

DEVELOPING A MATERIALS EVALUATION METHODOLOGY, PART I

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Preservation Brief 16: The Use of Substitute Materials on Historic Building Exteriors

Preservation Briefs are technical assistance guides produced by the Technical Preservation Services division of the National Park Service. Initiated in 1975, there are currently 47 briefs that cover a vast range of preservation and restoration topics. Preservation Brief 16, released in 1988, covers the use of substitute materials on historic buildings, and is another resource available to local commissions when reviewing these types of proposals on designated properties.

Preservation Brief 16 emphasizes that substitute materials should only be used when all repair or restoration alternatives have been explored. When considering the appropriateness of a substitute material, a "thorough investigation" should be carried out to determine its durability, compatibility, and physical properties. It further suggests that the consideration of substitute materials should be based on the unavailability of historic materials and craftsmen, flaws in the original materials, and code compliance. Cost factors can vary depending on the area of the country, the amount of material needed, and the projected life cycle of the material.

The brief does not go into detail on common small-scale residential projects such as the installation of vinyl siding and replacement windows, noting the greater availability of in-kind materials and restoration solutions for these types of proposals.

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The following article expands upon the Working Roundtable "Developing a Materials Evaluation Methodology" conducted during the NAPC's 2008 National Commission Forum hosted in New Orleans, Louisiana. The Forum session responded to requests from commissions to address alternative materials. During the session, the conversation expanded to new products embracing the ambitions of sustainable design. This article examines and integrates these twin themes in two installments; the article will conclude in the November/December issue of The Alliance Review. It is hoped that these thoughts will assist a policy discussion at your commission's next retreat.

We continue to live in an era of increasingly rapid technological change, and the building sciences are seeing their share of evolution and innovation. The application of technical and chemical research principles in the development of various building systems has yielded many benefits, such as the remarkable advances during the past 15 years in construction joint caulk and sealant capabilities, and specialized industrial coatings. Critical to the successful use of these products is a thorough understanding of the purposes for which they were developed, their properties, their relationships to other components of a building system, and limitations on appropriate application.

Preservation commissions are continually asked to consider replacement materials and techniques. When the marketing power of product manufacturers is compared to the educational capacity of commissions, it is no wonder that these requests test the commission's ability to evaluate them. Commonly there are multiple parameters that commissions are asked to address, notably:

- Changes in availability and technology: the historic material is not as common nor of the quality that it was when used to construct resources, e.g. cedar shingle roofing, fast-growth farm-produced wood, or terra cotta decorative details;
- Vanishing trades: there are few or no local crafts persons that can work with the historic material, or alternatively, the local building industry is trained in and will only warrant the use of the new materials and techniques;
- Ease of maintenance: new materials are purported to be more durable than original materials;
- Cost: like material of equivalent quality is believed to be economically infeasible, leading to the utilization of less expensive materials as a substitute material during the repair or replacing of original fabric;
- Sustainability: the development of materials or systems that support the ambition of sustainable development, i.e. photovoltaic solar panels.

The use of modern materials on historic buildings has long been a subject of debate, and the literature is full of cautions toward their application. While publications do offer advice and assistance, little guidance is provided to local

preservation commissions to guide their thoughtful evaluation of such materials and products. As a result, they often find themselves struggling to strike a balance between the preservation industry's standards and local community standards and policies.

Since it is inevitable that commissions will continue to receive proposals for new materials and products, utilizing an evaluation methodology can help a commission when facing such requests. It will also improve community perception of the commission's work when citizens observe a thoughtful review taking place in a predictable manner, which will reduce claims of dogmatic refusal without analysis, or concerns of arbitrary and capricious decision-making.

Starting with the Standards

Many communities have adopted *The Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Building (Standards)* for use by the local commission as their design review guidelines; some have local guidelines that are based upon the *Standards*. Given the *Standards'* common usage and long history of development, they are a logical place to start in providing the underpinnings for an evaluation methodology.

Among the ten standards, the four cited below most directly address the issues related to alternative or replacement materials. The authors have recast them into "action paraphrases" that distill the guidance to be applied to our task:

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterizes a property shall be avoided.

Avoid...altering features...that characterize a property.

5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.

Preserve distinctive features...that characterize a historic property.

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary physical, or pictorial evidence.

Replacement features...shall match...in design, color, texture,...visual qualities and, where possible, materials.... Substantiate [with] evidence.

9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the his-

als. However, the points listed in determining the appropriateness of a substitute material can be instructive for local commissions which are regularly reviewing proposals for purported "maintenance-free" products such as engineered siding or trim. "Green" and energy-efficiency issues are also not addressed in the brief, although there is an emphasis on determining the performance expectations and sustainability of a proposed substitute material. In sum, the message is clear in Preservation Brief 16 that the restoration and repair of original materials is always the preferred option.

All Preservation Briefs are viewable online at the National Park Service's website:
<http://www.nps.gov/history/hps/TPS/briefs/presbhom.htm>



toric integrity of the property and its environment.

Do not destroy historic materials...when constructing... exterior alterations. Differentiate the new work from the old and...protect...historic integrity...by requiring...compatible...architectural features.

Rehabilitation is defined as “the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values.”

It is important to recognize that these are not the standards for Preservation or Restoration treatments. Rehabilitation provides additional latitude. The *Standards* are introduced with the definition of rehabilitation as “the process of returning a property to a state of utility....” The *Standards* further note that they “are to be applied in a reasonable manner, taking into consideration economic and technical feasibility.”

The Goals of Integrity and Authenticity

The National Park Service acknowledges the authenticity of a resource as its paradigm. The introduction to the *Standards* explains that “the treatment ‘rehabilitation’ assumes that at least some repair or alteration of the historic building will be needed in order to provide for an efficient contemporary use; however, these repairs and alterations must not damage or destroy materials, features, or finishes that are important in defining the building’s historic character.” When adopting the *Standards*, a local government embraces this philosophy as a policy statement.

It is, however, a difficult policy to apply. The preservation commission is the unit of local government that is called upon to implement this policy. It is important for local commissions to recognize that the *Standards* were created to serve specific federal uses. “Initially developed by the Secretary of the Interior to determine the appropriateness of proposed project work on registered properties within the Historic Preservation Fund grant-in-aid program, the *Standards for Rehabilitation* have been widely used over the years—particularly to determine if a rehabilitation qualifies as a Certified Rehabilitation for Federal tax purposes.” [<http://www.nps.gov/history/hps/tps/tax/rhb/stand.htm>]

The commission, on the other hand, must be responsive to the local community’s culture of regulation and enforcement, and the “will of the citizenry” The *Standards* cannot be applied by the commission in a vacuum detached from the local context, nor does the National Park Service suggest that they should be: “The *Standards* are neither technical nor prescriptive, but are intended to promote responsible preservation practices that help protect our Nation’s irreplaceable cultural resources. For example, they cannot, in and of themselves, be used to make essential decisions about which features of the historic building should be saved and which can be changed.” [http://www.nps.gov/history/hps/tps/standguide/overview/choose_treat.htm]

The tools commonly available to commissions are the nomination documents, design review guidelines, and the process of design review. Ideally, thorough and thoughtful documentation in each of these three areas is available to the preservation commission for guidance in performing its duties.

During the nomination process, the significant features of the resource (individual or district) are identified thus establishing how the resource meets the

criteria for placement on the local register. It also clarifies those features that are important to protect—that is, those elements essential to the integrity of the resource.

The design review guidelines establish the acceptable levels of change and where change can occur and do no harm to the resource. They should also address the acceptability of alternative materials—that is, where departure from original fabric can be accommodated and still retain authenticity. Because new materials and changing technology are a constant, no guidelines can provide a definitive list of acceptable choices.

The process of design review sets out the type of information necessary for a fair and informed judgment as well as the sequences for evaluating the acceptability of the material. During this process, the twin goals of rehabilitation—continued or restored utility of the resource(s) and preserving historic character—are balanced. The “trade off” between the two challenges many commissions.

Toward An Evaluation Methodology

A “top ten” (but unranked) list of today’s recurring requests might look like this:

1. Exterior Insulation and Finish System (Dryvit and other “synthetic stucco” products)
2. Fiber-cement siding (HardiePlank and related products)
3. Metal roof systems
4. Molded fiberglass/plastic exterior trim
5. Replacement shutters
6. Replacement windows
7. Roofing shingles (synthetic slate, and the like)
8. “Spray-on Siding” e.g. Liquid Vinyl and other exterior coating systems
9. Wood/plastic composite lumber (Trex)
10. And the growing interest in sustainable design expands the list to include:
 - a. Energy retrofit “packages”
 - b. Green roofs
 - c. Photovoltaic (solar) panels
 - d. Photovoltaic shingles
 - e. Wind turbines

Since every community has its own preservation ethic, no one can provide the commission with the “right answer.” Moreover, today’s list does not look like 1995’s list, and it is unlikely to look like 2025’s list. While commissions often look to each other for examples of how to address difficult issues, in the long term, we are better served by developing the capability to make well-informed decisions about these products as opposed to polling each other for pat answers. Each commission ultimately has the charge to find the best answer for its local circumstances.

The Secretary of the Interior’s Standards for the Treatment of Historic Properties



The Secretary
of the Interior’s
Standards for
Rehabilitation &

Illustrated
Guidelines
for
Rehabilitating
Historic
Buildings

The *Secretary of the Interior’s Standards for the Treatment of Historic Properties* are common-sense principles in non-technical language. They were developed to help protect our nation’s irreplaceable cultural resources by promoting consistent preservation practices.

The *Standards* may be applied to all properties listed in the National Register of Historic Places: buildings, sites, structures, objects, and districts.

The *Standards* are a series of concepts about maintaining, repairing and replacing historic materials, as well as designing new additions or making alterations. They cannot, in and of themselves, be used to make decisions about which features of a historic property should be preserved and which might be changed. But once an appropriate treatment is selected, the *Standards* provide philosophical consistency to the work.

There are *Standards* for four distinct, but interrelated, approaches to the treatment of historic properties: preservation, rehabilitation, restoration, and reconstruction.

Preservation focuses on the maintenance and repair of existing historic materials and retention of a property’s form as it has evolved over time. (Protection and stabilization have now been consolidated under this treatment.)

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Rehabilitation acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character.

Restoration depicts a property at a particular period of time in its history, while removing evidence of other periods.

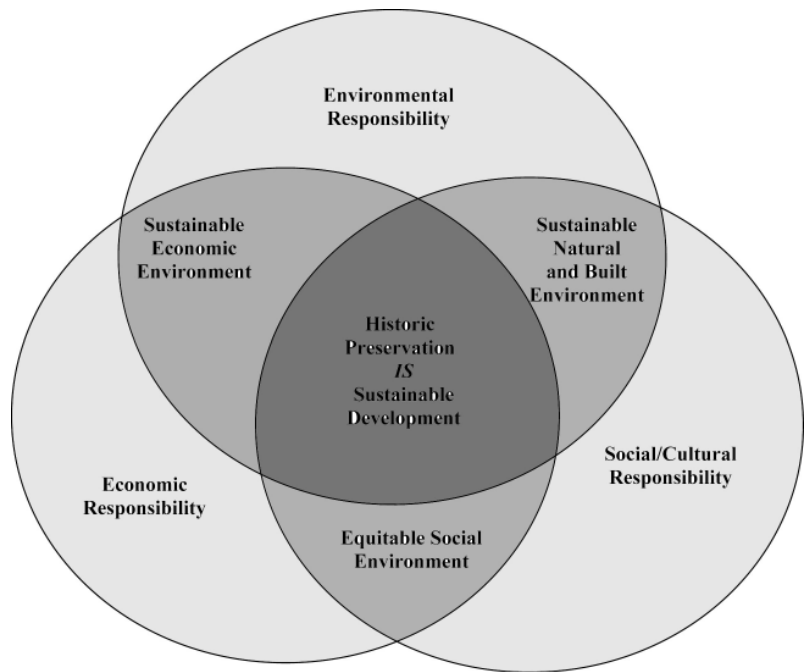
Reconstruction re-creates vanished or non-surviving portions of a property for interpretive purposes.

Source: http://www.nps.gov/history/HPS/TPS/standards_guidelines.htm

Thus, the commission's decision will come down to finding a community-appropriate balance among a wide array of valid concerns, some of which may stand in opposition to others. What is proposed, then, is a framework for commissions to organize the questions to be asked and to provide a means for weighing and balancing multiple objectives.

A Sustainability Framework for Balanced Decision-Making

True sustainability is much more than energy efficiency or various green rating systems for building construction, such as LEED (Leadership in Energy and Environmental Design). The "Three Pillars" framework for sustainability has three primary considerations to produce sustainable outcomes: economic, environmental, and social/cultural. Each of the pillars must be given proper weight to achieve a balanced result.



The three pillars of sustainability—environmental, economic, and social/cultural responsibility—combine to ensure sustainable development.

The trend is clear that we, as a global community, are moving toward a new decision-making paradigm—one that embraces these broader sustainability criteria as an umbrella under which individual decisions in a wide range of pursuits should be evaluated. With this background as our context, the next installment of this article will propose a means by which the framework of sustainability can be applied to the decision-making process when considering alternative materials and/or systems promoting sustainable design.

A SUSTAINABILITY FRAMEWORK FOR THE LOCAL CONSIDERATION OF ALTERNATIVE OR SUBSTITUTE MATERIALS – PART II

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This article builds upon the Working Roundtable, “Developing a Materials Evaluation Methodology,” conducted during the NAPC’s 2008 National Commission Forum hosted in New Orleans, Louisiana. The Forum session responded to requests from commissions to address alternative materials. During the session, the conversation expanded to new products embracing the ambitions of sustainable design. This article examines and integrates these twin themes in two installments; Part I appeared in the July-August issue of The Alliance Review, and this installment concludes the article.

While this article focuses upon the evaluation of substitute materials, it is worth re-emphasizing at the outset that **the most sustainable practice remains the recommended preservation treatment approach of repairing and reusing existing historic fabric. Only after the commission determines by careful evaluation that the existing material cannot be repaired should replacement or substitute materials be considered.** The core treatments for historic preservation outlined in *The Secretary of Interior’s Standards* are demonstrably sustainable practices. The premise of this article is that preservation practitioners must take heed as sustainability concepts become increasingly mainstream. The authors believe that in the coming years, sustainability principles will become the language of decision-making in a broad array of human enterprises, including the preservation field. In particular, when considering **changes** to historic resources or materials, preservationists have a choice of mindset: we can “defend” our standards in the face of sustainability arguments (which the authors contend will be a “no-win” scenario), or we can use our standards to lead the way toward more sustainable outcomes. As the decision-making precepts broaden, so too then must our response to them. **We hope that the ideas presented here can be carefully explored by commissions in a retreat setting as part of the commission’s natural growth and evolution responding to a changing world.**

Readers of the July/August issue of *The Alliance Review* will recall that Part I of this article begins with a summary of the challenges that local preservation commissions face from applicant requests for alternative materials. It then:

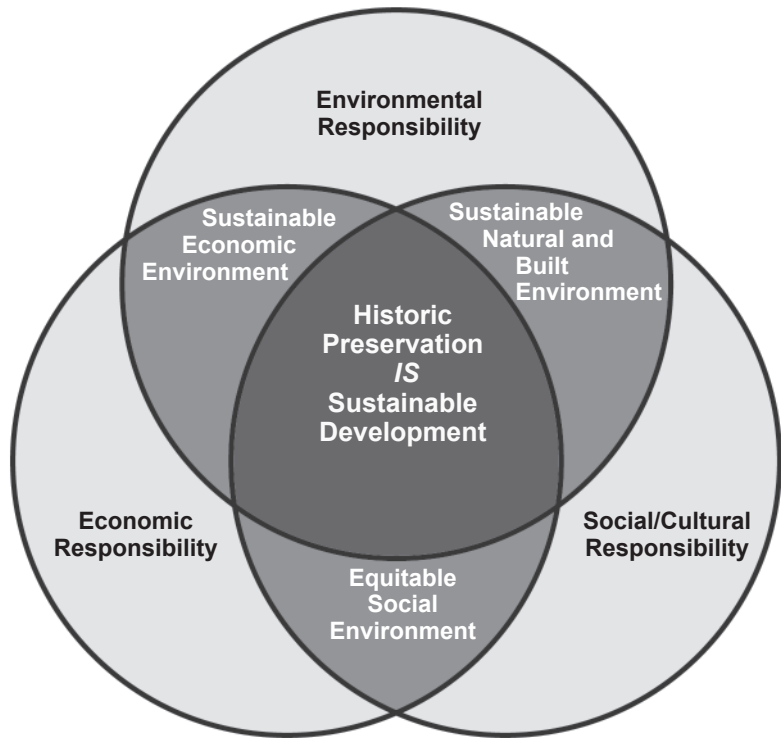
- examines *The Secretary of Interior’s Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* as they apply to this issue;
- discusses the goals of integrity and authenticity and their implications for public policy at the local level in the process of design review;
- suggests that because the preservation ethic varies from community to community that commissions are better served by developing the capability to make well-informed decisions regarding new materials and products that reflect community values.

The conclusion of Part I introduces a conceptual framework for balanced decision-making at the local level utilizing sustainability principles in the evaluation of alternative materials for historic resources. Part II, beginning below, explores how this framework might be applied, and the final section challenges us to expand our leadership role within our communities by embracing this broader paradigm of decision-making.

A Sustainability Framework for Balanced Decision-Making

True sustainability is more than just environmental “green” sustainability. The “Three Pillars” framework for sustainability has three primary considerations to produce sustainable outcomes: social/cultural, environmental, and economic. Each of the pillars must be given proper weight in order to achieve a balanced result.

There is a rational nexus for applying sustainability principles to the evaluation of alternative or substitute materials that underlies the design review work that preservation commissions undertake. A commission's ordinance defines its powers and duties. Commissions commonly understand that their decisions have **economic** consequences. Their efforts stimulate the local economy and enhance the value of real estate. **Environmental** considerations flow from stewardship provisions of ordinances for the conservation of the built environment. This yields reduced pressure on further consumption of the natural environment and reduced expenditure of energy resources for materials manufacture, shipping, and new construction activities. The *Standards* provide the basis for responsible evaluation of the **social/cultural** aspects of projects upon heritage values, including the effect of substitute materials. It is from an awareness of local community standards that the commission determines the appropriate weighting for each of the three elements to achieve a balanced decision.



The following discussion of the three areas of sustainability offers a list of considerations that might be evaluated in examining proposals for alternative materials and systems. While the list is thorough, it is not presented as exhaustive; each community must respond to its own local requirements. It is intended to offer a starting point for the local commission to establish its own lines of inquiry to engage the emerging issue of sustainability during its decision-making process. It should also be noted that while the list is organized to place the various considerations where they seem to have primary relevance, they may also have secondary relevance in other areas.

Social/Cultural Considerations

Commissions commonly utilize the *Standards* as the basis for design review. The following four guidelines from the *Standards* (as recast into "action paraphrases" in Part I of this article) offer the most direct guidance when evaluating alternative materials or systems. Boldface terms appear in the table that follows the list.

SOI Standard number 2: Avoid altering features that characterize a property.

What does the designation documentation state regarding **property significance**?

- landmark, contributing to a district, non-contributing
- architecture, historic event

Where is the **location** of the feature?

- primary structure, primary or secondary façade
- historic addition, non-historic addition, accessory structures

Which are the **distinctive features**?

- architectural details, siding, massing, space

What is the **visibility** of the feature?

- close, far, public setting, within property

SOI Standard number 5: Preserve distinctive features that characterize a historic property.

Is there a **condition assessment** that evaluates the historic fabric?

— credible, complete, clear

Does the assessment support preservation of the feature?

— preservability, **repairability**

Are there **local trades** persons who are skilled in preservation practices?

SOI Standard number 6: Replacement features shall match in design, color, texture, visual qualities and, where possible, materials. Substantiate with evidence.

What are the **visual qualifications** of the character defining features?

— design, color, texture, *et. al.*

What is the **resemblance** of the proposed substitution to the feature?

— identical, passable, poor

— fabrication/installation details

Is the substantiating **documentation** credible?

— ASTM Standards for performances, manufacturer's test data

Is the **in-situ sample** offered for inspection reliable?

— length of time, weather, fabrication, material quality, representative of field construction capabilities

What is the **compatibility** of the alternative material with the historic fabric

— coefficient of expansion, electrolysis

SOI Standard number 9: Do not destroy historic materials when constructing exterior alterations. Differentiate the new work from the old and protect historic integrity by requiring compatible architectural features.

Can **modern design materials** and methods be employed?

— additions and new construction of modern design

— compatibility, differentiation

With what **design elements** should the substitute material be compatible?

— massing, size, scale

— architectural features

— integrity of the property

— environment

What is the **visual effect** on the resource?

— overwhelming, supportive, compatible

— character-defining features? (e.g. a solar collector that covers patterned slates)

— character-defining design qualities? (e.g. a solar collector that is placed on the primary façade's roof slope)

Does the new work have a significant **historic fabric impact**?

— alteration, removal to accommodate installation

What is the **reversibility** of the new work?

— restoration of resource to its earlier configuration

— failure of untested material or design

This set of questions is neither exhaustive nor germane to all communities. But they can form a core for deliberation during your retreat.

Environmental Considerations

Many communities are adopting policies and enacting legislation to implement a variety of climate change protocols, energy standards, and environmental initiatives, often under the rubric of sustainability. For commissions to act in concert with these actions, commission decision-

making should support key components of these policies. As we receive requests to approve applications proposing alternative materials or systems, we can expect to increasingly be called upon to consider these physical characteristics as well as the energy consumed if a certificate of appropriateness is granted.

Durability:

If new to marketplace with no track record is any ATSM accelerated aging test data available?
Is today's fast-growth wood farm product vs. old-growth wood really a "like" material?

Embodied energy:

What is the energy of production that exists in the manufactured/installed product?

Energy efficiency:

What is reduction in greenhouse gases due to less energy input?
What is reduction in required capacity of energy grid?

Energy source:

Is it carbon-based or renewable? Is it centralized or off-the-grid?

Toxicity:

What are the human health implications of the manufacture/use of the new material?
(Material Safety Data Sheets (MSDS) are a good source for general composition of products when marketing materials are not forthcoming.)

Recyclability:

Is it possible? Is there a market? What are the energy costs of processing?

Transport:

What are the energy costs of shipping materials and systems to and from the building site?

Economic Considerations

The economic consequences of our decisions remain key to the viability of historic communities. Regardless of scale, whether it is the cost of an architectural detail, or the financial consideration of entire building systems, or determinations about a district's infrastructure, technical feasibility is tied to economic capability. We need to apply tools that more fully address both considerations.

Cost/benefit analysis:

Is it an expense or an investment?

Life-cycle analysis:

What are the costs per year of anticipated life span of alternative materials?

Maintenance cycles:

Is it reasonable to expect that the maintenance requirements of modern versions of traditional materials can be adhered to by the property owner? Can one really expect to keep all joints caulked and painted all the time on fast growth wood, etc.?

Labor:

What are the jobs created per unit of project cost?

Erection:

What is the complexity/scale of material/system installation.

Proximity:

How close is the harvest/manufacture/assembly of the material to the building site?
What is the monetary value of recycling of local dollars in local economy?

The following table graphically presents a consolidation of this information in summary form showing relationships among the evaluation flow chain, inquiry considerations, and sustainability considerations.

| Matrix for Evaluation of Alternative Materials and/or Systems | | Sustainability Considerations | | |
|---|---|--|--|--|
| Evaluation Flow Chain | SOI Considerations | Social/Cultural Responsibility (Secretary of Interior's Standards -- SOI) | Environmental Responsibility (SOI technical feasibility) | Economic Responsibility (SOI technical and economic feasibility) |
| <div style="border: 1px solid black; padding: 5px; text-align: center;">Repair existing feature?</div> <p style="text-align: center;">↓</p> | <ul style="list-style-type: none"> *property significance *location *distinctive features *visibility | SOI #2 & 5 | <ul style="list-style-type: none"> *durability *embodied energy | <ul style="list-style-type: none"> *cost/benefit analysis *life-cycle analysis *maintenance cycles *labor *proximity |
| <div style="border: 1px solid black; padding: 5px; text-align: center;">Match original design and mat'l of existing feature?</div> <p style="text-align: center;">↓</p> | <ul style="list-style-type: none"> *condition assessment *repairability *local trades *visibility | SOI #5 & 6 | <ul style="list-style-type: none"> *durability *embodied energy *energy efficiency *energy source *transport | <ul style="list-style-type: none"> *cost/benefit analysis *life-cycle analysis *maintenance cycles *labor *proximity |
| Exterior Alterations/Introduction of new material | | | | |
| <div style="border: 1px solid black; padding: 5px; text-align: center;">Match material design & visual qualities of feature w/ alt. mat'l?</div> <p style="text-align: center;">↓</p> | <ul style="list-style-type: none"> *visual characteristics *resemblance *documentation *in-situ sample *compatibility | SOI #6 | <ul style="list-style-type: none"> *durability *embodied energy *energy efficiency *energy source *toxicity *recyclability *transport | <ul style="list-style-type: none"> *cost/benefit analysis *life-cycle analysis *maintenance cycles *labor *proximity |
| Exterior Alterations/Introduction of new materials-features-systems | | | | |
| <div style="border: 1px solid black; padding: 5px; text-align: center;">Introduce new non-imitative material?</div> <p style="text-align: center;">↓</p> | <ul style="list-style-type: none"> *modern design materials *visual effect *reversibility | SOI #9 | <ul style="list-style-type: none"> *durability *energy *toxicity *recyclability *transport | <ul style="list-style-type: none"> *cost/benefit analysis *life-cycle analysis *maintenance cycles *labor *proximity |
| <div style="border: 1px solid black; padding: 5px; text-align: center;">Introduce new feature?</div> <p style="text-align: center;">↓</p> | <ul style="list-style-type: none"> *modern design materials *design elements *visual effect *reversibility | SOI #9 | <ul style="list-style-type: none"> *durability *energy *toxicity *recyclability *transport | <ul style="list-style-type: none"> *cost/benefit analysis *life-cycle analysis *maintenance cycles *labor *proximity |
| <div style="border: 1px solid black; padding: 5px; text-align: center;">Introduce new system?</div> | <ul style="list-style-type: none"> *modern design materials *design elements *visual effect *historic fabric impact *reversibility | SOI #9 | <ul style="list-style-type: none"> *durability *energy *toxicity *recyclability *transport | <ul style="list-style-type: none"> *cost/benefit analysis *life-cycle analysis *maintenance cycles *labor *erection *proximity |
| <p>← Confluence of these three columns yields SOI's "state of utility" or, looking forward to a new paradigm, "State of Sustainability." →</p> | | | | |

Applying the Sustainability Framework

This methodology provides a structured framework for commissions to work through a flow of issues prompted by four *SOI* standards to evaluate the social/cultural impact of the proposed change, as well as assessing environmental and economic considerations. The list of considerations should not be considered exhaustive, nor should it be assumed that all issues will be present in every case.

Presuming that the gathering of evidence has provided the commission with credible data, the commission can then balance the three pillars through application of the *SOI* definitions for rehabilitation. The *Standards* provide allowance for returning a resource to a “state of utility” (or looking forward to a new decision-making paradigm, “state of sustainability”) with an emphasis placed upon “reasonable manner, taking into consideration economic and technical feasibility.”

Final weighting and balancing during the decision-making process will require the application of subjective judgment. Careful use of clearly-stated procedures will become increasingly important to guide the process. Once the decision is made, the evidence and discussion should be carefully documented in the record. These are precedent-setting decisions that must be able to stand up to scrutiny; the commission will also want to be able to reference its decisions in the future to ensure consistency.

Balance: historic preservation goals with functional needs

- *SOI* “state of utility”;
- *SOI* “reasonable manner.”

Burden of proof: upon applicant.

Competent evidence: and substantiation of claims.

Expert testimony: validation of expert’s credentials.

Consultation: when expertise to evaluate evidence is not present among commission membership (e.g. SHPO, experienced trades persons, architects, etc.).

Because the trend toward this sustainability-based decision-making paradigm is in its infancy, final weighting and balancing will prove to be a difficult process in the near term. For example, there is a dearth of information available to make informed decisions about the full cradle-to-grave energy-use implications for any given material, product, or system. Without such data, how can a credible comparison be made to evaluate one item against another? Nonetheless, we have to start somewhere. As we begin to ask questions that yield data, a challenge before us is developing information systems that will allow decision-makers to share and retrieve the results of their investigations.

One probable outcome of this exercise is a predictive model that will enable revisions of your commission’s design review guidelines. These guidelines will reflect more than the community’s expectations regarding the cultural value of historic resources. They will also incorporate the community’s attitudes regarding the economic and environmental value of historic resources. The intent is to broaden the reasoned discussions and decision-making activities of the commission.

Mainstreaming Local Preservation Leadership

There is no questioning the consciousness-raising impact the environmental movement has had during the past fifty years. As a society, an environmental stewardship that did not exist fifty years ago is now deeply ingrained in many aspects of government and in-

dustry. Because preservation is so inherently a sustainability practice, we have a great opportunity to recast public perception of preservation values from the “hysterical” into the holistic. But to accomplish this, as we pursue our mission-driven objectives we need to engage in some soul-searching about how we connect with our fellow citizens.

Certainly the primary responsibility of commission review of exterior changes to cultural resources applies most directly to the social/cultural aspects of sustainability. If we are not the guardians of these values, who will be? However, no longer do we have the luxury of making these evaluations in social/cultural isolation; a case can be made that preservation commissions have sometimes (frequently?) applied the *Standards* that way in the past. Preservationists get agitated when people decide to install replacement vinyl windows based upon sustainability energy/environmental factors and fail to consider our preservation cultural/social standards, but pot-kettle-black we risk agitating people with our insistence on the immutability of the *SOI*—Social/Cultural factors with no allowance for economic considerations.

We need to take to heart the flexibility provided by the *Standards* when we are applying rehabilitation treatments. Too often perhaps we confuse rehabilitation treatments with restoration or preservation treatments, and hold applicants to too high a standard. Preservationists have long debated the underpinnings of material culture in our historic resources regarding “Authenticity” versus “Integrity.” Perhaps it is time to complicate matters further by bringing “Cultural Continuity” into the mix. Rehabilitation introduces the concept of human endeavor over time, suggesting a resultant imprint of current values on cultural resources. Setting aside resources of acknowledged significance that demand preservation and restoration treatments, should we be more open to the evolutionary continuum by acknowledging it, making it part of our process of evaluation, and ultimately embracing it? The social/cultural considerations of the preservation field have evolved greatly during the last 30 years; environmental and economic considerations may now need to be part of our continued progress.

Because of their years of experience, local preservation commissions are already frequently recognized as leaders in historic preservation by citizens that subscribe to preservation values. Our opportunity is to leapfrog the narrow focus of our society’s awakening to “green” sustainability to take control of the holistic application of sustainability principles where places that matter meet the lives of the general public: their homes, places of business, and community common spaces. In the process commissions will become leaders in setting the dialog, educating the public, and advancing wide-ranging goals of society. We can offer ourselves a gift: the experience of being perceived by the broader citizenry not as fringe obstructionists but as mainstream leaders.