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Finding Value, Conserving Heritage in Townscapes along the Kenya Railway

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Abstract

The emergence of some towns in Kenya's hinterland is attributable to the colonial railroad of the early 1900s. The towns, along the Kenya railway line, seem to share an idiosyncratic townscape heritage requiring conservation. However, the heritage and its associated values remain unknown. This paper aimed to identify the underlying heritage values in selected towns along the Kenya Railway line. A qualitative approach and a cross-sectional research design were adopted. Three towns; Limuru, Naivasha and Molo, with higher urban populations than the rest were selected from a list of 19 between Nairobi and Kisumu cities. 360 respondents were interviewed; 70 in Limuru, 160 in Naivasha, and 130 in Molo. Townscape heritage data was collected through observation, while data on heritage values was collected through interviews using attitudinal statements on Likert scales. Exploratory factor analysis was used to determine latent heritage values. The Chi-Square test was significant ($p < .05$). Five main heritage values explaining 43.28% of the total variance were extracted; cultural continuity, functional-economic, identity, placeness and historicity. Additionally, three other values; rarity, evidence and memory were considered for the completeness of the value spectrum. It was concluded that the identified heritage values are interdependent and thematically communicate communities' aspirations and should provide guidance to the values-based approach to conservation. This paper recommends integrating heritage values in conservation planning and engaging communities in the process to achieve culturally sustainable urban development programmes.

Keywords: Conservation, heritage values, historic planning, townscape

INTRODUCTION

The first railway development project in the then the British East Africa Colony, later Kenya, more than 120 years ago, greatly influenced the development trajectory of indigenous communities. It facilitated the colonial conquest of the hinterland and made it possible to do business across great distances from the East African coast towards Lake Victoria and Uganda, enabling towns to grow along it (Jedwab, Kerby, & Moradi, 2013).

In the first half of the 20th century, a series of towns were established along the Kenya Railway, effectively colonizing the linear territory. Today, the towns still exhibit peculiar townscape fabric, significant to the history of urban development in Kenya with a significant footprint. However, the associated townscape heritage is facing the threat of loss from environmental, social, technological, and economic challenges and therefore in need of conservation. Consequently, there could be heritage values that could be determined as a basis for urban conservation.

Economically, the townscape heritage has the potential of being a magnet for tourism based on its historic background. In addition, the reuse of older buildings, as opposed to the construction of new structures, offers savings. Technologically, there is skilled craftsmanship exhibited in the built works.

Section 47 of the Physical and Land Use Planning Act (2019) together with the National Museums and Heritage Act (2012) recognises the need to preserve buildings of architectural and historic significance. Accordingly, urban conservation

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studies in Kenya have majorly been based singularly on their material properties without identifying their inherent heritage values. Studies have also not addressed townscape heritage in Kenya's hinterland. This paper therefore focuses on identifying heritage significance associated with selected townscapes along the Kenya railway.

THEORY

Values-Based Approach to Conservation

Two approaches emerged with the development of conservation practice; a material-based and a values-based approach. According to Poulios (2014) these approaches, though appearing at different periods, are both applicable today. A material-based approach has an extreme focus on the preservation of material and is expert-driven. The key weakness of this approach as Poulios (2014) observes, is the exclusive power of conservation experts. Contrarily, a values-based approach is based on the premise that to manage a heritage place, it is necessary to identify why and how it is significant (McClelland, Peel, Hayes, and Montgomery, 2013). The values-based approach is asserted to facilitate democracy and comprehensiveness in heritage management (McClelland, 2018).

The identification and thematic categorisation of heritage values has been done by various authors (Abbaszadeh, Mohammadmoradi, Faizi, & Ayashm, 2016; ICOMOS Australia, 2013; Olukoya, 2021). They originate from cultures, the need for research, and the intellectual priorities of individuals (Abbaszadeh et al., 2016). The overall emerging themes from the review are social-cultural, economic, and environmental values.

Other authors have transcended listing and categorisation to demonstrate the relationship between heritage values and the significance of townscape conservation. Al-Saffar (2018) asserts that conserving historic centres is significant in protecting cities' identity and character contributing to their economic development. Del, et al (2020) and Al-Saffar, (2018) support the idea that a society with a strong sense of identity appreciates and works to protect its cultural heritage. The conception of 'placeness' is evoked by the idea of genius loci, where people desire to orient themselves and experience place awareness (Cullen, 2013; Day, 2012; Nasser, 2003). Importantly, historicity together with uniqueness, significance, and testimony are some of the outstanding attributes of historic townscapes (Landscape Institute, 2017).

The theories of attitude and the contemporary theory of conservation underpin the ideas of this paper. Theories of attitude recognise the variability of attitudes of a population and underpin the evaluative system for the meanings people hold (Katz, 1960; Nasar, 1998; Osgood & Tannenbaum, 1955). Furthermore, the contemporary theory of conservation emphasises subjective decisions based on community values (Muñoz-Viñas, 2012).

The contemporary theory of conservation amplifies the principles of values-based conservation calling for common sense, gentle decisions, and sensible actions. It emphasises that conservation actions are determined by the uses, values, and meanings that heritage has for people. Accordingly, the main aim of conservation is to retain or improve the meanings the heritage has for a community. The main constructs of the theory are: objects of conservation, a variety of shared meanings, and sustainability or adaptability.

The variables identified from the literature are townscape heritage and their values. According to Historic England (2019), any immovable property or space of great cultural significance within a defined urban centre is considered townscape heritage. Historic buildings, monuments, open spaces, streets and landmarks are examples. Moreover, heritage values are consequential in assessing the variability of attitudes people hold toward heritage. It is the aesthetic, historic, scientific, social, or spiritual worth of past, present, or future generations (ICOMOS Australia, 2013). Heritage values can be extracted from a set of expressions of meanings by a community associated with a given place.

RESEARCH METHODS

A cross-sectional research design was applied. Three towns out of the 19 along the Kenya Railway line between Nairobi to Kisumu section were selected as shown in **Figure 1**. This selection was made based on two criteria; the stations between the two cities are vibrant in rich agricultural zones, and more towns are located between the two cities than any other section of the railway. The selected

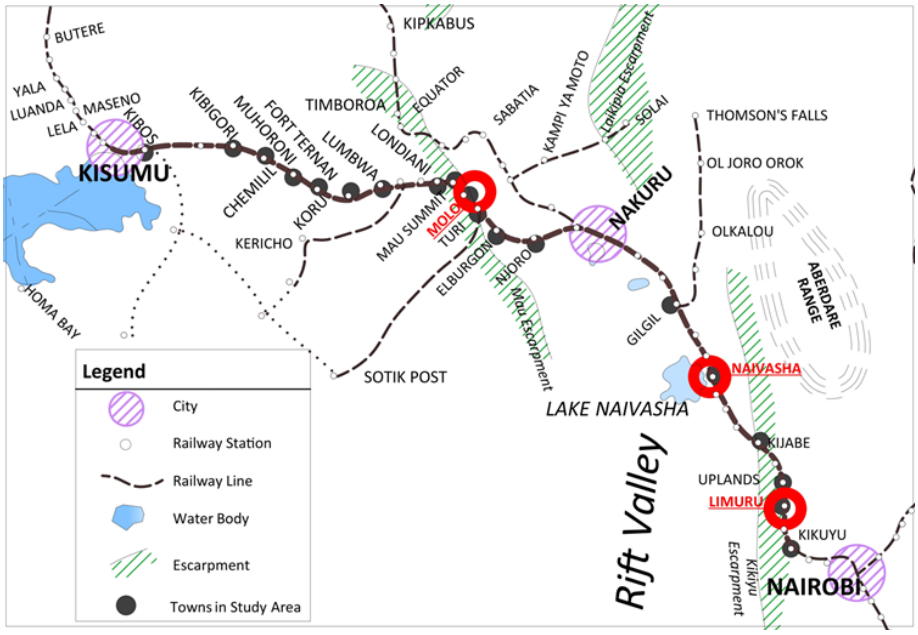

FIGURE 1
Map of sampled Towns
Source: Adapted from McCrow (2022)

towns are homogeneous in that they have a higher population than the rest.

To identify heritage and associated heritage values for the three towns, a total of 360 respondents were interviewed. Methodologically, when using factor analysis for data synthesis, a sample size of 150 and above as stated by Pallant (2020) is sufficient, with a ratio of at least five cases for each of the variables. With 71 attitudinal statements, a product of 355 respondents was the target sample size. Overall, 360 respondents were interviewed. Using respective ratios for representativeness, each town was allocated its sample from the total sample size based on the Kenya National Bureau of Statistics (2019) report on population distribution by urban centres. Interviews were conducted with 70 respondents in Limuru, 160 in Naivasha, and 130 in Molo.

The areas of focus referred to as the 'precincts' were delimited by the districts fronting the first street next to and around the railway stations. Residents were sampled within an average walkable radius of 400 to 800 meters from the centre of the railway stations. For each town, the walkable radius area was divided into smaller spatial units using the respective town maps to ensure samples drawn were evenly distributed. Thereafter, residents were picked conveniently from each of the zones. The interviewees targeted were adults who lived in the selected towns and acknowledged familiarity with it.

To identify townscape heritage, respondents were each asked to mention three places in the town that they considered important to be conserved. Further, Roget's Thesaurus was used to identify varied synonyms under the various heritage values subcategories from literature (Mark, 2018). Thereafter attitudinal statements under each heritage value variable were exhaustively generated according to the principles of theories of attitude formation and change by Festinger (1957); Katz (1960); and Osgood & Tannenbaum (1955). The heritage value themes that guided the generation of the statements were emotional values, cultural values and use values. The order of the 71 attitudinal statements generated was thereafter randomized to break similarities of successive statements on the list.

Respondents were interviewed using a structured interview schedule of attitudinal statements with a seven-point Likert scale where 1 represented 'strongly agree' while 7 represented 'strongly agree'. Thereafter, Exploratory Factor Analysis (EFA) for the expressed attitudes was used to determine the underlying heritage values.

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RESULTS

Townscape Heritage and Their Significance

Townscape heritage was identified in the towns due to varied reasons that ranged from historicity, economic benefits, Identity, rarity, aesthetics, uniqueness, functionality, and age. Economic, age, and historic values were highly cited as reasons for the significance of important areas. In addition, the value, function, was cited as a high value in Molo Town. The expressed Heritage values for each of the three towns are shown in **Table 1**. The key values identified by respondents in all three towns in order of significance were 1. economic, 2. age, 3, historic, 4. Function, and 5. Identity. The economic and function values are expressive of the predominant uses of the townscape heritage which are commercial and logistical and offer support services to farmers. The heritage areas have also existed for a long time and can be associated with, age, historic, and identity values. Later this set of heritage values was compared to the ones resulting from EFA of attitudinal statement ratings in interviews.

The identified heritage places in each town presented are the basis of the heritage value survey.

Limuru Townscape Heritage

The heritage was evenly distributed around the railway station as shown in **Figure 2**. Some heritage was made up of several buildings, such as

TABLE 1
Frequencies of expressed heritage values

	Aesthetic	Age	Economic	Function	Historic	Identity	Rarity/ Oddness	Uniqueness
Limuru	0	5	6	1	4	2	1	0
Naivasha	3	7	6	4	6	2	0	0
Molo	0	5	8	8	6	3	2	1
Total	3	17	20	13	16	7	3	1

Source: Field survey, 2025

FIGURE 2
Significant places in Limuru Town Railway Precinct
Source: Field survey, 2025

the Bamburi Warehouse, Limuru Juakali, Maziwa/ Pyrethrum/Animal Feeds buildings and the Limuru Stores/Hope Clinic buildings. The Post office was also strategically located near the main station building, perhaps due to the need to link transport and communication functions.

Naivasha Townscape Heritage

Heritage in Naivasha was distributed parallel to the railway station area as illustrated in **Figure 3**. Some heritage was made up of several buildings, such as the La Belle Inn, Salama/Lakeview buildings and Mahaver Stores. There were similarities in the typology of heritage; single-storey with pitched roofs, seemingly built around the same period. The closest heritage to the railway station was the La Belle Inn Hotel, which, in the early years accommodated travellers using the train services. Similar to Limuru, the Post office was in the vicinity.

Molo Townscape Heritage

Heritage in Molo was concentrated to the northwest of the railway station as shown in **Figure 4**. This could have been due to the early organisation of the agricultural town where the railway served the warehouses, and as the town developed. The concentration of heritage in the form of warehouses and industrial buildings is an illustration of the importance of railway services to agricultural and economic functions. Molo town presents a whole heritage cluster known as the Posta area. The Post office was also in the railway station vicinity, similar to Limuru and Naivasha.

Identifying Heritage Values

First, tests of normality were carried out by examining the results of the Kurtosis, Skewness, Kolmogorov-Smirnov (K-S), and Shapiro-Wilk (S-W) statistics. The null hypothesis associated with the test of normality is that data are normally distributed. Skewness values in all the 71 variables were within -2 and +2 and considered good. The Kurtosis was also good since values fell within the -2 and +2 range except for 9 out of the 71 variables that fell between +2.25 and +4.52. The distribution of the data set was therefore considered to be approximately normal. In the Kolmogorov-Smirnov, and Shapiro-Wilk tests, when $P > 0.05$, the null hypothesis is accepted and data are considered to be normally distributed. The Sig. values were all at .000 ($P > 0.05$), suggesting

FIGURE 3
Significant places in Naivasha Town Railway Precinct
Source: Field survey, 2025

FIGURE 4
Significant places in Molo Town Railway Precinct
Source: Field survey, 2025

a violation of the assumption of normality; common in larger samples (n > 50) according to Pallant (2020). A further visual analysis of the histograms, Q - Q plots and box plots showed that data distribution was approximately normal as was the case in the skewness and Kurtosis.

To extract variables that explain similar components, EFA with Promax rotation was used. The factor loading criteria were set at a minimum of 0.3. The communality which is an indication of the amount of variance on each dimension was assessed and found that all communalities presented were above 0.5. Therefore, no variable was eliminated. To determine that the data were adequate for factor analysis, the anti-image matrix was checked to evaluate the adequacy of the correlation matrix. In the anti-image correlation matrix, the first diagonal line gives the Kaiser's Measurement of Sampling Accuracy (MSA) for the individual variables. Each of the variables was retained based on their sampling adequacy where all the included variables had an MSA of above 0.5.

Further, to verify that the data set was suitable for factor analysis, the initial Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value recorded was 0.915 as shown in **Table 2**. This value was above the minimum required of 0.6 as stated by Pallant, (2020). The Bartlett's Test of Sphericity value was significant at $x^2(n = 360) = 12276.687$ ($p < 0.001$). This met the required Significant value of .05 or smaller (Pallant, 2020). Therefore, given the KMO and Bartlett's test of Sphericity values obtained, factor analysis was appropriate. The Chi-Square test was significant ($p < .05$).

The Null Hypothesis (H_o) was; that there were no latent underlying factor structures associated

with residents' attitudes towards heritage in towns along the Kenya railway meaning all variables load equally (m=0), and the correlation matrix is an identity matrix. The Research Hypothesis (H_a) was; that there were latent underlying factor structures associated with residents' attitudes towards heritage in towns along the Kenya Railway (m≠0), and the correlation matrix is not an identity matrix. Since the Chi-Square test was significant ($p < .05$), and the matrix of population correlations was different from the identity matrix, then the null hypothesis (H_o) was rejected and the research Hypothesis (H_a) was accepted.

A reliability test for the 71 items on heritage values produced Cronbach's alpha value of 0.952 as shown in **Table 3**, which is excellent according to Taber (2018); proving internal consistency among the sets of items in the instrument.

The correlation matrix provided the correlation coefficient between each variable and each of the other variables in the analysis. Variables with correlation coefficients below 0.3 were eliminated and the factor analysis was rerun. On this account, two variables were eliminated. In the correlation matrix, the correlation coefficients of 0.3 and above were 69 and therefore sufficient, rendering the data appropriate. The reproduced correlation matrix showed that there were 356 (14%) nonredundant residuals with absolute values greater than 0.05, therefore presenting a model that is a good fit.

The initial factor solution from the analysis yielded 17 factors for the scale, which accounted for 63.28% per cent of the variation in the data. In the subsequent analysis, 20 variables failed to load on any dimension significantly and were

TABLE 2
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.915
Bartlett's Test of Sphericity	Approx. Chi-Square	12276.687
	df	2485
	Sig.	.000

Source: Field survey, 2025

TABLE 3
Reliability Test for Heritage Values

Reliability Statistics			
Main Item	Cronbach's Alpha	N of Items	Remark
Heritage Values	.952	71	Excellent

Source: Field survey, 2025

removed, leaving 49 items from further analysis. EFA was rerun excluding the 22 items and the results of the final analysis yielded 13 item component structure. The KMO and Bartlett's test of Sphericity was 0.906. The 13 dimensions explained a total of 63.06% of the variance among the items in the study. Bartlett's Test of sphericity was significant ($p < .05$) and all communalities were over the required value of 0.500.

Table 4 shows the 13 components obtained as indicated in the rotation sums of the squared loadings column. These components met Kaiser's criteria of having eigenvalues greater than 1. The rest of the components had eigenvalues less than 1 and are therefore excluded from further analysis.

The scree plot in **Figure 5**, graphically presents the 13 components whose eigenvalues were more than 1. It provides a visual explanation of the variance in the data, where the 13 components were retained for further investigation in the parallel analysis.

TABLE 4
Total variance explained

Total Variance Explained							
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	12.468	25.445	25.445	12.468	25.445	25.445	9.392
2	3.391	6.920	32.364	3.391	6.920	32.364	8.339
3	2.031	4.145	36.510	2.031	4.145	36.510	4.218
4	1.757	3.586	40.096	1.757	3.586	40.096	6.685
5	1.558	3.180	43.276	1.558	3.180	43.276	5.580
6	1.434	2.927	46.203	1.434	2.927	46.203	4.228
7	1.389	2.835	49.038	1.389	2.835	49.038	4.679
8	1.297	2.647	51.685	1.297	2.647	51.685	4.898
9	1.236	2.522	54.207	1.236	2.522	54.207	4.467
10	1.175	2.398	56.606	1.175	2.398	56.606	1.770
11	1.102	2.248	58.854	1.102	2.248	58.854	1.585
12	1.051	2.145	60.999	1.051	2.145	60.999	1.289
13	1.010	2.061	63.060	1.010	2.061	63.060	1.264
Extraction Method: Principal Component Analysis.							
a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.							

Source: Field survey, 2025

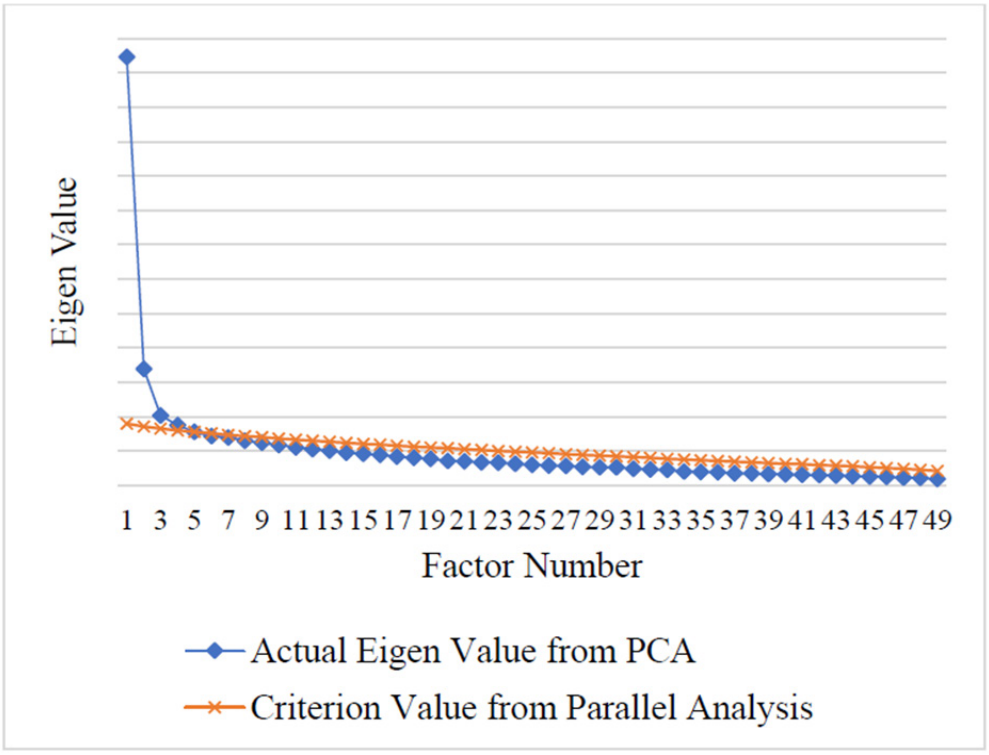

FIGURE 5
Component scree plot
Source: Field survey, 2025

A parallel analysis was conducted to establish the minimum number of components to keep from factor analysis. The size of the eigenvalues was compared with those obtained from a randomly generated data set of the same size as seen in **Table 5**. Eigenvalues that exceeded the corresponding values from the random data set were retained. The parallel analysis yielded five reasonably loaded components which were. The five components according to **Table 4**, explained 43.28% of the variance.

Further, the rotated five-factor solution was reviewed to ascertain that three or more items were ideally loading on each of the components and that the loading values were 0.4 and above as recommended by Pallant, (2020).

Table 6 presents the pattern matrix showing the items loadings on the five factors, with eight items loading above 0.4 on component 1, seven on component 2, five on component 3, four on component 4, and four on component 5. This

TABLE 5
Comparison: PCA Eigenvalues and parallel analysis' criterion values

	Actual Eigenvalue from PCA	Comparison	Criterion Value from Parallel Analysis	Decision
1	12.468	>	1.795217	Accept
2	3.391	>	1.712596	Accept
3	2.031	>	1.655883	Accept
4	1.757	>	1.600563	Accept
5	1.558	>	1.556757	Accept
6	1.434	<	1.516764	Reject
7	1.389	<	1.470103	Reject
8	1.297	<	1.432227	Reject
9	1.236	<	1.399456	Reject
10	1.175	<	1.363917	Reject
11	1.102	<	1.332913	Reject
12	1.051	<	1.303221	Reject
13	1.010	<	1.270433	Reject

Source: Field survey, 2025

TABLE 6
Pattern matrix for heritage value statements

Pattern Matrix[a]								
	Component							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Heritage Value 6	.876							
Heritage Value 47	.869							
Heritage Value 45	.853							
Heritage Value 5	.798							
Heritage Value 43	.739							
Heritage Value 31	.703							
Heritage Value 13	.622							
Heritage Value 64	.411							
Heritage Value 33		.883						

Pattern Matrix[a]								
	Component							
	1	2	3	4	5	6	7	8
Heritage Value 28		.861						
Heritage Value 39		.699						
Heritage Value 29		.615						
Heritage Value 30		.552						
Heritage Value 27		.495						
Heritage Value 68		.443						
Heritage Value 63			.745					
Heritage Value 59			.640					
Heritage Value 62			.600					
Heritage Value 60			.541					
Heritage Value 52			.435					
Heritage Value 65				.807				
Heritage Value 66				.764				
Heritage Value 50				.608				
Heritage Value 58				.437				
Heritage Value 24					.880			
Heritage Value 23					.853			
Heritage Value 25					.608			
Heritage Value 22					.452			
Heritage Value 20						.824		
Heritage Value 18						.567		
Heritage Value 21						.541		
Heritage Value 19						.529		
Heritage Value 67							.693	
Heritage Value 69							.601	
Heritage Value 36							.589	
Heritage Value 37							.494	
Heritage Value 48								.785
Heritage Value 51								.653
Heritage Value 32								.560
Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.								
a. Rotation converged in 13 iterations.								

Source: Field survey, 2025

solution is therefore optimal and further supports the decision to retain the five factors. Further analysis of the matrix, shows evidence of three more factors with each component having three to four factors loading with values of above 0.4. These three components were interpreted for the peculiarity.

Interpretation of Underlying Heritage Values

The clustering of original factors provided the basis for interpreting the components by their various themes. **Table 7** shows the cluster of heritage value

statements for each of the eight components with their corresponding score coefficients.

The following are the given identities of constructs and the interpretation of the extracted components in **Table 7**. The coefficients for the regression models presented under every theme are presented.

TABLE 7
Component extraction – factor clusters

Factor	Component 1:	Component Score Coefficient
HV 6	The built heritage should be conserved for its artistic value.	.165
HV 47	I would want important features to be protected from destruction.	.162
HV 45	I would like to see the built heritage continue to exist.	.148
HV 5	The town's heritage should be preserved.	.127
HV 43	The continued existence of heritage is important for the town.	.121
HV 31	I would like to see the townscape heritage conserved for future generations.	.146
HV 13	The townscape heritage is considered to be aesthetic.	.127
HV 64	Old industrial functions should be retained.	.066
	Component 2:	
HV 33.	The townscape heritage brings economic benefits.	.251
HV 28.	The built heritage areas are productive places.	.235
HV 39	The townscape heritage supports different needs in the town.	.202
HV 29.	It is pleasant to move through the town where the historic features are.	.172
HV 30	I value the important features of the town.	.153
HV 27	The streets in the town are well-defined for wayfinding.	.136
HV 68.	Improvement of the original buildings has positive effects on the townscape aesthetics.	.122
	Component 3:	
HV 63	The heritage represents the history of Kenya.	.324
HV 59	The town exists due to the railway station.	.249
HV 62	The town's important features can easily be connected to the past.	.208
HV 52	Some memorable events related to the railway took place in the town.	.260
HV 60	This town is significant in the region's history.	.176
	Component 4:	
HV 65	The town is a place where most people meet.	.299
HV 66	The town's history should be passed down to future generations.	.280
HV 50	Stories about the origin of the town should be documented.	.207
HV 58.	Older people here have special memories of this town.	.163
	Component 5:	
HV 24	The heritage represents the history of the town.	.335
HV 23	There is history to be learned from the existing townscape heritage.	.322
HV 25	Townscape heritage is representative of the colonial past.	.226
HV 22	Townscape heritage is easily identifiable.	.224
	Other Components	

Factor	Component 6:	Component Score Coefficient
HV20	The railway created a unique culture among the residents of the town.	.347
HV18	There are adequate public spaces within the town.	.271
HV21	The collection of buildings creates a beautiful scenery.	273
HV19	The heritage buildings have a unique architectural style.	.262
	Component 7	
HV67	The townscape heritage is well conserved.	.343
HV69	Information is available about the townscape heritage.	.328
HV36	The town has good landmarks.	.292
HV37	The town is illustrative of past events.	.232
	Component 8	
HV48	I have known about the heritage through oral literature.	.347
HV51	The important historic features are easy to remember.	.335
HV32	Renovations of the built environment should be done to enhance its usability.	.302
*HV= Heritage Value Statement		

Source: Field survey, 2025

Key Heritage Values

Component 1: Cultural Continuity

This component made up of eight factors accounted for 25.45% of the total variance. The statements under this component represented the desire to continue experiencing the heritage and pass to future generations. With continuity, residents will keep learning about the heritage due to them being considered historic as well as aesthetic. The statements emphasise the importance of townscape heritage to the town's residents. This importance lies in the towns' distinct character, such as landmarks, public spaces and artistic value.

Cultural Continuity= .165HV6(Artistic value) + .162HV47(Protection from destruction) +.148HV45(Continuity of existence) + .127HV5(Need for preservation) + .121HV43(Importance of heritage) + .146HV31(Conservation for future generations) + .127HV13 (Heritage Aesthetics) + .066HV64 (Retention of industrial functions).

Component 2: Functional-Economic

The second component made up of seven factors represents 6.92% of the total variance. This component was interpreted as functionality and economics. The statements dwell on economic benefits, productivity and perceived worth of the townscape heritage. To reinforce the idea of functionality is the concept of development of the town that can directly be attributed to the origin and evidence of it in the townscape heritage. The desire for heritage conservation is encompassed in the functions and economic benefits that are drawn from the significant places.

Functional-economic = .251HV33(Economic benefits) + .235HV28(Productive heritage places) + .202HV39(Support urban needs) + .172HV29 (Pleasant heritage experience) + .153HV30(Value for important places) + .136HV27(Well defined streets) + .122HV68(Improved of outlook of heritage areas)

Component 3: Identity

The third component represented by a cluster of five factors can be interpreted as identity and accounted for 4.15% of the total variance. The statements present the aspect of people's relationship with the townscape heritage and relationships among themselves in the townscape space. Identity in this case refers to the origin of the towns that is directly related to the establishment of the railway station and the desire to have the current continuously linked to the past origins.

Identity = .324HV63(Representative of National History) + .249HV 59(Railway origins) + .208HV62(Connection to the

past) + .176HV60(Memorable events) + .260HV52(Significance to regions history)

Component 4: Placeness
The fourth component was made up of four factors representing 3.59% of the total variance. The associated statements emphasise on distinctiveness of the townscape heritage. The statements present this aspect through aesthetics, architectural style, and creativity, incomparable to others. These notable characteristics of the townscape heritage bring a sense of belonging and identity, due to shared admiration. The familiarity and memory of the townscape heritage cause a sense of ownership and attachment to places.

Placeness= .299HV65(Social place for meeting) + .280HV66(History passed to future generations) + .207HV50(Documentation of heritage) + .163HV58(Memories of the past)

Component 5: Historicity
'Historicity' was made up of four factors accounting for 3.18% of the total variance. Symbolism, origins knowledge of history and representativeness of the townscape heritage to the railway and colonial past points to the notion of historicity. Further, the continued existence of the townscape heritage supports different urban uses and is also pleasant and laden with historic information.

Historicity = .335HV24 (Representative of town history) + .322HV23(Learnt history) + .226HV25(Representative of colonial heritage) + .224HV22(Heritage is identifiable)

Other Heritage Values
Although the EFA produced a five-factor solution, the resulting pattern matrix showed three other minor but considerable components, that required interpretation. The following are the given identities of constructs and the interpretation of the three other extracted components in **Table 7**.

Component 6: Rarity
'Rarity' was made up of four factors accounting for 2.93% of the total variance. The theme from the statements points to uniqueness in the townscape influenced by railway stations. This uniqueness is embodied in the built heritage and the knowledge of it. The uniqueness of the townscape heritage brings the desire to preserve built heritage and enhance the town as a commercial hub.

Rarity= .347HV20(Created unique culture) + .271HV18(Adequate public spaces) + .273HV21(Beautiful scenery) + .262HV19(Unique architectural style)

Component 7: Evidence
'Evidence' made up of four factors represented 2.84% of the total variance. Evidence is available if townscape heritage is well conserved and information is available about the townscape heritage. Other ways evidence is expressed is in landmarks and a townscape fabric illustrative of the past; and the quality of the physical environment to provide heritage messages.

Evidence= .343HV67(Well conserved heritage) + .328HV69(Availability of Heritage information) + .292HV36(Landmarks) + .232HV37(Illustration of past events)

Component 8: Memory
The eighth component represented by a cluster of three factors was interpreted as memory and accounted for 2.65% of the total variance. The statements present a theme related to the need to preserve townscape memory. For example, the rehabilitation of the heritage areas would enhance their usability and in turn, sustain memory through the living heritage approach.

Memory= .347HV48(Heritage oral literature) + .235HV51(Good for memory) + .302HV32(Rehabilitation for usability)

DISCUSSION

The theme of the first value was appropriately identified as 'cultural continuity'. This is the component with the highest significance representing 25.45% of the total variance. The desired cultural continuity is a result of the aesthetics, rarity, uniqueness and cultural significance of the heritage in the towns. Heritage is important in enriching people's lives, by providing an inspired sense of belonging to community and place, to the past, and to lived experiences (ICOMOS Australia, 2013).

The desire for heritage conservation is encompassed in the functions and economic benefits that are drawn from the significant places. This is the explanation of 'functional–economic' as the second value. It is supported by Al-Saffar,

(2018), who emphasises the place of conservation in protecting cities' identity and character to contribute to economic development.

'Identity' refers to the origin of the towns that is directly related to the establishment of the railway station and the desire to have the current continuously linked to the past origins. Observations by Del, et al, (2020) and Al-Saffar, (2018), are one with the view that the conservation of architectural heritage promotes the identity of the community which in turn endeavours to preserve them.

The interpretation of 'placeness' considered the view that familiarity and memory of the townscape heritage people bring forth a sense of ownership and attachment. Cullen (2013), Day (2012) and Nasser (2003) underscore the importance of genius loci in orienting people in the townscape and creating grounding.

'Historicity' can be expressed with the idea that the continued existence of the townscape heritage supports different needs and they are pleasant and significant places laden with historic information. The Landscape Institute (2017) identifies historicity as one of the inherent attributes along with uniqueness, significance, and testimony. Therefore, people are drawn to the curiosity of the past messages for a sense of connection.

Rarity, evidence and memory were the three other components identified from the pattern matrix. In its justification, ICOMOS Australia, (2013) and McClelland (2018) assert that the conservation of a place should identify and consider all aspects of significance as opposed to emphasising any one value at the expense of others. 'Rarity' is created by the heritage values statements pointing to the uniqueness of the urban spaces. 'Evidence' is the value whose statements point to evidence that can be seen in the townscape heritage. The eighth value represents the 'memory' theme and the desire to have it preserved.

The eight extracted heritage values fit within the three overall themes that emerged from the review of literature; social-cultural values, economic values and environmental values (Olukoya, 2021). The categorisation of the heritage values from the synthesis of data is visualised in **Figure 6**.

First, the five values of cultural continuity, identity, historicity, rarity, and memory are seen to fit within the social-cultural values category making it the major category. Second, functional-economic value fits within the economic group of values. Third, placeness, and evidence fit within the environmental category. The identification

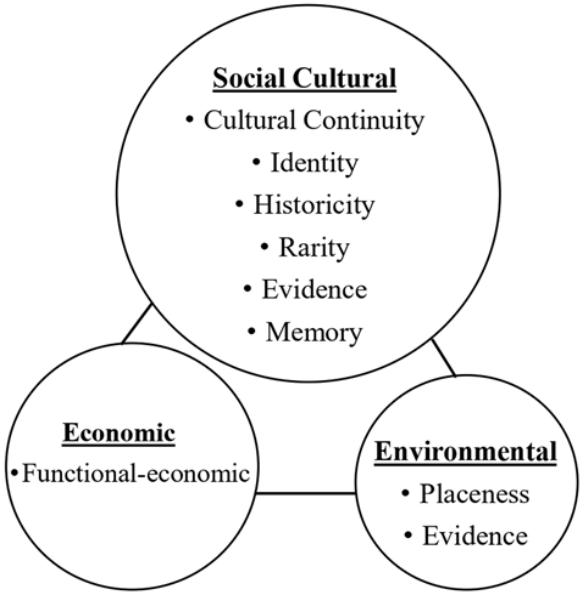

FIGURE 6
Categorisation of townscape heritage values
Source: Field survey, 2025

of these values set the base for the pursuit of sustainability and adaptability advanced by Muñoz-Viñas (2012) in the contemporary theory of conservation.

The expressed heritage values during the identification of the townscape heritage in the order of importance were economic, age, historic, function and identity. There is a strong similarity between the expressed values obtained during townscape heritage identification and the extracted values from factor analysis. It therefore gives credibility to the heritage values extraction process. Finally, it is apparent that heritage values are interdependent; for example, economic-functional value can be a product of cultural continuity, historicity and identity, while the latter three rely on economic-functional for sustainability.

CONCLUSION

The five underlying heritage values that include cultural continuity, functional-economic, identity, placeness and historicity give significance to the identified heritage and successful conservation should focus on these. The other three values; rarity, evidence, and memory, although not the main ones, are important in giving the completeness of meanings people have for heritage places. All the identified heritage values generally show the aspirations of the communities in the towns and give a guide to the values-based approach to conservation.

As people interact with the urban environment, their attitudes are influenced and become subconsciously aware of their surroundings. They develop attachment and desire cultural continuity and the preservation of historicity and identity. The benefits derived from urban areas make communities appreciate the economic and functionality of places. Further, placeness is how people understand and relate to the environment, yearning for it to be maintained or enhanced.

Values cannot be assumed and must be determined within the townscape heritage locale. This study emphasises that conservation discourse must always ask and answer the question; 'heritage for whom' since every townscape heritage has different narratives associated with it, grounded in history and attached to individual communities. The significance of people's role explained by the contemporary theory of conservation cannot be overstated since findings showed a yearning for prosperity enabled by the ability of heritage places to provide economic opportunities. The identification of heritage values must be conclusive by being keen to identify all values.

RECOMMENDATIONS

This paper recommends a heritage survey to identify, document, inventorise, gazette and conserve urban heritage in more towns along the railway line by the National Museums of Kenya and the concerned county governments. It also recommends that in the historic planning of urban areas, heritage values should be fully integrated to account for communities' endeavours. For example, to address the functional-economic value, the focus should be on creating economic opportunities through historic planning. Besides, the development of architectural conservation guidelines on material conservation is required and its application be on a case-by-case approach to safeguard the heritage values of cultural continuity, historicity and placeness. Consequently, for planning programmes, urban conservation plans for historic towns should be guided by derived heritage values and identified townscape heritage to respond to the communities' aspirations.

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