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A Method Proposal for Evaluation of Shopping Centers Regarding Standards Related with Accessibility

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Abstract

Shopping centers are used commonly by all users in the cities for many purposes. Every individual has a right to use and benefit from the amenities served in these buildings. Therefore, especially people with disabilities should be able to access and use these building without the restrictions of the physically built environment in these buildings. This study is prepared from the PhD. Thesis prepared by the researcher in Gazi University, Institute of Natural and Applied Sciences. In this study a method has been proposed to evaluate the implementation of international accessibility standards for built environment by the researcher and valuable information on the specific problems regarding these standards were collected by observation on a built shopping center. In conclusion recommendations were listed to make all areas of the evaluated buildings, accessible by the handicapped.

1. INTRODUCTION

This study is prepared from the PhD. Thesis prepared by the researcher in Gazi University, Institute of Natural and Applied Sciences [1]. The main purpose of this study is to observe and evaluate the existing implementations of universal accessibility standards on selected buildings and gather information on existing problems about accessibility within the built physical environments of the selected buildings. For this purpose, shopping center in the city of Ankara was selected for evaluation.

Shopping centers are used by all users in the cities for many purposes. Every individual has a right to use and benefit from the amenities served in these buildings. Therefore, especially people with disabilities should be able to access and use these building without the restrictions of the physically built environment in these buildings.

The implementation of international accessibility standards for built environment can be observed and evaluated by the researcher via the method developed and valuable information on the specific problems regarding these standards can be collected to make recommendations to make all areas of the evaluated buildings, accessible by the handicapped.

Using the method introduced in this study by the researcher, many other researchers also made contributions to the field of architecture by their research on the accessibility standards and the problems encountered within their relative built physical environments in their Master of Science in architecture thesis studies, all of them coordinated by the researcher, in the Gazi University, Institute of Natural and Applied Sciences.

Also, other studies are still ongoing as pending M.Sc. thesis studies in the Gazi University, Institute of Natural and Applied Sciences, with coordination of the researcher.

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Arslantaş (2013), Investigated the Municipality Buildings and Surroundings in Ankara in the Context of Turkish Standards on Accessibility. [2]

Dişyapar (2015), Examined a high school building and their surroundings in the Context of Turkish Standards on Accessibility. [3]

Akatlı (2016), Investigated the public library buildings in the city of Ankara in the Context of Turkish Standards on Accessibility. [4]

Bitigen Saylam (2016), Examined the Municipality buildings in Mersin- Mezitli District in the Context of Turkish Standards on Accessibility. [5]

Demirtaş (2019), Investigated The Nursing Homes and Their Neighborhoods in Eskişehir in the Context of Turkish Standards on Accessibility. [6]

Köse (2019), Investigated The Bartın University Campus and its Surroundings in the Context of Turkish Standards on Accessibility. [7]

Karagöz (2019), Investigated the Çankırı State Hospital Campus and Its Surroundings in the Context of Turkish Standards on Accessibility. [8]

The researcher also used the proposed method to evaluate the Gazi University Faculty of Architecture Buildings regarding Turkish Standards Related with Accessibility. [9]

The main Accessibility Standard which this study emphasizes on is the ADA Standards for Accessible Design. [19] These standards are one of the first widely accepted standards that are also selected as a guideline to many following standards including the Turkish Standards. [17, 18]

In this Study Firstly the Accessibility Values According to Evaluation Forms are evaluated. Each Evaluation forms has a scope of its own based on the ADA Accessibility Standards. Each form is applied to one or more Activity areas as required. All the answers from different areas are collected and gathered to form the General Accessibility Value (G.Ac.V.) of the building. Every forms contribution to the (G.Ac.V.) is then calculated as a percentage to understand the level of Accessibility deficiencies of the building.

Another the of Evaluation would be the evaluation of Accessibility Values According to Activity Areas and related Activity Areas. All activity areas and related areas are questioned with the Related forms. Then the Accessibility value (Ac.V.) of each Activity areas over the General Accessibiliy Value (G.Ac.V.) is calculated as percentages to display the effect of it on the total value.

With this kind of evaluation, a proposal for reconstruction and altering the built physical environment in favor of Disabled people would be possible. Also, the prioritization of the renovations would be easily scheduled. This way the unfavorable Accessibility Value (Ac.V.) of the most effected Activity area (or the Form) would be decreased and the building would have become a more Accessible and usable place for people with disabilities and mobility restraints.

This method proposed by the researcher in the Ph.D. thesis in the Gazi University, Institute of Natural and Applied Sciences, can be applied to all buildings and surrounding environments in order to achieve a more accessible and usable city not only for the handicapped user but also the elderly, fragile and less mobile individuals.

2. METHOD

A group of evaluation forms were prepared and applied on the selected buildings in order to observe the physically built environment and list the problems about accessibility of handicapped people. International accessibility standards were chosen as a basis for these forms and activity area specific forms was evaluated on existing areasof selected buildings.

Every Question in every form had three types of answers. An existing situation questioned in the survey can either be compatible (COMP) / not-compatible (N/COMP) or the question can be not applicable (N/APPL.). If a question is not relatable to any of these it is also answered as Invalid (INV). To make the evaluation of the activity areas in selected buildings comparatively evaluable, points were assigned to each type of answers. If an answer is compatible to the accessibility standards questioned, it is valued as 0 (zero) points. If an answer is not compatible to the accessibility standards questioned, it is valued as 3 (three) points. If the question could not be answered due to a previous not-compatible answer this answer is considered not-applicable and given 1 (one) point. (As it is also pointing out a deficiency in accessibility). An Invalid answer also gets 0 (zero) points.

With this method every activity area in the selected buildings can be observed and evaluated regarding accessibility standards and each activity area will have a Accessibilty value (Ac.V.) for itself. These values will be added to a total General Accessibility value (G.Ac.V.) of a building. Each activity area also can be evaluated regarding each other and within the building with this method. As a conclusion the percentages of each (Ac.V) of each activity are over the (G.Ac.V.) of a building has been calculated to describe and determine the priority of problems and practical solutions to these problems could be proposed to increase the accessibility of these public buildings.

Another type of evaluation was made about the types of Questions that are answered in these forms. Each question can be classified such as: 1. The Sufficiency of the Quantity of each requirement questioned (QUA) 2. Existence of a requirement (EXI). 3. Measurement compatibility with the standards (MEA). 4. Material compatibility with the standards (MAT). 5. The compatibility of the signage requirements in the building environment with the standards (SIG). These types of classifications can be used to determine which types of deficiencies are encountered within an existing building and can be used to propose solutions to these specific types of problems.

The evaluation Forms were applied in main and sub activity areas of the selected building in order to determine the deficiencies regarding accessibility standards. The activities of the selected building was classified and listed as follows: 1 Big Market Area (B.M.), 2 Retail Shops floors (R.S.), 3. Dining Area (D.A.), 4. Restaurant areas (R.A.), 5. Cinema Floor (C.F.) , 6. WC and Service (W.C.), 7. Closed Parking Area (P.A.), 8. Main entrance (M.E.), ,9. Vertical circulation areas (V.C.), 10. Horizontal Circulation Areas (H.C.).

As the Deficiencies or problems of accessibility are the main contributor to the (Ac.V) of activity areas, The higher the (Ac.V.) of a section the more problematic it is regarding Accessibility Standards. Therefore, the General Accessibility Value (G.Ac.V.) of a building will create a value that rises in proportion to the number of actions it contains and the increase in their internal accessibility problems. Higher (G.Ac.V.) will mean more problematic building.

In this article the existing situation of the selected building was evaluated in the Evaluations section and proposals for practical solutions to the problems encountered are listed in the Conclusions section.

3. EVALUATIONS

Table 1 Accessibility Values According to Evaluation Forms

Form 1	SCOPE	CLOSED PARKING AREAS							
Applied Activity Areas	1			NUM.of QUESTIONS	2	4	7	1	2
Activity Area (Ac.V.) Total	20,1			TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...
%1,2	16	7	6	1	2	%43,8	%37,5	%6,3	%12,5

Form 2	SCOPE	PASSENGER LOADING/UNLOADING AREAS							
Applied Activity Areas	1			NUM.of QUESTIONS	0	2	5	1	1
Activity Area (Ac.V.) Total	10,2			TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...
%0,6	9	3	3	2	1	%33,3	%33,3	%22,2	%11,1

Form 3	SCOPE	OUTDOOR ACCESSIBLE ROUTE ARRANGEMENTS							
Applied Activity Areas	3			NUM.of QUESTIONS	0	9	36	3	15
Activity Area (Ac.V.) Total	63,5			TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...
%3,8	63	30	12	21	0	%47,6	%19,0	%33,3	%0,0

Form 4	SCOPE	PAVEMENT RAMPS							
Applied Activity Areas	2			NUM.of QUESTIONS	0	16	14	2	8
Activity Area (Ac.V.) Total	36,0			TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...
%2,1	40	16	0	0	24	%40,0	%0,0	%0,0	%60,0

Form 7	SCOPE	RAMPS							
Applied Activity Areas	7			NUM.of QUESTIONS	0	49	112	7	0
Activity Area (Ac.V.) Total	338,0			TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...
%20,0	168	0	7	0	161	%0,0	%4,2	%0,0	%95,8

Form 8	SCOPE	STAIRS							
Applied Activity Areas	5			NUM.of QUESTIONS	0	45	50	0	0
Activity Area (Ac.V.) Total	207,0			TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...
%12,3	95	45	25	0	25	%47,4	%26,3	%0,0	%26,3

Form 10	SCOPE	ENTERANCE AND EXITS							
Applied Activity Areas	4			NUM.of QUESTIONS	28	44	12	0	28
Activity Area (Ac.V.) Total	57,2			TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...
%3,4	112	60	8	12	32	%53,6	%7,1	%10,7	%28,6

Form 11	SCOPE	DOORS AND PASSAGES							
Applied Activity Areas	5			NUM.of QUESTIONS	10	55	35	5	0
Activity Area (Ac.V.) Total	4,0			TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...
%0,2	105	65	0	40	0	%61,9	%0,0	%38,1	%0,0

Form 12	SCOPE	INDOOR ACCESSIBLE ROUTE							
Applied Activity Areas	13			NUM.of QUESTIONS	0	65	130	39	39
Activity Area (Ac.V.) Total	27,0			TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...
1,6%	273	156	0	117	0	57,1%	0,0%	42,9%	0,0%

Table 1. *Accessibility Values According to Evaluation Forms (Continued)*

Form 13	SCOPE	ELEVATORS							
Applied Activity Areas	1				NUM.of QUESTIONS	0	27	20	1	10
Activity Area (Ac.V.) Total	1,1				TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	
0,1%	58	44	0	14	0	75,9%	0,0%	24,1%	0,0%	

Form 14	SCOPE	ROOMS AND RELATED SPACES							
Applied Activity Areas	5				NUM.of QUESTIONS	0	25	120	10	10
Activity Area (Ac.V.) Total	51,6				TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	
3,1%	165	95	5	65	0	57,6%	3,0%	39,4%	0,0%	

Form 15	SCOPE	GATHERING AREAS							
Applied Activity Areas	5				NUM.of QUESTIONS	20	35	30	10	15
Activity Area (Ac.V.) Total	362,4				TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	
21,5%	110	10	30	10	60	9,1%	27,3%	9,1%	54,5%	

Form 16	SCOPE	TOILETS (WC)							
Applied Activity Areas	4				NUM.of QUESTIONS	0	124	232	8	4
Activity Area (Ac.V.) Total	100,4				TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	
5,9%	368	248	28	84	8	67,4%	7,6%	22,8%	2,2%	

Form 18	SCOPE	CHANGING ROOMS (SHOPS)							
Applied Activity Areas	1				NUM.of QUESTIONS	1	4	9	1	0
Activity Area (Ac.V.) Total	87,0				TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	
5,2%	15	2	8	0	5	13,3%	53,3%	0,0%	33,3%	

Form 19	SCOPE	SIGNAGE							
Applied Activity Areas	9				NUM.of QUESTIONS	0	99	54	0	0
Activity Area (Ac.V.) Total	240,0				TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	
14,2%	153	54	18	0	81	35,3%	11,8%	0,0%	52,9%	

Form 21	SCOPE	DETECTABLE WARNINGS							
Applied Activity Areas	2				NUM.of QUESTIONS	0	6	2	6	0
Activity Area (Ac.V.) Total	35,5				TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	
2,1%	14	2	2	2	8	14,3%	14,3%	14,3%	57,1%	

Form 23	SCOPE	RESTAURANTS AND DINING AREAS							
Applied Activity Areas	2				NUM.of QUESTIONS	6	10	20	0	0
Activity Area (Ac.V.) Total	46,8				TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	
2,8%	36	4	2	16	14	11,1%	5,6%	44,4%	38,9%	

Applied Activity Areas Total	70				NUM.of QUESTIONS	67	619	888	94	132
GEN. ACCESS. VALUE (G.Ac.V) TOTAL	1687,8				TYPE.of QUESTIONS	QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Form (G.Ac.V) %	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	
100,0%	1800	841	154	384	421	46,7%	8,6%	21,3%	23,4%	

QUANTITY (QUA)	3,72%	29	18	4	16	1,61%	1,00%	0,22%	0,89%
EXISTENCE (EXI)	34,39%	339	47	84	149	18,83%	2,61%	4,67%	8,28%
MEASUREMENT (MEA)	49,33%	356	80	250	202	19,78%	4,44%	13,89%	11,22%
MATERIAL (MAT)	5,22%	52	0	23	19	2,89%	0,00%	1,28%	1,06%
SIGNAGE (SIG)	7,33%	65	9	23	35	3,61%	0,50%	1,28%	1,94%
	ANSWER	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...	COMPATIBLE	N.COMPATIBLE	INVALID	N/APPL...

The Combined Table 1 shows the total number of answers gathered from all forms applied to all activity areas and the answers gathered (both numerical values and percentages over the G.Ac.V)

Form 15 About the Gathering Areas, provide 21,5% of the (G.Ac.V) and is the most problematic type of form in this study.

Form 7 about the Ramps of the Building provide the 20% of the (G.Ac.V.) and is the second most problematic type of form in this stuıdy.

Form 19 about the Signages in the building provide the 14,2% of the (G.Ac.V.) and is the third most problematic type of form in this study

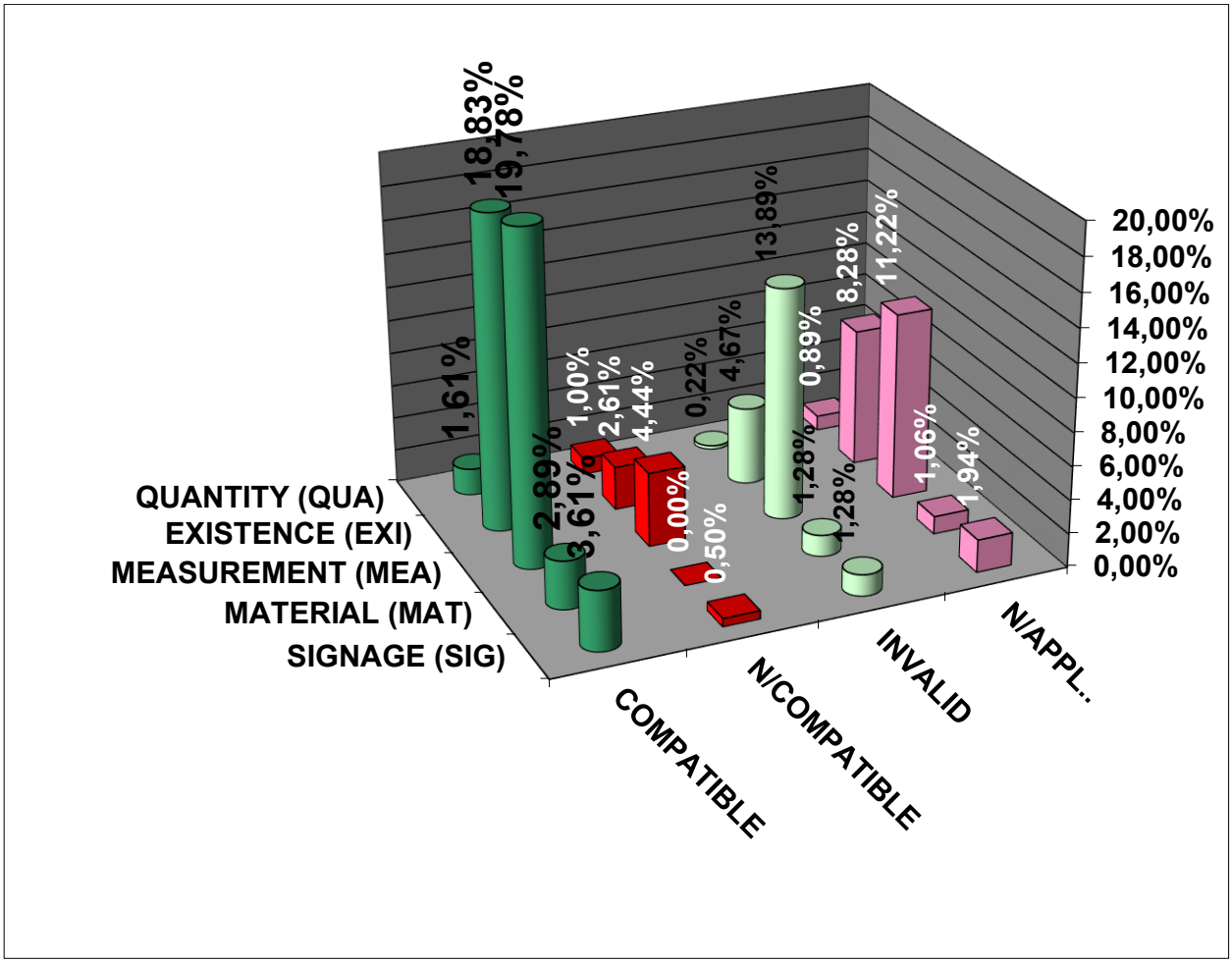

Figure 1. *Question Types and Answers and their percentages over the General Accessibility Value (G.Ac.V.) of the building*

The Figure 1 shows that most of the Compatible answers to the existence (EXI) and measurement (MEA) requirements of the Accessibility Standards. As observed from the Figure there are very few Not Compatible Answers as of 8.6%.

Table 2. *Accessibility Values According to Activity Areas and related Activity Areas*

Used Forms		1,2,4,10,11,19,21,7,8								
Activity Areas & Related Areas	(P.A)		NUM.of QUESTIONS			11	73	78	9	14
Activity Areas (Ac.V.) Total	211,4		TYPE.of QUESTION			QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Activity Areas (Ac.V.) %	ANSWER	COMPATIBLE	COMPATIBL	INVALID	N/APPL...	COMPATIBLE	NCOMPATIBLE	INVALID	N/APPL...	
12,5%	185	61	22	15	87	33,0%	11,9%	8,1%	47,0%	

Used Forms		3,4,7,8,10,11,12,19,21								
Activity Areas & Related Areas	(M.E.)		NUM.of QUESTIONS			16	147	198	19	39
Activity Areas (Ac.V.) Total	592,7		TYPE.of QUESTION			QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Activity Areas (Ac.V.) %	ANSWER	COMPATIBLE	COMPATIBL	INVALID	N/APPL...	COMPATIBLE	NCOMPATIBLE	INVALID	N/APPL...	
35,1%	406	142	44	54	166	35,0%	10,8%	13,3%	40,9%	

Used Forms		7,8,10,12,19								
Activity Areas & Related Areas	(V.C.)		NUM.of QUESTIONS			7	84	121	20	25
Activity Areas (Ac.V.) Total	188,9		TYPE.of QUESTION			QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Activity Areas (Ac.V.) %	ANSWER	COMPATIBLE	COMPATIBL	INVALID	N/APPL...	COMPATIBLE	NCOMPATIBLE	INVALID	N/APPL...	
11,2%	253	105	18	57	73	41,5%	7,1%	22,5%	28,9%	

Used Forms		7,12,19,								
Activity Areas & Related Areas	(H.C.)		NUM.of QUESTIONS			0	53	92	22	21
Activity Areas (Ac.V.) Total	81,4		TYPE.of QUESTION			QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Activity Areas (Ac.V.) %	ANSWER	COMPATIBLE	COMPATIBL	INVALID	N/APPL...	COMPATIBLE	NCOMPATIBLE	INVALID	N/APPL...	
4,8%	173	78	3	60	32	45,1%	1,7%	34,7%	18,5%	

Used Forms		12,15,16,19								
Activity Areas & Related Areas	(B.M.)		NUM.of QUESTIONS			4	59	90	10	10
Activity Areas (Ac.V.) Total	166,1		TYPE.of QUESTION			QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Activity Areas (Ac.V.) %	ANSWER	COMPATIBLE	COMPATIBL	INVALID	N/APPL...	COMPATIBLE	NCOMPATIBLE	INVALID	N/APPL...	
9,8%	173	93	15	42	23	53,8%	8,7%	24,3%	13,3%	

Used Forms		12,15,16,19,23								
Activity Areas & Related Areas	(D.A.)		NUM.of QUESTIONS			7	64	100	10	10
Activity Areas (Ac.V.) Total	142,5		TYPE.of QUESTION			QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Activity Areas (Ac.V.) %	ANSWER	COMPATIBLE	COMPATIBL	INVALID	N/APPL...	COMPATIBLE	NCOMPATIBLE	INVALID	N/APPL...	
8,4%	190	94	16	49	31	49,5%	8,4%	25,8%	16,3%	

Used Forms		11,12,15,16								
Activity Areas & Related Areas	(R.S.)		NUM.of QUESTIONS			2	52	85	9	7
Activity Areas (Ac.V.) Total	31,3		TYPE.of QUESTION			QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Activity Areas (Ac.V.) %	ANSWER	COMPATIBLE	COMPATIBL	INVALID	N/APPL...	COMPATIBLE	NCOMPATIBLE	INVALID	N/APPL...	
1,9%	153	96	7	48	2	62,7%	4,6%	31,4%	1,3%	

Used Forms		11,12,15,16								
Activity Areas & Related Areas	(C.F.)		NUM.of QUESTIONS			2	52	85	9	7
Activity Areas (Ac.V.) Total	29,5		TYPE.of QUESTION			QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Activity Areas (Ac.V.) %	ANSWER	COMPATIBLE	COMPATIBL	INVALID	N/APPL...	COMPATIBLE	NCOMPATIBLE	INVALID	N/APPL...	
1,7%	152	96	7	47	2	63,2%	4,6%	30,9%	1,3%	

Used Forms		7,12,16,								
Activity Areas & Related Areas	(W.C.)		NUM.of QUESTIONS			0	146	278	18	13
Activity Areas (Ac.V.) Total	157,8		TYPE.of QUESTION			QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Activity Areas (Ac.V.) %	ANSWER	COMPATIBLE	COMPATIBL	INVALID	N/APPL...	COMPATIBLE	NCOMPATIBLE	INVALID	N/APPL...	
9,3%	454	281	29	113	31	61,9%	6,4%	24,9%	6,8%	

Used Forms		7,8,11								
Activity Areas & Related Areas	(R.A.)		NUM.of QUESTIONS			5	32	43	2	0
Activity Areas (Ac.V.) Total	122,2		TYPE.of QUESTION			QUANTITY	EXISTENCE	MEASUREMENT	MATERIAL	SIGNAGE
Activity Areas (Ac.V.) %	ANSWER	COMPATIBLE	COMPATIBL	INVALID	N/APPL...	COMPATIBLE	NCOMPATIBLE	INVALID	N/APPL...	
7,2%	82	23	8	15	36	28,0%	9,8%	18,3%	43,9%	

The Table 2 Shows the Accessibility Values According to Activity Areas and related Activity Areas and their percentages over the General Accessibility Value (G.Ac.V.) of the building.

It can be Observed form the table that, the Main Entrance of the Building (M.E.) has contributed mostly to the general Accessibility Value (G.Ac.V.) of the building with 35.1. The second most problematic activity areas were the Closed Parking Areas (P.A.) of the building with 12.5%. The third most problematic activity areas of the building were the Vertical Circulation (V.C.) of the building with 11,2%.

The table also shows that there are a vast number of "COMPATIBLE" answers to Most of the questions. Nevertheless, this result would be important to acton the most problematic activity area and improve the Accessibility situation to improve more easily.

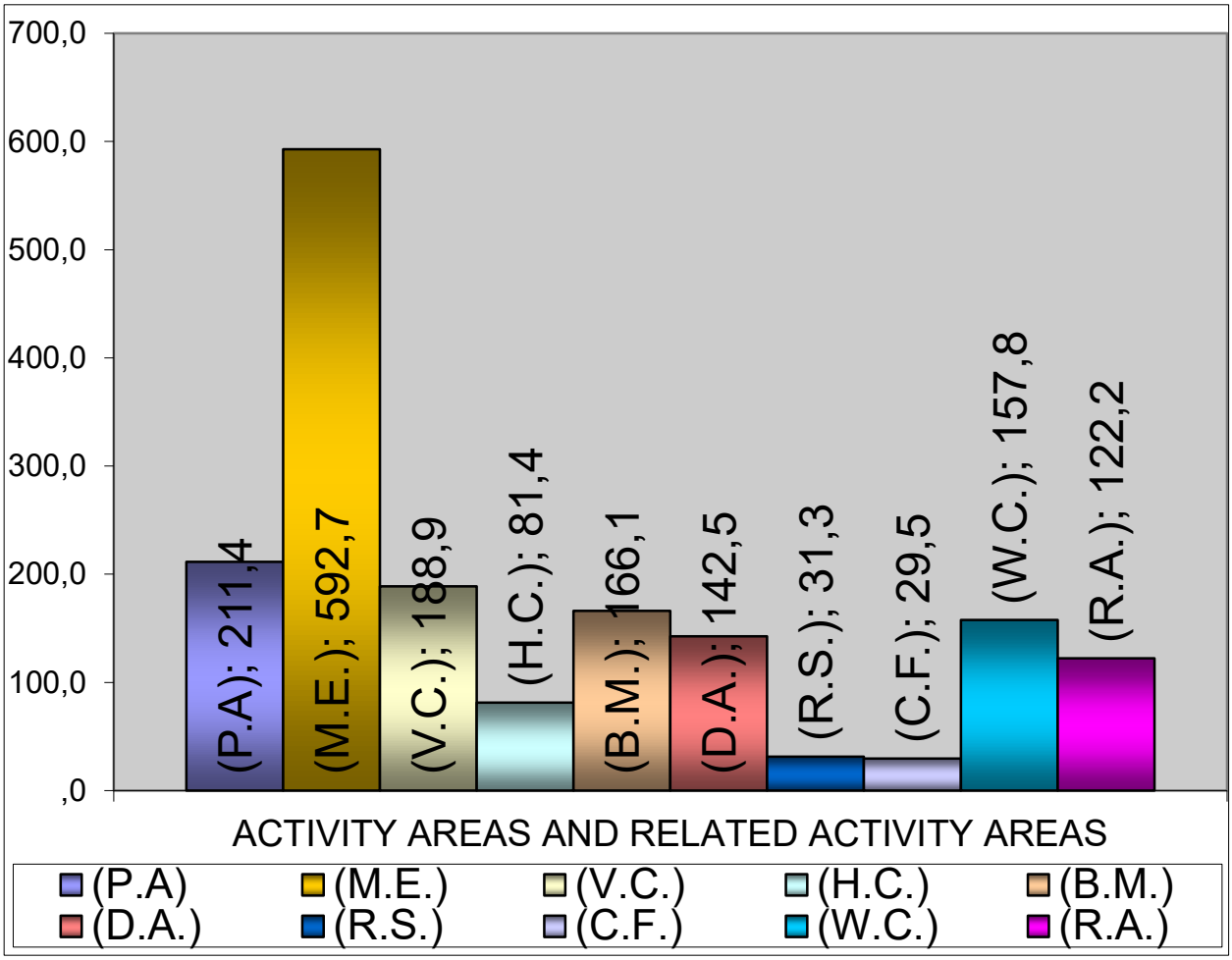

Figure 2. *Activity Areas and related activity areas values that contribute to the general accessibility Value (G.Ac.V.) of the building [P.A:Closed Parking Area, M.E: Main entrance, V.C: Vertical Circulation, H.C: Horizontal Circulation, B.M. Big Market Area, D.A: Dining Area, R.S. Retail Shops, C.F: Cinema Floor, W.C: WC and service areas, R.A: restaurant Areas)*

Figure 2 shows that, the majority of the Accessibility Value (Ac.V.) was collected from the Main Entrance (M:E) of the building. If an implementation of the Accessibility standards were to be apllied firstly to this activity area, the improvement of the Accessibility value would be very important.

4. CONCLUSION

The existing situation on the shopping center chosen for this study was observed to be positive and mostly compatible with the ADA accessibility standards for the handicapped people. The problems observed would be easily solved by small renovations and improve the quality of the shopping center not only for the disabled but also all other users.

The main entrance areas should be altered in a way that would ease the access of wheelchair users and visually impaired people by adding ramps and detectable warning on doors and wall. Also, Signage all around the building should be improved for way finding and orientation as well as emergency escape in cases of emergency.

This method proposed by the researcher in the Ph.D. thesis in the Gazi University, Institute of Natural and Applied Sciences, has been applied in many other M.Sc. thesis by man researchers and has been a concrete and effective way of determining the Accessibility problems in many kinds of buildings. Municipality buildings, High schools, Libraries, Elderly Care Facilities, University campuses, and city Hospitals are among many completed studies by other researchers.

Ongoing research are also conducted by the researcher with M.Sc. students about the Accessibility of historical environments and Emergency evacuation of handicapped people in cases of fire from buildings. Those studies are about to be concluded within the following years and valuable contribution to architectural education would be achieved.

CONFLICTS OF INTEREST

No conflict of interest was declared by the author.

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