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# CIRCULAR

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## HISTORIC PRESERVATION OF TRANSPORTATION-RELATED STRUCTURES

*A Summary by Hays B. Gamble of a Conference Session at the 57th Annual Meeting, TRB, 1978, sponsored by the Committee on Social, Economic, and Environmental Factors of Transportation.*

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## INTRODUCTION

This report describes the background of a conference session and summarizes the presentations of the speakers who participated in the session. The session grew out of the efforts of a Task Force on Historic Preservation of Transportation Related Structures which was created in early 1977 by the Committee on Social, Economic, and Environmental Factors of Transportation. The principle aim of the Task Force is to study major aspects of the preservation of historic transportation-related structures. The Task Force is concerned with

1. The nature and extent of the laws, regulations, policies, and procedures prescribed by all public and quasipublic agencies governing the preservation of transportation-related structures and examples of their successful application;
2. Criteria for the selection of sites, facilities, structures, etc. that have sufficient historical or cultural value to warrant preservation consideration in the face of development that would seriously endanger or eliminate them;
3. Information that will facilitate the assessment of equitable trade-offs between preservation and transportation interests, especially for public officials having decision making authority in situations involving historic preservation;
4. Awareness of the legitimacy of values that relate to both preservation of historically important structures and maintenance of safe and adequate transportation systems at reasonable cost.

### THE NEED FOR HISTORIC PRESERVATION: PHILOSOPHY AND PURPOSE

Douglas Griffin, Chief, Historic American Engineering Record, National Park Service

Those of us involved with historic preservation know that the old architectural axiom, "form follows function," is not necessarily true. People are beginning to agree with us that old buildings recycled from an earlier function into a new one seem to work as well, if not better than before. The cost of adapting an old building to a new use is usually less than new construction; aesthetically, the old is generally more pleasing than today's modern architecture, and many old buildings are more energy efficient than new ones.

For example, from a design/aesthetic standpoint, in Washington the best office building/shopping complex is a recycled canal warehouse in Georgetown; in Baltimore, the best art school is a recycled railroad station; in Salt Lake City, the best shopping center is a recycled streetcar barn complex; in New York City, one of the best sports facilities is a recycled boat pier - all transportation-related facilities.

But historic preservation is not concerned solely with recycling old buildings. Preserving and revitalizing old neighborhoods, industrial and commercial districts, preserving significant examples of engineering architecture, preserving sites of associative

historical importance, and preserving and protecting archeological sites are all part of the historic preservation movement today.

Our democratic form of government has greatly influenced historic preservation, both in the concerns of preservationists and in the financing of preservation activities. The preservation movement reflects our racial, ethnic, cultural, religious, and economic diversity and emphasizes everyday life and structures representative of it.

Preservation financing reflects our free-enterprise system. It was not until 1966 that federal funds were available for preservation activities, except for the acquisition and development of historic sites of national significance by the National Park Service. Even now federal financing of preservation is on a 50-50 matching basis and represents a very small fraction of total preservation activity by the private sector. With a growing grants-in-aid program to the States, and the Housing and Urban Development (HUD) programs which benefit preservation, the Federal Government is assuming an ever-growing role.

Preservationists have always been in conflict with the development syndrome and the growth-at-any-price philosophy. This single-minded pursuit of economic growth has taken both private industry and government hand-in-hand down the same path. Early efforts to open the West for settlement and exploitation resulted in public investment in canals, railroads, and later highways.

Industrialists' domination of manufacturing, transportation and commodities continued without restriction for decades, aided by a government which on the one hand was reluctant to infringe on what was recognized as man's "natural right" to private property, on the other hand was only too willing to legislate a host of laws and programs which were thought necessary to promote economic growth. These laws, most still operative today, encourage periodic replacement of buildings (sometimes as often as three times per century) through depreciation allowances; encourage lenders to lend, unions to find work, suppliers to supply, and architects and engineers to design; and they promote a market economy which consistently hails the new and downgrades the old. We have government programs to build massive highways, housing complexes, and public works projects which devastate neighborhoods, downtowns, and even lifestyles.

Ironically, the structures that were built by these captains of industry, developers, and federal programs are the ones that preservationists are now busily trying to preserve.

In the 1960s, preservationists and environmentalists began to press for laws which would begin, at least, to regulate federally funded or licensed projects affecting cultural resources and the environment. In 1966 the National Historic Preservation Act was passed, setting up an Advisory Council on Historic Preservation to review and comment on federally funded or licensed projects affecting historic resources; the Transportation Act of 1966 required that special consideration be given for protecting or minimizing harm for any transportation project affecting, among other

things, historic sites; and the National Environmental Protection Act of 1969 required all federal agencies undertaking a project affecting the environment to prepare a detailed analysis that considers the effect of the project on historical, cultural, and natural aspects of our national heritage. Historic resources were included in the 1976 Tax Reform Act. Many states have added laws relating to historic preservation.

Private development has begun to be slowed and channeled by preservationists through more thoughtful urban planning where preservation is an integral tool. The concept of incentive zoning is becoming an increasingly valuable aid to preserving historic resources in urban areas.

Most resources worthy of preservation can be grouped under one of two categories: those having historical significance (Mt. Vernon, Independence Hall, the White House); or those environmental and/or aesthetic resources which are part of our community life and culture which give a sense of orientation to the American people.

The latter category would include most transportation facilities: the parkway designed for its scenic beauty, the metal truss bridge across a pastoral stream, railroad stations of architectural significance, railroad shops that can be recycled to new uses, -- all structures that trace the history of an important aspect of American life while also serving as landmarks to give a sense of orientation and a sense of place to the American people, as noted above.

Transportation planners, both federal and state, have made great strides and must continue to do so in working with preservationists. We need to assure that our citizens in their travels do not find, in the words of Gertrude Stein, "that there is no there there."

#### THE TRANSPORTATION AGENCY RESPONSE

Robert Crecco, Office of Environment and Safety, U.S. Department of Transportation

It has been a decade of push and pull for historic preservation in the transportation field. Since 1966 when the U.S. Department of Transportation was instituted, the agency's attitude toward historic preservation has progressed from indifference to where the words meant controversy and frustration and now to the beginning of an enlightened attitude of understanding and consideration.

DOT didn't take to preservation without scratching and fighting, wailing and remonstrance. The Transportation Act of 1966 contained the important section 4(i) which, among other things, required the Secretary of Transportation not to approve the use of historic sites unless there was no feasible and prudent alternative. But despite that directive it took a while for it to become a commitment. Impetus toward that end came in the form of the National Environmental Protection Act of 1969 and historic preservation legislation related to you by the previous speaker. We were forced

into historic preservation recognition through legislation, as were other federal agencies.

In my estimation DOT is the leading federal agency in historic preservation outside of Interior, which has historic preservation as a primary mission. DOT has committed an average of \$65 million in each of the last four years to historic preservation implementation in transportation programs. While the bulk of that figure was attributable to the highway program, aviation, transit, railroad and Coast Guard administrations also committed their share to historic preservation. This investment is almost three times the funding Interior made available directly to the states in FY 1977 for historic preservation grants. Over a half million dollars per year for the last ten years has been used directly for the recovery of archaeological data and materials.

The Secretary's office coordinates historic preservation policy and program for the Department and works closely with the Advisory Council on Historic Preservation, Department of Interior, and the National Trust for Historic Preservation. In addition, the office has compiled a catalog of historic American Transportation sites that are not listed in the National Register of Historic Places. Currently, we have a study underway to document the reuse of historic railroad stations for multipurpose needs including transportation. DOT believes in historic preservation and considers it an important environmental consideration in transportation projects.

At this point, I would like to examine four problem areas in the preservation of historic structures related to transportation: site identification, National Register criteria, the process for property protection, and maintenance and preservation costs. Difficulties in these four areas have hindered the preservation of transportation landmarks.

Site identification is inadequate by the State Historic Preservation Office (SHPO). It has not completed the required inventory task and the burden has been placed on federal agencies such as DOT. Unless a site is on the National Register or noted in a state register, state and city transportation administrations must survey project areas for historic resources. The paramount cause for this is lack of funding. The new National Heritage Trust program of Interior will broaden the national heritage resource inventory to natural resources as well as cultural resources. The federal agencies could experience relief on the additional costs of project surveys if Interior earmarks and adequately funds the SHPO's with more identification funds.

National Register criteria are too broad, resulting in listing properties of dubious quality; virtually anything qualifies for the National Register that is 50 years old or more. There are more than 14,000 historic properties now on the Register, and a projected 70,000 by the 1980s. A major increase in the number of Register properties is taking place through nomination of large urban areas to the register as historic districts, actions that are more in the nature of "conservation" of the character

and environment of the city than they are of historic preservation. The new National Heritage program will open this inventory to natural resources, which will have implications for transportation programs. More definitive criteria or stricter application of existing standards is needed. This will assist transportation agencies in preserving sites of landmark quality.

The process for the protection of historic properties needs simplification. We have successfully worked to improve some of the process. For example, Interior agreed with DOT that if the professionals in the state historic preservation agency and the federal and state project agencies, after applying the criteria agree that non-federal property meets the standards, there is no need for voluminous paperwork to seek a determination of eligibility to the Register. All that is needed is a brief statement to that effect in letter format. More needs to be done with both Interior and the Advisory Council on simplifying the inventory and evaluation of sites and the section 106 process for protection of properties.

Preservation and maintenance of historic sites owned by federal agencies are costly, particularly when they are no longer needed and cannot be transferred to other jurisdictions. We believe such costs for historic structures no longer needed by an agency should be recognized in the appropriations process by Congress for all programs affecting historic sites.

I would like to cite two cases in New Jersey that exemplify the ups and downs that transportation agencies experience in saving historic structures.

The Van Duyne House in Passaic County is a National Register property that was in the path of the proposed widening of Route 23. The Van Duyne House, built in 1706, was considered to be a rare and excellent example of Dutch frontier architecture in the State of New Jersey. In order to preserve this cultural resource, the New Jersey DOT in close cooperation with the Township of Wayne, undertook a preservation program at a cost of \$75,000 which included the purchase and relocation of the House to the site of another historic property. The Township agreed to provide for adequate maintenance.

This is an excellent example of a cooperative effort to preserve and enhance a cultural resource.

The other case, the Temple-Ryan House, built in 1710, is a National Register site directly in the path of proposed Interstate Route 95. The Department of Transportation, in consultation with others, agreed to preserve the house by relocating it to another property at a cost of \$84,500, shared by both the federal and state governments.

Notwithstanding exceptional efforts by the local historic society to restore and maintain this property, it has deteriorated as the result of vandalism and the lack of adequate funding. It presently remains at its relocated site boarded up and exposed to further neglect and deterioration. As a result of this experience, the FHWA will not recommend relocation and preservation as a reasonable alternative for mitigating any

adverse impacts without a firm commitment by those having jurisdiction over property to maintain it.

Assurance that historic transportation structures once designated, registered and saved have a future is a crucial issue in preservation programs. State transportation departments will hedge on interest and investment in historic properties if there is not a funding plan to carry on preservation.

The federal and state DOTs are interested in innovative historic preservation. Two examples are indicative of flexibility and accommodation in transportation in historic preservation. In order to visually separate the proposed elevated I-83 from historic sites, FHWA and the state/city suggested building new in-fill structures as part of the highway project. This innovation calls for building shells, contemporary in design yet respecting the scale, mass, and roof forms of the buildings that existed in the area during the early 19th century. The shells internally would be utilized by the city for activities such as a job skill training center. No decision has been made on this innovative \$6 million proposal.

Another case involved an unsafe historic bridge in Woodstock, Vermont. FHWA with state DOT initiative will replace the bridge with one that is more in keeping with the historic district and the desires of local preservationists. The bow trusses of the old bridge will be aesthetically reused as will the wrought iron fencing and the original granite blocks that form the piers. In order to keep the bridge scale closer to the old structure, the roadway width will be kept to 24 feet instead of the proposed 30 feet.

The Department of Transportation is sensitive to the goals of historic preservation. Our internal regulations support and carry out the legislative mandate, and we are providing large sums of money to lessen project impacts on historic sites. Education, training, and information programs are utilized to increase the application and understanding of historic preservation objectives with field personnel.

We have problems with site identification and registration criteria, the protection process and the cost of site maintenance, but hopefully look forward to positive action by all parties in the preservation field. We are making headway in this area, but more will have to be done with state transportation agencies. The states are where the TRB members and Task Force can be of help in preserving transportation-related structures.

Keep in mind that there is no second chance in preservation. A personal as well as an organization commitment must be made to preserve our transportation heritage.



## VIRGINIA'S EXPERIENCE IN PRESERVING HISTORIC STRUCTURES

Howard Newlon, Jr., Virginia Highway and Transportation Research Council

In September 1977, the Virginia Department of Highways and Transportation nominated 7 of its metal truss bridges to the State and National Registers of Historic Places. The bridges were placed on the Virginia Register in November and the National Register approval is pending. I think all would agree that this was an unusual action for a transportation department to take since it might normally be expected to resist what would be perceived as a loss of flexibility in future planning. The nominations were made as an outgrowth of research done by the Research Council.

The Research Council is jointly sponsored by the Virginia Department of Highways and Transportation and the University of Virginia. The Council functions as the research arm of the Department. We are employees of the Department of Transportation and this colors greatly our approach to research. The overwhelming portion of our research is intended to be applied in a comparatively short time. Also, we consider implementation an important part of our work and a large portion of our effort involves pursuing such implementation. When we initiated a modest research effort on the history of road and bridge building in 1973 we applied these criteria, but actually the usefulness of the data that we've developed (in EIS's, etc.) and the favorable response both from within and from outside the Department to what we've been doing has exceeded our expectations.

The Council's project is divided into two parts. One part involves road history, the second part deals with structures. Our goal for the road history portion is the preparation of a guidebook to aid local historians in the preparation of county road histories. As an example of unexpected public response, these road order publications are of great interest to genealogists. We have received over 250 requests for copies.

The second portion of the project concerns the work with highway structures. A statewide inventory of metal trusses has been completed and one is in progress for concrete and masonry arches. The major portion of the truss survey was funded from our State research funds. It was intended that following all of these surveys, criteria would be established for determining historic significance. However, because the rapid progress of the bridge replacement program in Virginia threatened several bridges with obvious historic significance, it became necessary to develop interim guidelines as rapidly as possible. These guidelines were developed as part of our federally funded research and the report is currently undergoing FHWA review. We recently initiated a third project (also federally funded) directed toward exploring various alternatives for upgrading or adaptively using historically significant metal trusses that are functionally obsolete or structurally deficient according to DOT criteria.

Our research is guided by an advisory committee consisting of representatives from

the affected divisions of the Virginia Department of Highways and Transportation (Location and Design, Bridge, Public Information, Environmental Quality and Planning), the Virginia Historic Landmarks Commission, the Universities of Virginia and West Virginia, HAER and ASCE.

Statewide, about 500 trusses were surveyed. These all predated 1932 when the State of Virginia assumed jurisdiction over all roads and bridges from the counties.

In developing the criteria, it was deemed desirable to develop the rating in some numerical way. After consideration of the various factors that enter into such a subjective evaluation, the characteristics of the bridges were grouped into three broad categories (Table 1).

Table 1. Categories of bridge characteristics.

Factors	Points	Percent
Documentation (Age & Builder)	7	(26)
Technology	9	(33)
Environment	11	(41)

Documentation is used to identify the building and age of the truss, and account for 7 points or 26 percent of the total point value. Builders are characterized at three levels of significance (Table 2), the highest level being used for innovative companies that had major impact on the evolution of truss technology.

Table 2. Significance of bridge builder.

Builder-Contribution	Points
Unknown	0
Known - Undetermined	1
- Prolific	2
- Unusual	3

Points are given for increasing age in four groupings (Table 3).

Table 3. Age classification of bridges.

Age	Points
PRE-1885	4
1886-1899	3
1900-1917	2
1918-1932	1

No points are awarded for bridges built after 1932 (this is the date when the state assumed control of all roads and bridges from the counties, and there subsequently was a large degree of standardization). The date of 1885 was established based upon the results of the Virginia survey.

Within the area of technology, points are awarded (Table 4) for configuration, length, and number of spans. The designation unique, unusual, or novel is based upon the Virginia sample. In general a point was awarded for spans in excess of 100 feet for trusses before 1900. A point was also awarded for multiple spans prior to 1900 and for more than three spans prior to 1917.

**Table 4. Technology.**

Configuration	
Unique	3
Unusual	2
Novel	1
Span - Length	1
- Number	1
Patented	1
Materials	1
Integrity	1
Special Feature	1

Other features considered under technology include patented features such as Phoenix columns; materials (steel, wood, cast or wrought iron). A point was given for integrity if the span had not been modified even if it had been moved. A span possessing special features such as decorative details also was given one point.

The third broad area in the criteria reflects environmental factors (Table 5).

**Table 5. Environmental factors.**

Aesthetic s	4
History	3
Integrity (Site)	4

Aesthetics are judged on the basis that the bridge is an integral part of its setting to the point where removal or relocation would be detrimental to the bridge and the ambiance of the setting. While aesthetics is a subjective matter, experience in applying the criteria has indicated that people with a wide range of background and training can usually agree on the detrimental impact of removal on the fabric of the setting.

"History" embraces a variety of characteristics. The crossing itself might be significant, or it might be associated with an historical property or area. Historic significance might derive from the fact that

the bridge was associated with significant events or circumstances.

Points are awarded for integrity if the bridge is at its original site. Initially, speed of erection was the major selling point for metal trusses. Subsequent generations recognized and capitalized on their reusability. Because of this capability for reuse, an early truss at its original location is quite rare in Virginia and thus merits recognition.

Evaluation of the environmental factors also provides information important for the type of preservation effort to be pursued. For example, if a truss receives high marks in documentation and technological significance but low marks in the environmental category, then relocation of the structure would be warranted. From approximately 500 metal trusses surveyed statewide, 58 were selected as the most likely to be historically significant. The rating system was applied to these bridges by a six-man task group of the Council's History Research Advisory Committee. The historic "significance rating" for these 58 bridges ranged from a low of three to a high of 24 out of a possible 27. The average was 14.5.

Because this was the initial effort to develop numerical ratings for significance, it was necessary to establish a standard by which significance would be judged. Recognizing that the system was subject to further refinement and considering practical questions that suggested initial designation of a comparatively small number of bridges it was decided to set the level higher than might otherwise be the case. After considering various possibilities, it was decided to designate bridges with a rating of 20.0 or greater historically significant and those with a rating of ten or greater potentially significant. This latter figure will probably be upgraded to 15 or 17 with further refinements. Nine of the 58 bridges received ratings of 20.0 or above. Of these one was already on the National Register and another (which rated 21.0) was demolished during the evolution of the criteria.

Registry of the seven trusses will undoubtedly involve future preservation decisions, perhaps in the absence of local interest or ability to finance. The passing of time will bring refinement of the criteria and perhaps difficult preservation questions are yet to be faced. The bottom line of course is money, but the initial step has been taken.

At this point we have much in common with the 19th century traveler. We've begun the journey, we're seeking directions and I hope that we have the courage, endurance and resources to complete it.

CONFLICT ASSOCIATED WITH HISTORIC PRESERVATION  
Eugene Smith, Texas Department of Highways  
and Public Transportation

I am an archaeologist on the cultural resources staff within the Texas Department of Highways and Public Transportation, and we work closely with the engineers to try to solve problems as a team. We rely heavily on each

other. Because our department is not a DOT, we may not run into some of the problems arising in states that have DOTs. Not all roads in Texas are part of the state system.

The department is not a preservation agency, but it does deal with cultural resources on a daily basis. Texas has a long transportation history. Many of our highways follow the early trails of settlers and cattle drives.

Conflicts occur between the need to supply fast, safe and efficient means of transportation and the preservation of existing transportation facilities and structures that have historical and cultural significance. Because conflicts in Texas have been rather infrequent, I can only speak in general theoretical terms. One thing is clear, though, that answers must be unique for each case.

#### HISTORIC PRESERVATION OF RAILROAD RELATED STRUCTURES

Eric Deloney, Historic American Engineering Research, U.S. Department of the Interior

In 1971, exactly 100 years after its construction, the Queen City Station Hotel in Cumberland, Md. was demolished. This was a tragic loss, because this structure, built by the B and O Railroad in the mountains of western Maryland, was a popular resort hotel for many people from Washington in the late 1800s. Thomas Heskett, the architect, designed the usual RR station facilities on ground level with several floors of hotel accommodations above. It was placed on the National Register in 1970, shortly after the railroad announced its abandonment of it, and was demolished in the fall of 1971 for lack of funds or support for its maintenance.

Many lessons can be learned from this episode. The State Historic Preservation Officer (SHPO) presented the nomination to the Governor's Review Board; it was rejected 3 times. Several adaptive re-use studies were made and rejected. There were problems between the SHPO and city council, the latter being non-supportive. The railroad offered to sell the structure and delay demolition. The SHPO accepted an offer of HUD funds, but the city council refused.

Although the event brought the community together, it is very apparent that preservation must be founded upon realistic economics. It requires grass roots education and acceptance if legislators and public and private agencies are to be responsive to concerns of community leaders.

There are several examples, however, of the saving of railroad-related structures that deserve mention.

Bollesman's Bridge, patented in 1852 and erected in Maryland in 1869, is the only remaining example of a design that facilitated the rapid expansion of early American railroads. It was moved from the main line about 1887. Its design combines a suspension and truss system. In 1966 there was a concerted campaign to restore the structure, including recasting the maker's name plates in aluminum, restore the little wooden tower caps that covered connections on abutment towers, plus

extensive research to determine the Victorian color scheme. It survived the Agnes flood of 1972, while a vehicular bridge nearly washed out. Howard County Recreation Department provided a grant to prepare a restorative study after interest in it languished. A problem today is finding well qualified engineering consultants for historic preservation.

The Mt. Clare circular car shop in Baltimore, built by E. Francis Baldwin in 1884, was recorded by the Historic American Engineering Record in 1970. It could have served as a transportation museum. In 1974 it was restored for use by the B and O Railroad with some help from the City of Baltimore. Although the railroad was interested in historic preservation of the building and was sensitive to public relation values, the Mt. Clare shops were demolished in 1976.

The Aurora Roundhouse and Back Shops of the Chicago, Burlington and Quincy RR, in Aurora, Illinois, is the oldest roundhouse in the U.S., originally used in 1856. The walls are all stone. It is one of the few monuments in that city that has any real meaning to its citizens. In 1927 its use for locomotive repair was discontinued and in 1974 it was abandoned. There has been conflict over its ultimate use, or fate between the Burlington Northern, the present owners, and the Mayor's office and the redevelopment authority of the city.

A study conducted by the Historic American Engineering Record has identified only 11 surviving trainsheds in the U.S. One of these, the Reading RR Terminal in Philadelphia built in 1891-93, is the longest single span arched roof train shed in the world, with a span of 238.5 feet. The Reading Market is associated with the trainshed, now serving only as a commuter terminal. There has been a proposal to incorporate the headhouse, shed, and market into a multi-use shopping-office complex.

The St. Louis Union Station and Trainshed, built in 1891, is listed by the National Trust as an endangered building.

#### LEGAL PROBLEMS AND CONCERNS ASSOCIATED WITH HISTORIC PRESERVATION

Myra Harrison, Advisory Council on Historic Preservation

The Advisory Council on Historic Preservation is an independent agency with direct responsibility to the President and the Congress. The Council is made up of heads of various federal agencies, including the Secretary of Transportation, and 12 citizens appointed by the President.

Most of the problems and conflicts related to historic preservation, as seen from the vantage point of the Council, arise from section 106 of the National Historic Preservation Act of 1966. Section 106, as amended, requires that the head of any federal agency undertaking a program or project must afford the Council an opportunity for comment if the undertaking affects a property listed in or eligible for listing in the National Register of Historic Places.



To carry out this responsibility, the Council has published procedures which define the manner in which the Council offers its comments.

Basically, the procedures call on the federal agency that is funding, licensing or approving an undertaking affecting one or more of these properties to integrate historic preservation concerns with other project goals at the earliest stage of planning. The agency responsible must identify all properties that may be affected, must consult with the State Historic Preservation Officer (SHPO) on the nature of the effect, and must work with the SHPO and the council staff to resolve those situations in which a project will have an adverse effect on a historic property. In most cases a compromise is found which is detailed in a Memorandum of Agreement, signed by all parties, which stipulates how the agency will carry out the undertaking so as to avoid or minimize adverse impacts. If there is no agreement between the agency, the SHPO and the Council staff, the undertaking is referred to the full council for consideration, after which it provides comments to the agency sponsoring the proposed undertaking.

The important distinction between section 4(f) of the Department of Transportation Act and section 106 is that section 4(f) presents an absolute standard: it must be proved that there is no feasible and prudent alternative to the taking of a historic property before a transportation project can be approved by the Secretary of Transportation. Section 106, on the other hand, is a public interest standard: whereas feasible and prudent alternatives that would avoid or mitigate adverse effects must be studied in the course of complying with the Council's procedures, project objectives and historic preservation concerns are balanced together, socio economic impacts are considered, and the result may well involve some loss of historic property that may not be as readily permitted under 4(f).

The most persistent legal problem involving historic preservation is the failure of federal agencies to comply with section 106, and the litigation that sometimes, though not always, is generated by that situation. The agency with the greatest number of projects affecting transportation-related structures is the Department of Transportation, which generally has a good record of compliance.

Perhaps the most widespread interaction between historically important transportation related structures and transportation planning occurs in the bridge replacement program. As you are aware, the original legislation on this program stipulated that monies could be used only for replacement, not for repair. This has resulted in the loss of many historically significant bridge structures that might be rehabilitated to provide continued modern transportation service. The Highway and Public Transportation Improvement Act of 1978 would remedy this situation by providing for repair as well as replacement. However, the current law creates a conflict in following council procedures which require considering

alternatives to avoid adverse impacts before considering mitigative measurements. Without funds for repair, it is difficult to properly balance these two considerations.

The following case is illustrative of the problem. The Columbia Bridge in Fayette County, Ohio, a Pratt Truss bridge built by the Columbia Bridge Works of Dayton, Ohio, was declared by the Secretary of the Interior to be eligible for listing in the National Register of Historic Places. Ohio DOT had proposed in 1976 to demolish and replace the bridge because it was "narrow and weak" and would "inevitably collapse." The Preliminary Case Report submitted to the Council by ODOT identified a number of alternatives:

1. The no build or no action alternative was unacceptable from a safety standpoint;
2. Rehabilitation alternative -- because replacement funds were to be used, no money was available for rehabilitation. However, even if the state of Ohio was to use its own funds for rehabilitation, it was felt that it would be impossible to rehabilitate the bridge to meet the traffic demands without severely altering its appearance.
3. Dual Bridge System alternative -- retain the Columbia bridge as a one way bridge and build a second parallel bridge to carry traffic in the other direction. Since this alternative would also necessitate rehabilitation of the Columbia bridge it was rejected for the same reasons as the rehabilitation alternative.
4. Changed road alignment alternative-- Columbia Bridge would be totally avoided and a new bridge would be constructed. This alternative would involve purchase of adjacent land, construction of new abutments, and cosmetic repairs to the Columbia Bridge to prevent future deterioration. Cost of this alternative was prohibitive; also no money was available.
5. New construction alternative -- this alternative involved construction of a new bridge on the existing abutments and relocation of the Columbia Bridge to an adjacent site. The new bridge would be funded by the SBRP while the relocation cost of over \$30,000 would be paid by the county. The county would also have to assume continued cost of maintenance for the Columbia Bridge. This alternative was unacceptable to the county.

The proposal that was finally agreed to by the council, the ODOT, the SHPO and the Federal Highway Administration involved the demolition of the Columbia Bridge and building a replacement bridge on the site. In order to mitigate the adverse effect of the demolition of the Columbia Bridge the following measures were to be taken.

1. The Columbia Bridge was to be recorded and documented according to Historic American Engineering Record standards.
2. As many structural members of the bridge superstructure as possible were to be salvaged for reuse in bridge repair projects throughout the state.
3. Ornamental parts of the bridge were to be salvaged and offered by the Ohio Historical Society to approved preservation and museum organizations through the state



4. The Federal Highway Administration prepared a monograph on the Columbia Bridge Company.

We have also negotiated agreements that historic bridges be kept as pedestrian bridges and as features in historic parks.

Another problem with legal implications that is often associated with transportation-related resources of historic importance is the adoption of the AASHTO standards by the Federal Highway Administration. Although these standards are designed to be flexible, they are rarely applied in a flexible manner by highway engineers who have an understably high concern that their facilities provide the utmost in highway safety. We find the inflexible application of these standards often has detrimental effects on historic structures. The Elm Bridge in Woodstock, Vermont, is one case in which we appear to have reached a happy accommodation between AASHTO standards and historic preservation values. The highest AASHTO standard called for a 30 feet wide bridge and was supported by the highway engineers. The 24 feet width was supported by environmental officials within FHWA and is the solution that higher officials within FHWA supported. However, the conflict between AASHTO standards and historic preservation are not always so happily resolved. It is the position of the Advisory Council that as these standards have been adopted as federal standards, they should be submitted to the council for comment in accordance with section 106. It is our hope that in time we will be able to find more and more ways to ameliorate the impact of these federally adopted standards on historic structures.

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