

Observations from the field

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*The San Francisco Bay Area
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**Sustainability and Historic Preservation:
Its Meaning and Practical Applications**

What does preservation offer to sustainability as a field?

Policy – Mindset – World View:

- Focuses on existing environment
- Sees impacts on finite resources
- Emphasizes appropriate uses;
Rewards innovative techniques
- Enhances understanding and value of place: inherently sustainable because place is spatial and static in comparison to resource depletion, which is dynamic



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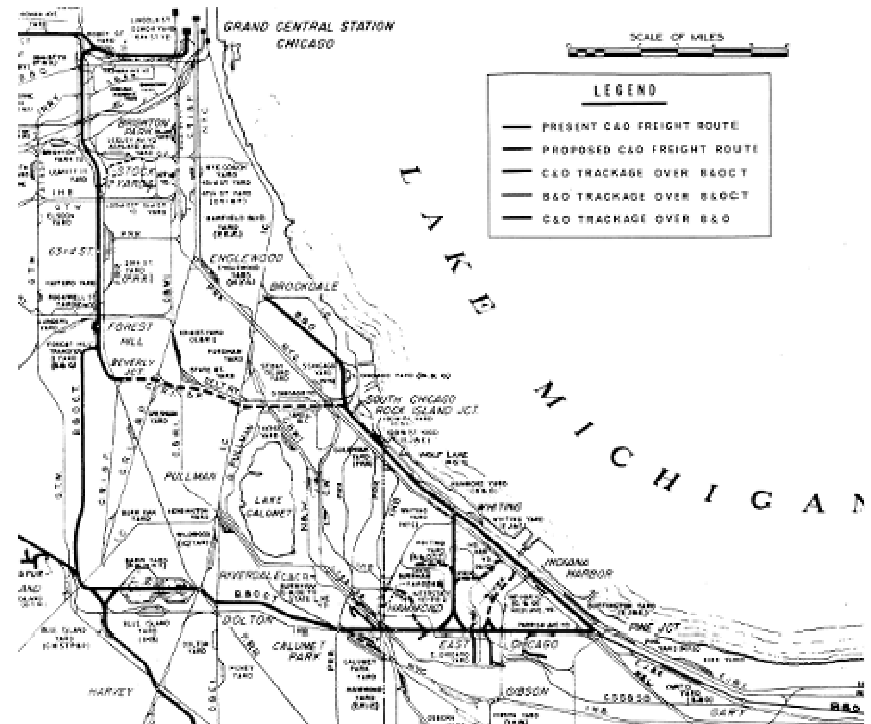


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What does preservation offer to sustainability as a field?

Regional Level:

- Documents and analyzes what we have
- Strengthens existing nodes
- Validates assets other than buildings, e.g. cultural landscapes, harbors, rail corridors



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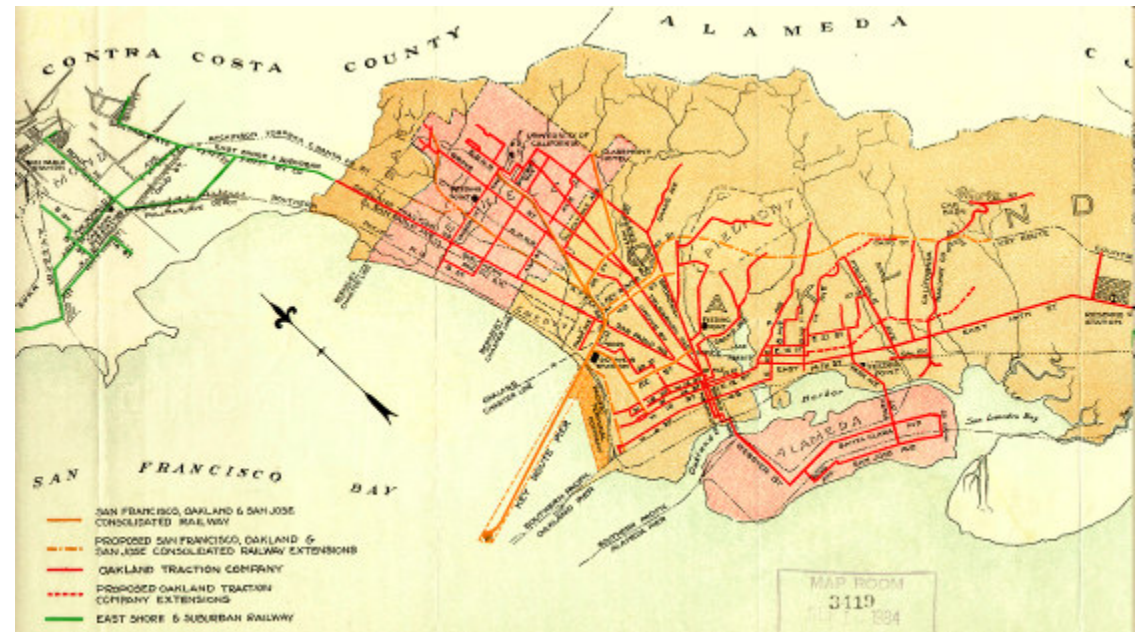
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What does preservation offer to sustainability as a field?

Urban:

- Tests and discourages tendency to invest resources in reconfiguration of existing patterns



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Landscape:

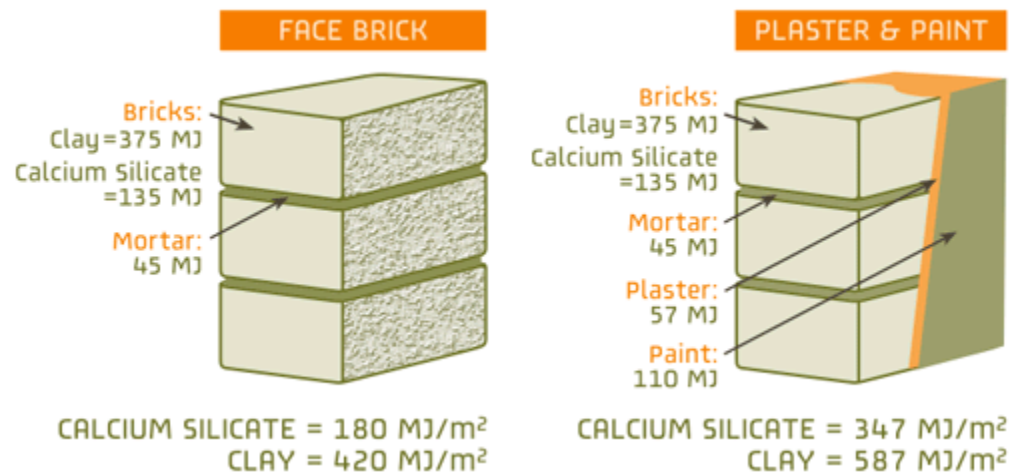
- Places a cultural value on a biological resource
- Generally, historic landscapes tend to be rich in biological resources while existing landscapes that are challenging to sustainability, such as mall parking lots, are not historic



What does preservation offer to sustainability as a field?

Building/Alteration:

- Places bonus on embodied energy – and extends its life beyond typical assumptions
- Encourages continuing use of resources which have already been extracted
- Historic buildings were originally low in energy intensity in many ways: no air-conditioning, low use of elevators for circulation. If renovated appropriately, they can continue to perform well
- Encourages reuse of much of the embodied energy/resources that would be lost in renovation of a non-historic building



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How can policies maximize preservation and sustainability?

Basic underpinnings – synergies:

- Both require study/ observation/documentation; clear policies; and consistent, transparent regulations and processes
- Both encourage growth through new technological processes and education, and maximizing intrinsically valuable outputs within finite inputs



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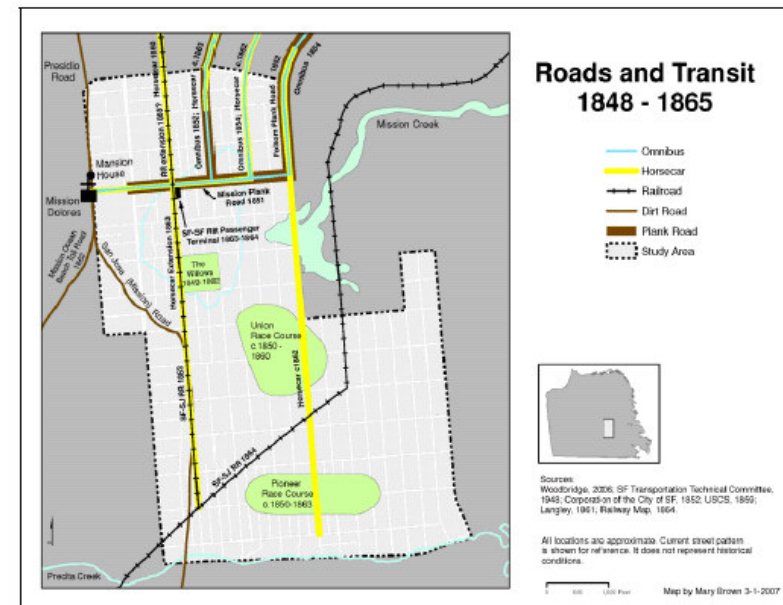
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How can policies maximize preservation and sustainability?

Major programs to create and develop:

- Document and understand historic urban patterns
- Conduct surveys, designate districts and landmarks
- Adopt preservation goals in general plans: place-making; urban patterns, neighborhoods, transportation & utility networks, districts-landscapes-buildings
- Demolition controls
- Review alterations of historic buildings and landscapes
- Review new construction in historic districts
- Adopt the 2030 Challenge with a preservation provision

CITY WITHIN A CITY: HISTORIC CONTEXT STATEMENT FOR SAN FRANCISCO'S MISSION DISTRICT



Mission District circulation during the American pioneer period.

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How can policies maximize preservation and sustainability?

Incentives:

- Mills Act – requires maintenance
- Promote preservation easements – non-profits enforce maintenance
- Designate districts to promote use of federal tax credits
- Zoning and permitting bonuses
- Local building codes can maximize use of historic buildings
- Adopt & publicize specific local solutions to encourage reinvestment



Match made in heaven? Or forced marriage?

Some basic differences do exist:

- Sustainability applies differently to existing and new buildings—
More difficult and expensive to change existing designs
Existing buildings don't easily fit the models for the new ones
- Preservation brings a changing perspective to a static world in comparison to sustainability which deals with a dynamic environment
- Preservation is less quantitative and more ad hoc



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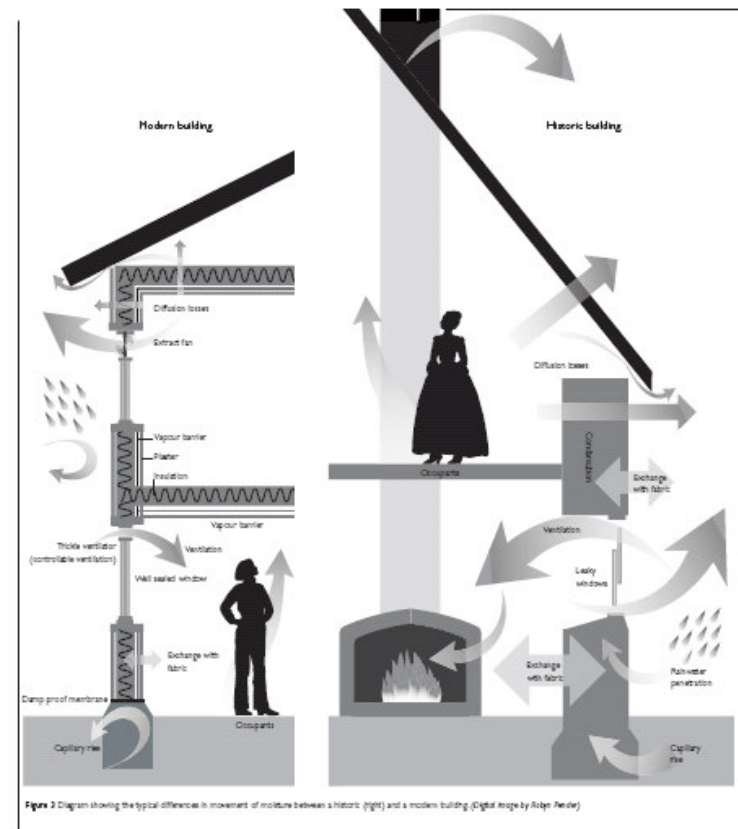
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Match made in heaven? Or forced marriage?

Accepted models for new projects can be problematic for historic buildings:

- Life cycle cost analysis reflects standardized expectations from recent decades. How long will a 1910 building that is being rehabilitated last?
- Mandatory measures for new buildings may not apply the same way to historic ones.
- Programmatic and user-behavior assumptions for new buildings may not be as appropriate for historic buildings.

Single-glazed	Double-glazed 12 mm gap	Double-glazed Low E	Secondary glazing	Single-glazed + curtains	Single-glazed + night shutters
U ~ 4.8	U ~ 2.8	U ~ 2.0	U ~ 2.9-3.4	U ~ 3.6 *	U ~ 3.0 *



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Preservation has accommodated other imperatives successfully:

- Seismic and structural upgrades
- Building code triggers: exiting, rating of construction assemblies, archaic materials
- Accessibility



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Match made in heaven? Or forced marriage?

Should preservation be more flexible to achieve sustainable environments?

- Allow reversible changes with are the sole means of achieving a goal?
- Allow irreversible alterations where a historic resource cannot feasibly be used otherwise, e.g. conversions of churches, theaters, armories, etc?
- Allow loss of orphan historic properties, e.g. a small building that is sole survivor of a significant complex, as long as redevelopment is sustainable?
- What about energy-intensive Modernist buildings?
- What principles should guide?



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