Research," 7 April 2008, email to author.

³⁴ Illinois Historic Preservation Agency, HAARGIS, 2007, available from <http://www.illinoishistory.gov> ; Internet; accessed 22 April 2008.

Required vs. Suggested Form(s)

The Indiana Division of Historic Preservation and Archaeology has a standard form which is mainly used for surveys sponsored with their funds. Use of this form is not required for other surveys.

Use of PDA/GPS/GIS

Indiana is integrating digital technology into their survey practices (See Additional Comments below). The division does not have a GIS department.

State Register/Inventory

Indiana has a state register, the Indiana Register of Historic Sites and Structures, which uses the same criteria as the National Register.

Searchable Database(s)/Plans for Digitization

Digitizing the Indiana Register of Historic Sites and Structures is not currently a priority, but plans exist to digitize all National Register nominations. The department recently completed a database called SHAARD that is GIS based and that will be available to the public for research. The application will allow users to search for National Register, survey, and if they are qualified, for archaeological data.

Public Access to Data

The Indiana Register of Historic Sites and Structures is available online as a simple list of resources.

Additional Comments

A pilot survey project of Clark County (near Louisville) is scheduled to begin in the summer of 2008. The project will use tablet PCs with photo and GIS capability. Sites will be recorded on a field application that will allow managers to remotely review forms. The success of this project will inform future survey methodology.³⁵

Iowa

SHPO Website: <http://www.iowahistory.org/>

Contact: Barbara A. Mitchell, Architectural Historian, Deputy State Historic Preservation Officer

Phone: (515) 281-4013

Email: Barbara.mitchell@iowa.gov

Required vs. Suggested Form(s)

The Iowa Site Inventory Form is the standard form for surveying standing structures. All paper site forms submitted to the office are filed in file folders and placed on a shelf.

Use of PDA/GPS/GIS

Very few surveys in Iowa are conducted completely digitally. The data on inventory forms submitted to the office is entered manually into an inventory

³⁵ Diebold, Paul C., Team Leader, Survey and Registration, Indiana Division of Historic Preservation and Archaeology, "Re: Information Needed for Thesis Research," 15 April 2008, email to author.

database. One person is responsible for all GIS tasks for both the archaeology and historic resource departments

State Register/Inventory

Iowa has a statewide inventory of over 116,000 buildings, including National Register properties and any other properties submitted to the office whether eligible or not. Today, the survey grows primarily due to Certified Local Government surveys and inventories resulting from the federal review process.

Searchable Database(s)

The inventory is paper based, with basic location, function, stylistic, material, and eligibility information entered into a Microsoft Access database. Digital photographs and PDF's of survey forms are integrated into the database.

Plans for Digitization

Due to space limitations, plans are in effect to digitize paper copies of forms. They will be entered into the database, then scanned and converted into PDFs, with the original paper form destroyed.

Public Access to Data

Register information is not available to online.³⁶

Kansas

SHPO Website: <http://www.kshs.org/preserve/index.htm>

Contact: Caitlin Meives, Survey Coordinator

Email: cmeives@kshs.org

Required vs. Suggested Form(s)

Kansas has a general survey form that is provided to all surveyors.

Use of PDA/GPS/GIS

Surveys are not conducted with PDA's but most involve the use of digital cameras. GPS information is required for all surveys.

State Register/Inventory

Kansas has a state register which includes state and National Register properties.

Searchable Database(s)

Survey information is contained within a Microsoft Access database.

Plans for Digitization

The office is moving toward an online database of surveyed properties which will enable users to enter survey information and upload images, site plans, etc. Users will also be able to search the database.

Public Access to Data

No information is currently available online.³⁷

³⁶ Mitchell, Barbara A., Architectural Historian and Deputy State Historic Preservation Officer, Iowa State Historic Preservation Office, "Re: Information Needed for Thesis Research," 16 April 2008, email to author.

Kentucky

SHPO Website: <http://www.state.ky.us/agencies/khc/khchome.htm>

Contact: Bill Macintire, Survey Coordinator

Phone: (502) 564-7005 ext. 124

Email: Bill.Macintire@ky.gov

Required vs. Suggested Form(s)

The Kentucky SHPO provides a standard paper-based form to all surveyors working in the state.

Use of PDA/GPS/GIS

Information collected on paper based forms is inserted by hand into a database. The office recently completed a two county survey with funding from a Preserve America grant which incorporated digital photography, GPS locational information, and GIS mapping. The office does not have a GIS department, but works closely with the University of Kentucky to compile digitized data into GIS layers.

State Register/Inventory

The state of Kentucky has a historic sites inventory which contains over 80,000 properties.

Searchable Database(s)

The register is digitized, and locations of the sites are plotted in a GIS layer.

Plans for Digitization

Plans exist to incorporate scans of survey forms and photographs into the database and to make it available online.

Public Access to Data

Information about surveyed properties is only available to members inside the department.³⁸

Louisiana

SHPO Website: <http://www.crt.state.la.us/hp/?>

Required vs. Suggested Form(s)

The Louisiana Division of Historic Preservation provides general forms for surveyors.

Use of PDA/GPS/GIS

Information unavailable.

State Register/Inventory

Louisiana does not have a state register.

³⁷ Meives, Caitlin, Survey Coordinator, Kansas State Historical Society, "Re: Information Needed for Thesis Research," 14 April 2008.

³⁸ Macintire, Bill, Survey Coordinator, Kentucky Heritage Council, "Re: Information Needed for Thesis Research," 3 April 2008, email to author.

Searchable Database(s)/ Public Access to Data

Information about Louisiana properties listed on the National Register of Historic Places is available through an online database.

Plans for Digitization

Information unavailable.³⁹

Maine

SHPO Website: <http://www.state.me.us/mhpc/>

Required vs. Suggested Form(s)

The Maine Historic Preservation Commission provides general forms for surveyors working in the state. The Commission also provides a survey manual.

Use of PDA/GPS/GIS

Information unavailable.

State Register and Inventory/Searchable Database(s)/Public Access to Data

Maine's Public Historic Sites, Light Stations and National Register properties are contained in searchable databases which are available online.

Additional Comments

The Main Historic Preservation Commission has undertaken both geographic-based and theme-based surveys. Theme-based surveys include landscapes, railroad related buildings, shoe-industry related buildings, sporting camps, textile mills, motor courts, and historic highway bridges.⁴⁰

Maryland

SHPO Website: <http://www.marylandhistoricaltrust.net/>

Required vs. Suggested Form(s)

The Maryland Historical Trust provides general forms to surveyors working in the state.

Use of PDA/GPS/GIS

The Maryland Historical Trust launched a major initiative in late 1991 with its development of a GIS for Maryland's cultural resources. The GIS is designed to link Maryland's cultural resources inventories through a user-friendly map interface.

State Register/Inventory

Maryland has a state register and an inventory of cultural resources.

Searchable Database(s)/ Public Access to Data

Users can access the SHPO Website to search for Maryland Inventory, State Register, or National Register Properties.

³⁹ Louisiana Division of Historic Preservation, National Register Database, available from <http://www.crt.state.la.us/hp/?>; Internet; accessed 30 April 2008.

⁴⁰ State of Maine, Maine Historic Preservation Commission, available from <http://www.state.me.us/mhpc/>; Internet; accessed 30 April 2008.

Plans for Digitization

The Maryland Historical Trust Library serves as the repository of records on over 90,000 historic and archaeological sites in the state. In order to provide better access to these records, the digitization effort includes scanning forms and photographs and database development and maintenance. The data systems are being designed to provide access to records through three methods: keyword search, structured database queries, and digitized map query and display. As components of the system are completed, they are made available at library workstations.⁴¹

Massachusetts

SHPO Website: <http://www.sec.state.ma.us/mhc/mhcidx.htm>

Contact: Michael Steinitz

Email: Michael.Steinitz@state.ma.us

Required vs. Suggested Form(s)

The Massachusetts SHPO provides survey forms that are considered the standard to surveyors across the state.

Use of PDA/GPS/GIS

Survey photography is done with digital cameras. Paper submissions and photographic prints which meet longevity standards are still required by the office. Simultaneously, the office is encouraging electronic submission of survey information with an imbedded photo and locus map. Currently, this digital process is only required for projects that are funded by the office.

State Register/Inventory

Massachusetts has a statewide register which is maintained and generated from the statewide inventory database, the Massachusetts Cultural Resource Information System (MACRIS). The state register includes local, state and federally designated properties.

Searchable Database(s)

While the MACRIS, a 200,000 record database, is complete and maintained, it does not contain survey forms in their entirety (only certain fields), and does not contain photos.

Plans for Digitization

Scanning of related hard copy materials into the MACRIS is in the planning stages. Digitization goals of the office include providing staff and public access to scanned or electronic versions of inventory information, searchable through the database or through GIS; providing limited, password enabled access to sensitive and restricted archaeological data; and developing a format for electronic submission of new inventory information that will integrate with a GIS/database/scanned form system.

⁴¹ Maryland Historical Trust, Site Inventories, available from <http://www.marylandhistoricaltrust.net/>; Internet; accessed 30 April 2008.

Public Access to Data

Information linked by GIS exists, but is not yet available online.

Additional Comments

The SHPO is also considering the development of a reconnaissance level survey form that can capture basic locational information, a photograph, field description and some level of historic information. This form would be usable by laypersons and volunteers. Information gathered, including architectural descriptions and historical documentation, could inform decisions about which properties merited more intensive surveying.⁴²

Michigan

SHPO Website: <http://www.michigan.gov/hal/>

Contact: Ted Grevstad-Nordbrock, Historian/Information Coordinator

Phone: (517) 335-2722

Email: grevstadt@michigan.gov

Required vs. Suggested Form(s)

The Michigan SHPO provides a survey manual that is meant to define what information is collected by surveyors.

Use of PDA/GPS/GIS

Digital cameras and GPS devices are used to complete survey work. The state of Michigan has a Center for Geographic Information. This group worked with the SHPO to create Historic Sites Online in 2003. Within the office, there is no GIS department.

State Register/Inventory

Properties for which Michigan Historical Markers are erected are listed on the Michigan State Register of Historic Sites.

Searchable Database(s)

Most information about Michigan State Register properties is digitized and searchable within a Microsoft Access database.

Plans for Digitization

The office is in the process of updating their data collection tool and creating a new geospatial database.

Public Access to Data

Most information about Michigan State Register properties is available online.⁴³

⁴² Steinitz, Michael, Director of Preservation Planning Division, Massachusetts Historical Commission, "Re: Information Needed for Thesis Research," 2 April 2008, email to author.

⁴³ Grevstad-Nordbrock, Ted, Historian/Information Coordinator, Michigan State Historic Preservation Office, "Re: Information Needed for Thesis Research," 15 April 2008, email to author.

Minnesota

SHPO Website: <http://www.mnhs.org/shpo/>

Contact: Tom Cinadr, Survey and Information Management Coordinator

Phone: (651) 259-3452

Email: Thomas.Cinadr@mnhs.org

Required vs. Suggested Form(s)

The Minnesota SHPO does not offer a standardized form but instead instructs surveyors to include certain fields and construct their own forms.

Use of PDA/GPS/GIS

While the use of digital equipment is not required, it is encouraged by the office. The office does not have a GIS department but they are currently working to implement GIS into a wide variety of activities.

State Register/Inventory

The office maintains a statewide register for historic properties, archaeological sites, National Register of Historic Places, survey reports, reuse studies, etc.

Searchable Database(s)

The statewide register is contained in a searchable database.

Plans for Digitization

Digitization is at various stages of completion. Most datasets are as up to date as possible, as form and reports come into the office regularly. Electronic data submission will ensure better timeliness, but doing so is not possible at this time. The office is also in the process of digitizing their images for all National Register Properties, to provide them to users of the SHPO website.

Public Access to Data

While plans exist to make register information available online, there is no current timeline for the project.⁴⁴

Mississippi

SHPO Website: <http://www.mdah.state.ms.us/index.html>

Contact: Jennifer V. Opager Baughn, Chief Architectural Historian, Mississippi Department of Archives and History

Phone: (601) 576-6940

Email: jbaughn@mdah.state.ms.us

Required vs. Suggested Form(s)

The Mississippi Department of Archives and History (MDAH) provides a standard form for recording architectural resources.

⁴⁴ Cinadr, Tom, Survey and Information Management Coordinator, Minnesota State Historic Preservation Office, "Re: Information Needed for Thesis Research," 14 April 2008, email to author.

Use of PDA/GPS/GIS

MDAH utilizes a paper based format for conducting resource surveys because the office does not have PDAs, GPS units, technical expertise on staff, or necessary software. Digital photography is used in conjunction with black and white photography. The MDAH does not have a GIS department and none of Mississippi's survey information is linked to GIS data.

State Register/Inventory

Mississippi's statewide register is called the Mississippi Landmarks List, and performs a more regulatory function than the National Register. Through the Mississippi Antiquities Act of 1970, the MDAH was given authority to designate any publically owned building as a Mississippi Landmark and to review any changes of listed structures. The designation also entails an easement placed on the property that remains in perpetuity.

Searchable Database(s)

Mississippi's Historic Resources Inventory is managed in a Microsoft Access database. A separate database is used to organize Mississippi Landmark information.

Plans for Digitization/ Public Access to Data

The MDAH plans to digitize and make available online the Historic Resources Inventory, which contains information on approximately 43,000 properties.⁴⁵

Missouri

SHPO Website: <http://www.dnr.mo.gov/shpo/EducAwar.htm>

Required vs. Suggested Form(s)

The Missouri SHPO provides general forms to surveyors working in the state. The SHPO also provides surveyors with "Minimum Survey Guidelines."

Use of PDA/GPS/GIS

Information unavailable.

State Register and Inventory/ Searchable Database(s)

The Missouri Cultural Resource Inventory is contained in a searchable database.

Public Access to Data

Information about properties contained in the Missouri Cultural Resource Inventory and information about Missouri National Register of Historic Places properties is available online.⁴⁶

⁴⁵ Baughn, Jennifer V. Opager, Chief Architectural Historian, Mississippi Department of Archives and History, "Re: Information Needed for Thesis Research," 29 April 2008, email to author.

⁴⁶ Missouri Department of Natural Resources, Cultural Resources Survey, available from <http://www.dnr.mo.gov/shpo/Survey.htm>; Internet; accessed 30 April 2008.

Montana

SHPO Website: <http://www.his.state.mt.us/shpo/default.asp>

Contact: Stan Wilmoth, State Archaeologist

Email: swilmoth@mt.gov

Required vs. Suggested Form(s)

The Montana SHPO provides standard survey forms to surveyors working in the state.

Use of PDA/GPS/GIS

While digital surveying is becoming common in the state, it is not yet required. The office does not have a GIS department, but does have an information manager who is trained in the software.

State Register/Inventory

Montana does not have a state register, but has an inventory of all cultural and paleontological recorded sites.

Searchable Database(s)

Inventory information is contained in a searchable database.

Plans for Digitization

No plans exist to further digitize inventory information.

Public Access to Data

Inventory information is available to office staff. Currently, the only information available online is lists of National Register properties located in the state.⁴⁷

Nebraska

SHPO Website: <http://www.nebraskahistory.org/histpres/>

Contact: Jill E. Dolberg, Historic Buildings Survey Coordinator

Phone: (402) 472-4773

Email: jdolberg@nebraskahistory.org

Required vs. Suggested Form(s)

The Nebraska SHPO does not provide standard forms to surveyors.

Use of PDA/GPS/GIS

All data entry is done straight into a database while in the field, through the use of a laptop computer. Digital photographs are taken, but PDAs and GPS units are not used. Location information is mapped on paper, and then converted to GIS back at the office. The office has one staff member who is responsible for GIS projects.

State Register/Inventory

Nebraska does not have a statewide historic register, but the office does maintain the Nebraska Historic Buildings Survey that contains the records of over 70,500 properties throughout the state.

⁴⁷ Wilmoth, Stan, Montana State Archaeologist, "Re: Information Needed for Thesis Research," 3 April 2008, email to author.

Searchable Database(s)/Plans for Digitization

The Nebraska Historic Buildings Survey is contained in a searchable database.

Public Access to Data

The Nebraska Historic Buildings Survey is not available online due to concerns about resource vulnerability.⁴⁸

Nevada

SHPO Website: <http://www.nh.gov/nhdhr/>

Contact: Karen De Dufour, Data Manager

Email: kmddedufo@clan.lib.nv.us

Required vs. Suggested Form(s)

The Nevada SHPO provides a standard form for all survey projects.

Use of PDA/GPS/GIS

Surveys are completed utilizing a paper-based format.

State Register/Inventory

Nevada has a statewide register.

Searchable Database(s)/ Plans for Digitization

Nevada's statewide register is not in a database and no plans exist to digitize the information.

Public Access to Data

Information about properties on the statewide register is available through a list on the SHPO website.

Additional Comments

The archaeological department is currently building a GIS database. The information is available as an interactive online map to qualified individuals.⁴⁹

New Hampshire

SHPO Website: <http://www.nh.gov/nhdhr/>

Contact: Mary Kate Ryan, Survey and Inventory Coordinator

Phone: (603) 217-6435

Email: MaryKate.Ryan@dcr.nh.gov

Required vs. Suggested Form(s)

The New Hampshire SHPO provides a general form and guidance manual to surveyors.

⁴⁸ Dolberg, Jill E., Historic Buildings Survey Coordinator, Nebraska State Historic Preservation Office, "Re: Information Needed for Thesis Research," 15 April 2008, email to author.

⁴⁹ DeDufour, Karen, Nevada State Historic Preservation Office, "Re: Information Needed for Thesis Research," 15 April 2008, email to author.

Use of PDA/GPS/GIS

The form can be used in a digital format, but the office still requires 35 millimeter black and white photography and Universal Transverse Mercator (UTM) coordinates for all surveyed properties. The office does not have a GIS department.

State Register/Inventory

The New Hampshire State Register of Historic Places is being digitized as a part of the office's overall historic properties database.

Searchable Database(s)/ Plans for Digitization

The historic properties database is searchable. The office is in the process of digitizing all information and the project is approximately 75% complete at this time. The project includes state survey and inventory information, National and State Register information, and some reviews and compliance work.

Public Access to Data

The database is not available online, nor are there any plans to make it available in the near future.⁵⁰

New Jersey

SHPO Website: <http://www.state.nj.us/dep/hpo/>

Required vs. Suggested Form(s)

The New Jersey SHPO provides general survey forms to surveyors working in the state.

Use of PDA/GPS/GIS

Information unavailable.

State Register/Inventory/Searchable Database(s)/ Public Access to Data

The New Jersey Register of Historic Places is the state register for New Jersey. This information is contained in a searchable database, but is not made available to the public. Information about New Jersey properties listed on the National Register is available online.⁵¹

New Mexico

SHPO Website: <http://www.nmhistoricpreservation.org>

Required vs. Suggested Form(s)

The New Mexico SHPO provides general forms for all types of surveys conducted in the state.

⁵⁰ Ryan, Mary Kate, Survey and Inventory Coordinator, New Hampshire Division of Historical Resources, "Re: Information Needed for Thesis Research," 16 April 2008, email to author.

⁵¹ New Jersey Department of Environmental Protection, Historic Preservation Office, available from <http://www.state.nj.us/dep/hpo/>; Internet; accessed 30 April 2008.

Use of PDA/GPS/GIS

Information unavailable.

State Register/Inventory

The New Mexico SHPO maintains the New Mexico State Register of Cultural Properties.

Searchable Database(s)/ Public Access to Data

Information about State Register properties can be downloaded based on three categories: county, name, or registry number.

Plans for Digitization

Information unavailable.⁵²

New York

SHPO Website: <http://nysparks.state.ny.us/shpo/>

Required vs. Suggested Form(s)

The New York SHPO provides general forms to surveyors working in the state.

Use of PDA/GPS/GIS

The office operates the Geographic Information System for Archaeology and National Register Properties. The system began in 1989 and depicts the approximate boundaries of each of New York's State and National Register properties and districts. A second overly depicts the general boundary of the state's known archaeological areas. Users can select a county or town then zoom in on the map to find information about specific properties.

State Register/Inventory

The New York SHPO maintains an inventory of survey, State Register, and National Register properties.

Searchable Database(s)/ Public Access to Data

The New York SHPO maintains the State Preservation Historical Information Network Exchange (SPHINX), a system that tracks survey data on more than 250,000 properties in the state of New York. Access to the system can only be gained by approved users.⁵³

North Carolina

SHPO Website: <http://www.hpo.dcr.state.nc.us/bldgsurv.htm>

Required vs. Suggested Form(s)

The North Carolina SHPO provides general survey forms for surveyors working in the state.

⁵² New Mexico Historic Preservation Division, Registers of Cultural Properties, available from <http://www.nmhistoricpreservation.org/PROGRAMS/index.html>; Internet; accessed 30 April 2008.

⁵³ New York State Historic Preservation Office, Preservation Planning, available from <http://nysparks.state.ny.us/shpo/>; Internet; accessed 30 April 2008.

Use of PDA/GPS/GIS

Surveys conducted in North Carolina are done using a paper-based format.

State Register/Inventory

North Carolina does not have a state register, but the SHPO maintains an inventory of all surveyed properties.

Searchable Database(s)

Survey information is contained in paper form.

Plans for Digitization

Information unavailable.

Public Access to Data

Users who access the SHPO website can gain information about what types of surveys have been conducted in particular counties in North Carolina.

However, information about specific properties is not available.⁵⁴

North Dakota

SHPO Website: <http://www.nd.gov/hist/>

Contact: Paul R. Picha, Chief Archaeologist, Historic Preservation Division, State Historical Society of North Dakota

Email: ppicha@nd.gov

Required vs. Suggested Form(s)

The North Dakota Cultural Resource Survey (NDCRS) forms for architecture, historic archaeology, and archaeology are available through to surveyors through the SHPO website.

Use of PDA/GPS/GIS

Resource surveys are conducted with the use of PDA's, digital cameras, and GPS devices. The Historic Preservation Division of the State Historical Society of North Dakota has a GIS department.

State Register/Inventory

North Dakota has a State Historic Register, but properties have not been added in recent years.

Searchable Database(s)/ Plans for Digitization

Information about North Dakota Cultural Resource Survey properties, including survey forms and photographs, are in the process of being digitized. The project is approximately 90% complete.

Public Access to Data

Survey and register information is not available online.⁵⁵

⁵⁴ North Carolina State Historic Preservation Office, Architectural Surveys, available from <http://www.hpo.dcr.state.nc.us/bldgsurv.htm>; Internet; accessed 30 April 2008.

⁵⁵ Picha, Paul, Chief Archaeologist, Historic Preservation Division, State Historical Society of North Dakota, "Re: Information Needed for Thesis Research," 24 April 2008, email to author.

Ohio

SHPO Website: <http://www.ohiohistory.org/resource/histpres/>

Contact: Barbara Powers, Department Head, Inventory and Registration

Phone: (614) 298-2000

Email: bpowers@ohiohistory.org

Required vs. Suggested Form(s)

The Ohio SHPO provides a standard form for both historic and archaeological surveys. These forms are used by any surveyors conducting projects for the office, including federal agency compliance, grant projects, local neighborhood surveys, etc.

Use of PDA/GPS/GIS

The office utilizes an internet-based form that is saved as a PDF once completed. The office also accepts digital photographs and GIS mapping information from surveyors. An office GIS Coordinator and a Data Automation Coordinator work closely with preservation staff.

State Register/Inventory

Ohio has a state register.

Searchable Database(s)/Plans for Digitization

Only National Register properties are contained in a searchable database. Survey information is digitized as it is received and reviewed.

Public Access to Data

Information about National Register properties is available online.⁵⁶

Oklahoma

SHPO Website: <http://www.ohiohistory.org/resource/histpres/>

Contact: Kelli E. Gaston, National Register Coordinator

Email: kgaston@okhistory.org

Required vs. Suggested Form(s)

The Oklahoma SHPO provides a standard Historic Preservation Resource Identification Form for surveys conducted in the state. These forms are used for survey work as well as for requesting a preliminary opinion of eligibility and for review and compliance projects.

Use of PDA/GPS/GIS

Survey forms are downloadable, but are printed out by surveyors and filled out by hand in the field. Office surveyors use digital cameras, while other surveyors still use black and white photography. The Oklahoma SHPO does not have a GIS department, but works with the Oklahoma State University's Department of Geography to complete GIS projects.

⁵⁶ Powers, Barbara, Department Head, Inventory & Registration, Ohio Historic Preservation Office/Ohio Historical Society, "Re: Information Needed for Thesis Research," 18 April, email to author.

State Register/Inventory

Oklahoma's State Register listings are combined with the Oklahoma Landmarks Inventory files. The Oklahoma Landmarks Inventory (OLI) is the collection of information the SHPO has compiled on thousands of individual properties throughout the state. This data is collected through the SHPO's survey program, the Section 106 review process, or information submitted by individuals.

Searchable Database(s)/ Plans for Digitization

While many of the OLI files have been digitized, the process is not complete.

Public Access to Data

Inventory files are searchable on the SHPO website. The Oklahoma State University's Department of Geography has successfully geocoded all of Oklahoma's National Register listed properties and the information is available online.⁵⁷

Oregon

SHPO Website: <http://egov.oregon.gov/OPRD/HCD/>

Contact: Cara L. Kaser, Architectural Historian

Phone: (503) 986-0784

Email: cara.kaser@state.or.us

Required vs. Suggested Form(s)

In addition to providing customized forms to surveyors, the Oregon SHPO requires surveyors to undergo training and adhere to guidelines provided by the SHPO in their "Guidelines for Conducting Historic Resources."

Use of PDA/GPS/GIS

Beginning in 2008, the SHPO no longer accepts paper based forms; all information must be submitted through use of the office's database. Surveys are done on downloaded paper forms, and data is then entered into the database. Plans exist to use Trimble GPS receivers to supplement field work in the future.

State Register/Inventory

While Oregon does not have a statewide register, all of the National Register and surveyed properties in Oregon have been entered into the Historic Sites Database, a Microsoft Access database that contains over 40,000 surveyed properties in Oregon.

Searchable Database(s)

For survey purposes the SHPO produces a customized database, which relates to the survey project area, from the master database. The customized database is then uploaded to a secure FTP site where it can be

⁵⁷ Gaston, Kelli E., Oklahoma State Historic Preservation Office, "Re: Information Needed for Thesis Research," 3 April 2008, email to author.

accessed by the client. From this database, survey forms can be generated and printed for use in the field.

Plans for Digitization/ Public Access to Data

Plans exist to convert the database into a format that can be web-accessible and editable. While the database currently contains both basic, and in some instances detailed information for properties in the state, plans exist to convert all paper survey and National Register forms into scanned documents that can be linked to the database and GIS data, and can be accessed online.⁵⁸

Pennsylvania

SHPO Website: <http://www.portal.state.pa.us>

Required vs. Suggested Form(s)

The Pennsylvania Historical and Museum Commission (PHMC) provides general survey forms to surveyors working in the state.

Use of PDA/GPS/GIS

Surveyors in Pennsylvania are beginning to utilize digital technology such as PDA's, GPS devices, and GIS software.

State Register/Inventory

Pennsylvania has both a state register and an inventory of cultural resources.

Searchable Database(s)/ Public Access to Data

ARCH, Pennsylvania's online directory of historic architecture and archaeology, provides public access to Pennsylvania's inventory of National Historic Landmarks and National Register of Historic Places. The site contains the original, complete nomination forms for over 3000 National Register nominations and almost 200 National Historic Landmark properties.⁵⁹

Rhode Island

SHPO Website: <http://www.preservation.ri.gov/>

Contact: Jeffrey D. Emidy, Project Review Coordinator, State of Rhode Island and Providence Plantations Historical Preservation and Heritage Commission

Phone: (401) 222-4134

Email: jemidy@preservation.ri.gov

⁵⁸ Kaser, Cara L., Architectural Historian, National Register Program, Oregon State Historic Preservation Office, "Re: Information Needed for Thesis Research," 2 April 2008, email to author.

⁵⁹ Pennsylvania Historical and Museum Commission, Preservation Programs, available from <http://www.portal.state.pa.us/>; Internet; accessed 30 April 2008.

Required vs. Suggested Form(s)

The SHPO has made variations of state survey forms available over the years. Because very few surveys are conducted in the state, creating an updated form is not a priority.

Use of PDA/GPS/GIS

For the few surveys that are conducted, the SHPO receives paper forms with photographic prints attached. No GPS information is gathered. Consultant firms, however, are beginning to utilize PDA's to conduct their own surveys. The Rhode Island SHPO does not have a GIS department.

State Register/Inventory

The Rhode Island State Register consists of National Register properties, properties determined eligible for the National Register by the National Park Service, and archaeological landmarks.

Searchable Database(s)

State Register information is contained in searchable databases.

Plans for Digitization

A project is currently in the works to make available online the database containing information about Rhode Island National Register properties. The SHPO is also working with the State Department of Transportation on a project that will link the National Register properties, properties determined eligible for the National Register by the National Park Service, and state level registered properties to a GIS system.

Public Access to Data

No survey information is currently available online.

Additional Comments

The entire state of Rhode Island was surveyed in the 1970s and 1980s. The SHPO gives grants to organizations which can be used to hire consultants to conduct surveys. Rarely, however, is this done. General survey projects are typically skipped in favor of National Register Historic District nominations. The majority of the SHPO staff is of the pre-computer age, and all are over the age of 35. Because of this, there is limited interest among staff members to utilize the capabilities and opportunities of digital technology to make information available to other agencies and to the public.⁶⁰

South Carolina

SHPO Website: <http://www.his.state.sc.us/shpo/default.asp>

Contact: Elizabeth M. Johnson, Deputy State Historic Preservation Officer

Phone: (803) 896-6168

Email: emjohnson@scdah.state.sc.us

⁶⁰ Emidy, Jeffrey D., Project Review Coordinator, State of Rhode Island and Providence Plantations Historical Preservation and Heritage Commission, "Re: Information Needed for Thesis Research," 24 April 2008, email to author.

Required vs. Suggested Form(s)

The South Carolina SHPO provides survey forms for reconnaissance and intensive surveys, each of which are available online.

Use of PDA/GPS/GIS

Currently, all survey work is done in a digital format, utilizing PDA's, digital cameras, and GIS software. One member of the SHPO staff, an archaeologist, serves as the office's GIS manager. He works closely with the survey, National Register, and compliance staff to ensure that survey information and National Register information and determinations of eligibility are incorporated into the SHPO GIS.

State Register/Inventory/Searchable Database(s)

While South Carolina does not have a statewide historic register, the SHPO has digitized information for all the National Register listings in the state.

Plans for Digitization/ Public Access to Data

The SHPO is currently in the process of launching an online GIS system in conjunction with the South Carolina Institute of Archaeology and Anthropology, called the ArchSite. The site combines information about above and below ground historic resources. Access is gained and limited by a tier system, with information about archaeological sites and restricted National Register listings available only to approved consultants and government agencies.⁶¹

South Dakota

SHPO Website: <http://www.sdhhistory.org>

Contact: Jason Haug, Historic Preservation Director

Phone: (605) 773-6296

Email: Jason.haug@state.sd.us

Required vs. Suggested Form(s)

The South Dakota SHPO provides a general survey form, which is considered the state standard, to surveyors working in the state.

Use of PDA/GPS/GIS

While surveyors use GPS devices to collect location data, and are able to submit forms to the SHPO online, data collection and entry is done by hand. The South Dakota SHPO does not have a GIS department, but a few staff members have GIS training and have transposed survey data into the SHPO's GIS database.

⁶¹ Johnson, Elizabeth M., South Carolina Deputy Historic Preservation Officer, "Re: Information Needed for Thesis Research," 8 April 2008, email to author.

State Register/Inventory

According to South Dakota state law, any historic resource located in the state and listed on the National Register is automatically included on the State Register.

Searchable Database(s)/ Plans for Digitization

The State Register is digitized, but is not currently online.

Public Access to Data

The SHPO is in the process of developing an online system for professionals and the general public to access and use the data in the register.⁶²

Tennessee

SHPO Website: <http://www.tennessee.gov/environment/hist/>

Required vs. Suggested Form(s)

Information unavailable.

Use of PDA/GPS/GIS

Information unavailable.

Searchable Database(s)/ Public Access to Data

Information about the fourteen state owned historic sites in Tennessee is available online.⁶³

Texas

SHPO Website: www.thc.state.tx.us

Contact: Gregory W. Smith, National Register Coordinator, History Programs Division, Texas Historical Commission

Phone: (512) 463-6013

Email: Greg.Smith@thc.state.tx.us

Required vs. Suggested Form(s)

The Texas Historical Commission provides a general survey form to surveyors working in the state.

Use of PDA/GPS/GIS

Many surveyors in the state are beginning to utilize digital cameras to complete surveys. GPS devices are also used. The Texas Historical Commission does not have a GIS department.

State Register/Inventory

Texas does not have a statewide register. The Commission does, however, operate the Recorded Texas Historic Landmark (RTHL) designation program.

⁶² Haug, Jason, Historic Preservation Director, South Dakota State Historical Society, State Historic Preservation Office, "Re: Information Needed for Thesis Research," 4 April 2008, email to author.

⁶³ State of Tennessee, Tennessee Historical Commission, available from <http://www.tennessee.gov/environment/hist/>; Internet; accessed 30 April 2008.

Searchable Database(s)

National Register, RTHL, and survey data is available through the Texas Historic Sites Atlas.

Plans for Digitization/ Public Access to Data

The Texas Historic Sites Atlas is an online source which allows users to access a map of the state and zoom down to particular areas to gain information about specific properties.⁶⁴

Utah

SHPO Website: <http://history.utah.gov/>

Contact: Cory Jensen, National Register Coordinator

Email: coryjensen@utah.gov

Required vs. Suggested Form(s)

The Utah SHPO provides standard forms for surveyors.

Use of PDA/GPS/GIS

The office encourages the use of digital photos in survey projects. The office does not have a GIS department. One staff member in the Antiquities/Archaeology department of the office is the primary lead for all of the office's digitization efforts.

State Register/Inventory

The state register went inactive in 1979. No properties have been added since then.

Searchable Database(s)/ Plans for Digitization

The state register is incorporated into the Historic Sites Database, a Microsoft Access database. The office is in a lengthy process of establishing an online database that consultants can access and enter data into. The office has geo-coded most properties, but several thousand rural properties and sites will be geo-coded by paid consultants. The National Register of Historic Places just finished digitizing all of Utah's National Register nomination forms.

Public Access to Data

The office has been working with DTS Technical Services for assistance in establishing their online efforts. The information is GIS based and the maps will be made available online to qualified consultants. The estimated timeline for the project is two years.⁶⁵

⁶⁴ Smith, Gregory W., National Register Coordinator, History Programs Division, Texas Historical Commission, "Re: Information Needed for Thesis Research," 28 April 2008, email to author.

⁶⁵ Jensen, Cory, National Register Coordinator, Utah State Historic Preservation Office, "Re: Information Needed for Thesis Research," 21 April 2008, email to author.

Vermont

SHPO Website: <http://www.historicvermont.org/>
Contact: Suzanne Jamele, National Register Department
Email: Suzanne.Jamele@state.vt.us

Required vs. Suggested Form(s)

The Vermont SHPO provides standard forms for surveyors.

Use of PDA/GPS/GIS

Historic surveys conducted within the state are done in a digital format, using PDA's, digital cameras, and GPS information. The office does not have a GIS department.

State Register/Inventory/Searchable Database(s)

Vermont has a state register, but it is not digitized.

Plans for Digitization

Systems are being developed to digitize the register, the Vermont Archaeological Inventory, and survey information, but no progress has been made thus far.

Public Access to Data

The Vermont SHPO does not make register, inventory, or survey information available to the public.⁶⁶

Virginia

SHPO Website: <http://www.dhr.virginia.gov/>

Required vs. Suggested Form(s)

The Virginia SHPO provides general survey forms to surveyors working in the state.

Use of PDA/GPS/GIS

Surveys conducted in Virginia are done using a paper-based format.

State Register/Inventory

The Virginia SHPO operates and maintains the Virginia Landmarks Register and the National Register of Historic Places in Virginia.

Searchable Database(s)

Survey information is contained in paper format.

Plans for Digitization

Information unavailable.

Public Access to Data

Periodically, the Virginia SHPO publishes an updated edition of The Virginia Landmarks Register, a book that contains a photograph and description of

⁶⁶ Jamele, Suzanne, National Register Department, Vermont State Historic Preservation Office, "Re: Information Needed for Thesis Research," 18 April 2008, email to author.

each property on the register. A list of Virginia properties on the state and national registers is available online.⁶⁷

Washington

SHPO Website: <http://www.dahp.wa.gov/>

Contact: Megan Duvall, Certified Local Government Coordinator and Survey Program Manager, Department of Archaeology and Historic Preservation

Phone: (360) 586-3074

Email: megan.duvall@dahp.wa.gov

Required vs. Suggested Form(s)

The Washington SHPO has a standard survey form that is accessed through a Microsoft Access database. This form is the only acceptable submission of survey data to the SHPO. Paper forms and hard copies of photographs are no longer accepted. The use of this database became a requirement in January of 2004, and now over 300 registered users access and contribute to the database.

Use of PDA/GPS/GIS

The database is an interactive tool. Once surveyors finish their survey project, they export the data along with accompanying jpeg images to the SHPO. In turn, the office imports the new records into the statewide database.

Currently, over 50,000 records are stored in the database.

State Register/Inventory

Washington's state historic register is known as the Washington Heritage Register. The register contains all of Washington's National Register, Heritage Register, and Archaeological resources.

Searchable Database(s)

The Washington Heritage Register is digitized and available online through the SHPO website.

Plans for Digitization

Work is being done to convert existing paper based historic property inventory records into a digital format.

Public Access to Data

The SHPO's GIS department is currently undertaking a large "web portal" project by which all of the state's records will be available online. Two tiers of users, the public and "trusted" members, are expected to access the information. The public will have online access to all National Register, Washington Heritage Register, and historic property inventory forms. All forms, with the exception of historic property inventory forms, will be map-based. To supplement these maps, users will be offered the ability to search a database for the historic property inventory forms. Older historic inventory data (old forms that exist in hard copy) have been scanned and will be shown to the

⁶⁷ State of Virginia, National Register of Historic Places and Virginia Landmarks Register, available from <http://www.dhr.virginia.gov/>; Internet; accessed 30 April 2008.

users. Newer data that has been entered into the database will be shown in a report format with photos. Users on the "trusted" member tier will have access to archaeology records as well as all records available to the general public.⁶⁸

West Virginia

SHPO Website: <http://www.wvculture.org/shpo/shpoinde.aspx>

Contact: Erin M. Riebe, National Register and Survey Coordinator

Phone: (304)558-0240

Email: Erin.Riebe@wvculture.org

Required vs. Suggested Form(s)

West Virginia provides general survey forms to surveyors. These forms are considered the standard by which state organizations, firms, etc. conduct their survey work.

Use of PDA/GPS/GIS

While the office offers either hard copy or electronic copies of the survey forms, some consultants develop their own system for compiling data. Consultants are allowed to use digital cameras for their photographs if the photos meet the National Park Service's 75 year performance standard.

State Register/Inventory

In West Virginia, all resources listed in the National Register are automatically listed in the State Register. There is no separate process for nominating state properties.

Searchable Database(s)

The office is working to enter inventory information, including scans of all architectural/historic survey forms, archaeological survey forms, cemetery forms, and bridge survey forms, into a database.

Plans for Digitization

Information on National Register information is approximately 95% digitized.

Public Access to Data

No survey information is currently available online.⁶⁹

Wisconsin

SHPO Website: <http://www.wisconsinhistory.org/>

Required vs. Suggested Form(s)

The Wisconsin SHPO provides general survey forms to surveyors working in the state.

⁶⁸ Duvall, Megan, Certified Local Government Coordinator and Survey Program Manager, Washington Department of Archaeology and Historic Preservation, "Re: Information Needed for Thesis Research," 2 April 2008, email to author.

⁶⁹ Riebe, Erin M., National Register and Survey Coordinator, West Virginia SHPO, "Re: Information Needed for Thesis Research," 24 April 2008, email to author.

Use of PDA/GPS/GIS

Surveyors are encouraged to use digital technology to complete surveys.

State Register/Inventory

Wisconsin Historic Sites is an online portal to information about cultural resources in the state of Wisconsin.

Searchable Database(s)/ Public Access to Data

Wisconsin Heritage Online is a digital collection of documentary sources and material culture from Wisconsin libraries, archives, and museums. Users can search for specific people, places, and properties.⁷⁰

Wyoming

SHPO Website: <http://wyoshpo.state.wy.us>

Contact: Steven J. Sutter, Wyoming Cultural Records Office

Phone: (307) 766-5335

Email: SSutter@uwyo.edu

Required vs. Suggested Form(s)

Most surveyors in the state of Wyoming use the Wyoming Cultural Properties form, which the SHPO makes available through its website. A variety of forms are available to serve different survey projects: neighborhood surveys, National Register nominations, etc.

Use of PDA/GPS/GIS

Surveys submitted to the office are almost always in paper format. Most contractors use digital cameras and GPS devices.

State Register/Inventory

Wyoming does not have a state register.

Searchable Database(s)

The SHPO maintains an online database of all the survey sites and projects in the state. There are approximately 86,707 recorded sites and 51,380 recorded projects in the state, with approximately 4,000 sites added to the database every year. The level of information recorded in the database on historic sites is limited, but does include scanned survey forms for each site.

Plans for Digitization

There is an interest among SHPO staff members in creating a more detailed database of architecture in the state but work on the project as not started. The SHPO is in the process of entering Wyoming's historic sites and survey projects into a GIS database.

Public Access to Data

All GIS and database information is available to approved users online through an internet map service.⁷¹

⁷⁰ Wisconsin Historical Society, Historic Sites and Museums, available from <http://www.wisconsinhistory.org/>; Internet; accessed 30 April 2008.

⁷¹ Sutter, Steve, Wyoming Cultural Records Office, "Re: Information Needed for Thesis Research," 24 April 2008, email to author.

Appendix B: Survey Forms Used in Case Study Projects



Reconnaissance Survey
Garden of Eden Historic District
Tarrant County, Texas

Historic-age Residential Resource Form

Resource No.:	Field No.:	City:	County:
Field Address:		CAD Address:	
Historic Name:		Current Name:	
USGS Quad:	Estimated Date:	Addition Date:	CAD Date:
Neighborhood:			
Legal Description:			
Architect/Builder:	Contractor:	Owner:	
Historic Use:		Present Use:	
Property Type:	Subtype:	Stylistic Influence:	
Surveyor:	Date Surveyed:	Photo Data:	
Description of Building:			
Orientation:	Number of Bays:	Plan:	
Symmetry:	Stories:	Frame:	
Foundation:	Cladding:		
Roof Pitch:	Roof Form:	Roof Cladding:	
Window Material:	Light Configuration:	Window Descriptions	
Door/Entry Type:	Door/Entry Material:		
Porch Form:	Porch Roof Form:		
Porch Support Type:	Porch Deck Type:		
Landscape:			
Significant and Ornamental Features:			
Other Structures:			
Other Structure Type:		Other Structure Location:	
Condition, Integrity, and Applicable NRHP Criteria:			
Building Condition:			
Previous Designations:	NR: <input type="checkbox"/>	RTHL: <input type="checkbox"/>	HABS: <input type="checkbox"/> Local: <input type="checkbox"/> Other: <input type="checkbox"/>
Meets NRHP Criteria:	Criterion A: <input type="checkbox"/>	Criterion B: <input type="checkbox"/>	Criterion C: <input type="checkbox"/> Criterion D: <input type="checkbox"/> N/A: <input type="checkbox"/>
Contributing to Potential or Existing District:	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	N/A: <input type="checkbox"/>
Retains Integrity Of:	Location: <input type="checkbox"/>	Setting: <input type="checkbox"/>	Workmanship: <input type="checkbox"/> Association: <input type="checkbox"/> Feeling: <input type="checkbox"/>
	Materials: <input type="checkbox"/>	Design: <input type="checkbox"/>	
Additional Description (landscape, features, outbuilding, etc.)			

Philadelphia Register of Historic Places

4130 PARKSIDE AVE

PARKSIDE HISTORIC DISTRICT

PhilaCRID: GEOID: Parcel:

Historical Data

Data Source:	<input type="text" value="NR Nomination"/>	Date:	<input type="text" value="July 1983"/>	Address Listed:	<input type="text" value="4130-40 Parkside Ave"/>
Resource/Type:	<input type="text" value="Building"/>			Demolished:	<input type="checkbox"/>
Historic Name:	<input type="text"/>	Year Built:	<input type="text" value="1897"/>	Add/Altered:	<input type="text" value="1996"/>
Architect:	<input type="text"/>	Builder:	<input type="text"/>		
Associated Indiv:	<input type="text"/>	Event:	<input type="text"/>		
Historic Data Description:					
Three double houses joined by continuous porch & brick screen walls, stair towers in connecting wings, elaborate terra cotta ornament. Contributing - Rehabilitation 1996 Cambell Thomas & Co.					

Physical Description

Survey Date:	<input type="text" value="3/25/2006"/>	Demolished:	<input type="checkbox"/>	Foundation:	<input type="text" value="Sandstone/Brownstone"/>
Resource Type:	<input type="text" value="Building"/>			Roof:	<input type="text" value="Asphalt"/>
Style:	<input type="text" value="Late Victorian"/>			Exterior Wall:	<input type="text" value="Brick"/>
Stories:	<input type="text" value="3"/> Half: <input type="text" value="1"/> Bays: <input type="text" value="14"/>			Add. Walls:	<input type="text" value="Sandstone/Brownstone"/>
Function:	<input type="text" value="Domestic"/>			Other Materials:	<input type="text" value="Terra Cotta"/>
SubFunction:	<input type="text" value="Multiple Dwelling"/>				<input type="text" value="Metal"/>
Ancillary:	<input type="text" value="None"/>			Sidewalk:	<input type="text" value="Concrete"/>



PhilaCRID: 56 Parkside_4130_1_150.jpg



PhilaCRID: 56 Parkside_4130_2_150.jpg

Current Assessment of Significance:

Due to the sensitivity of information gathered during the Federal Emergency Management Agency's demolition survey in New Orleans, no form was available for duplication.

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