

RESEARCH

Open Access



Integrating historic preservation into a wider framework of urban development through comprehensive planning: an evaluation of local comprehensive plans in U.S. state capitals

Luchen Zhang, Yuexing Tang* and Yang Chen

Abstract

Historic preservation should be integrated into the broader framework of urban development. This makes preservation through local comprehensive planning a good option. However, few local comprehensive plans have demonstrated the content or quality needed to preserve or make effective use of historic resources. This study uses content analysis to evaluate the extent to which US state capitals have integrated historic preservation into local comprehensive plans. Multiple regression is then used to analyze the variables that affect the quality of those plans. The study reveals that historic preservation is integrated into local comprehensive plans to a moderate extent, which varies widely among U.S. state capitals. Indicators in the implementation component of these plans achieve a generally weak performance, as do indicators for the energy theme in urban development. The present study also shows that when preservationists are included among the plan authors and heritage committees are involved in the planning process, the plans are of higher quality. Finally, this study provides policy recommendations, based on these results, to guide planners, managers, decision makers, preservation advocates, and citizens toward more effective ways of integrating historic preservation into the comprehensive planning process.

Keywords: Historic preservation, Comprehensive plan, Plan evaluation, Integration capacity, U.S. state capitals

Introduction

Historic preservation is a conversation with our past about our future [1]. In the twenty-first century, driven by a combination of external and internal forces, heritage has been understood as not exclusively related to conservation. Instead, it has been integrated into patterns of urban development, helping to consolidate local characteristics and improve the human environment

[2, 3]. External forces include rapid urbanization, concerns about the sustainability of urban development, the impact of climate change, the changing role of cities, and tourism promotion. Internal forces comprise a broader understanding and appreciation of the concept of heritage [4]. Such views are reinforced through the adoption of the 2011 UNESCO Recommendation on the Historic Urban Landscape (HUL), which argues that historic-preservation strategies should consider all aspects of urban development and integrate them into the broader goals of overall sustainable urban development [5].

*Correspondence: tangyuexing@hit.edu.cn

School of Architecture, Harbin Institute of Technology, Key Laboratory of Cold Region Urban and Rural Human Settlement Environment Science and Technology, Ministry of Industry and Information Technology, No. 66, Xidazhi Street, Harbin 150001, China

Planning is a key tool used for historic preservation in the United States and worldwide [5, 6]. However, stand-alone preservation plans are often unable to integrate historic preservation into the broader urban-development framework. Comprehensive planning, as a holistic spatial-development policy instrument designed to establish common goals, offers the opportunity to reduce potential conflicts, build trust, find "win-win" solutions, and achieve multiple historic-preservation goals in a broader urban context. In addition, U.S. planners and managers are increasingly aware that, while the federal and state governments continue to generate abundant laws, standards, guidelines, and tax codes to support historic preservation [7, 8], some of the most powerful tools for managing historic resources remain in local-government hands. Without a local comprehensive planning approach, historic preservation has a limited impact.

This article focuses on the integration of historic preservation into local-level comprehensive planning, which can foster more effective management of historic resources. Previous research results illustrate this point [9]. In the field of planning, historic preservation has been recognized as a powerful and integral planning tool for local comprehensive planning [6]. In the American Planning Association's Sustaining Places Initiative, historic preservation has become a strategy in comprehensive plans [10, 11]. Although the existing planning literature tends to focus on the broad principles governing the intersection between historic preservation and city-planning practices [6], the U.S. State Historic Preservation Offices (SHPOs) carried out two national surveys in 2002 and 2005. They sent emails to public officials in all 50 states, asking the following questions: "Does your state legislation mandate a historic preservation element in local comprehensive plans?" and "[Do] local planners comply with these legislative mandates?" A few states had a mandated historic-preservation component in their local comprehensive plans; these respondents indicated that the approach produced minimal compliance [12]. Through a case study involving the city of Portland, Redaelli [9] has used a bottom-up approach to analyze how a comprehensive plan can include preservation. However, the extent to which historic preservation is integrated into local comprehensive planning remains unknown. More detailed top-down guidance is needed to integrate heritage preservation into comprehensive plans.

It is difficult to judge whether contemporary efforts to integrate historic preservation into comprehensive planning will be successful because these effects can only be measured at a future time. However, we can evaluate the plans themselves, in accordance with principles of good practice, instead of the generation process and implementation

results. This approach offers a valuable opportunity to learn ways to improve such plans and thus guide future processes [13]. Such evaluations are extensive in comprehensive planning, as in other areas of planning [14].

This paper proposes three research questions, designed to provide important insights into how historic resources can be strategically managed in the future. The research questions are as follows:

1. How well do the local comprehensive plans of U.S. state capitals incorporate the element of historic preservation?
2. Do local comprehensive plans vary in quality? If so, which variables relate to plan quality?
3. How can we promote the integration of historic preservation into a wider framework of urban development through local comprehensive planning?

Materials and methods

Conceptual framework

Based on the introduction above, a research conceptual framework is summarized and illustrated in Fig. 1. This study focuses on comprehensive-plan content, examining the incorporation of historic-preservation practices into local comprehensive plans. The planning-content framework is based on a series of plan-evaluation research studies, carried out over the past two decades [13–15]. Although arguments about distinct dimensions and replicated items persist [14, 16], we can conceptualize the plan-content framework as encompassing the following five components: a factual foundation; goals; inter-organizational coordination; policies, tools, and strategies; and implementation. Finally, we propose planning recommendations to integrate historic preservation and improve comprehensive plan processes and plan implementation. The following sections explain the five components of the plan-content framework. Appendix A shows the indicators for each component of the plan.

Factual basis

The organizational framework and gathered data provide a factual foundation for the general plan, with its goals and strategies. To construct a factual foundation for historic-preservation planning, one must collect and assemble existing information about the historical context, conditions within historic preservation, and potential threats to historic resources [8, 17]. Establishing a historical context provides the foundation for identifying, evaluating, registering, and handling historic properties [18]. The identification of preservation conditions and threats will support the best preservation-strategy options.



Indicators within the factual foundation are grouped into three categories. First, the historical context organizes information based on the relevant theme, geographical limits, and chronological period [19]. This category includes indicators such as historical evolution, sense of place, cultural character, and community archaeological context. Based on the information above, planners must also provide inventories and maps of historic resources, even documenting lost sites to ensure that other components of the plan are influenced by historic preservation. Second, the condition of historical preservation can reflect an understanding of historic-resource boundaries and planning functions. Planners need to adopt the right approach to understand the current status of a project and its major associated challenges. This approach can guide the planning process, following precedent. Third, a review of threats is the key to more effective historic preservation. The threat category includes inventories of historic resources under imminent threat, as well as encroaching development and potential natural hazards.

Goals

In comprehensive plans, goals can express civic values and exhibit the properties of community assets [20]. In comprehensive planning, a factual foundation is required to develop historic-preservation goals. The statement of goals is also an outline of the preservation strategies. Preservation goals can reflect public interest in the commemorative and practical value of historical resources. They should also consider tensions between historic preservation and other planning themes.

In a plan, reservation goals are not a vague commitment to historic preservation, but specific goals that

provide relevant detail. As the monumental values of historic resources reflect community values, the public's desire for preservation and intergenerational equity can be met by establishing related goals. The practical value of historic resources is also reflected in themes such as culture, education, inspiration, economy, and energy. For this reason, a legacy can help to achieve multiple objectives in a city. However, historic preservation can also create tension in relation to these themes; such conflicts should be spelled out in the statement of goals.

Inter-organizational coordination

Since preservation relates to multiple urban-development themes, it is likely to be the responsibility of multiple sectors. Collaboration is therefore needed to achieve the goal of jointly held historic resource management. Indicators within inter-organizational coordination include the identification of stakeholders and the choice of collaborative sectors and projects.

The main cooperating sectors include local preservation committees; national, state, and local agencies (e.g., National Park Service, Tribal Historic Preservation Offices, State Historic Preservation Office, and local public sector); non-profit organizations (e.g., National Trust for Historic Preservation, local non-governmental organizations for preservation); and advisory groups or landowners. Cooperating projects include historic-preservation programs (e.g., Federal Historic Preservation Tax Incentives Program, the National Register of Historic Places, and State Historic Preservation Programs) and other programs/plans, such as zoning, land use, and growth management.

Policies, tools, and strategies

Policies, tools, and strategies are direct actions that help to organize preservation activities. This component can provide specific methods, derived from factual aspects of historic properties, to ensure that the plan goals are achieved. Integrating historic-preservation policies into local comprehensive plans can strengthen political support and ensure consistency among the various local-government policies that affect a community's historic resources. The policies, tools, and strategies integrated into a comprehensive plan can be divided into five subgroups:

- 1) Regulations. Regulating historic preservation is the most direct legal approach to historic-resource management. Such policies typically require some standards and guidelines (e.g., the National Register of Historic Places, National Historic Landmarks, National Historic Preservation Act, and local historic guidelines). At the same time, historic-resource inventory information must be kept up-to-date.
- 2) Restrictions. Such policies generally restrict the location, type, and intensity of new development. All development, including neighborhoods, housing, transportation, drainage, and utilities, must identify the impact of any proposals on such resources. At the same time, local jurisdictions should adopt a demolition-review process for historic resources.
- (3) Development policies. These can achieve multiple objectives by incorporating historic preservation. Policies such as rehabilitation, heritage tourism, adaptive reuse, and downtown revitalization can directly benefit local development.
- 3) Incentives. Incentive-based policies, including tax abatement, funding, technical support, and awards, can provide support while encouraging property owners to protect critical historic resources.
- 4) Awareness and Education. The publicity and education associated with historic preservation can help inhabitants and tourists promote public understanding and appreciation of historic heritage. Information on historic preservation must be shared and preservation-program participation increased (documents, maps, the GIS layer of historic-resource information, and plans for managing historic resources).

Implementation

To ensure that historic preservation can be incorporated into comprehensive planning effectively, local authorities should establish a clear agenda, including all related parties and assign each task to a designated agency. In addition, historic preservation should be a component

of the comprehensive plan's monitoring and update processes, ensuring that historical content, resource goals, and policies can be redefined, based on new information obtained during the planning-implementation process. Finally, a specific timeframe, an explanation of costs and funding, and sanctions are important factors in the plan-implementation process.

Explaining variation in plan quality

In addition to measuring plan quality, this research aims to discover which variables are related to plan quality. Based on previous plan-quality and historic-preservation research, we have developed three conceptual models that may influence plan quality: capacity, demand, and planning process.

Capacity

Capacity is the resource that supports the planning process and the foundation created by a high-quality local plan [21]. Community income, education level, and the availability of legal and regulatory intervention can all affect plan-content quality. Both the basic survey of historic preservation and the entire process of comprehensive planning requires significant financial support [22, 23]. The integration of historic preservation into comprehensive planning also requires a bottom-up public-education level of heritage awareness [23–25]. Furthermore, clear law and regulatory requirements may bring higher quality historic preservation into planning [26–28]. Thus, we expect to find that places with more economic capacity, higher levels of educational attainment, and more relevant legislation in place have greater potential to produce high-quality comprehensive plans.

Demand

Demand is the degree to which the contextual characteristics of a place or its state of development require the integration of historic preservation into any future-development vision; it is the driving force behind the creation of high-quality plans. A community's local population, population density, demographic change, urban age, and quantity of heritage can all be intrinsic drivers of change, determining the quality of the local plan. A community's local population size is related to the public recognition of local places and changes in demand [29]. In addition, population density and change reflect a city's development status and changing trends. Cities experiencing rapid urbanization may need to address the higher demand for historic preservation [30, 31]. Both the age of the city and its diverse heritage are correlated with the richness of heritage resources; thus, places with more resources need to pay more attention to heritage protection [32, 33]. Comprehensive plans respond to

a public vision and address urban-development needs; thus, places associated with a heightened sense of place, more rapid urbanization, and more urban heritage resources need to produce higher quality plans.

Process

The final process model includes the authors of the plan— all those involved in the planning process (the external taskforce, preservation department/organization, and planning department/organization), as well as preservation-committee involvement and the age of the plan. The presence of authors from different backgrounds as stakeholders influence the plan content [6]. Preservation committees may provide additional opportunities for local governments by sharing lessons learned and promising practices with their planning-process peers [17, 34]. In addition, the year of plan publication has been found to influence the quality of local plans, possibly because those published later benefit from earlier planning efforts [34, 35]. The year in which a local plan is published also affects its quality, presumably because plans published later can build on and benefit from the lessons learned during earlier planning efforts. We expect to find that planning authors with a planning or preservation background, a high level of preservation-board involvement, and recent planning experience produce higher quality plans.

Study samples and data sources

This study uses U.S. state capitals as its study areas. We anticipate that comprehensive plans from all 50 states will reflect average levels across the U.S. Most capital cities have rich historical resources and lengthy state histories. They typically have a certain technical, legal, and financial capacity to develop and implement comprehensive plans. We have examined the comprehensive plans of 50 state capitals as study samples, ensuring that these samples are homogeneous and comparable.

A total of 48 comprehensive plans have been collected from the government websites of 50 state capitals. The

cities of Little Rock and Topeka do not have comprehensive plans (they use various stand-alone plans in place of a comprehensive plan). These two cities have therefore been excluded from the study. Appendix A describes these plans in detail. The plans usually remain viable for 20 years or more with updates every 3–5 years to reflect changing conditions. Every plan used in this study is the most recent version.

Data for each variable have been collected from government websites and plan texts. Data on population change (2010–2022), population density (2022), median household income (2020), native-born status, and education have been collected from the United States Census Bureau ([https:// data.census.gov](https://data.census.gov)). The legal foundation is coded “2” for states that adopt growth-management laws, and “1” for other states. Each city’s National Register of Historic Places (NRHP) number has been obtained from the National Register of Historic Places (<https://www.nps.gov/subjects/nationalregister/index.htm>). Data on city-age variable data have been obtained from Wikipedia. Three planning-process variables—plan age, preservationist/author, and preservation-committee participation in the planning process—are obtained from local government websites.

Coding protocol

A three-point coding protocol is used to evaluate the quality of the plans [15]. Each element is scored on a 0–2 scale. Table 1 shows how these elements are measured: “0” means that the element is not present in a plan; “1” means that the element is present but not fully discussed and “2” means that the element is fully discussed.

Based on the coding results, two statistical analyses (indicator breadth and indicator depth) are conducted to calculate each indicator’s performance. Indicator breadth measures how extensively an indicator is present in all plans. The normalization formula is:

$$IB_i = K_i/N \tag{1}$$

Table 1 Indicator measurements

Types	Scores of 0	Scores of 1	Scores of 2
Fact-related indicators	• Not described	• Vague description	• Full identification
Inventory/maps	• Not visualized/mapped	• Vague classification/information	• Classification/cataloging of historic resources
Goal-related indicators	• Not identified	• Vague identification	• Clear identification
Coordination/policy/implementation indicators	• Not identified/adopted	• Non-mandatory words may/prefer/encourage/suggest/should/intend/Considering adopting	• Mandatory words mandate/must/will/shall/already adopted

in which IB_i is the i th indicator's breadth score. K_i represents the number of the i th indicator addressed in all plans, and N is the number of plans in the sample ($N=48$).

Indicator depth measures how thoroughly and extensively an indicator is discussed in plans that address that indicator. The normalization formula is:

$$ID_i = M_i / K_i \tag{2}$$

in which ID_i is the i th indicator's depth score. K_i represents the number of i th indicators addressed in all plans, and M_i represents the number of i th indicators with a score of "2."

In addition, the overall measure of historic-preservation-plan quality is computed in three steps. First, the scores for all elements are totaled for each of the five components. Second, the total scores are then divided by the full score of each component. Finally, these scores are multiplied by 10 and placed on a 0–10 scale. The total plan-quality score is calculated by totaling each

component; the maximum score for each plan is 50. A higher total plan-quality score represents a stronger capacity to integrate historic preservation into a local comprehensive plan.

Reliability assessment

Before coding the plans within the sample, two coders were thoroughly trained in the coding instructions to ensure that they executed the coding procedure to the same standard. Each plan was then coded independently by the two trained coders, who discussed and reconciled all disagreements. Finally, uniform codes were produced. This study has used Krippendorff's alpha (α) to assess the reliability of the coding results; this is an effective way to examine intercoder reliability for plan-quality evaluation research [36]. Krippendorff's alpha (α) of the initial coding results fell within an appropriate range (>0.80), indicating that the results of the inter-coder assessment were relatively reliable.

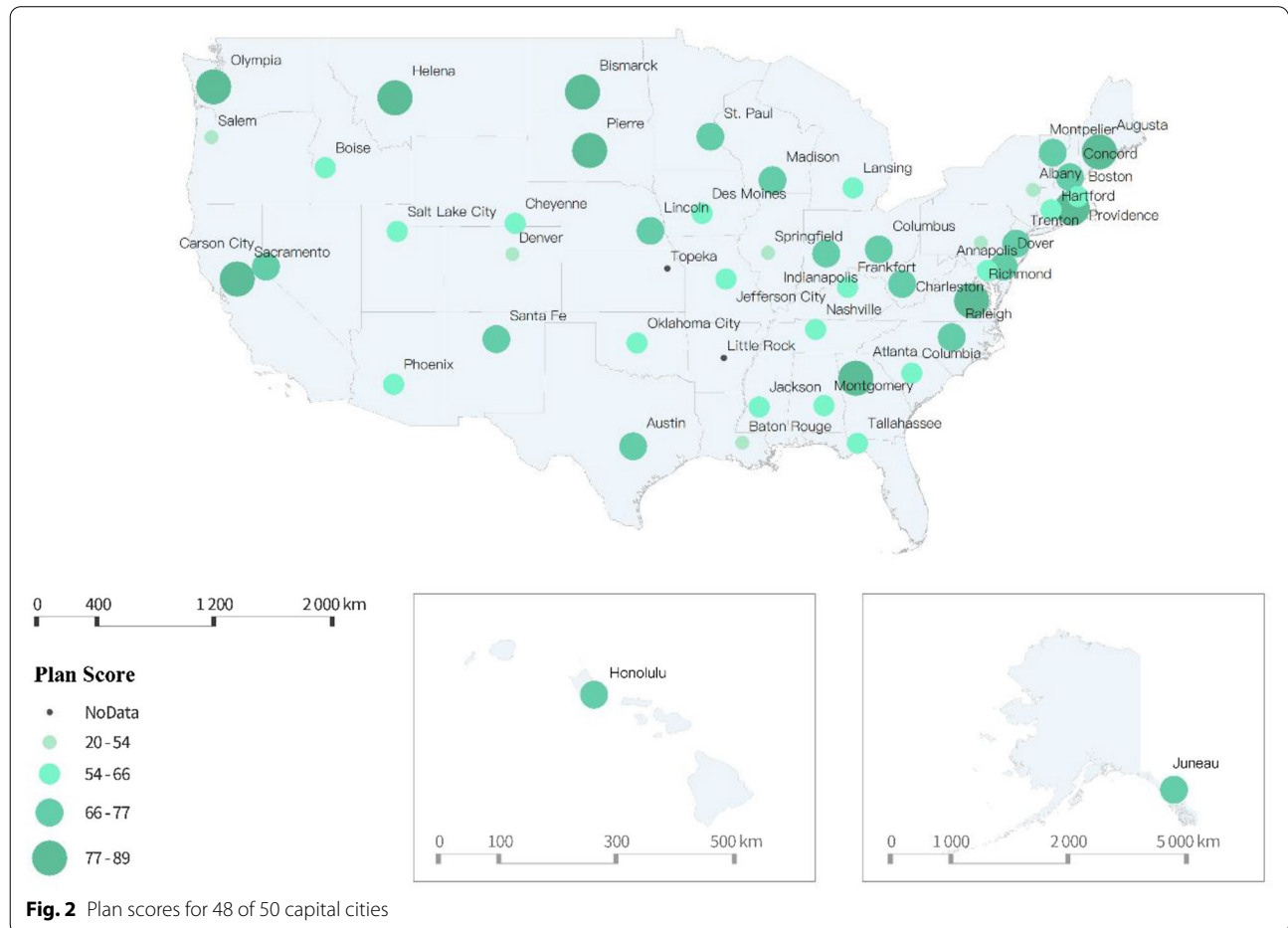


Fig. 2 Plan scores for 48 of 50 capital cities

Results

Overview of total performance

The results of this statistical phase provide an overview of the extent to which historic-preservation elements are integrated into local comprehensive plans. As Fig. 2 shows, 33 (69%) have total scores above 30 (on a scale of 0–50). The highest score is 43.08 and the lowest is only 9.83. These results reveal that the extent of each plan varies greatly among different cities.

Table 2 shows that the mean score for total-plan assessment is 32.08 (on a scale of 0–50). The plan component of interorganizational coordination and the component of policies, tools, and strategies are relatively high, averaging 7.51 and 7.40, respectively, on a scale of 0–10. The components of goals and the factual foundation achieve median scores, averaging 6.83 and 6.19, respectively on a scale of 0–10. However, the score for the implementation component is only 4.15.

Table 2 Scores of each plan component

Plan component	Mean
Factual basis	6.19
Goals	6.83
Inter-organizational coordination	7.51
Policies, tools, strategies	7.40
Implementation	4.15
Total	32.08

Mean score range: 0–10; Total score range: 0–50

Indicator performance

This section describes each indicator's performance in detail, providing a more detailed examination of the process of integrating historic preservation into local comprehensive plans in U.S. state capitals.

Table 3 shows the indicator performance of the factual base-plan component. All state plans described the history of community development and almost all did so thoroughly (100% breadth, 90% depth). Some indicators appear in most plans, but receive only median treatment; these include the cultural character of a community (100% breadth, 60% depth) a community's sense of place (85% breadth, 76% depth), mapping a protection zone (98% breadth, 77% depth), inventory/ maps of historic resources (92% breadth, 64% depth) and potential natural hazards (83% breadth, 58% depth). Although most plans describe current the historic-preservation status and major challenges (90%), only 26% do so thoroughly. The types of attributes for which the plans define historic resources are similar (88% breadth, 45% depth). Indicators of archaeological context are addressed to a moderate level. However, the indicators of lost sites, information on encroaching development, and inventoried historic resources under imminent threat are rarely and minimally addressed.

The scoring details for the goal-plan component are described in Table 4. All indicators in this component are present in most plans, apart from energy-related indicators (60% and 56%) and priorities (67%), which receive median scores. Only two indicators—the goal

Table 3 Indicator performance for the factual base-plan component

Categories	Indicator	Breadth	Depth
Historical context	1.1 Describes the historical evolution of the community	1.00	0.90
	1.2 Defines the community's sense of place	0.85	0.76
	1.3 Identifies the cultural character of the community	1.00	0.60
	1.4 Describes the community's archaeological context	0.63	0.60
	1.5 Provides inventory/ maps of historic resources	0.92	0.64
	1.6 Documents lost sites	0.54	0.15
Historic preservation condition	2.1 Maps protection zones	0.98	0.77
	2.2 Describes the current historic-preservation status and major challenges	0.90	0.26
	2.3 Defines historic-resource property types	0.88	0.45
Review of Threats	3.1 Inventories historic resources under imminent threat	0.65	0.39
	3.2 Provides information on encroaching development	0.38	0.06
	3.3 Identifies potential natural hazards	0.83	0.58

Table 4 Indicator performance for the goal-plan component

Categories	Indicator	Breadth	Depth
Goals reflecting commemorative value	1.1 Goal of protecting the integrity of historic resources	1.00	0.90
	1.2 Goal of protecting the authenticity of historic resources	1.00	0.96
	1.3 Goal of maintaining the cultural continuity of historic resources	1.00	0.65
	1.4 Goal of protecting cultural diversity	0.92	0.57
Goals reflecting practical value	2.1 To achieve economic objectives by incorporating historic preservation	0.85	0.37
	2.2 To maintain the community's sense of place	0.92	0.64
	2.3 Quality education via the celebration of unique historic resources	0.92	0.32
	2.4 To improve energy benefits through historic preservation	0.60	0.52
Goals easing the tension between historic preservation and other themes	3.1 To reduce the conflict between alternative energy production and historic preservation	0.56	0.19
	3.2 To balance overall sprawl and lower density development through historic preservation	0.90	0.44
	3.3 To reduce the conflict between urban renewal and historic preservation	0.96	0.72
	3.4 To establish historic-preservation priorities	0.67	0.59

Table 5 Indicator performance for the inter-organizational coordination-plan component

Indicator	Breadth	Depth
1.1 Identify stakeholders and their interests	0.73	0.51
1.2 Joint historic-preservation program	1.00	0.77
1.3 Coordinate with non-profit organizations	0.79	0.47
1.4 Incorporate historic-preservation efforts with other programs/plans (zoning, land use, and growth management)	0.98	0.89
1.5 Coordinate with the local preservation committee, nation/ state/ local agencies	0.98	0.91
1.6 Coordination with advisory groups (Advisory Council on Historic Preservation)	0.67	0.34
1.7 Coordination with land owners	0.96	0.63
1.8 Commitment of financial resources	0.98	0.83

Table 6 Indicator performance for the policy-, tool-, and strategy-plan component

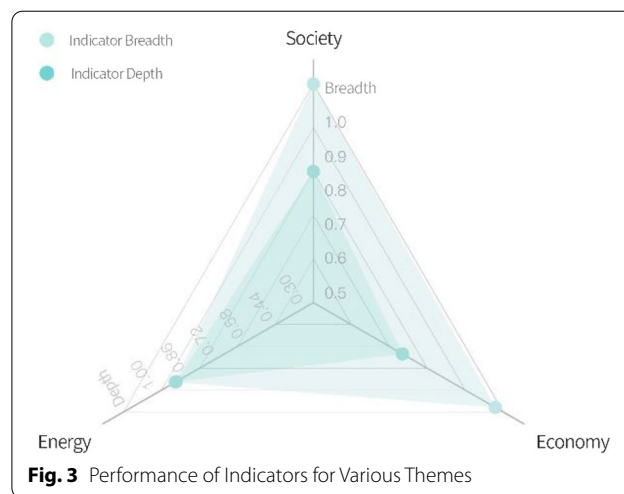
Categories	Indicator	Breadth	Depth
Regulations	1.1 Develops local regulations/ standards/guidelines for historic preservation	0.98	0.85
	1.2 Maintains updated information on an inventory of historical resources through re-surveying and re-identifying	0.94	0.64
Restrictions	2.1 Adopts a demolition-review process for historic resources	0.94	0.69
	2.2 Minimizes the impacts of development on historical resources	0.98	0.70
Developments	3.1 Promotes the rehabilitation, restoration, and expansion of deteriorating historical structures	0.98	0.94
	3.2 Develops local heritage-tourism programs	0.96	0.57
	3.3 Promotes the adaptive reuse of historical resources	0.98	0.72
	3.4 Revitalizes the downtown through historic resources	0.88	0.36
Incentives	4.1 Adopts a tax-abatement program	0.92	0.66
	4.2 Recognizes historical-preservation-award winners	0.10	0.60
	4.3 Offers funding and technical support for historical preservation	0.98	0.74
Awareness and Education	5.1 Develops publications/media/presentations/information sharing	0.98	0.40
	5.2 Promotes historical preservation through public outreach and education programs	0.96	0.67

of protecting the integrity of historic resources (90%) and the goal of protecting the authenticity of historic resources (96%) are addressed in depth. Most of the others receive average or poor depth scores.

Table 5 presents the indicator performance for the inter-organizational coordination-plan component. Three indicators in the coordination component are addressed pervasively and thoroughly: incorporating historic-preservation efforts into other programs (98% breadth, 89% depth), coordinating with the local preservation committee, nation/ state/ local agencies (98% breadth, 91% depth), and committing financial resource (98% breadth, 83% depth). The indicators for the joint historic-preservation program (100% breadth, 77% depth) and coordination with land owners (96% breadth, 63% depth) are addressed universally but moderately. Otherwise, the other three indicators show moderate performance in the breadth scores and moderate or worse performance in the depth scores.

Indicator performance for the policy-, tool-, and strategy-plan components is described in detail in Table 6. In terms of the breadth performance of the indicators, almost all received high scores; only the indicator related to preservation-award winners received a low score (10%). However, the depth scores of the 13 indicators varied widely in terms of policy, tools, and strategy (36%–94%). The indicators for developing local regulations/standards/guidelines for historical preservation (85%) and promoting the rehabilitation/restoration/expansion of deteriorating historic structures (94%) are addressed thoroughly. The depth scores for revitalizing downtown areas (36%) and publications/media/presentation/information-sharing indicators (40%) are low. The other indicators in this component are addressed to a moderate extent.

Table 7 presents the indicator performance of the implementation-plan component. The two indicators for monitoring (96% breadth, 48% depth) and sanctions (88% breadth, 55% depth) appear in most plans but are treated at an average or even poor depth. The responsibility-determination indicator scores have an average breadth and poor depth (71% breadth, 35% depth).



However, the indicators for timeframe (21% breadth, 30% depth) and costs and funding (15% breadth, 0% depth) are addressed rarely and minimally.

In addition, all factors are categorized by urban-development themes and their average scores are calculated. The results show higher breadth scores for social and economic themes and lower scores for the energy theme. In terms of depth, however, the energy theme scores higher than the other two themes (Fig. 3).

Multivariate analysis of plan quality

Table 8 shows the correlations among plan scores and variables. Among the capacity and demand variables, only the legal basis is statistically significant, with factual foundation scores ($r=0.374$); although other variables show either positive or negative relationships with plan scores, these relationships cannot stand at a statistically significant level (as $p < 0.05$). For process variables, author ($r=0.586$) and preservation committee ($r=0.679$) showed a clear positive correlation with cores for the total plan score (as $p < 0.01$). In addition, the two variables above show positive correlations with all five components of the plan (as $p < 0.01$).

Table 7 Indicator performance for the implementation-plan component

Indicator	Breadth	Depth
1.1 Details the responsibilities of the designated coordination agency	0.71	0.35
1.2 Specifies timeframe	0.21	0.30
1.3 Explains costs and funding	0.15	0.00
1.4 Monitors and updates the mechanism and development continuum of the comprehensive plan	0.96	0.48
1.5 Provides sanctions	0.88	0.55

Table 8 Results of the multivariate analysis of plan quality

Variable	Plan total	Factual basis	Goals	Coordination	Policies, tools, strategies	Implementation
Capacity						
Income	0.075	0.152	0.110	0.055	0.150	-0.133
Education	-0.014	0.021	0.12	-0.043	0.01	-0.13
Legal basis	0.214	0.290*	0.097	0.131	0.272	0.089
Demand						
Native born	0.023	0.024	-0.005	-0.034	0.123	0.000
Pop., density	0.028	-0.014	0.079	0.040	0.043	-0.025
Pop., change	-0.088	-0.032	-0.161	0.086	-0.062	-0.191
City age	0.032	0.008	0.017	0.043	0.013	0.040
Number of NRHPs	0.046	-0.057	-0.045	0.166	0.061	0.030
Process						
Plan age	0.033	-0.08	0.005	0.064	0.205	-0.077
Authors	0.586**	0.336*	0.370**	0.639**	0.505**	0.452**
Preservation committee	0.679**	0.602**	0.298*	0.705**	0.429**	0.607**

M Means, SD Standard Deviations, **Significant at $p < .001$ level (2-tailed), *Significant at $p < .005$ level (2-tailed)

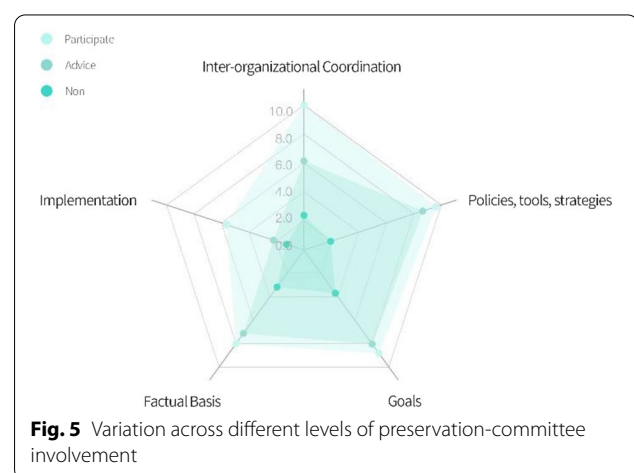
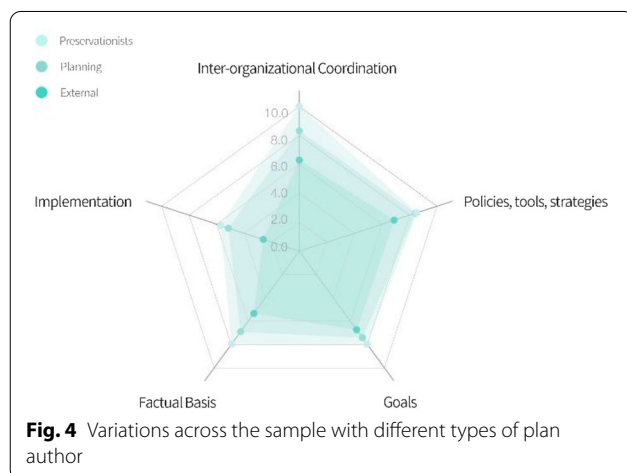


Figure 4 shows the scores of the five plan components, based on the different types of planning authors. A plan in which the planning author is involved through a preservation department/organization performs better in each of the five components than a plan in which the author is just a planning department/organization. It performs even better than a plan developed by an external taskforce. Figure 5 shows the scores for the five components of the plan, based on different levels of preservation-committee involvement in the plan. A plan that involves a preservation committee scores

higher than a plan that only consults the preservation committee on the five plan components. It scores even higher than a plan that does not involve the preservation committee at all.

Discussion

How well do the local comprehensive plans of U.S. state capitals integrate the historic-preservation element?

The results above indicate a reasonable correspondence between historic preservation and the

local-comprehensive planning system. This result supports the hypothesis that historic preservation is a tool for local-comprehensive planning [10, 11]. Historic-preservation elements are integrated into local comprehensive plans at a median level (mean: 32.08 on a scale of 0–50). This is better than the phenomena described in previous studies [12]. In addition, the results obtained by examining plan content are better than those of the two national SHPO surveys (2002 and 2005).

For the five plan components, the factual foundation (mean: 6.19 on a scale of 0–10), goals (mean: 6.83), coordination (mean: 7.51) and policies (mean: 7.40) fall in the acceptable median range, while implementation shows a clear weakness (mean: 4.15). This indicates, to some extent, that finding an effective implementation mechanism for historic preservation remains a planning challenge.

The present study also identifies some distinctive results in the performance of the indicators. First, historic resources are considered in all 48 samples; however, the indicators for documenting lost sites and providing information about encroaching development on a factual foundation are weak. Interpretations of this phenomenon suggest that the breadth and depth of knowledge about historic resources are far from adequate during the planning process. The other reading is that preservation surveys are enormously time-consuming, expensive, and complicated. For example, in 2006, the City of Los Angeles launched SurveyLA, a massive citywide historic-resources survey. This program was completed in 2016, thanks to a \$2.5 million grant from the Getty Foundation [37]. When local governments implement preservation programs, they always cause hardships and are vastly underfunded. Under these circumstances, local jurisdictions tend to focus on NRHP. Frequently, they do not consider all potential community landmarks or lost sites. Such missing designations make it difficult to protect potential property with authority and legitimacy. The weaker identification of potential historic resources is partially consistent with Ryberg-Webster's [38] findings. Second, in the goals and coordination component, most indicators for reconciling historic preservation with other themes are not addressed in depth. This indicates that most plans do not adopt mandatory coordination mechanisms. This result is generally consistent with Mualam and Alterman's [39, 40] finding that an intricate web of interests exists in preservation disputes, while the coordination mechanism is weak. Finally, the weak performance of the preservation-award-winners indicator in the policy component and the costs and funding indicator in the implementation component shows that

the means of historic preservation are not sufficiently diversified and lack sufficient financial support. This view is consistent with Robert and Tyler's [12] findings in a study of Michigan community historic-preservation plans. In addition, we have tallied the scores of the social, economic, and energy-related indicators, showing that the energy-related indicators had relatively poor breadth scores, but higher depth scores. This means that the energy theme in the comprehensive plan focused less on historic preservation, but was more in-depth when considered under this theme. Eleven cities detailed the positive effects of heritage conservation on energy savings (Springfield, Frankfort, Annapolis, Lansing, St. Paul, Albany, Raleigh, Harrisburg, Montpelier, and Charleston). As advocated in Raleigh's comprehensive plan, the greenest buildings are those that are already built. When comprehensive plans do not include historic preservation in their energy themes, the reason may be a lack of reasonable metrics for historic preservation and energy conservation [41]. From a supporting-policy perspective, the NHPA policy rationale includes energy efficiency, but energy consumption is not considered an important indicator of heritage registration. The weak link between energy and historic preservation has also been suggested by Avrami [42].

Do local comprehensive plans vary in quality? If so, which variables are related to plan quality?

The results indicate that plan performance varies greatly among different cities. These results are consistent with the findings in national SHPO surveys [12]. In the present study, the local comprehensive plans of states that adopted growth-management laws scored higher on the factual-basis component. These laws call for preservation plans to be included or at least considered in comprehensive planning [34]. In addition, there is a clear correlation between planning-author and preservation-committee participation in the planning process and plan quality. This phenomenon shows that more direct involvement from historic-preservation stakeholders in the planning process may improve the quality of the plan. The other variables in the study do not statistically correlate with plan quality. We have also tried to evaluate previous versions of the comprehensive plans of two cities (Honolulu and Richmond); their planning scores improved by 23 and 21 points, respectively, compared to the current versions. We speculate that plan quality may reflect the different eras in which plans were produced. In addition, plan quality may be affected by other contributing factors or by more complex joint factors. Further research is needed to address this question.

How can we ensure that historic preservation is incorporated into local comprehensive planning systems?

The policy recommendations below can help to update future local comprehensive plans.

Our first recommendation is to provide a legal basis for integrating historic preservation into comprehensive plans. There are more than 28 federal laws and sections of laws pertaining to the preservation of U.S. cultural heritage. Congress enacted Title 54 of the United States Code in 2014 to integrate federal historic-preservation laws [18]. However, there is still insufficient political support for integrating historic preservation into comprehensive plans. The main reason for this lack of policy is that legislators and policymakers still address historic preservation from a narrow perspective. Awareness of preservation values must be increased at all levels of government.

The second recommendation is to incorporate historic-preservation specialists into comprehensive planning teams. We have found that involving preservationists in the planning process can significantly improve the quality of comprehensive plans. We have also found a lack of thoroughness in the understanding of historic resources in the comprehensive planning process. Specifically, historic-resource inventories are the primary preservation vehicle, serving as gatekeepers for other preservation tools. We are not convinced that planners without preservation training are the right people to conduct preservation resource surveys or to unearth facts related to preservation conditions.

Third, to ensure that the comprehensive plan is sustainable, planners should coordinate historic preservation across multiple systems. This study shows that planning collaboratively with heritage-preservation committees can effectively improve plan quality. Planners can use participatory planning and stakeholder consultations to reduce existing and potential conflicts and find “win-win” solutions to achieve multiple objectives. In addition, there is vast agreement within the preservation field that research processes, surveys, and the completion of necessary documents for local or National Register listings are so expensive and complicated that the field is vastly underfunded. Given the limited funds and resources available at local levels, we recommend that localities seek out opportunities to coordinate or collaborate with the state, federal agencies, or non-governmental agencies to deal with such complex issues.

The last important recommendation is to increase historic preservation across multiple systems by using more advanced emerging approaches. The present study

reveals low scores for the implementation-component indicator. This may be partly due to local planners not understanding clearly how preservation can work within the wider urban-development framework. We advise local planners to incorporate an advanced approach (such as Historic Urban Landscape, HUL) into their future planning processes. HUL is a landscape approach through which the management of historic resources can be considered within the wider goals of sustainable urban development [5]. Relatively effective implementation mechanisms (including the division of responsibilities, funding, and timeframe) have been developed in HUL pilot cities, such as Cuenca and Ballarat [43]. The HUL approach can inspire increasing toolkit diversity. These tools can be used to facilitate social participation.

Conclusions

This study makes it easier to integrate historic preservation effectively within the wider framework of urban development via local comprehensive plans. Specifically, it provides a conceptual framework that authors can use to advise local jurisdictions and integrate historic preservation into local comprehensive plans. This conceptual framework is used to evaluate the gaps in current plans. The evaluation can reveal specific weak points that may limit the effectiveness of these plans, determining how they can be improved from the bottom up.

This study does not attempt to answer the question “why should preservation be a part of a comprehensive plan?” or “how can local capacity be enhanced to manage historic resources?” Many scholars argue that historic resource management and urban development can benefit from stronger alliances. The present study attempts to answer the question, “how can we create a more effective partnership between urban development and historic resource management by evaluating the extent to which the historic-preservation element is integrated into local comprehensive planning in U.S. state capitals?” However, this study examines local comprehensive plans without considering the planning process or the actual outcomes of those plans. The evaluation method used here is document-based, rather than practice-based. In future research, we will conduct a questionnaire survey with practice-based indicators to understand the actual applications of city-level historic preservation.

Appendix A

See Table 9.

Table 9 Indicators for each component of the plan

Indicator	Factual base	Historical context	1.01 Describes history of community
			1.02 Defines communities' sense of place
			1.03 Identifies culture character of community
			1.04 Describes archaeological context of community
			1.05 Provides inventory/ maps of historic resources
			1.06 Documents the lost sites
		Historic preservation condition facts	1.07 Mapping protection zones
			1.08 Describes current historic preservation status and major challenges
			1.09 Defines property types of historic resources
		Review of Threats	1.10 Inventories historical resources under imminent threat
			1.11 Provides information of encroaching development
			1.12 Identifies potential natural hazards
Goals	Goals reflecting commemorative value	2.01 Goal to protect integrity of historic resources	
		2.02 Goal to protect authenticity of historic resources	
		2.03 Goal to maintain cultural continuity of historic resources	
		2.04 Goal to protect cultural diversity	
	Goals reflecting practical value	2.05 Achieve economic objective through incorporating historical preservation	
		2.06 Maintain communities' sense of place	
		2.07 Quality education from celebrating unique historic resources	
		2.08 Improve energy benefits through historical preservation	
	Goals easing the tension between historic preservation and other themes	2.09 Reduce conflict between alternative energy production and historic preservation	
		2.10 Balance overall lower density development and sprawl with historic preservation	
		2.11 Reduce conflict between urban renewal and historic preservation	
		2.12 Establish priorities for historic preservation	
Inter-organizational Coordination	Inter-organizational Coordination	3.01 Identify stakeholders and their interests	
		3.02 Joint historic preservation program	

Table 9 (continued)

		3.03 Coordination with non-profit organizations
		3.04 Incorporating historic preservation efforts with other programs /plans (Zoning, Land Use, and Growth Management)
		3.05 Coordination with local preservation committee, nation/ state/ local agencies
		3.06 Coordination with advisor groups (Advisory Council on Historic Preservation)
		3.07 Coordination with land owners
		3.08 Commitment of financial resources
Policies, tools, strategies	Regulations	4.01 Develop local regulations/ standards/ guidelines for historic preservation
		4.02 Maintains updated information on inventory of historic resources through re-surveying and re-identifying
	Restrictions	4.03 Adopts a demolition review process for historic resources
		4.04 Minimizes the impacts of development on historic resources
	Developments	4.05 Promotes rehabilitation, restoration, and expansion of deteriorating historic structures
		4.06 Develops local heritage tourism programs
		4.07 Promotes historic resources adaptive reuse
		4.08 Revitalizes downtown through historic resources
	Incentives	4.09 Adopts tax abatement program
		4.10 Recognizes historic preservation award winners
		4.11 Offers funding and technical support for historic preservation
	Awareness and Education	4.12 Develops publications /media /presentations /information sharing (Document, Maps and GIS layer of historic resource information/ management plans for the historic resources)
		4.13 Promotes historical preservation through public outreach and education programs
Implementation	Implementation	5.01 Responsibilities of designated coordination agency
		5.02 Specifies time frame
		5.03 Explanation of costs and funding
		5.04 Joins comprehensive plan's monitoring and updating mechanism and development continuum
		5.05 Provision of sanctions

Appendix B

See Table 10.

Table 10 List of the capital-city comprehensive plans

Index	State	City	Last revised	Time periods	Maker	Plan name
1	Alabama	Montgomery	2020	2020–2040	City of Montgomery Planning Department	Envision Montgomery 2040
2	Alaska	Juneau	2017	2013–2026	CBJ Community Development Department	Comprehensive Plan of the City and Borough of Juneau
3	Arizona	Phoenix	2015	2015–2025	PlanPHX Leadership Committee	PlanPHX 2015 General Plan
4	California	Sacramento	2015	2015–2035	Mayor and City Council/ Planning and Design Commission	Sacramento 2035 General Plan*
5	Colorado	Denver	2020	2020–2040	Community Planning and Development	COMPREHENSIVE PLAN 2040 DENVER'S PLAN FOR THE FUTURE
6	Connecticut	Hartford	2020	2020–2035	City of Hartford Planning and Zoning Commission	HARTFORD CITY PLAN
7	Delaware	Dover	2019	2018–2023	City of Dover Department of Planning	City of Dover, Delaware 2008 Comprehensive Plan
8	Florida	Tallahassee	2017	1990–2030	Planning Department	Tallahassee-Leon County 2030 Comprehensive Plan
9	Georgia	Atlanta	2021	2022–2026	Planning and Community Development Office of Zoning and Development	CITY OF ATLANTA 2021 COMPREHENSIVE DEVELOPMENT PLAN
10	Hawaii	Honolulu	2019	2020–2040	Department of General and Planning	General Plan 2040
11	Idaho	Boise	2017	2017–2031	Boise City Planning and Development Services Department	Blueprint Boise Boise's comprehensive plan
12	Illinois	Springfield	2017	2017–2037	Springfield-Sangamon County Regional Planning Commission	Comprehensive Plan City of Springfield, Illinois 2017–2037
13	Indiana	Indianapolis	2021	2022–2026	Metropolitan Development Commission	Comprehensive Plan for Indianapolis and Marion County*
14	Iowa	Des Moines	2016	2016–2035	City of Des Moines Community Development Department	City of Des Moines Comprehensive Plan
15	Kentucky	Frankfort	2016	2016–2020	Legislative and Planning Commission	Frankfort/Franklin County Comprehensive Plan Update 2016
16	Louisiana	Baton Rouge	2017	-20 years	Planning commission	Futurebr comprehensive plan*
17	Maine	Augusta	2008	/	Planning Bureau	City of Augusta 2007 Comprehensive Plan
18	Maryland	Annapolis	2009	2009–2019	Comprehensive Planning Division	Annapolis Comprehensive Plan
19	Massachusetts	Boston	2017	2017–2030	Mayor's Office	Imagine Boston 2030 A Plan for the Future of Boston
20	Michigan	Lansing	2012	/	Planning Office	Design Lansing 2012 comprehensive plan
21	Minnesota	St. Paul	2017	2017–2040	DEPARTMENT OF PLANNING & ECONOMIC DEVELOPMENT	2040 Saint Paul Comprehensive Plan*
22	Mississippi	Jackson	2004	/	Planning & Development	Jackson Comprehensive Plan
23	Missouri	Jefferson City	1996	/	Landform Urban Planning Services	Comprehensive Plan Update – City of Jefferson, Missouri
24	Montana	Helena	2011	/	Community Development Department: Planning Division	2011 Growth Policy*
25	Nebraska	Lincoln	2016	2016–2040	LPlan Advisory Committee	Lincoln/Lancaster County 2040 Comprehensive Plan
26	Nevada	Carson City	2006	/	Planning Division of Community Development	Carson City Master Plan
27	New Hampshire	Concord	2008	2008–2030	City Planning Board	Master Plan 2030 Concord, New Hampshire

Table 10 (continued)

Index	State	City	Last revised	Time periods	Maker	Plan name
28	New Jersey	Trenton	2017	/	Planning Board	Trenton250*
29	New Mexico	Santa Fe	2017	/	Long-Range Planning Divisions	City of Santa Fe Land Use & Urban Design Plan
30	New York	Albany	2012	2012–2030	Department of Planning and Development	ALBANY 2030 The City of Albany Comprehensive Plan
31	North Carolina	Raleigh	2022	2009–2030	City Planning	The 2030 Comprehensive Plan for the City of Raleigh*
32	North Dakota	Bismarck	2018	2014–2040	Bismarck Planning and Zoning Commission	City of Bismarck Growth Management Plan 2014
33	Ohio	Columbus	1993	-20 years	Planning Division	Columbus Comprehensive Plan
34	Oklahoma	Oklahoma City	2017	/	Planning commission	PlanOKC planning for a healthy future
35	Oregon	Salem	2017	/	PLANNING DIVISION	Salem Area Comprehensive Plan*
36	Pennsylvania	Harrisburg	2017	/	Bureau of planning	2017 Harrisburg, PA Comprehensive Plan
37	Rhode island	Providence	2014	-20 years	Department of Planning and Development	Providence tomorrow
38	South Carolina	Columbia	2008	2008–2018	Columbia planning department	The comprehensive plan for Columbia, South Carolina: 2008–2018
39	South Dakota	Pierre	2008	/	Planning commission	City of Pierre Comprehensive Plan*
40	Tennessee	Nashville	2017	2017–2040	Metro Planning Department	A General Plan for Nashville & Davidson County*
41	Texas	Austin	2016	/	Planning Commission	IMAGEAUSTIN comprehensive plan
42	Utah	Salt Lake City	2015	/	City Planning Division	Plan Salt Lake
43	Vermont	Montpelier	2010	/	Montpelier Planning Commission	Master Plan Montpelier, Vermont
44	Virginia	Richmond	2020	2040	City planning commission	Richmond 300: A Guide for Growth
45	Washington	Olympia	2014	/	Community Planning & Development	Imagine Olympia*
46	West Virginia	Charleston	2013	/	Planning	IMAGINE CHARLESTON comprehensive plan
47	Wisconsin	Madison	2018	/	Planning	Imagine Madison comprehensive plan
48	Wyoming	Cheyen	2014	/	Planning Commission	Cheyenne Area Master Plan Community Plan City of Cheyenne Version

* Although there is no complete Comprehensive-plan text to download, the text could be read online or downloaded separately

Acknowledgements

Not applicable.

Author contributions

Conceptualization: L.Z. and Y.T.; methodology, software, validation, formal analysis, investigation, resources, and writing—original draft preparation: L.Z.; data curation: L.Z. and Y.C.; writing—review and editing: L.Z. and Y.T.; visualization: Y.C.; supervision, project administration, and funding acquisition: Y.T. All authors have read and agreed to the published version of the manuscript. All authors read and approved the final manuscript.

Funding

This research was funded by the National Natural Science Foundation of China (No. 51908170), The National Social Science Fund of China (No. 18CZX067), and Heilongjiang Province Philosophy and Social Science Research Planning Project (No. 18SHC230).

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Competing interests

The authors declare that they have no competing interests.

Received: 4 July 2022 Accepted: 29 October 2022

Published online: 24 November 2022

References

1. National Park Service. What is Historic Preservation? 2017. <https://www.nps.gov/subjects/historicpreservation/what-is-historic-preservation.htm>. Accessed on Oct 9, 2021.
2. Ryberg-Webster S, Kinahan KL. Historic preservation and urban revitalization in the twenty-first century. *J Plan Lit.* 2014;29:119–39.
3. Alawadi K. Place attachment as a motivation for community preservation: the demise of an old, bustling Dubai community. *Urban Stud.* 2017;54(13):2973–97.

4. Bandarin F, Van Oers R. The historic urban landscape: managing heritage in an urban century. Hoboken: Wiley; 2012.
5. UNESCO. Recommendation on the historic urban landscape. 2011. <http://www.historicurbanlandscape.com/themes/196/userfiles/download/2014/3/31/3ptdwsom3eihfb.pdf>. Accessed on Oct 22, 2020.
6. Minner J. Revealing synergies, tensions, and silences between preservation and planning. *J Am Plann Assoc*. 2016;82(2):72–87.
7. Filion P, Hoernig H, Bunting T, Sands G. The successful few: healthy downtowns of small metropolitan regions. *J Am Plann Assoc*. 2004;70(3):328–43.
8. National Park Service. Federal Preservation Laws. 2017. <https://www.nps.gov/subjects/historicpreservation/laws-intro.htm>. Accessed on Oct 9, 2021.
9. Redaelli E. Including preservation in planning: Albina and Portland's comprehensive plan. *J Am Plann Assoc*. 2021;87(2):266–81.
10. Godschalk DR, Anderson WR. Sustaining places: the role of the comprehensive plan (PAS 567). Chicago: American Planning Association, Planning Advisory Service; 2012.
11. Godschalk DR, Rouse DC. Sustaining places: best practices for comprehensive plans (PAS 578). Chicago: American Planning Association, Planning Advisory Service Press; 2015.
12. Robert, M. W.; Tyler, N. 2005. Integrating Historic Preservation Plans with Comprehensive Plans, Planning. 2005. <http://tylertopics.com/HPPnigPaper.pdf>. Accessed on Oct 22, 2020.
13. Berke P, Godschalk D. Searching for the good plan: a meta-analysis of plan quality studies. *J Plan Lit*. 2009;23(3):227–40.
14. Lyles W, Stevens M. Plan quality evaluation 1994–2012: growth and contributions, limitations, and new directions. *J Plan Educ Res*. 2014;34(4):433–50.
15. Tang Z, Lindell MK, Prater CS, Wei T, Hussey C. Examining local coastal zone management capacity in US Pacific coastal counties. *Coast Manage*. 2011;39(2):105–32.
16. Norton RK. Using content analysis to evaluate local master plans and zoning codes. *Land Use Policy*. 2008;25(3):432–54.
17. Mason R. Theoretical and practical arguments for values-centered preservation. *J Herit Steward*. 2006;3(2):21–6.
18. National Park Service. Preservation Planning Standards. 2020. https://www.nps.gov/articles/sec_stds_planning_standards.htm. Accessed on Oct 22, 2021.
19. National Park Service. Preservation Planning Guidelines. 2020. https://www.nps.gov/articles/sec_stds_planning_guidelines.htm. Accessed on Oct 22, 2021.
20. Kelly ED, Becker B. Community planning: an introduction to the comprehensive plan. Washington, DC: Island; 2000.
21. Conroy MM, Berke PR. What makes a good sustainable development plan? An analysis of factors that influence principles of sustainable development. *Environ Plan A*. 2004;36(8):1381–96.
22. Wang H-J, Lee H-Y. How government-funded projects have revitalized historic streetscapes—two cases in Taiwan. *Cities*. 2008;25(4):197–206. <https://doi.org/10.1016/j.cities.2008.04.007>.
23. Raposinho D, Mota LF. The challenging implementation of world heritage historic centres' preservation programmes: a comparative case-study analysis in Portugal. *Hist Environ: Policy Pract*. 2019;10(2):178–97. <https://doi.org/10.1080/17567505.2019.1577347>.
24. Roberts AR. Preservation without representation: making CLG programs vehicles for inclusive leadership, historic preservation, and engagement. *Societies*. 2020;10(3):60. <https://doi.org/10.3390/soc10030060>.
25. López-Fernández JA, Medina S, López MJ, García-Morís R. Perceptions of heritage among students of early childhood and primary education. *Sustainability*. 2021;13(19):10636. <https://doi.org/10.3390/su131910636>.
26. Ripp M, Eidenschink U, Milz C. Strategies, policies and tools for an integrated World Heritage management approach. *Facilities*. 2011;29(7/8):286–302. <https://doi.org/10.1108/02632771111130906>.
27. Fornet Gil P. Twenty-five years of transformations in the historic Center of Havana. *Facilities*. 2011;29(7/8):303–12. <https://doi.org/10.1108/02632771111130915>.
28. Young C. Understanding management in a World Heritage context: key current issues in Europe. *Hist Environ: Policy Pract*. 2016;7(2–3):189–201. <https://doi.org/10.1080/17567505.2016.1172782>.
29. Kaya AT. Evaluation of sense of place with respect to demographic changes. *Gazi University Journal of Science Part B: Art Humanities Design and Planning*. 2017;5(3):13–24. <https://dergipark.org.tr/tr/pub/gujbsb/issue/31326/288114>.
30. Zhang J, Wang G, Wang Y, Zhang J. Stakeholder perspectives on the preservation and development of lower grade historic buildings. *Int J Hist Archaeol*. 2019;24(3):502–16. <https://doi.org/10.1007/s10761-019-00518-7>.
31. Jiang J, Zhou T-C, Han Y-R, Ikebe K. Urban heritage conservation and modern urban development from the perspective of the historic urban landscape approach: a case study of Suzhou. *Land*. 2022;11(8):1251. <https://doi.org/10.3390/land11081251>.
32. Vigneron S. From local to world heritage: a comparative analysis. *Hist Environ: Policy Pract*. 2016;7(2–3):115–32. <https://doi.org/10.1080/17567505.2016.1172779>.
33. Willems WJH. The future of world heritage and the emergence of transnational heritage regimes. *Herit Soc*. 2014;7(2):105–20. <https://doi.org/10.1179/2159032x14z.00000000029>.
34. White, B. J.; Roddewig, R. J. Preparing a Historic Preservation Plan. Publisher: American Planning Association, Planning Advisory Service, Chicago, IL, 1994. [http://www.georgiahpc.org/Resources/Documents/Preparing%20a%20Historic%20Preservation%20Plan%20\(Part%201\).pdf](http://www.georgiahpc.org/Resources/Documents/Preparing%20a%20Historic%20Preservation%20Plan%20(Part%201).pdf). Accessed on Oct 22, 2021.
35. Lyles W, Berke P, Smith G. A comparison of local hazard mitigation plan quality in six states, USA. *Landsc Urban Plan*. 2014;122:89–99.
36. Stevens MR, Lyles W, Berke PR. Measuring and reporting intercoder reliability in plan quality evaluation research. *J Plan Educ Res*. 2014;34(1):77–93.
37. Bernstein K, Hansen J, SurveyLA. Linking historic resources surveys to local planning. *J Am Plann Assoc*. 2016;82(2):88–91.
38. Ryberg-Webster S. Heritage amid an urban crisis: historic preservation in Cleveland, Ohio's Slavic village neighborhood. *Cities*. 2016;58:10–25.
39. Mualam N, Alterman R. Looking into the 'black box' of heritage protection: analysis of conservation area disputes in London through the eyes of planning inspectors. *Int J Herit Stud*. 2017;24(6):599–618.
40. Mualam N, Alterman R. Architecture isn't everything: a multi-faceted conceptual framework for evaluating heritage protection policies and disputes. *Int J Cult Policy*. 2020;26(3):291–311.
41. City Planning of the city of Raleigh. The 2030 Comprehensive Plan for the City of Raleigh. 2022. <https://raleighnc.gov/services/zoning-planning-and-development/2030-comprehensive-plan>. Accessed on Feb 28, 2022.
42. Avrami E. Making historic preservation sustainable. *J Am Plann Assoc*. 2016;82(2):104–12.
43. Siguencia Avila ME, Rey Perez J. Heritage values protection, from the monument to the urban dimension. Case study: the historic centre of Santa Ana de los Ríos de Cuenca Ecuador. *The Hist Environ: Policy Pract*. 2016;7(2–3):164–76.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Submit your manuscript to a SpringerOpen® journal and benefit from:

- Convenient online submission
- Rigorous peer review
- Open access: articles freely available online
- High visibility within the field
- Retaining the copyright to your article

Submit your next manuscript at ► [springeropen.com](https://www.springeropen.com)