Public Open Space Vandalisation Trends and Transmutation Roots in South-Eastern Nigeria

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ABSTRACT

This study addressed factors influencing public open space vandalisation trends and transmutation roots in South-eastern Nigeria. To achieve the aim of the study, the research considered: public open space vandalisation and reasons for vandalising public recreational open spaces. The research adopted field investigations method via case study approach which involved descriptive survey research design through field observation, questionnaire administration and oral interviews. Quantitative and qualitative data research methods were employed using descriptive and inferential statistics. The result of the study demonstrated that urban indifference and insensitivity contributed marginally to public recreational open space vandalisation and conversion in the sampled urban areas. Besides, vandalisation contributed immensely to increased loss of interest in public recreation as a result leads to disregard of public recreational open spaces. This prompted a high rate of conversion of public recreational spaces in South-Eastern Nigeria as the management abandoned some of the recreational spaces, with dissuading costs like obesity, boredom and insomnia. To resolve these abnormally, there is the need to engage in spatial services to both monitor and predict future occurrences in the management of public recreational open spaces in South-eastern Nigeria. Besides, the private sector should be encouraged to invest in open space operations in the sampled states.

Key Word: Vandalisation, Public Open Space Management, Recreation, Open Space Conversion, Conversion Root
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INTRODUCTION

In most south-eastern states of Nigeria-Abia, Anambra, Ebonyi, Enugu, and Imo (Figure 1), the responsibility to plan and manage public recreational spaces is vested on the the Ministry of Lands, Survey and Urban Planning, or Ministry of Physical Planning and Urban Development or Ministry of Physical Planning and Urban Renewal, or Ministry of Physical, Urban Planning and Infrastructural Development, as the case may be. In Abia State, an arm of these ministries popularly known as the Open Space Development Commission is directly responsible for the management and maintenance of all urban public recreational open spaces and parks under its jurisdiction. A look into the level of success recorded by 'The Commission' -Open Space Development Commission reveals that public recreational open space management in the states being examined has been orchestrated by politicking and other undemocratic maneuverings (Jegede, 2014). Really, the situation as observed shows that some areas designated for public recreational public spaces have been put into other uses other than what it was originally meant for, mainly due to the high rate of facility vandalisation in the sampled area.

Evidence obtained from literature relate to lack of articulate design to suit local climate, the inability of available recreational centres to meet indigenous recreational demands, plan enforcement and organisation (Obateru, 2015; Ogundele and Jegede, 2019); co-ordination of physical planning activities, control, and maintenance (Akintude and Akintude, 2019); monitoring and evaluation (Akintola-Arikane, 2020), to factors exacerbating public recreational open space management. These studies, however, failed to uncover the extent of public open space conversion, let alone using satellite imagery to detect time-space changes in public open space conversion in south-astern Nigeria.

The aim of this study is to survey the factors swaying public open space vandalisation and conversion in
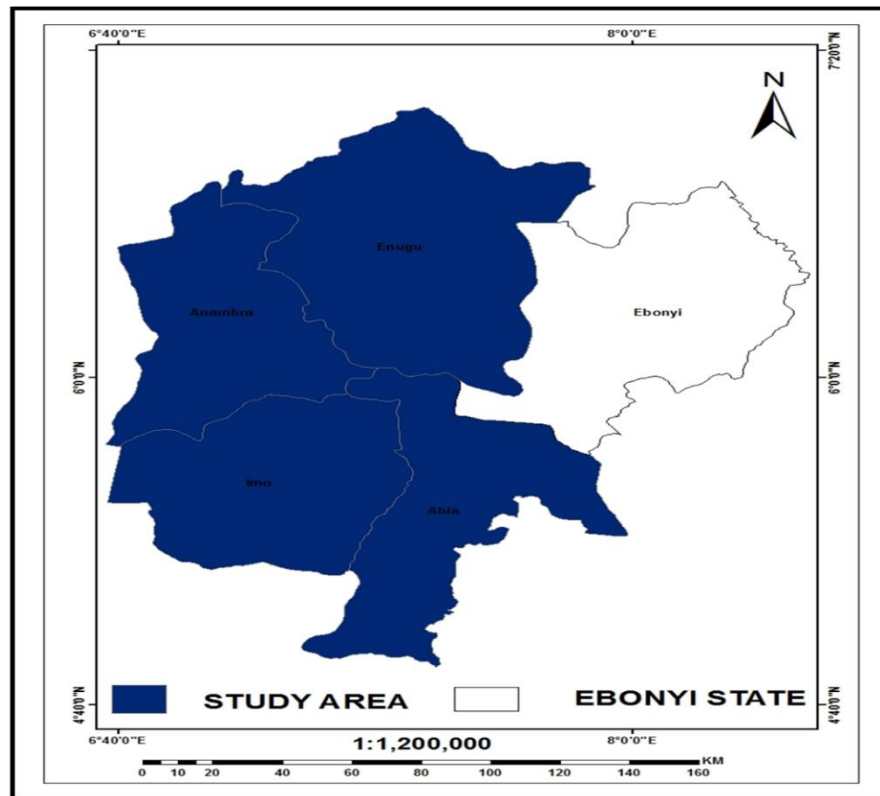
Figure 1: Map of South-Eastern States of Nigeria showing the Study area. Source: Atlas Map of Old Imo State (1991).

South-eastern Nigeria

MATERIALS AND METHOD

A descriptive survey was structured in this context to verify the extent of the availability of the environmental good (public recreational open space) and the role of governance (management) in ensuring functional public recreational spaces in major urban areas of south-eastern Nigeria. This method was preferred since according to Scott and Usher (2017); Freedman (2016) and Naoum et al (2016) it involves the collection of data on a large population and leads to simple frequency counts and relational analysis. The sample frame of 1500 from where the sample size of 1300 for the study was determined via percentage (10%)

The choice of descriptive survey research design has gained acceptability over the years, as Okujagu (2021) and Okoko (2000) asserted that such studies are suited for the examination of topical (relevant) conditions; and practices relating to any aspect of the environment.

Some aspects of the investigation require the use of weights to secure the level of functionality of extant public open space facilities, services and infrastructures, in a bid to probe their contribution to public recreational open space conversion. To achieve this, eleven (11) variables were first scored based on their usefulness to the subject under investigation, the selection of the study sample was influenced by the need to select a sample size that is fundable and manageable within the given time frame; the need to acquire definite data and information as concerns the study; and the need for correct interpretation of data collected and analysed from the study area.

The study, as well employed data evaluation method adapted from Al-Moghany (2016) which gave a percentage value interval of 0-25%, 26-50%, 51-75% and 76-100%, before being weighted. Assigning values to variables was done through questionnaire and records obtained during field observation. Assigning weights to variables was guided by the principles of weighted index standard. According to Poudyal et al. (2019), any weighted index ranging from 0.0-0.2 is regarded as being strongly inadequate, 0.2-0.4 as inadequate, 0.4-0.6 as moderately adequate, 0.6-0.8 as adequate, and 0.8-1.0 as strongly adequate.

Similarly, Relative Mean-score Analysis (RMA) was engaged to assess data on their relative performance and significance (Fellow and Liu, 2008). To assess RMA, data are first generated from questionnaire, and then ranked with their mean values determined. The parameter used to derive minimum acceptable standard for assessment was informed by Okoko (2000) as derived from Fellow and Liu (2008). The range covers 0.0-1.79 for no performance, 1.8-2.59 for low performance, 2.60-3.59 for moderate performance, 3.60-4.19 for high performance and 4.20-5.00 for very high performance.

The study was therefore conducted on a cut-off value of 3.40 to establish the accepted level of performance/significance/effectiveness;   this me ans that high performance/significance/effectiveness is   the benchmark for acceptance. The rating of very high performance also covers values in excess of 5.00 RMA rating (Okoko, 2000).

Table 1: Sampled professionals in the study area.

Target Population	Total Number	Total number Sampled
Professionals		
Town Planners	190	19
Surveyors	120	12
Estate Valuers	320	32
Architects	520	52
Builders	210	21
Engineers	220	22
Sub-Total	1580	158

Table 2: Public Open Space Vandalisation and conversion by the Sample Population in South-Eastern Nigeria.

States/Urban areas	Indicators				Mean Rank	Inference
	0-25% (1)	26-50% (2)	51-75% (3)	76-100% (4)		
Abia						Highly
Aba	5	38	99	438	3.95	Vandalised/converted
Anambra						Highly
Onitsha	2	5	33	312	3.86	Vandalised/converted
Enugu						Highly
Enugu	7	26	20	170	3.58	Vandalised/converted
Imo						Moderately
Owerri	4	25	55	61	3.19	Vandalised/converted

Note: (1) – (4) are weights from lowest to highest by which open space vandalisation is being evaluated.

Administration of Questionnaire and data collection process

The researcher maintained a combination of fixed or closed form and open-ended responses to questions asked throughout the study. Similarly, the face-to-face approach, according to Miller (1996), which involves administering the research questionnaire to respondents in the presence of the researcher or his assistants, was adopted. About 1300 persons from the sampled population returned their questionnaires duly completed. Hence about 1300 respondents were employed. Data were collected through sampled questionnaire and interviews.

Similarly, a total number of 1580 professionals were elicited. However, only 158 professionals being the product of 10% of the total number of professional sampled from the target population (Table 1).

Factors were selected based on their relevance to the subject matter.

RESULTS AND DISCUSSION

Table 2 shows the degree of public open space vandalisation in South-Eastern Nigeria. All urban areas surveyed indicated 76-100% level of vandalization, this is relatively very high. However, when the indicators were weighted, the mean values of Aba (3.95), Onitsha (3.86), and Enugu (3.58) specified high vandalisation of public recreational open spaces in the sampled urban area while the mean scores of Owerri (3.19) showed been moderately vandalised.

Table 3 explained the reasons for vandalising public recreational open spaces in South-Eastern Nigeria. Inadequate security (4.04), Unemployment (3.91) and lack of public orientation (public sensitisation) (3.63) were highly significant, while state of being dormant was rated as been significant at 2.70. However, urban indifference/being insensitive having a mean score of 2.46 was rated as been insignificant; which implies that urban indifference/insensitivity contributed marginally to public recreational open space vandalisation in the sampled urban areas.

Table 4 accounts for various factors that induce conversion of public recreational open space in south-eastern Nigeria. The data acquired from the responses of professionals in the built environment and public open space management indicates that competing land uses (58.23%) such as commercial, residential-commercial, institutional, residential, public and quasi-public (as agreed by 106 respondents) is the main stay of the factors responsible for a good number of public recreational open space conversions in the study area. Similarly, about 34 respondents representing about 18.46% see development control as one of the dominant factors contributing to the conversion of public recreational open spaces in the study area. Up to 20 respondents which indicate 11.00% think that professional concession in the form of receiving tips from developers by some development control staff and executive secretaries before approving building plans

Table 3: Reasons for Vandalizing and converting Public Recreational Open Spaces by Sampled Professionals in South-Eastern Nigeria.

Factors	Not Important (1)	Least Important (2)	Fairly Important (3)	Highly Important (4)	Very Highly Important (5)	Mean Rank	Inference
Dormancy	16	62	40	33	7	2.70	Significant
Unemployment	4	12	21	48	67	3.91	Highly significant
Inadequate security	3	15	24	46	70	4.04	Highly significant
Lack of public orientation	15	10	37	52	44	3.63	Highly significant
Urban indifference/ insensitivity	35	51	45	18	9	2.46	Marginal

Note: (1) – (5) are weights from lowest to highest by which responses are being evaluated.

Table 4: Factors Influencing Public Recreational Open Space Conversion in the Sampled States and Urban Areas of South-Eastern Nigeria.

Sampled States/Urban Areas	FACTORS					Total Response
	DEVCO	COLUS	LOFVO	POLIT	PROCO	
Abia						
Aba	17(23.94%)	37 (52.11%)	2 (2.82%)	8 (11.27%)	7 (9.86%)	**71**
Anambra						
Onitsha	8(15.91%)	31 (62.78%)	1 (0.85%)	4 (8.24%)	6 (12.22%)	**50**
Enugu						
Enugu	4 (10.31%)	24 (65.92%)	1 (3.14%)	3(8.07%)	4(12.56%)	**36**
Imo						
Owerri	3 (11.72%)	17 (64.14%)	2 (8.28%)	1 (5.52%)	3(10.34%)	**26**
Total mean of Distribution (%)	34 (18.46)	106 (58.23)	6 (3.16)	17 (9.15)	20(11.00)	**183 (100)**

KEY: DEVCO- Development Control; COLUS – Competing Land Uses; LOFVO - Low Financial Vote for Open Space Development, POLIT - Political Interference/Government Interest and PROCO - Professional Concession

meant for public open space operation is rated the third most influential factor responsible for public open space conversion in south-eastern states.

Political interference as believed by 18 members of the target population, which represents 9.15% of the total respondents, contributes marginally in influencing public open space conversion in south-eastern states of Nigeria. About 6 respondents accepted that the inability of the government to release sufficient funds for public recreational open space development in the area is another crucial factor inducing the conversion of public recreational open spaces in the study area, although this percentage (3.16%) appears insignificant when compared with development control, competing for land uses and professional compromise.

Table 5 depicts the existing situation of public recreational open space facilities in the sampled states of south-eastern Nigeria. The analysis shows that Abia State has an average weighted index score of 0.17 lower than that of Imo State, Enugu State and Anambra State which has 0.19, 0.20 and 0.22 as mean weighted indices respectively. Table 5 also reveals that none of the sampled states has up-to-date functional public recreational facilities; this is seen by none of the states measuring up to 0.5. This by implication means that public recreational facilities in the south-eastern states of Nigeria are inadequate. In some cases, some of these facilities such as children playground maintained lawn and sanitation scarcely exists, with some motorable roads and pathways, parking space and adult recreation

area, already being grossly dilapidated to a worse degree as is found mostly in Abia and to an extent, Imo and partly in Anambra state (Appendix 1).

Table 6 analyses the serviceability of public recreational open spaces in the sampled states of south-eastern Nigeria. The table shows that extant public recreational open space in Abia State is the least serviced in south-eastern Nigeria, as depicted by a very low weighted index of 0.13, followed closely by Enugu state (0.15). However, Anambra and Imo States, although lowly rated with 0.18 appears more serviceable when compared with the serviceability indexes of Abia (0.13) and Enugu (0.15) states.

The result on Table 3 moreover shows that Abia state and Enugu State public recreational open spaces are in a deplorable, despicable, and despondent situation that requires immediate attention, fundamentally on such service areas like availability of open space, public open space maintenance, service convenience and overall beauty of public open space. Other service areas that need absolute attention include the desirability of public open space, friendliness in terms of the outlook of the immediate environment and being nice to users; decency in appearance and infrastructural outlay and lastly offering an employment opportunity.

The deplorable situation in Abia and Enugu States conveys serious weakness in the management of public recreational open spaces in Abia State (Appendix 2). Furthermore, areas that need to be upgraded in

Table 5: Public Recreational Open Space Facilities in the Sampled States of South-Eastern Nigeria.

| Variables | Open Space Facility Indicators | | | |
	Abia	Anambra	Enugu	Imo
Motorable Road	0.13	0.32	0.29	0.21
Water Supply	0.30	0.25	0.18	0.11
Electricity	0.26	0.17	0.24	0.11
Parking Space	0.10	0.20	0.14	0.26
Children Play Ground	0.09	0.23	0.13	0.13
Security	0.09	0.15	0.16	0.15
Communication	0.14	0.16	0.22	0.13
Accommodation	0.09	0.17	0.17	0.15
Sanitation	0.09	0.25	0.18	0.25
Maintained Lawn	0.28	0.24	0.23	0.24
Adult Recreation Facility	0.29	0.27	0.31	0.30
Mean Total	**0.17**	**0.22**	**0.20**	**0.19**

Table 6: Public Recreational Open Space Services in the Sampled States of South-Eastern Nigeria

| Variables | | Open Space Service Indicators | | |
	Abia	Anambra	Enugu	Imo
Employment	0.09	0.13	0.12	0.21
Decency	0.24	0.13	0.17	0.16
Hospitality	0.09	0.18	0.11	0.16
Availability	0.24	0.20	0.13	0.21
Desirability	0.09	0.17	0.15	0.12
Proximity	0.09	0.15	0.16	0.24
Convenience	0.22	0.22	0.26	0.20
Accessibility	0.09	0.14	0.11	0.13
Aesthetics	0.09	0.21	0.13	0.24
Security	0.09	0.24	0.19	0.15
Maintenance	0.09	0.17	0.16	0.13
Mean Total	**0.13**	**0.18**	**0.15**	**0.18**

Anambra and Imo states are: availability, proximity, aesthetics, desirability and employment as their weighted score ranges from 0.13-0.18. For Imo state, an aspect that requires attention consists of proximity, maintenance and convenience.

By implication, Table 2 underscores the fact that recreational facilities have been highly vandalised, as a result, massive conversion of public open spaces has taken place, over time, in the sampled area. Also, the result from the sampled population suggests that the rate of vandalisation has been highly significant. This is corroborated by the findings of Freedman (2016) who stated that abandonment of recreational facilities is significantly responsible for the increased rate of vandalisation in urban areas.

The result from the data acquired from the responses of professionals in the built environment and public open space management supports the findings of Akintola-Arikane (2020) in planning for parks and recreation facilities in the Lagos metropolis. It indicated that competing land uses such as commercial, residential-commercial, institutional, residential, public and quasi-public is the main stay of factors responsible for a good number of public recreational open space conversions in the study area.

The inadequacy of public recreational facilities in South-Eastern states of Nigeria is a strong factor that induces public recreational open space conversion in the area, as users develop cold feet in public recreation, instead individuals resort to private recreations as obtained in club-houses and corporative recreational ventures. This result is supported by the findings of Jegede (2014) in his study on factors affecting parks and open spaces. He found out that vandalisation of public recreational open space is on the increase in his case study area.

CONCLUSION

From the interpretation of research findings, results showed increased vandalisation of public recreation activities leads to gross conversion of public recreational open spaces in the study area. This fact prompts a high rate of vandalisation and conversion of public recreational spaces in South-Eastern Nigeria as the management abandoned some of the recreational spaces, with dissuading costs like obesity, boredom and insomnia. Adequate exposure to recreational activities leads to fatigue and obesity among other things. In the same streak, public recreational open space vandalisation, not only leads to land conversion but encourages social aggressiveness and antagonistic behaviours since the people are not recreating in a bid to overcome boredom and fatigue.

To resolve these abnormal trends, there is the need to engage the service of Geographic information System (GIS) to spatially monitor and predict future possible occurrence and reoccurrence in the management of public recreational open spaces in South-eastern Nigeria. Besides, the private sector should be encouraged to invest in open space management and operations in the sampled states.

REFERENCES

Akintola-Arikane O (2020). Recreational space and recreational resource potentials of urban vegetal islands in metropolitan Lagos: A preliminary assessment in Urban and Regional Planning problems in Nigeria. Journal of Architecture, AARCHES 2(1): 98-103.

Akintude PG, Akintude VO (2019). Solutions to problems associated with development of sports faculties in rural and urban communities. Department of Vocational and Special Education, University of Calabar, Calabar, Cross River State, Nigeria.

Al-Moghany SS (2016). Mongering and minimizing construction waste in Gaza strip, an unpublished M.Sc. thesis in Construction Management. The Islamic University of Gaza- Palestine.

Freedman DA (2016). Statistical models for causation. UCB Statistical Technical Report; No. 651. www.stat. berkeley.edu/-census/651.pdf (Accessed 10 April2013)

ISGN (1991). Imo State Government of Nigeria. Atlas Map of Old Imo State. Official Gazette. White House Publishers; Government Press.

Jegede JO (2014). Planning for parks & recreation facilities in Lagos metropolis, Lagos. Omega Hi-Tech Information & Planning Systems Limited. Pp. 313-323.

Naoum SG, Fong D, Walker G (2016, October). Critical success factors in project writing. Paper presented at the International Symposium on Globalisation and Construction. CIB 2002. W107, TG23. School of Civil Engineering, Asian Institute of Technology, Thailand.

Obateru IO (2015). Basic elements of physical planning. Ibadan: Penthouse Publications.

Ogundele, J.A. & Jegede, A.O. (2019). Environmental influence of flooding on urban growth: Impact on the development of open spaces in Southern Nigeria. Journal of Environmental Resources Management, 6 (8): 12-16.

Okoko E (2000). Quantitative techniques in urban analysis, Ibadan: Kraft Books Limited. pp. 152-157.

Okujagu TN (2021). Research paradigms and trends in sociology of education, Munson Publishers; Port-Harcourt.

Poudyal NC, Hodges DG, Tonn B (2019). Valuing diversity and spatial pattern of open space plots in urban neighbourhoods. Environscope Journal of Economic Reasoning, 2(1): 12.

Scott O, Usher R (2017). Understanding education research, Rutledge. Silverman, D. (2015) *Doing Qualitative Research:* Apractical handbook, London: Sage Publications. Pp.175-189.

World Health Organization (2020). Global environmental health programme: implication for developing countries. http://www.healthsources.who.org/extafrsumaftps/Resources/ICA005.pdf(Access 12 May 2011).

Appendix 1: Open Space Facility Index Matrix.

OPEN SPACE FACILITIES

Variable	Abia 0-25% (1)	25-50% (2)	50-75% (3)	75-100% (4)	Weighted Index	Anambra 0-25% (1)	25-50% (2)	50-75% (3)	75-100% (4)	Weighted Index	Enugu 0-25% (1)	25-50% (2)	50-75% (3)	75-100% (4)	Weighted Index	Imo 0-25% (1)	25-50% (2)	50-75% (3)	75-100% (4)	Weighted Index
MRD	40	7	4	2	0.13	0	5	7	20	0.32	1	2	13	5	0.29	1	6	7	0	0.21
WSP	0	2	29	21	0.30	0	11	19	2	0.25	2	16	2	0	0.18	10	3	0	0	0.11
ELC	0	13	38	2	0.26	10	16	5	1	0.17	1	4	15	0	0.24	4	1	8	0	0.11
PKS	45	6	1	0	0.10	12	7	7	6	0.20	10	8	2	0	0.14	1	3	5	4	0.26
CPG	53	0	0	0	0.09	7	11	5	9	0.23	12	7	1	0	0.13	9	3	1	0	0.13
ARF	53	0	0	0	0.09	12	20	0	0	0.15	10	5	4	1	0.16	7	4	2	0	0.15
SEC	22	29	1	0	0.14	11	18	3	0	0.16	3	5	12	0	0.22	10	3	1	0	0.13
MTL	53	0	0	0	0.09	8	20	4	0	0.17	5	11	4	0	0.17	8	2	3	0	0.15
SAN	53	0	0	0	0.09	0	10	21	1	0.25	1	16	1	1	0.18	2	1	8	2	0.25
ACC	0	4	39	10	0.28	3	6	22	1	0.24	1	10	10	0	0.23	0	5	7	1	0.24
COMM	0	4	38	11	0.29	3	5	14	10	0.27	0	1	12	8	0.31	0	2	5	6	0.30
Mean Total					**0.17**					**0.22**					**0.20**					**0.19**

KEY: MRD – Motorable Road, WSP – Water Supply, ELC - Electricity, PKS - Parking Space, CPG - Children Play Ground, ARF - Adult Recreation Facility, SEC - Security, MTL – Maintained Lawn, SAN – Sanitation, ACC – Accommodation, COM – Communication.

Appendix 2: Open Space Service Matrix.

OPEN SPACE SERVICES

Variable	Abia 0-25% (1)	25-50% (2)	50-75% (3)	75-100% (4)	Weighted Index	Anambra 0-25% (1)	25-50% (2)	50-75% (3)	75-100% (4)	Weighted Index	Enugu 0-25% (1)	25-50% (2)	50-75% (3)	75-100% (4)	Weighted Index	Imo 0-25% (1)	25-50% (2)	50-75% (3)	75-100% (4)	Weighted Index
AVL	53	0	0	0	0.09	20	10	2	0	0.13	15	6	0	0	0.12	1	6	7	0	0.21
PRX	0	21	29	2	0.24	19	11	2	0	0.13	1	14	3	2	0.17	3	10	0	0	0.16
MTN	53	0	0	0	0.09	0	5	27	0	0.18	16	4	0	0	0.11	4	8	1	0	0.16
ACC	5	6	41	0	0.24	9	6	17	0	0.20	10	10	0	0	0.13	1	7	5	0	0.21
CON	53	0	0	0	0.09	12	11	9	0	0.17	12	4	2	2	0.15	9	4	0	0	0.12
AST	53	0	0	0	0.09	12	20	0	0	0.15	9	7	3	1	0.16	0	4	9	0	0.24
SEC	1	29	22	0	0.22	0	20	12	0	0.22	1	3	12	4	0.26	0	13	1	0	0.20
DES	53	0	0	0	0.09	19	9	4	0	0.14	15	5	0	0	0.11	8	5	0	0	0.13
HOS	53	0	0	0	0.09	1	21	10	0	0.21	10	10	0	0	0.13	1	3	8	1	0.24
DEC	53	0	0	0	0.09	2	7	22	1	0.24	10	7	2	3	0.19	5	7	1	0	0.15
EMP	53	0	0	0	0.09	13	9	10	0	0,17	7	13	1	0	0.16	8	5	0	0	0.13
Mean Total					**0.13**					**0.18**					**0.15**					**0.18**

KEY: AVL – Availability, PRX – Proximity, MTN – Maintenance, ACC – Accessibility, CON – Convenience, AST – Aesthetics; SEC - Security, DES – Desirability, HOS – Hospitality, DEC – Decency and EMP – Employment.