

# Determining Factors of the Use of Active Public Space: A Survey on the Urban Corridors of Ijen Boulevard and Jakarta Street

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**Abstract**— Public space is a place for which people carry out their activities. Urban public space represents the desire of urban communities to interact with the surroundings. The development of public space use is adjusted to the increase of public activities in terms of type and intensity. Many people use streets and parks to express their activities as they are types of open and easily accessible public spaces.

This study aimed to investigate the factors affecting the use of active public space, namely the corridors of Ijen and Jakarta street, and the quality of the two public spaces analyzed by using the Exploratory Factor Analysis. The variables studied were the characteristics of environmental psychology; the activities/utilization of each active public space and the preferences of the users. It was found that there were 7 (seven) factors affecting the use of active public space at the Ijen Boulevard and 3 (three) factors affecting the use of active public space at the Jakarta street. The active public space at Ijen boulevard managed to meet three of the public space criteria, including Meaningful, Responsive and Democratic. On the other hand, active public space at the Jakarta street fulfilled one criterion of public space, which was Democratic.

*Keywords*— Urban activities, use of public space, exploratory factor analysis.

# I. INTRODUCTION

Public space is a place provided for the community for doing their activities, including recreational and entertainment activities such as walking, taking breaks, relaxing, or social activities such as gatherings, official ceremonies, and sometimes, trading. Urban public space represents the desire of urban communities to interact with the surrounding environment (Edi, 2013). Public spaces can be green spaces, such as parks and gardens, play areas, sports facilities, and green corridors. Public spaces can also be civil spaces such as pedestrian streets and sports facilities. In an urban area, public open space has a recreational effect for the community in the midst of the busy city life.

The Ijen Boulevard corridor is an integrated design between the park and the residential area with the concept of colonial architecture. This corridor is one of the main streets in Malang City which was originally known as the elite residential of the Dutch. Ijen Boulevard extends from north to south with the intersection of the road completed neatly and equipped with a park. The active public space (park) is also present in the middle as the separator of the opposite pathway. The city forest on the Jakarta street corridor has now turned into an active public space. The park located on the Jakarta street corridor also has a special feature in the lighting system which is inspired by the Fireflies. The concept of this park is different from some thematic parks that have been built, one of which is its uniqueness as it is located in the middle of the street corridor.

The development of public space utilization goes hand in hand with the increase of the intensity and the type of activities. The lifestyle changes of the community in filling their spare time and entertainment also affect the use of public space. Many people use the street or park to express their activities as they are kinds of public spaces that are open and easily accessible by the community.

Generally, the city parks in Malang are mostly located in the spots that have been used for public open spaces from the first place, meanwhile, the parks at the corridor of Ijen and Jakarta Street were originally passive public spaces equipped with only their aesthetic elements and were not supporting the activities to be done in it. Nowadays, the use of public space for activities and interaction has become a phenomenon and also has a positive response, hence the government of Malang City did some renovations toward the parks. This was eventually triggered a significant change in utilization of the parks, hence it also requires further evaluation.

The increasing number of public activity carried out in the public spaces indicates a change of the public space utilization by the users. This demonstrates a high desire of the community toward the availability of public spaces that are easily accessible. Various changes in urban design in a certain region are indirectly caused by the changes that motivate people to do their activities. Activities that are done in public space arise because the public space itself is convenient and can accommodate the activities of the people.

In terms of space utilization, the community uses these public spaces for various activities, such as exercising, relaxing, and social politics activities besides being used according to its main purpose. Some parts of the road and park corridors are also used for informal sector activities at particular times and also by the community for other types of activities.

Based on this phenomenon, it is necessary to investigate the factors that influence the utilization of public space in Malang City in terms of the characteristics and preferences of current users. Analysis on the factors of public space utilization in this study was carried out using Exploratory Factor Analysis.





Fig. 1. Research Location 1 (Ijen Boulevard Park)



Fig. 2. Research Location 2 (Jakarta Street Park)

# II. METHOD

The stages of this study are identifying the factors that influence the use of active public space located at the corridors of Ijen boulevard and Jakarta street, and then analyzing whether or not the parks meet the requirements of public spaces quality. The variables studied in this research are based on the Theory of Environmental Psychology and considering the condition of public spaces where the data are collected. The instrument used for data collection is the questionnaire.

The method of data analysis implemented was the Exploratory Factor Analysis, which is used to determine the factors affecting the utilization of public space and then grouped based on the main criteria. Exploratory factor analysis is used in a condition where the formation of new latent variables is random, then, the results of the analysis are interpreted according to the factors or components or constructs formed. Data analysis was carried out using the SPSS program.

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The determination of sample number is done by using the Linear time function method since there was no data on the visitors of the corridors of Ijen and Jakarta street. Linear time function is a technique of determining the number of samples based on the estimated time constraints (Sari, 1993). The formula of Linear time function is:

$$u = \frac{T - t0}{t1}$$

- n = The number of samples
- T = Available time for a survey
- t0 = Time-constat of survey duration

t1 = Time use for sampling

Therefore, the sample size calculation is:

- T = 7 days x 24 hours/day = 168
- t0 = 10 hours/day x 7 days = 70
- t1 = 0,25 hour x 7 days = 1,75

$$n = \frac{108 - 70}{1.75} = 128 \text{ Respondents}$$

# III. RESULT AND DISCUSSION

In the Exploratory Factor Analysis, there are 8 (eight) variables that correlate with each other and group into one component. In this case, one component might have a significant relationship between variables but with relatively weak correlation with other component variables.

The Description of Activity in the Active Public Space at Ijen Boulevard

The character of users' activities in active public space on the Ijen Boulevard corridor can be seen from the data obtained from the questionnaires distributed to 128 respondents. The data include the type of activity, then the data was linked to the number of each activity based on the gender of respondents.

TABLE I	. The	Characteri	stics	of A	ctivit	y in	the	Active	Public	Space	at Ijen	
				Bo	mleva	rd						

		Ge	nder	<b>T</b> ( )
Activity		Male	Female	Total
Sport	Count	8	1	9
Sport	% of Total	6.3%	0.8%	7.0%
Short Proals	Count	18	9	27
Short Break	% of Total	14.1%	7.0%	21.1%
Cathoring	Count	27	23	50
Gamering	% of Total	21.1%	18.0%	39.1%
Waiting	Count	16	12	28
wannig	% of Total	12.5%	9.4%	21.9%
Othor	Count	9	5	14
Other	% of Total	7.0%	3.9%	10.9%
Total	Count	78	50	128
Total	% of Total	60.9%	39.1%	100.0%
Average percentage		12.2%	7.8%	

Source: Data Analysis, 2019

The type of activity with a percentage (%) more than the average percentage of each sex is expressed as the dominant



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type of activity. The dominant activities in male respondents were gathering and taking a short break. On the other hand, the dominant activities in female respondents were gathering and waiting (for someone or have an appointment).

The Description of Activity in The Active Public Space at Jakarta Street

Table II shows a description of activities carried out by the community in utilizing active public space at the Jakarta street corridor. Data were obtained from 128 respondents.

TABLE II. The Characteristics of Activity in the Active Public Space at Jakarta Street

Activity		Ge	Total	
Activity		Male	Female	Total
Coort	Count	13	6	19
spon	% of Total	10.2%	4.7%	14.8%
Chart Durals	Count	23	16	39
Short Break	% of Total	18.0%	12.5%	30.5%
Catharina	Count	21	26	47
Gattlering	% of Total	16.4%	20.3%	36.7%
W/-:+:	Count	7	5	12
waiting	% of Total	5.5%	3.9%	9.4%
Other	Count	7	4	11
Other	% of Total	5.5%	3.1%	8.6%
T-4-1	Count	71	57	128
i otal	% of Total	55.5%	44.5%	100.0%
Average percentage		11.1%	8.9%	

Source: Data Analysis, 2019

Based on table II, it can be seen that the dominant activities in both male and female respondents were taking a short break and gathering.

The Factors of the Use of Active Public Space at Ijen Boulevard

These are the results of the Exploratory Factor Analysis on the data of active public space utilization on Ijen Boulevard.

ΤΔΒΙ Ε ΙΙΙ	The Result	of MSA	Score -	Stage	
TADLE III.	The Result	01 MISA	score -	Stage	4

Anti-image				Auti-Image	Matrices			
Correlation	X3	X3	X3	X4	X8	Xe	\$7	X8
XI	-426*	-111	.095	• 103	-122	204	.038	.004
322	11)	.5442	050	+.027	+.016	+.069	.015	.049
X3	.055	.050	.9011	,073	.020	.074	+.0.39	- 038
3(4	- 103	+.027	.073	.334+	1009	~ 063	-010	045
X5	+122	016	.030	.009	.4534	- 227	.019	022
Xó	264	+.009	.074	+.063	< 227	.640	.004	.054
X7	.038	.015	+.039	010.	.015	.004	591+	.012
23	.004	.049	-038	.045	.022	054	.011	620*

Source: Data Analysis, 2019

The result of the MSA (Measures of Sampling Adequacy) score on stage 1 on the user preferences of the corridor park at Ijen Boulevard shows that indicators X1, X5, and X6 had scores less than 0.50. Thus, adjustments are needed to be made by eliminating the indicator with the lowest MSA value (X1, 0.426) and then reprocessing the Factor analysis.

TABLE IV. The Resu	It of KMO Score - Stage	l
KMO and	Bartlett's Test	
Kaiser-Meyer-Olkin Measure	of Sampling Adequacy.	.472
	Approx. Chi-Square	23.224
Bartlett's Test of Sphericity	df	28
	C:-	700

Source: Data Analysis, 2019

Stage 1 of the KMO (Kaiser-Meyer-Olkin) score on the preferences of public space user at Ijen Boulevard demonstrates the score of 0.491 (< 0.50). This indicates that the adjustment needs to be made.

TABLE V. The Result of MSA Score – Stage	ΤA	BLE V.	The Result	of MSA	Score -	Stage	2
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Anti-image	Anti-image Matrices									
Correlation	X2	X3	X4	X5	X6	X7	X8			
X2	.620*	.055	039	030	041	.019	.050			
X3	.056	.596*	.079	.027	,061	041	+.038			
X4	+,039	.079	.590ª	004	+.037	.014	.046			
X5	030	.027	004	.536*	204	.020	.023			
X6	041	.061	037	204	.543*	006	.055			
X7	.019	=.041	.014	.020	+.006	.539	.012			
X8	.050	038	.046	.023	.055	.012	.614*			

Source: Data Analysis, 2019

The MSA (Measures of Sampling Adequacy) score on stage 2 on the user preferences of the public space at Ijen Boulevard demonstrates that all indicators had the values greater than 0.50. Therefore, the requirement for Factor analysis based on the MSA value was fulfilled.

TABLE VI. The Result of KMO Score - Stage 2 KMO and Bartlatt's Test

KMO and Bartlett's Test									
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.									
Approx. Chi-Square	10.814								
df	21								
Sig.	.966								
	bartlett's Test of Sampling Adequacy. Approx. Chi-Square df Sig.								

Source: Data Analysis, 2019

The result of the KMO (Kaiser-Meyer-Olkin) value stage 2 on the public space users of corridor park at Ijen Boulevard shows a value of 0.563 (> 0.50), hence the requirement for factor analysis based on the KMO value has been fulfilled.

TA	ABLE VII. Lo	ading Factor – St	tage 2					
	Rotated Co	mponent Matri	x <sup>a</sup>					
	Component							
	1	2	3					
X2		.484						
X3		569						
X4		.619						
X5	.793							
X6	.747							
X7			.871					
X8			447					
C D.	4- A 1	210						

Source: Data Analysis, 2019 Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.<sup>a</sup> a. Rotation converged in 4 iterations.

Essentially, a public space must have 3 criteria. They are Meaningful, which means that the public space must provide the purpose and meaning to the local community individually or in groups; Responsive, which means that it is responsive to all user desires and can accommodate activities carried out in the public space; and Democratic, which means that the public space can accommodate the users of all layers of society without any discrimination. Based on the result of Factor analysis, it was found that the elements can be grouped into a smaller group. In this study, the major factors as the result of the elements grouping are Meaningful, Responsive and Democratic.



The result of Factor analysis demonstrates the determining factors of the use of public space which in this case is the corridor park at Ijen Boulevard. It was found that the variable X2 (The convenience in staying or doing the activities in public space), X3 (The convenience in using public space) and X4 (The setting of site elements) can be combined into 1 factor, with the loading factors value in Component 2. Furthermore, the variables of X5 (The user experience of direct interaction) and X6 (Active engagement with the area) can be combined into 1 factor, with the value of loading factors in Component 1. The variable of X7 (The desire for experience and new scenery) and X8 (Facility and utility) can be combined into 1 factor, with the value of loading factors in the column of Component 3.



Fig. 3. The Criteria of Public Space (Corridor Park) at Ijen Boulevard

The public park on the corridor of Ijen boulevard met the overall criteria of public space, including:

- *Meaningful* (can provide the purpose and meaning to the local community individually or in groups). In this case, it is associated with the chosen factor that the Ijen corridor park can provide experience in direct interaction and bring out the element of active engagement between users and the area. In other words, there is an emotional bond between the users and the public space.
- *Responsive* (responsive to all user desires and can accommodate activities carried out in the public space). This is associated with the chosen factor that the Ijen corridor park can provide the users' desire for the new experiences and scenery as well as the complete facility and utility. The park is well designed and managed by considering the interests of its users.
- *Democratic* (can accommodate the users of all layers of society without any discrimination). This is linked to the chosen factor that the Ijen corridor park is able to provide comfort in staying at the public space, comfort in utilizing public space, and the well setting of site elements. This reflects that the rights of public space users have been fulfilled and protected so that they are free to express themselves. The freedom of expression in this context is certainly still within the boundaries as the use of public space is also requires the tolerance between users.

The Factors of the Use of Active Public Space at Ijen Boulevard

This section explains the result of the Exploratory Factor Analysis on the public space use on the Jakarta street corridor.

Anti-image	Anti-image Matrices										
Correlation	X1	X2	X3	X4	X5	X6	XT	X8			
X1	.422>	066	.137	- 236	294	.148	.012	108			
X2	066	.491*	.196	-,064		~.106	.087	.041			
X3	137	.196	.461+	- 102	.177	007	.138	.019			
X4	- 236	064	- 102	.415	068	057	128	.028			
X5	294	~117	.177	068	.438-	.097	048	- 058			
X6	.148	- 106	4.007	057	097	422-	089	.060			
X7	.012	.087	.138	128	048	089	.451+	.049			
X8	- 108	.041	.019	028	- 038	.060	.049	520			

Source: Data Analysis, 2019

The result of the MSA (Measures of Sampling Adequacy) scoring on stage 1 on the user preferences of public space on the Jakarta street corridor shows that indicators X1, X2, X3, X4, X5, X6, and X7 have the score less than 0.50. Therefore, the adjustment needs to be made by eliminating the indicator with the lowest MSA score (X4, 0.418) and then reprocess the Factor analysis.

TABLE IX. The Result of KMO – Stage 1				
KMO and Bartlett's Test				
Kaiser-Meyer-Olkin Measure of Sampling Adequacy444				
	Approx. Chi-Square	42.610		
Bartlett's Test of Sphericity	df	28		
	Sig.	.038		

Source: Data Analysis, 2019

The result of stage 1 KMO (Kaiser-Meyer-Olkin) score on the factor of users preference toward the Jakarta street corridor demonstrates the score of 0.444 and less than 0.50, thus the adjustment needs to be made.

TABLE X. The Result of MSA Score - Stage 2

Anti-image	lien ne	5-55-2-	Ar	Anti-image Matrices			2207
Correlation	X1	X2	X3	X5	X6	X7	X8
X1	.427+	+.084	.117	.287	.139	019	104
X2	084	.484-	.191	122	110	.080	.043
X3	.117	.191	_509+	.172	+.013	.127	.022
X5	.287	+ 122	.172	.454+	.093	057	036
X6	.139	110	013	.093	.428-	095	.062
X7	+.019	.080	.127	+.057	098	.450-	.053
XS	104	.043	.022	036	.062	.053	.527+

Source: Data Analysis, 2019

The score of MSA (Measures of Sampling Adequacy) stage 2 on the user preferences of the public space on the Jakarta street corridor shows that indicators X1, X2, X5, X6, and X7 were less than 0.50. Therefore, the adjustments need to be done by eliminating the indicator with the lowest MSA score (X1, 0.427) and then reprocess the Factor analysis.

TABLE XI. The Result of KMO – Stage 2					
KMO and	Bartlett's Test				
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.					
	Approx. Chi-Square	32.442			
Bartlett's Test of Sphericity	df	21			

Sig

053

Source: Data Analysis, 2019



The result of the stage 2 KMO (Kaiser-Meyer-Olkin) score on the factor of users preference toward the Jakarta street corridor demonstrates a score of 0.463 (< 0.50), thus the adjustment need to be made.

Anti-image	Anti-image Matrices						
Correlation	X2	X3	X5	X6	X7	X8	
X2	.507 <sup>a</sup>	.203	102	099	.078	.035	
X3	.203	.532ª	.145	030	.130	.035	
X5	102	.145	.588 <sup>a</sup>	.056	054	006	
X6	099	030	.056	.462 <sup>a</sup>	096	.078	
X7	.078	.130	054	096	.454 <sup>a</sup>	.052	
X8	.035	.035	006	.078	.052	.518 <sup>a</sup>	

	<b>X7XX</b>	-	D 1.	c	1001	a. a	
TABEL	XII.	The	Result	ot	MSA -	- Stage 3	

Source: Data Analysis, 2019

The score of MSA (Measures of Sampling Adequacy) stage 3 on the user preferences of the public space on the Jakarta street corridor shows that indicators X1, X2, X5, X6, and X7 were still less than 0.50. Thus, the adjustment needs to be done by eliminating the indicator with the lowest MSA score (X7, 0.454) and then reprocess the Factor analysis.

TABLE XIII. The Result of KMO Score – Stage 3					
KMO and Bartlett's Test					
Kaiser-Meyer-Olkin Measure of Sampling Adequacy518					
	Approx. Chi-Square	17.557			
Bartlett's Test of Sphericity	df	15			
	Sig.	.287			

Source: Data Analysis, 2019

The result of the KMO (Kaiser-Meyer-Olkin) scores stage 3 on the user preferences of the public space on the Jakarta street corridor shows a value of 0.518 (> 0.50), hence the requirement for factor analysis based on the KMO score has been fulfilled.

Anti-image		Anti-i	mage Matri	ces	
Correlation	X2	X3	X5	X6	X8
X2	.549 <sup>a</sup>	.195	099	092	.031
X3	.195	.550 <sup>a</sup>	.154	018	.029
X5	099	.154	.581ª	.051	004
X6	092	018	.051	.481 <sup>a</sup>	.083
X8	.031	.029	004	.083	.515 <sup>a</sup>
	1 1 0010				

TABLE XIV. The Result of MSA Score - Stage 4

Source: Data Analysis, 2019

The score of MSA (Measures of Sampling Adequacy) stage 4 on the user preferences of the public space on the Jakarta street corridor shows that indicator X6 had a score of 0,481 (< 0.50). Therefore, the indicator X6 must be eliminated and the Factor analysis must be reprocessed.

TABLE XV. The Result of KMO Score - Stage 4

KMO and Bartlett's Test				
Kaiser-Meyer-Olkin Measure of Sampling Adequacy549				
Bartlett's Test of Sphericity	Approx. Chi-Square	13.293		
	df	10		
	Sig.	.208		

Source: Data Analysis, 2019

The result of the KMO (Kaiser-Meyer-Olkin) score stage 4 on the user preferences of the public space on the Jakarta street corridor shows a score of 0.549 (> 0.50), hence the

requirement for factor analysis based on the KMO score has been fulfilled. Furthermore, the result of MSA scoring on stage 5 is presented in the following table.

		Anti-image Matrices					
		X2	X3	X5	X8		
	X2	.945	.182	090	.038		
Anti-image	X3	.182	.931	.146	.029		
Covariance	X5	090	.146	.960	008		
	X8	.038	.029	008	.998		
	X2	.563 <sup>a</sup>	.194	094	.039		
Anti-image	X3	.194	.551ª	.155	.030		
Correlation	X5	094	.155	.593 <sup>a</sup>	008		
	X8	.039	.030	008	.406 <sup>a</sup>		

Source: Data Analysis, 2019

The result of MSA scoring (Measures of Sampling Adequacy) stage 5 on the user preferences of the public space on the Jakarta street corridor shows that indicator X8 had a score of 0,406 (< 0.50). Therefore, the indicator X8 must be eliminated and the Factor analysis must be reprocessed.

TABLE XVII	The Result of KMO – Stage 5
173.64	

KMO and Bartlett's Test				
Kaiser-Meyer-Olkin Measure	.563			
	Approx. Chi-Square	11.081		
Bartlett's Test of Sphericity	df	6		
	Sig.	.086		
D				

Source: Data Analysis, 2019

The result of the KMO (Kaiser-Meyer-Olkin) score stage 5 on the user's preferences of the public space on the Jakarta street corridor shows the score of 0.563 (> 0.50), hence the requirement for factor analysis based on the KMO score has been fulfilled.

		Anti-image Matrices		
		X2	X3	X5
Anti-image Covariance	X2	.947	.182	090
	X3	.182	.932	.147
	X5	090	.147	.960
Anti-image Correlation	X2	.569 <sup>a</sup>	.193	094
	X3	.193	.554ª	.155
	X5	094	.155	.593ª

TABLE XVIII. The Result of MSA Score - Stage 6

Source: Data Analysis, 2019

The result of MSA scoring (Measures of Sampling Adequacy) stage 6 on the user's preferences toward the public space on the Jakarta street corridor shows that all indicators had the scores greater than 0.50. Therefore, the requirement for factor analysis based on the MSA score has been fulfilled

TABLE XIX. The Result of KMO Score - Sta	ge
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6

KMO and Bartlett's Test				
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.				
Approx. Chi-Square	10.846			
df	3			
Sig.	.013			
	Bartlett's Test of Sampling Adequacy. Approx. Chi-Square df Sig.			

Source: Data Analysis, 2019

The result of the KMO (Kaiser-Meyer-Olkin) score stage 6 on the user preferences of the public space on the Jakarta



street corridor shows the score of 0.568 (> 0.50), hence the requirement for factor analysis based on the KMO score has been fulfilled. Furthermore, the result of the Loading factor on stage 6 is displayed by the following table.

Component Matrix <sup>a</sup>		
Variable	Component	
	1	
X2	.668	
X3	722	
X5	.616	

Extraction Method: Principal Component Analysis a. 1 component extracted

Source: Data Analysis, 2019

In general, several factors or components can be grouped into smaller groups (Meaningful, Responsive and Democratic) with suitable criteria according to the literature review. The result of Factor analysis revealed that the variable X2 (the convenience in staying or doing the activities in public space), X3 (The convenience in using public space) and X5 (The user experience of the direct interaction) can be combined be 1 factor with the value of loading factor in Component 1



Fig. 4. The Criteria of Public Space (Corridor Park) at the Jakarta Street

Based on the results of the analysis, three of the nine research variables have been chosen to be the determining factors of the use of active public space at the Jakarta Street corridor. These three factors can be grouped again according to the fulfillment of the criteria for public space. It can be concluded that the Jakarta street corridor has fulfilled one of the three public space criteria set by Stephen Carr (1992), which was Democratic (can accommodate the users of all layers of society without any discrimination). This finding is associated with the chosen factor that the public space at the Jakarta street corridor is able to provide comfort for the users for staying and doing their activities. In addition, visitors also feel comfortable using public space, as well as feeling the experience of direct interaction. This indicates that the rights of public space users have been fulfilled and protected so that they are free to express themselves. The freedom of expression in this context is certainly within the boundaries as the use of public space is also requires the tolerance between users.

# IV. CONCLUSION

Based on the findings, it can be concluded that:

- 1. The active public space on the Ijen Boulevard corridor is located in the middle of the city and complete with its constituent elements. This makes the public space convenient as a gathering point or a short break in the afternoon or evening. This also makes the two activities as the most dominant activities in terms of public space use.
- 2. The active public space in Jakarta street corridor is located in the middle of the education area of Malang City, complete with the constituent elements that make it convenient to be used as a gathering place and a short break in the afternoon or evening. In other words, the two activities are the most dominant types of activities in public space.
- 3. The results of the Factor analysis on the corridor of Ijen boulevard park indicated that the variables of the variable X2 (The convenience in staying or doing the activities in public space), X3 (The convenience in using public space) and X4 (The setting of site elements) can be combined into 1 factor, with the loading factors value in Component 2. Furthermore, the variables of X5 (The user experience of direct interaction) and X6 (Active engagement with the area) can be combined into 1 factor, with the value of loading factors in Component 1. The variable of X7 (The desire for experience and new scenery) and X8 (Facility and utility) can be combined into 1 factor, with the value of loading factors in Component 3.
- 4. The eight factors can be grouped again according to the fulfillment of the types of public space criteria. It can be concluded that the corridor of Ijen boulevard has fulfilled the overall criteria of public space based on Stephen Carr (1992). These criteria are Meaningful (can provide the purpose and meaning to the local community individually or in groups), Responsive (responsive to all user desires and can accommodate activities carried out in the public space) and Democratic (can accommodate the users of all layers of society without any discrimination).
- 5. The results of the Factor analysis on the corridor of Jakarta street demonstrated that the variable X2 (the convenience in staying or doing the activities in public space), X3 (The convenience in using public space) and X5 (The user experience of the direct interaction) can be combined be 1 factor with the value of loading factor in Component 1.
- 6. The three factors can be grouped again according to the fulfillment of the public space criteria. Finally, it can be concluded that Jakarta street park has fulfilled one criterion of public space criteria based on Stephen Carr (1992), namely Democratic (can accommodate the users of all layers of society without any discrimination).

# V. SUGGESTION

In order to enhance the quality and usefulness of the active public spaces, the authors kindly suggest these recommendations:

1. The availability of public open space has become an important requirement in urban development for the sake



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of sustainability of a comfortable and healthy life for the community. Thus, it is necessary to prioritize the provision of public space for urban communities. The availability of adequate public space can increase the comfort of the city community, and at the same time, attract the tourists.

- 2. Urban design will be better if it has a lot of public spaces for providing the comfortable, productive and sustainable space for the community.
- 3. The provision of public space must consider the criteria set by Stephen Carr (1992), including Meaningful (can provide the purpose and meaning to the local community individually or in groups), Responsive (responsive to all user desires and can accommodate activities carried out in the public space) and Democratic (can accommodate the users of all layers of society without any discrimination).

#### REFERENCES

- [1] Bappeda Kota Malang. 2010. Rencana Tata Ruang Wilayah Kota Malang Tahun 2010-2030. Malang.
- [2] Carmona, Heath, Oc Tanner, Tiesdell. 2003. Public Places, Urban Spaces. Architectural Press.
- [3] Darmawan, Edi. 2003. *Teori dan Kajian Ruang Publik Kota*. Semarang. BP.
- [4] Ghozali, Imam. 2005. Model Persamaan Structural Konsep dan Aplikasi dengan Program AMOS 19.0. Semarang: Undip.

- [5] Handinoto & Paulus. 1996. Perkembangan Kota dan Arsitektural Kolonial Belanda di Malang. Yogyakarta. Lembaga Penelitian dan Pengabdian Kepada Masyarakat Universitas Kristen PETRA.
- [6] Haryadi dan Setiawan. 1995. Arsitektur Lingkungan dan Perilaku. Direktorat Jenderal Pendidikan Tinggi, Departemen Pendidikan dan Kebudayaan.
- [7] Krier, Rob. 1979. *Urban Space*. London. Academy Editions Great Britain.
- [8] Parlindungan. 2013. Good Public Space Index Teori dan Metode. Research Centre of Public Space. Laboratory of Urban Design. Departement of Urban and Regional Planning. University of Brawijaya.
- [9] Riduan & Sunarto. 2007. Pengantar Statistika, Untuk Penelitian Pendidikan, Sosial, Ekonomi, Komunikasi dan Bisnis. Bandung. Alfabeta.
- [10] Rustam, Hakim & Hardi Utomo. 2003. Komponen Perancangan Arsitektur Lansekap, Prinsip-Unsur dan Aplikasi Desain. Jakarta. Bumi Aksara.
- [11] Singgih, Edi P. 2000. Ruang Berkumpul Informal Bagi Warga Kampus Dengan Kasus di Universitas Sebelas Maret Surakarta. Tesis. Program Studi Pasca-Sarjana Jurusan Teknik Arsitektur Fakultas Teknik Universitas Gajah Mada.
- [12] Soekanto. 2005. Sosiologi. Jakarta. PT. Raja Grafindo Persada.
- [13] Suryanto. 1988. Metode Statistika Multivariat. Jakarta. Depdikbud.
- [14] Sugiyono. 2012. Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung. Alfabeta.
- [15] Trancik, Roger. 1990. Finding Lost Space, Theories of Urban Design. New York. Van Nostrand Reinhold Company.
- [16] Widodo, Imam Dukut. 2006. Malang Tempo Doeloe. 2006. Malang. Bayumedia.