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## Built Heritage Aspect and Its Implications for Value-Based Urban Conservation in Historic Urban Precincts

### Aspekt dziedzictwa architektoniczno-urbanistycznego i jego implikacje oparte na wartościach ochrony zabytkowych obszarów miejskich

**Keywords:** built heritage, urban heritage, urban conservation, urban development, historic precinct, heritage value, value-based

**Słowa kluczowe:** dziedzictwo architektoniczno-urbanistyczne, dziedzictwo miejskie, rozwój urbanistyczny, obszar historyczny, wartościowanie zabytków

#### Introduction

In recent decades, there has been significant debate about heritage values among experts in professional practice, academia, and bureaucrats. This discussion pursues to accentuate the relevance of heritage to the communities, carry it forward to the next generation and create a shared thread of thought of how it is to be preserved and managed. The goal of value-based heritage conservation is to preserve the cultural significance of places, usually by striking a balance between the aesthetic, historical, scientific, spiritual, and social values of past, present, and future generations [Australia ICOMOS 1979, pp. 1–10]. The notion of the aesthetics of the place is not limited to the visual beauty of the individual physical entities. Instead, it is to be defined from the various other contributing parameters and their association within the overall built fabric that contributes towards the significance of the area. The paper discusses the various contributing criteria and their respective attributes that aid in understanding

the built heritage value beyond art and aesthetics. The study derives a theoretical framework from assessing or evaluating the built heritage aspect while undergoing an urban conservation project. The study focuses on comprehending the sensitivity achieved in urban development through conserving the built fabric.

#### Value-based urban conservation

The subjective value associated with an entity by an individual is the relative ascription of a certain quality to the entity because of its beneficial attributes imparting to that particular individual. These values are subjected to one's perspective and context, reflecting a particular dimension. The urban fabric is neutral until and unless human values are attributed either through an individual or as a collective base of individuals, hence raising the relative nature of value attribution and the basis of shared community values [Abdurahiman et al. 2022a, pp. 281–289]. These values result from the relationship of various determinant factors that play as

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drivers, such as the context's physical, social, cultural, environmental, and economic profile. Each dimension imparts a particular value to the overall built environment of the historic precinct. The shared value depends on the time, context, and dynamic interactions between humans and the built environment. Apart from the intrinsic values of materials and objects, some human-associated values and processes are not tangible entities; instead, they are social constructs that evolved from cultural interactions and are always on the verge of transformation [Feilden, Jokilehto 1998, pp. 1–137]. Primarily, these values serve as a tool to decide amongst the qualitative and quantitative aspects of entities objectively and comprehend the relative importance of a particular entity with another within a particular context and at a particular point of time during which the decision is taken. In the case of historic urban precincts, the urban context keeps transforming due to urban development. Values catalyze sensitive urban transformations within historic precincts [Abdurahiman, Kasthurba 2022b, pp. 19–30]. Values tend to fade away from human perception, hence demanding the need for periodic awareness and appreciation.

The physical, non-physical, and metaphysical entities of history are traditionally associated with the value of a place. These entities, in other words, reflect the place's history and heritage, thereby signifying its importance and relevance for conservation or preservation for future generations. The Burra charters serve to be the fundamental base for value-based conservation. It focuses on the significance of a place and the factors contributing to it. These factors are the values associated with the place, i.e., aesthetic, historical, scientific, spiritual, and social [Australia ICOMOS 1979, pp. 1–10]. The socio-cultural and economic values are identified as the symbolic representation of human interactions with the urban space at a particular time and context, thereby serving as a fundamental reason to conserve the character of the urban space [Abdurahiman et al. 2022c, pp. 235–246]. The complexity accompanied by the diversity of the urban structure often raises brows on interpreting the values. The urban area serves as a palimpsest, with its layers of heritage juxtaposed upon the built fabric, leading to the dilemma of deciding which values should be accentuated. The old versus the new is often a debate to define what the urban space reflects. Through critical comprehension of the values, coexistence of the old and the new is possible. The interactions between the social, cultural, economic and built values in an urban context determine the relative need for conservation of the urban precinct. All the values are to be seen as dynamic entities assimilated in an urban conservation process, making the process viable for future sensitive transformations.

### **Built heritage aspect in urban precincts**

Cultural values in urban precincts are often associated with the built fabric's aesthetic and artistic value, along

with the structures' age and narrative history. The built fabric facilitates easy appreciation of the cultural significance of the urban space, often associated with the collective memories of the resident communities. The built heritage aspect focuses on the historic urban elements that constitute the physical realm of the urban area and serves as the fundamental layer of historicity within the area. These physical entities of historic structures, either in isolation or as an ensemble of structures, define the primary fabric layer of any historic urban precinct. The built heritage aspect must be comprehended by maintaining the defining attributes to maintain the precinct's character. A set of twelve attributes that has a role in influencing the built heritage value and character has been extracted from expert opinion and literature review. These attributes can be broadly classified under three main criteria as influential sub-criteria, i.e., (i) authenticity and integrity, (ii) design aspects and standards, and (iii) conservation and management. The adaptability and sensitivity of an intervention in a historic urban precinct are determined by assessing the impact on the three criteria. All the criteria and their sub-criteria signify two aspects, i.e., the current state of the urban precinct and the future scope for urban interventions in terms of impact on the indicators. Each of the criteria has been further discussed in the paper. The paper is limited to the theoretical framework and role of the indicators; and not the methodological assessment framework. Fig 1 shows the framework of the built heritage aspect.

### **Authenticity and integrity**

To conserve the character of urban spaces, the built fabric's authenticity and integrity must not be compromised. Authenticity is the conveyance of the value of a heritage asset through the various attributes associated with it. Integrity measures the wholeness and intactness of the heritage asset and its attributes. The conditions of authenticity and integrity are met if the values associated with the asset are credibly expressed and maintained. The criteria have been derived and adapted from the Nara document of authenticity [ICOMOS 1994, pp. 1–6], i.e., form and design; scale and proportion; traditional materials and systems; detailing and craftsmanship; color and texture; use and functional compatibility. Critical appraisal of information regarding the characteristics of the built structure available on-site and from secondary sources is a requisite to assess the authenticity and integrity of the structure. Table 1 shows the identified sub-criteria that influences the authenticity and integrity of the built heritage.

### **Design quality and standards**

The character which built structures contribute to the urban precinct depends on the quality-enhancing design strategies applied within restrictive building standards and codes. The sub-criteria influencing the

### A1. Authenticity and integrity

Sub-criteria	Description/Attributes
A11. Architectural design	Ensuring the continuity in the architectural design language in the historic urban precinct by retaining/sensitively adapting to the traditional architectural design.
A12. Traditional materials and systems	Ensuring the continuity in using traditional material and indigenous construction systems and adopting them innovatively on the new structures.
A13. Craftsmanship and detailing	Ensuring the continuity in the architectural detailing and artistic craftsmanship on to the heritage structures and adopting it innovatively on the new structures.
A14. Use and functionality compatibility	Ensuring functional compatibility of the existing use, functions, or activities in the heritage structures; and the functional quality and response of the new intervention spaces with the existing fabric.

Table 1. Authenticity and Integrity attributes; original work.

### A2. Design quality and standards

Sub-criteria	Description/Attributes
A21. Climate-sensitive design	Ensuring the provision of climate-sensitive design interventions, adequate natural lighting and ventilation for the heritage structures, and new structures to enhance spatial user comfort.
A22. Design innovation	Ensuring additional design elements in the heritage buildings and new structures to adapt sensitively to the existing design details innovatively with new technology and material resources.
A23. Adherence to codes and bylaws	Ensuring the new structures abide by the local bylaws and form-based codes and at the same does not disrupt the existing built fabric (setbacks, projections, etc.). Ensuring the provision of adequate safety provisions to the built structures (old and new) in the historic urban precinct. The structures should be free from occupancy risks such as fire outbreaks and natural calamities (flood-resistant, earthquake-resistant).
A24. Barrier-free design	Ensuring the provision of barrier-free design sensitively into the heritage structures and the new structures and intervention in the historic urban precinct.

Table 2. Design Quality and Standards attributes; original work.

### A3. Conservation and management

Sub-criteria	Description/Attributes
A31. Heritage conservation	Provision of proposals or interventions to conserve dilapidated heritage structures in the historic urban precinct to extend the life span of the building. Adaptive reuse is a conservation intervention that ensures the structures are actively used.
A32. Structural stability	Assuring or providing measures for structural stability of heritage structures in the historic urban precinct to extend the life span.
A33. Periodic maintenance	Facilitation of periodic maintenance of heritage structures and new interventions in the historic urban precinct to ensure proper upkeep and longevity of the structures. Periodic maintenance can be responsible to the owner, organization, or general public—provision of a maintenance manual.
A34. Provision of incentives	Provision of incentives for upkeeping a heritage structure in the historic urban precinct. (Provision of a maintenance fund for a heritage structure to ensure its longevity; Endowment of TDR – Transfer of Development Rights to the owners/users of the heritage structures if the property has to be acquired by concerned bodies to ensure the preservation of the structure.

Table 3. Conservation and management attributes; original work.

design quality mainly focuses on additional qualitative strategies such as climate-sensitive design and innovative details bound to inevitable aspects such as building bylaws and universal barrier-free design. Table 2 shows the identified sub-criteria that influences the design quality and standards of the built heritage.

#### Conservation and management

To retain the character of the historic urban precinct, the physical fabric demands sensitive preservation with

constant upkeep and maintenance. Hence, the conservation and management of heritage structures significantly influence the built heritage aspect while dealing with the urban conservation of historic precincts. Table 3 shows the identified sub-criteria that influences the design quality and standards of the built heritage.

#### Methods and materials

The data collection and assimilation to determine the most influencing criteria and sub-criteria on the

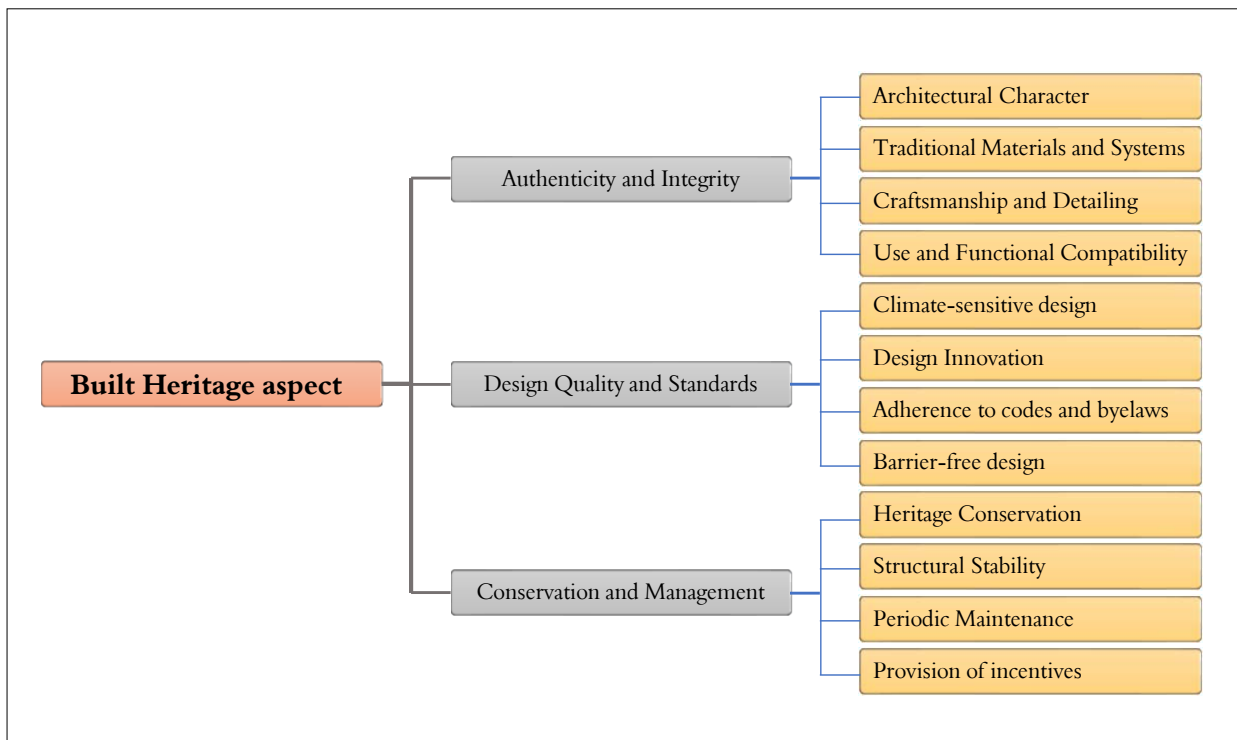


Fig 1. Built heritage aspect framework; by the authors.

built heritage aspect were done through a Delphi expert technique by getting the experts to respond to a pre-tested questionnaire survey. The Delphi technique is a practical approach to obtaining a reliable consensus from experts as it carries the weightage of a group opinion over an individual opinion [Dalkey, Helmer 1963, pp. 458–467; Parente et al. 1984, pp. 173–182; Skulmoski et al. 2007, pp. 1–21; Vernon 2009, pp. 69–76.; Linstone, Turoff 2011, pp. 1712–1719; Fink-Hafner et al. 2019, pp. 1–19]. The minimum number of participants/respondents for the Delphi panel to guarantee reasonable inputs and opinions is 25 to 30 [Dalkey 1969, pp. 408–426]. The target experts included professionals and academics from heritage conservation, architecture, urban design, urban planning, regional planning, city planning, and specialists in archaeology and history. The Delphi expert panel was selected through purposive sampling [Tongco 2007, pp. 147–158; Brady 2015, pp. 61–68; Rai, Thapa 2015, pp. 1–12; Etikan et al. 2016, pp. 1–4; Campbell et al. 2020, pp. 652–661]. The survey was limited to only one round to ensure maximum panel participation and avoid biases. The survey participants were kept unaware of the panel members and their respective comments to ensure anonymity.

A pilot survey was conducted based on the identified criteria from the literature. The results and comments from the pilot survey were collected and were used to formulate the final E-Delphi questionnaire survey via Google Forms [Chou 2002, pp. 233–236; Hong et al. 2019, pp. 49–59]. The Delphi questionnaire statements for each item, as described in Table 4, is based on the statements presented in Tables 1–3. The questionnaire

was designed so that the experts, based on their understanding and experience, could assign a level of importance for every item that influences the built-heritage aspect through a 7-point Likert scale [Likert 1932, pp. 44–53]. The 7-point scale was found to be fit by several authors [Symonds 1924, pp. 456–461; Miller 1956, pp. 81–97; Lewis 1993, pp. 383–392; Colman et al. 1997, pp. 355–362; Finstad 2010, pp. 323–327; Johns 2010, pp. 1–11]. The Delphi survey was designed and structured in way to prevent experts from skipping questions, thereby ensuring that no data was missing, hence yielding 100% response. The respondent frequency was measured using the frequency analysis technique.

The collected data was further analyzed using the Relative Importance Index (RII) method. The relative Importance Index technique (RII) determines the relative importance of the various influential criteria that determine a particular parameter [Dittrich et al. 2007, pp. 3–28]. The seven-point Likert scale ranging from 1 (extremely unimportant) to 7 (extremely important) is adopted and transformed to relative importance indices (RII) for each sub-criterion by using the equation below:

$$RII = \Sigma W / (A * N)$$

Where  $W$  is the weighting given to each sub-criterion by the experts (ranging from 1 to 7),  $A$  is the highest weight (i.e., 7 in this case), and  $N$  is the total number of respondents. The value of  $RII$  for each sub-criterion determines its importance in influencing the criteria. Table 5 shows the adapted 7-point Likert scale from 1 to 7 with its respective  $RII$  value range and their corresponding Importance level.

## A. Built heritage aspect

Criteria		
A1	Authenticity and integrity	What is the level of importance of the criteria "Authenticity and Integrity" in influencing the built heritage aspect in historic urban precincts?
A2	Design quality and standards	What is the level of importance of the criteria "Design Quality and Standards" in influencing the built heritage aspect in historic urban precincts?
A3	Conservation and management	What is the level of importance of the criteria "Conservation and Management" in influencing the built heritage aspect in historic urban precincts?
Sub-criteria		
<b>A1</b>	<b>Authenticity and integrity</b>	
A11	Architectural character	What is the level of importance of the sub-criteria "Architectural Character" in influencing the "Authenticity and Integrity" associated with the built heritage?
A12	Traditional materials and systems	What is the level of importance of the sub-criteria "Traditional Materials and Systems" in influencing the "Authenticity and Integrity" associated with the built heritage?
A13	Craftsmanship and detailing	What is the level of importance of the sub-criteria "Craftsmanship and Detailing" in influencing the "Authenticity and Integrity" associated with the built heritage?
A14	Use and functional compatibility	What is the level of importance of the sub-criteria "Use and Functional Compatibility" in influencing the "Authenticity and Integrity" associated with the built heritage?
<b>A2</b>	<b>Design quality and standards</b>	
A21	Climate-sensitive design	What is the level of importance of the sub-criteria "Climate-sensitive design" in influencing the "Design Quality and Standards" associated with the built heritage?
A22	Design innovation	What is the level of importance of the sub-criteria "Design Innovation" in influencing the "Design Quality and Standards" associated with the built heritage?
A23	Adherence to codes and bylaws	What is the level of importance of the sub-criteria "Adherence to codes and bylaws" in influencing the "Design Quality and Standards" associated with the built heritage?
A24	Barrier-free design	What is the level of importance of the sub-criteria "Barrier-free design" in influencing the "Design Quality and Standards" associated with the built heritage?
<b>A3</b>	<b>Conservation and management</b>	
A31	Heritage conservation	What is the level of importance of the sub-criteria "Heritage Conservation" in influencing the "Conservation and Management" associated with the built heritage?
A32	Structural stability	What is the level of importance of the sub-criteria "Structural Stability" in influencing the "Conservation and Management" associated with the built heritage?
A33	Periodic maintenance	What is the level of importance of the sub-criteria "Periodic Maintenance" in influencing the "Conservation and Management" associated with the built heritage?
A34	Provision of incentives	What is the level of importance of the sub-criteria "Provision of Incentives" in influencing the "Conservation and Management" associated with the built heritage?

Table 4. Delphi questionnaire statements. Original work.

Likert	Importance level	Relative Importance Index (RII)
1	Extremely not important	$0 \leq RII < 0.15$
2	Not important	$0.15 \leq RII < 0.20$
3	Moderately not important	$0.20 \leq RII < 0.35$
4	Equally important	$0.35 \leq RII < 0.50$
5	Moderately important	$0.50 \leq RII < 0.70$
6	Important	$0.70 \leq RII < 0.85$
7	Extremely important	$0.85 \leq RII \leq 1.0$

Table 5. Likert and Relative Importance Index (RII) scale. Original work.

## Analysis and findings

### Demographic analysis

The questionnaire survey was sent to 50 experts, of which 30 experts from varied specified fields participated. The 30 also included the experts who participated in the pilot survey. The Delphi survey respondents were conveniently from a broad spectrum regarding age, education, profession, and years of experience. Regarding gender, 60% of the expert panel constituted the female group, and 40% constituted the male group. Based on age-wise distribution, most of the respondents fell under 25–34 years, with 19 respondents (63.3%). The remainder was distributed under 35–44 years, with 6 respondents (20%); 45–59 years with 3

Item	Frequency	Percentage
<b>Gender</b>		
Female	18	60.0
Male	12	40.0
<b>Age group</b>		
25–34y	19	63.3
35–44y	6	20.0
45–59y	3	10.0
60y and above	2	6.7
<b>Education</b>		
Bachelors	4	13.3
Masters	24	80.0
Doctoral	2	6.7
<b>Field of expertise</b>		
Conservation architect	12	40.0
Architect	6	20.0
Urban designer	4	13.3
Urban planner	2	6.7
City planner	2	6.7
Regional planner	1	3.3
Heritage specialist/ historian	1	3.3
<b>Academic involvement*</b>	22	73.3
<b>Years of experience**</b>		
0–4	4	13.3
5–9	13	43.3
10–14	5	16.7
15–19	3	10.0
20 and above	5	16.7

\* Along with field profession

\*\* field + academics/research

Table 6. Overview of demographics; original work.

respondents (10%) and above 60 years with 2 respondents (6.7%). The majority of the respondents, i.e., 24 (80%), had completed their post-graduate education. Regarding the field of expertise, 12 respondents (40%) were conservation architects, and 6 respondents (20%) were architects. The overview of the respondent demographics and Likert responses from the Delphi survey is presented in Table 6 and Table 7, respectively.

### Relative Importance Index analysis

The data collected were analyzed based on the questionnaire results from the respondents, and the *RII* value was used to rank all the sub-criteria within their respective criteria groups. An “Importance value” (I.V.) was assigned along with an Importance category remark depending on the *RII* value obtained for each item (cross-reference to Table 5). The importance value determines the most important sub-criteria within each criteria group. Table 8 shows the *RII* values and importance for the main criteria groups influencing the built heritage aspect. Table 9, Table 10, and Table 11 show the *RII* values and Importance Values for the sub-criteria items within each criteria group, respectively.

### Weighted Framework

Initially, the *RII* values obtained for the three criteria and sub-criteria were normalized to develop a weighted framework for the built heritage aspect. The global *RII* values for each sub-criteria were later obtained by multiplying the normalized *RII* values of the sub-criterion with its respective *RII* value. The global ranking is based on the final global *RII* values. The final weighted framework based on the attained *RII* values is shown in Table 12. Discussions regarding the obtained weights have been provided in the next section.

### Discussion and conclusion

The article solely focuses on the embodied attributes that govern and contribute only towards built heritage value within a historic urban precinct. To recapitulate the paper, one needs to comprehend and assess the associated values of the precinct’s built fabric to conserve the character of a historic urban precinct. What built entities contribute to this fabric, and to what extent does it stand authentic to the place? Are the entities adequately conserved and managed? Are they adhering and adapting to current building bylaws? Does the presence of a heritage entity disrupt the evolving image of the area, or does it serve as a sensitive catalyst? Does an urban intervention in the name of development impact the built fabric? All these are questions one must ponder while evaluating or understanding the historic precinct’s built value. The paper discusses three criteria through which these questions can be answered.

The first criterion, i.e. authenticity and integrity, addresses whether the entity entails its historic authenticity and integrity by maintaining the form and design, scale and proportion; traditional materials and systems, detailing and craftsmanship; color and texture; use and functional compatibility. The second criterion, i.e., design quality and standards, addresses the concern of giving prior attention to design strategies and interventions that can balance the need to adapt to the historic physical fabric while adhering to local bylaws and codes. The third criterion, i.e., conservation and management, addresses the importance of preserving the physical fabric through conservation and prudent management, contributing to heritage-led sustainable development. Among the three main criteria, the “authenticity and integrity” of the built heritage were found to be more important when engaging with any urban conservation or development proposal and have a major impact on the character of the historic urban fabric. The study encapsulated the relative importance of each sub-criteria within the three criteria through the *RII* method. All the sub-criteria except “design innovation” showed an *RII* value that was remarked as “extremely important.”

Through the analysis, authenticity and integrity were found to be the most important criteria, with 3 out of 4 sub-criteria being among the top three ranks based on their normalized global *RII*. “Craftsmanship

Built heritage aspect	Extremely not important	Not important	Moderately not important	Neutral	Moderately important	Important	Extremely important	Response %
	1	2	3	4	5	6	7	
<b>Criteria</b>								
Authenticity and integrity	0	0	0	1	3	2	24	100%
Design quality and standards	0	0	1	3	7	6	13	100%
Conservation and management	0	1	2	1	0	11	15	100%
<b>Sub-criteria</b>								
Authenticity and integrity								
Architectural character	0	0	0	1	1	7	21	100%
Traditional materials and systems	0	0	0	0	1	6	22	100%
Craftsmanship and detailing	0	0	0	0	1	8	21	100%
Use and functional compatibility	0	1	0	2	9	13	5	100%
<b>Design quality and standards</b>								
Climate-sensitive design	0	2	1	0	6	7	14	100%
Design Innovation	0	0	1	1	8	8	12	100%
Adherence to codes and bylaws	0	1	6	2	2	10	9	100%
Barrier-free design	0	1	0	9	4	10	6	100%
<b>Conservation and management</b>								
Heritage conservation	0	0	0	1	2	7	20	100%
Structural stability	0	0	0	2	1	6	21	100%
Periodic maintenance	0	0	0	1	0	7	22	100%
Provision of incentives	0	0	1	0	2	8	19	100%

Table 7. Likert scale responses; original work.

Criteria	Extremely not important	Not important	Moderately not important	Neutral	Moderately important	Important	Extremely important	RII	I.V.	Remark* (*Table 5)
	1	2	3	4	5	6	7			
Authenticity and integrity	0	0	0	4	15	12	168	0.9476	1	Extremely important
Design quality and standards	0	0	3	12	35	36	91	0.8429	3	Important
Conservation and management	0	2	6	4	0	66	105	0.8714	2	Extremely important

Table 8. Built heritage aspect – criteria; original work.

Sub-criteria	Extremely not important	Not important	Moderately not important	Neutral	Moderately important	Important	Extremely important	RII	I.V.	Remark* (*Table 5)
	1	2	3	4	5	6	7			
Architectural character	0	0	0	4	5	42	147	0.9429	1	Extremely important
Traditional materials and systems	0	0	3	0	5	36	154	0.9429	1	Extremely important
Craftsmanship and detailing	0	0	0	0	5	48	147	0.9524	3	Extremely important
Use and functional compatibility	0	2	0	8	45	78	35	0.8000	4	Important

Table 9. Authenticity and integrity – sub-criteria; original work.

Sub-criteria	Extremely not important	Not important	Moderately not important	Neutral	Moderately important	Important	Extremely important	RII	I.V.	Remark* (*Table 5)
	1	2	3	4	5	6	7			
Climate-sensitive design	0	4	3	0	30	42	98	0.8429	1	Important
Design innovation	0	0	1	1	8	8	12	0.1429	4	Extremely not important
Adherence to codes and bylaws	0	2	18	8	10	60	63	0.7667	2	Important
Barrier-free design	0	2	0	36	20	60	42	0.7619	3	Important

Table 10. Design quality and standards – sub-criteria; original work.

Sub-criteria	Extremely not important	Not important	Moderately not important	Neutral	Moderately important	Important	Extremely important	RII	I.V.	Remark* (*Table 5)
	1	2	3	4	5	6	7			
Heritage conservation	0	0	0	4	10	42	140	0.9333	2	Extremely important
Structural stability	0	0	0	8	5	36	147	0.9333	2	Extremely important
Periodic maintenance	0	0	0	4	0	42	154	0.9524	1	Extremely important
Provision of incentives	0	0	3	0	10	48	133	0.9238	4	Extremely important

Table 11. Conservation and Management – sub-criteria; original work.

Criteria	RII	Normalized	Sub-criteria	RII	Normalized	Global RII	Rank
Authenticity and integrity	0.9476	0.3560	Architectural character	0.9429	0.0953	0.0339	2
			traditional materials and systems	0.9429	0.0953	0.0339	2
			Craftsmanship and detailing	0.9524	0.0962	0.0343	1
			Use and functional compatibility	0.8000	0.0808	0.0288	8
Design quality and standards	0.8429	0.3166	Climate-sensitive design	0.8429	0.0852	0.0270	9
			Design innovation	0.1429	0.0144	0.0046	12
			Adherence to codes and bylaws	0.7667	0.0775	0.0245	10
			Barrier-free design	0.7619	0.0770	0.0244	11
Conservation and management	0.8714	0.3274	Heritage conservation	0.9333	0.0943	0.0309	5
			Structural stability	0.9333	0.0943	0.0309	5
			Periodic maintenance	0.9524	0.0962	0.0315	4
			Provision of incentives	0.9238	0.0934	0.0306	7

Table 12. Built heritage aspect – final weighted framework; original work.

and detailing” attained the highest weightage (0.0343), followed by “architectural character” and “traditional materials and systems” with equal weightage (0.0339). The fourth highest was assigned for “periodic maintenance” (0.0315), followed by “heritage conservation” and “structural stability” with equal weightage (0.0309); followed by the “provision of incentives” also sharing similar weightage to the previous (0.0306).

An analysis of this ranking indicates the relevance of the heritage character and conservation of the built structure. “Use and functional compatibility” and “climate-sensitive design” suggest the need to adapt the architectural form and spaces to be user-friendly and functional compatible through adaptive and flexible spaces that are also sensitive concerning the climatic context. The contextual sensitivity entails the built ele-



ments, such as sloping roofs, wider overhangs and sizes of openings, and materials, such as using clay roofing tiles, wooden joinery for openings, and laterite and clay jali blocks for masonry. Though the inclusion of “design innovation” in the pilot stages was a contributing factor in determining the design quality of the built heritage, the same has attained a poor *RII* value and ranked last in the weighted framework establishing it as the least important. Despite this result, through expert opinions, design innovation was suggested as one factor that ensures additional design elements in the heritage buildings and new structures adapt sensitively to the existing design details innovatively with new technology and material resources. “Barrier-free design” and “adherence to codes and bylaws,” being the second least important among the sub-criteria, share almost the same weightage, debating the need for site context-specific or built structure—specific bylaws for historic precincts rather than following the state building codes and bylaws. The need to incorporate barrier-free provisions and design to existing

built heritage structures is inevitable, even though it would compromise the authenticity and integrity of the structure.

To undergo sensitive urban transformations in historic urban precincts, maintaining the values and processes that facilitate the relevance of the physical form of the historic structures in the overall urban fabric is quintessential. These values and attributes are the pivotal channels connecting the past, the present, and the future. The weightage and ranking assigned to the attributes are through expert analysis. The evaluation of these attributes is subjective and established through investigative research and stakeholder consultation. In terms of value-based urban conservation, with due consideration of the contextual characteristics of historic urban precincts, public perception and consultation play a crucial role in determining context-specific weighted frameworks for other embodied attributes relating to the socio-cultural, economic, environmental, and urban values that can be conducted to develop a weighted conceptual framework.

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## Streszczenie

Karta Burra opisała i podkreśliła potrzebę zachowania kulturalnego znaczenia miejsca poprzez zachowanie wartości z nim związanych. Zabytkowe obszary miejskie są ucieleśnieniem wartości zabytkowych. Obiekty wzniesione w zabytkowej tkance miejskiej przyczyniają się do wzrostu jej wartości estetycznej, skutkując zachowaniem całościowego charakteru i znaczenia tego obszaru. Czynniki składające się na dziedzictwo urbanistyczno-archeologiczne powinny zostać zbadane, aby zapewnić ciągłość w fizycznej tkance pod względem historyczności, systemów wiedzy i języka architektonicznego. Artykuł omawia rolę aspektu dziedzictwa urbanistyczno-archeologicznego opartego na wartościach i przedstawia jego znaczenie i implikacje w konserwacji urbanistycznej. W badaniu zaproponowano ramy teoretyczne wraz z zestawem 12 zidentyfikowanych subkryteriów, szeroko rozdystrybuowanych wśród trzech głównych kryteriów. Do przyporządkowania wag poszczególnym elementom użyto techniki Wskaźnika Względnej Ważności (WWW) oraz rozwinięto ramy wagowe. Ramy te uznają dziedzictwo urbanistyczno-archeologiczne za kluczowy składnik fizycznej tkanki miejskiej. Badanie może zostać wykorzystane do skontekstualizowania wskaźników ze zmiennymi właściwymi dla kontekstu; może też przyczynić się do konserwacji dziedzictwa urbanistyczno-archeologicznego i zaadaptowania go w sposób wrażliwy do tkanki miejskiej.

## Abstract

The Burra Charter has described and emphasized the need to preserve the cultural significance of a place through the preservation of the embedded values associated with the place. Historic urban precincts are an embodiment of heritage values. The built entities within a historic urban precinct contributes towards the area’s aesthetic value, causatively preserving the overall character and significance of the precinct. The factors contributing to the built value of a historic urban precinct demand exploration to ensure continuity in the physical fabric regarding historicity, knowledge systems, and architectural language. The paper explores the role of the built heritage aspect within the value-based approach and aims to discuss its relevance and implication in urban conservation. The study proposes a theoretical framework with a set of twelve identified sub-criteria broadly distributed into three main criteria. Relative Importance Index technique (RII) was used to assign weights for the items to develop a weighted framework. The framework recognizes and emphasizes the built heritage as a key contributor to the physical urban fabric. The study has future scope for contextualizing the identified indicators with context-specific variables that can assist policymakers in developing policies that address the built-heritage aspect, conserve it and adapt it to the urban fabric sensitively.