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**A1F05: Committee on Historic and Archeological
Preservation in Transportation**

Chair: Kathleen H. Quinn

**Considering Cultural Resources in
Transportation Planning, Project
Development, and Construction**PAULA SPERO, KCI Technologies
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Historic preservation in transportation has evolved over the past 20 years from an atmosphere of widespread misunderstanding to one of greater understanding and cooperation. In the past, as legislative changes took place, misunderstandings arose among preservationists and transportation officials about how to implement the legal requirements for transportation improvement projects. Current understanding still varies across the country—some states have reached cooperative agreements and have established models for integrating cultural resources into their project development process under the National Environmental Policy Act (NEPA) of 1969; some states are only part way there; and others have not started yet. Many professionals understand that it is necessary to consider cultural resources early in any project's development. But how to do this effectively is still under debate. We have not made enough headway in establishing cultural resources and historic preservation as an essential part of the agenda for transportation planning. Nonetheless, this consideration is a critical step for transportation decision makers—it improves their decision making and avoids potential delays and the resulting escalation of costs after a project is already under way.

CHANGES AROUND

Changes have occurred in what types of cultural resources are considered as well as the methods and techniques for identifying and evaluating resources. Preservation strategies in transportation projects have expanded from focusing attention on individual projects and individual resources, particularly historic bridges, or individual archeological sites, to the current goal of an integrated approach for all cultural resources.

The legislative mandates for historic preservation have evolved over the course of a 30-year period. The National Historic Preservation Act (NHPA) was first enacted in 1966, with Sections 106 and 110 applying to transportation projects; the United States Department of Transportation (USDOT) Act of 1968 included Section 4(f), which lists historic properties, public parklands, and wildlife refuges within transportation projects for special consideration; and NEPA expanded the range of environmental areas to be assessed. Among today's challenges are integrating the processes used to fulfill all these legislative requirements, all of which require similar types of data collection and analysis.

The way the cultural resources themselves are treated has changed significantly during the last few decades. As our knowledge base has increased, many new resource categories have been added, and the approach to their evaluation has changed. During this 30-year period, preservation professionals have moved from viewing resources on a site-by-site and structure-by-structure basis to various attempts at assessing the total cultural picture. The approaches have ranged from historic districts incorporating above ground and below ground resources to historical-contextual-thematic studies, which integrate all cultural resources, including landscape elements. In the 1990s, late 20th century resources and traditional cultural properties have added additional challenges

for transportation improvement projects.

NEW APPROACHES

New tools to identify, evaluate, and protect cultural resources also have been developed. Innovations such as paleo-magnetic dating and improvements in carbon 14 sampling and testing have led to more reliable dating information regarding the significance of prehistoric materials found in North America. The increased use of statistics, geomorphology, soils analysis, and geology as well as remote sensing, blood residue analysis, and geographic information systems (GIS) are changing the way cultural resource professionals find, identify, analyze, and evaluate resources. Use of these new technologies also is changing the nature of collaboration with other disciplines and transportation professionals, including engineers and planners. Cultural resource professionals are now better able to use information related to other resources, such as flood plains, hydrology, and soils on transportation projects, to help them locate and evaluate sites. New approaches such as geoarcheology, which blends archeology, geology, soils, and geomorphology, provide valuable, cost-effective tools for assessing landscapes for their potential for containing significant archeological sites without intensive archeological subsurface testing. Finding old land forms and buried Holocene deposits help target potentially lucrative sites while eliminating relatively useless locations. Similarly, understanding the nature of colluvial deposits can help to assess the significance of prehistoric and historic artifact deposits.

Remote sensing can be used in a variety of ways to locate both historic and prehistoric materials without time-consuming, labor-intensive excavation. Knowing which methods to use in what circumstances is the key to a cost-efficient, reliable approach to site location. Finally, the increasing emphasis on computerized GIS is proving to be of enormous benefit in managing cultural resources and integrating them with other resource concerns on transportation projects. Cultural resource professionals, especially archeologists, have been using manual methods of GIS for decades by compiling soil, hydrology, vegetation, and land form context. Computerization has made this compilation and the subsequent data analysis much easier. The Minnesota Department of Transportation (DOT), for example, has created a system for the entire state that not only serves to manage archeological resources but also historic structures, districts, and landscapes. This truly multidisciplinary approach will serve as a model for other states and regions. Collaborative use of GIS will enable transportation professionals to better integrate the resources they are charged with protecting while developing transportation projects. Pennsylvania has long insisted on incorporating soils, geological, and geomorphologic information to understand prehistoric site locations and prehistoric and historic subsistence and settlement patterns. Other states, including Colorado and Missouri, are using these tools in highly complex environments such as the Mississippi flood plains to pinpoint the most likely locations for archeological sites. Techniques such as blood residue analysis, which is used to identify the animal proteins left on stone tools, can help identify specific uses of the tools as well as the animals that were being hunted and processed at that time. These new techniques allow for a much greater degree of sophistication in determining prehistoric behavior than was available 30 years ago.

Comprehensive databases have been an excellent tool to evaluate resources and managing them with respect to preserving and avoiding adverse impacts. We also have benefited from the massive amounts of information that have been collected over the past 30 years of cultural resources compliance work on transportation projects. Most cultural resources and transportation professionals understand the value of this type of database, but few states have them and maintain them. This situation must change. The benefits of this information are enormous if it is available to be used. Better decisions can be made on resource significance, resource management can be enhanced, and information can be provided to the public regarding the rich prehistory and history of this country. The laws were written to protect and preserve the information that can be extracted from cultural resources to give all of us a better sense of where we

came from, where we are, and what the future may hold. Cultural resource professionals and transportation agencies are developing better approaches to disseminate information to the public and are developing educational tools that are of use to school children, colleges and universities, and the public at large. The educational programs developed by the DOTs of California, Arizona, Pennsylvania, and Georgia are inspiring, and the response from the public has been overwhelming, confirming the benefit.

OUTLOOK FOR THE FUTURE

Legislative mandates come from three different jurisdictional arenas, but the process occurs most smoothly when these mandates are integrated through the project planning and development process. Integration of the NHPA Section 106, USDOT Act Section 4(f), and NEPA processes has begun but must be embraced by a multidisciplinary approach to make it work. Of paramount importance for this issue, and for related ones identified below, is the need for increased and improved public participation in the process. These issues include the need for integration of above and below ground resources (standing structures or sites and archeological resources) and the need to look at broader groupings and new types of cultural resources. Among the new resource categories that have been developed are:

Landscapes—cultural, historic, and rural;
Properties of the recent past—later 20th century resources; and
Traditional cultural properties (TCPs).

A number of issues and corresponding recommendations for future resolution were identified by interdisciplinary work groups at the National Forum on Assessing Historic Site Significance held in Washington, D.C., in May 1999. The work groups consisted of State Highway Agency representatives, consultants, State Historic Preservation Office staff, Tribal Historic Preservation Office representatives, staff from the Federal Highway Administration, the Federal Railroad Administration, the Federal Aviation Administration, and the National Register, engineers, and tribal representatives. Results from this forum have provided a road map of how to proceed in the future: where efforts should be focused, who should be involved, and when improvements should be made. The issues are summarized as follows:

Issue 1: Integrate Various Legislative Mandates

- Consistency is needed among the NEPA, NHPA Section 106, and USDOT Act Section 4(f) processes, analyses, and findings.
- State Historic Preservation and Tribal Historic Preservation Offices can improve their effectiveness in applying the NEPA and NHPA Section 106 requirements.
- Integration among NHPA Section 106, NEPA, community values and impacts, and land use planning can improve transportation decisions.

Issue 2: Permit Meaningful Public Involvement in NHPA Section 106 and NEPA Processes

- Community involvement should occur at the earliest stages of the transportation planning process to enable communities to plan for their future and obtain information useful in identifying cultural resources. This

process will promote better decisions and reduce future conflicts.

- The public can be involved as a resource in assessing the application of NEPA and NHPA Section 106, if appropriate.

Issue 3: Understand and Evaluate Widely Misunderstood Cultural Resource Types

Cultural, Historical, and Rural Landscapes

- Identify and evaluate historic and cultural landscape resources through an understanding of the landscape from the natural resources, social, cultural, and economic history of an area.
- Define geographic areas and resources on the basis of significance and integrity. The primary characteristics that define the resource should be landscape based.
- Develop consensus of what a rural historic district is and how to define its boundaries.
- Determine how to assess significance.
- Acknowledge the need for context studies as a high priority, including availability of money, increased awareness, and support.
- Improve assessments of project impacts on rural landscapes.
- Identify appropriate mitigation strategies.

Good planning and management of transportation projects requires early consideration of the cultural resource environment, including land uses, landscapes, and particular cultural features (architectural, archeological, TCPs, etc.).

20th-Century Properties—Recent Past

- Learn to be proactive with post-World War I properties by focusing on transportation-related resources such as suburbs, highways, bridges, interstate transportation system, motorcourts and motels, roadside eating establishments, airports, train depots and rail yards, transit facilities, ports, shopping centers, parking decks, car dealerships, entertainment sites, and 20th century archeological sites.
- Determine how to define the integrity of cultural resources, considering the accelerated rate of change in the past five decades.
- Establish consistent and regular application of the National Register's criterion G in identification and evaluation efforts. Consider exceptional significance for the locality and the state, not just for the nation.
- Find ways to ensure flexibility in applying Section 4(f) of the USDOT Act, similar to NHPA Section 106.
- Provide education for professionals, the public, preservation community, State Highway Agency management, and metropolitan planning organizations about the significance of 20th-century resources. The public

should be informed more completely about National Register eligibility for resource types, including the need for identifying the historical context.

Traditional Cultural Properties

- Take a practical approach when working with TCPs and their unique communities and issues.
- Acknowledge the importance of TCPs in planning issues and in general with their connections to environmental justice and archeology. The process must include time constraints and bureaucratic processes and must be proactive rather than reactive.
- Identify and evaluate TCPs within transportation projects.
- Address issues arising from the new regulatory environment, including changing regulations with respect to the NEPA and NHPA Section 106 processes and the consultation process.
- Address the lack of comprehensive, timely, and appropriate coordination with tribes on matters of historic significance. This tribal coordination needs to be conducted with sensitivity, respect, and understanding.

Issue 4: Archaeological Site Significance

- Ensure that archeological research produces credible and useful results.
- Develop better contextual data. Insufficient numbers of archeological contexts have been prepared to allow informed statements of significance to be proposed or evaluated.
- Establish better ways to determine what constitutes significance for archeological resources.
- Identify the appropriate role of integrity in the evaluation of archaeological resources.

Issue 5: Historic Structures

- Keep resource evaluations outside transportation project agendas. Often, the goal of the transportation project results in the perception that cultural resources are an obstacle.
- Promote consistency in evaluating resources and determining boundaries. Evaluate and document all criteria of eligibility and obtain and use all relevant information. Use available guidance in determining cultural resource boundaries.
- Address the need for development of historic context.
- Evaluate the problems created by timing and coordination constraints during the NEPA and NHPA Section 106 processes, including inconsistent scopes for resource identification and evaluation and inconsistent quality of information resulting from studies.

CONCLUSIONS

The challenge for us in the 21st century will be to follow up on those issues listed above. We must fully integrate cultural resource considerations with all other transportation project concerns in such a way as to preserve resources for the public while ensuring a first class multimodal transportation system for the American people.

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