

## Problems and Challenges of Prospective Accessible Heritage Tourism in Alexandria

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### Abstract

Accessible tourism is about making it easy for everyone to enjoy tourism experiences. Evidence shows that making basic adjustments to a facility, providing accurate information, and understanding the needs of disabled people can result in increased visitor numbers as well as improving the quality of life in local communities.

This paper aims to study the accessibility problems and challenges which prevent the improvement of this kind of tourism at some selected famous ancient sites in Alexandria. The accessibility challenges included multi-plinth levels within monuments, stepped access to reach important areas of tourist interest, lack of accessible amenities and facilities, untrained staff, community awareness and a resistance by the heritage conservation professionals to make changes in the built environment. It would be a necessary to strike a balance between the strict conservation norms and the needs of incorporating accessibility to make the sites “visitable” by all. Making heritage available for future generations is the core purpose behind sustainable conservation practices, which should include the participation of people from all ages and abilities. It is important to remember that people are not disabled; rather, it is poorly designed environments that create barriers which disable people. Furthermore, the sustainability benefits of achieving heritage accessibility is not only in the cultural domain, but environmental and economic as well.

May this study of Accessible Heritage could be a start to help make Egypt’s history and heritage accessible for people of all abilities for both international and domestic tourists.

**Keywords:** Attractions, Heritage tourism, Accessibility, Accessible Tourism, Alexandria.

### Introduction

Many people have access needs, whether related to a physical condition (e.g. wheelchair users, visual or hearing impairments, allergies) or for other reasons. For example, older and less mobile people, or people with pushchairs have access needs that can become a huge obstacle when going on a holiday. For those people, visiting historical sites can be a real challenge. Impediments in properly tapping the potential of this visitor segment are many. Indeed, these are more evident in the developing countries including Egypt.

Over the last years, a world-wide understanding has risen, that people with reduced mobility (PRM), include pregnancy, responsibility for small children, old age, etc., and especially people with disability (PWD) have the same rights to equally participate in social activities, in doing so many countries take more and more serious concern in providing easy access to their historic monuments and archaeological sites. The World Health Organization estimates that 15% of the global population, roughly 1 billion people, live with some form of disability. With populations ageing rapidly (people over 60 years of age will constitute 22% of the global population in 2050)<sup>69</sup>, the number of persons experiencing obstacles will rise. Most of us will develop some form of disability at some stage, and sooner or later we will have specific access requirements to tourism infrastructures, services and products (UNWTO, 2016).

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<sup>69</sup> World Health Statistics 2016: Monitoring health for the SDGs (WHO)

This means that the accessible travel market presents a golden opportunity for destinations that are ready to receive these visitors, since they tend to travel more frequently during the low season, usually accompanied or in groups, make more return visits and, in some parts of the world, they spend more than average on their trips. Therefore, facilitating travel and tourism for people with disabilities is not only a human rights imperative, but also an exceptional business opportunity. Providing access for persons with disabilities to heritage sites can mean that the sites become more accessible to a wide range of people with different needs, such as children and elderly people.

However the participation of PRM and PWD in cultural activities, unlike other social activities, has a special characteristic related to the restrictions caused by the nature of the cultural environment, which is the topology of the archaeological site, the constructions, etc., so tools appropriate for planning better access are very important.

Therefore the development of a special methodology which combines various types of information will improve accessibility conditions for PRM and PWD in cultural environments, and can be such a good tool. The goal is to find a way to more easily facilitate comfortable and safe mobility and to inform on accessible and safe ways providing personalized guidance information for every user. In doing so, this paper concerns the creation of a methodology to evaluate the accessibility of some monuments in Alexandria. A structured methodology has been elaborated theoretically in order to ensure a holistic approach on the issue of accessibility problems and challenges of Monuments. Appropriate checklists have been developed and next applied to evaluate the accessibility level of some historical sites in Alexandria. The data collected for each Monument were used for the preparation of alternative accessibility improvement solutions on final study level.

### **Literature Review**

Recent years have been witnessed many proactive actions from many countries and international agencies such as UNWTO, UNESCAP and European Union aimed at creating a better living environment for persons with disabilities as a right and not charity. Actually, the beginning of 'Tourism for All' initiatives can be traced to the activities of UNWTO in the early 1980s. Particularly, Manila Declaration on Global Tourism in 1983 was seen as endeavor aimed at making tourism more participatory and inclusive. UNWTO, then, initiated many concrete steps subsequently to achieve the goal of inclusive tourism. For instance, a document on tourism policy approved by the UNWTO General Assembly in 1991 states: "the right to tourism, which must be in harmony with the priorities, institutions and traditions of each individual country, entails for society the duty of providing for its citizens the best practical, effective and non-discriminatory access to this type of activity" (Creating Tourism Opportunities for Handicapped People in the Nineties (A/RES/284(IX) of 1991). Needless to record, tourists with reduced mobility citizens have been very much a part of the "Tourism for All" initiatives. Afterwards, a series of practical recommendations were formulated to make tourism accessible to persons with disabilities. This was reinforced by Article 2 of the Global Code of Ethics for Tourism of the WTO (1999), which has the backing of the UN General Assembly (2001). As a result many studies on accessible tourism has been conducted but most of them were European such as:

- The study, 'Economic impact and travel patterns of accessible tourism in Europe' (2014), examines the demand for accessible tourism by assessing its economic impact, as well as the demographic evolution and travel patterns of travelers with special access needs.

- The study, 'Improving information on accessible tourism for disabled people' (2004), assesses the availability of accessible tourism services and their performance.
- The study 'Mapping the skills and training needs to improve accessibility in tourism services' (1 MB) appraises the skills and competences needed by staff employed in tourism. This is important as improvements to accessibility in tourism cannot occur without a commitment to skills and training.
- The study 'Mapping and Performance check of the supply of Accessible Tourism services in Europe' presents extensive data on the availability and performance of accessible tourism services in 28 EU countries.

### **Importance of the Study**

Alexandria is a city with rich heritage, but unfortunately lots of its historic places had been lost because of the great extent or vanished beneath the sea water. Although most of the movable findings from all historical periods of Alexandria could be found in many museums around the world, the main archaeological sites and monuments can be found only in their original place. A visit to an archaeological site provides direct contact with the area and the Monument, an authentic experience which cannot be substituted by any representation (visual, audio, haptic). At the same time, in the developing countries including Egypt, it has been acknowledged that people with disabilities, elderly people, and new families with small children in prams all are not able to use many historical places and touristic attractions just because these places are not accessible for them, besides the existing environment is not conducive enough to realize the vast potential that the accessible market offers. Impediments in properly tapping the potential of this visitor segment are many. The major ones are lack of understanding about the market segment, viz. size, socio-economic and travel-related attributes and; the factors constraining their participation in tourism and travel activities.

If we put in our minds that a good level of accessibility leads to positive economic, social, cultural and environmental impacts on tourism, whereas low accessibility levels represent an undeniable impediment to tourism development, then making Alexandria heritage inclusive for all visitors to compose an integrated picture of the glory of the city throughout its historical phases; would let us be able to take full advantage of a golden business opportunity.

In addition, heritage and culture are inextricably connected to the tourism sector. Appropriate structures could enable the creation of networks among tourism suppliers such as travel agencies, guides, hotels and restaurants that will transfer each other creative and innovative ideas. Know-how exchange can trigger processes and set mechanisms useful to achieve extension of the tourist period. Steps towards a re-branding of the tourism product, with focus on quality, provided that professional communication tools will be enforced to attract a more targeted audience, will likely increase the possibilities of tourist repeat visits (Shaw and Williams, 2009). Furthermore this research presents a specific methodology which could be applied to any historical site to evaluate its accessibility according to the international benchmark.

### **Research Objectives**

We all wish that all of our Monuments and each part in them could become accessible but this is not always possible as Archaeological sites and Monuments by their nature do not allow major interventions to their structure in order to abolish the obstacles that make them inaccessible. Thus, a scientific methodology is needed to identify the potential problems with a Monument's

accessibility in order to determine the areas that can become accessible and pinpoint the necessary actions. So, the main objectives of this study can be summarized as follow:

1. Identify the accessibility problems and challenges which prevent the improvement of accessible tourism at some selected famous ancient sites in Alexandria which are The Catacombs of Kom el-Shoqafa, Kom el-Dikka, The Memorial of Diocletian /Pompey's Pillar and The Citadel of Qaitbay.
2. Develop a methodology for the evaluation of accessibility of archaeological sites and monuments to apply it to any area.
3. Define the visitors “tasks” and create a relevant “task model” to define their needs depending on their specific disability.
4. Present some solutions for accessibility improvement in the selected archaeological sites.

### **Research Methodology**

This exploratory study adopted combination of appropriate qualitative and quantitative research methods and the collected data were analyzed by the aid of software technology. Data were collected through three sources:

First source is official documents and reports about the areas of study.

Second source is Checklists (according to European Commission guidance, 2004)<sup>70</sup> for evaluating the accessibility of Monument’s Site which concerns the evaluation of the Monument’s building itself, including elements such as: general information, entrance, circulation, horizontal and vertical movement, services, signing, acoustics and lighting.

One of The Checklists used to evaluate the Monuments (European Communities, 2004)

<b>B) Getting in</b>							
Is the full length of the path clearly marked with orientation strips?						Yes/No	
How wide is the path to the entrance?						mm	
Are there clear information signs to the entrance?						Yes/No	
To enter the main reception/information/ticket sales area, is there a:							
Threshold	Yes/No	Height:				mm	
Ramp	Yes/No	Gradient:			Length:	m	
Steps	Yes/No	Number:			Height of step:	mm	
Revolving door	Yes/No	Alternative entrance:					
Swing or slide door	Yes/No	Width:					mm
Turnstile	Yes/No	Alternative entrance:					
Gateway	Yes/No	Width:					mm
What is the minimum height of information/ticket desks?						mm	
Are staff trained in disability awareness and available at all times?						Yes/No	
Is information/communication available in the following formats?	Standard text	Large print	Braille	Speech	Sign language	Induction loop	
	General communication with staff						
	Guidebook						
	Map						
	Concert/theatre/activity programmes						
	Menu						
	Are service (e.g. guide/hearing) dogs allowed?						Yes/No

<sup>70</sup> This guidance describes how tourist facilities, large and small, and destinations as a whole can improve the quality of the service that they offer to disabled people and others who will benefit from better accessibility.

Third source is structured interviews with local staff working in the site and tourists' guides that seeks to document their current approaches to people with disabilities. A random sample was chosen for the interviews. A questionnaire was designed for the purpose of achieving the research objectives. The questionnaire conducted based upon the Dichotomous Question.

### **Sample Size**

Four historic-cultural attractions were selected for this study. The selection was based on some specific parameters such as popularity, number of tourists visiting, vastness of the monuments and topography. The sites finalized for the study are the Catacombs of Kom el-Shoqafa, Kom el-Dikka, The Memorial of Diocletian /Pompey's Pillar and The Citadel of Qaitbay. A total of 30 archeologists and tourists' guides has been interviewed as part of the study.

### **Monuments' accessibility evaluation**

Using the previous three developed methods, an evaluation of the existing accessibility level took place over the Catacombs of Kom el-Shoqafa, Kom el-Dikka, The Memorial of Diocletian /Pompey's Pillar and The Citadel of Qaitbay. As a result of this evaluation, for each Monument, problems are identified and some solutions have been also suggested. The following table summarizes the main tasks a visitor of a Monument has to perform, problems that he/she may face during the various tasks phases, existing and/or proposed solutions for facing problems (table 1). Problems and existing/proposed solutions are listed according to the following main impairment categories:

- Wheelchair users and those with restricted mobility.
- People with sight problems.
- People with hearing problems.
- People with cognitive problems.

Table 1: Accessibility Problems and Solutions in Alexandria Heritage Sites

Tasks/ Categories of disables / Sites	The Catacombs of Kom el-Shoqafa	Kom el-Dikka Complex	the Serapeum/ (Pompey's Pillar)	The Citadel of Qaitbay	Proposed Solutions
A- Information retrieval on the city and its Monuments					
Wheelchair users and those with restricted mobility	Lack of appropriate information concerning accessibility provisions for any specific user group			Provision of appropriate information on the city Monuments and accessibility provisions by means of: -website -tourist information guides - social medias - disability support groups - leaflets and special editions	
People with sight problems					
People with hearing problems					
People with cognitive impairments					
B- Arriving at the Archaeological site/Monument					
1- Entering the sites/Monuments courtyard					
Wheelchair users and those with restricted mobility	steps – Threshold	-	-	-	Usage of a movable ramp
People with sight problems	- Identifying the door - Finding their way			Usage of appropriate haptic signs when necessary	
People with hearing problems	-			-	
People with cognitive impairments	Simple and easily identified arrangements			Appropriate training of personnel	
2- Buying a ticket					
Wheelchair users and those with restricted mobility	-	(Figure 2)	Height of information/ticket desk	-	Applying an alternative appropriate height and shape of information/ticket desk
People with sight problems	Orientation in approaching counter			Orientation guidance/ Appropriate training of personnel	
People with hearing				Appropriate personnel	

problems	Possible difficulties to communicate		training/ provision of text info
People with cognitive impairments	Possible difficulties to communicate		Appropriate personnel training/ provision of text info
3- General information on the Monument			
Lack of appropriate information concerning the monuments for each of the specific user group			
Wheelchair users and those with restricted mobility	Lack of info signs Height of (the rarely available) info signs (Figure 3)		Info signs on appropriate height
People with sight problems	Problems in perceiving visual information		Alternative provision of information (in brail for example) Use of appropriate haptic signs when necessary
People with hearing problems	Difficulties in perceiving acoustic information		Alternative provision of information
People with cognitive impairments	Difficulties in understanding information provided		Alternative provision of information
4- Going around in open spaces			
Wheelchair users and those with restricted mobility	Some difficulties in moving in open spaces, there are partly clear pathways but <u>no ramps.</u>	Little difficulties in moving in open spaces, there are partly clear pathways and ramps (Figure 4)	Usage of movable ramps
People with sight problems	Difficulties in moving in open spaces – orientation - perception		Appropriate arrangements and solutions in relation to open spaces usage by people of this category.
People with hearing problems	Difficulties in communicating/asking questions		Appropriate training of personnel
People with cognitive impairments	Difficulties in orientation, communication		Appropriate training of personnel
5- W.C. (unsuitable for disable) Figure 5			
Wheelchair users and those with restricted mobility	- Difficulties in entering the W.C., (there are steps and thresholds) - Difficulties in using the W.C. (lack of suitable toilet Furniture	Difficulties in using the W.C. (lack of suitable toilet Furniture - unsuitable	-Difficulties in entering the W.C., (there are steps and
			Appropriate design and construction, equipment of W.C.

	-unsuitable dimensions )	dimensions )	thresholds) -Difficulties in using the W.C. (lack of suitable toilet Furniture - unsuitable dimensions )		
People with sight problems	Difficulties in defining entrance, in using W.C.			Appropriate design and construction, equipment of W.C. Appropriate arrangements facilitating orientation	
People with hearing problems	Difficulties in asking questions, in using W.C.			Appropriate design and construction, equipment of W.C. Appropriate training of personnel.	
People with cognitive impairments	Difficulties in orientation, in using W.C.				
<b>C- Touring the main Monument/Building</b>					
Wheelchair users and those with restricted mobility	- Problems in going down the stairs to the main tomb. - Problems in moving within other tombs obstacles, surfaces, height differences.	- Problems in going down the stairs to the Roman Theater. - Problems in moving within other buildings obstacles, surfaces.	- Problems in going up the stairs to the Pillar. - Problems in going down the stairs to the substructure.	- Problems in going up the stairs to the main Tower.	- Appropriate facilitation of movement (if possible). - Alternative provision of information (visual aids)
People with sight problems	Difficulty in seeing the Monument			- Provision of voice information - Provision of haptic models.	

People with hearing problems	Receiving voice information	Appropriate training of personnel
People with cognitive impairments	Problems in perceiving and processing information	
D- Understand/ Interpret The Value of The Site		
Wheelchair users and those with restricted mobility	Due to the lack of accessible information for all kinds of the specific user groups in all of the selected sites, it would be then hardly to all of them to get the main idea or the precious value behind each Monument.	
People with sight problems		
People with hearing problems		
People with cognitive impairments		

## **Research Results**

Findings from the physical survey which was conducted over the four sites show that these sites are partly accessible, but not totally disability-friendly. In terms of accessibility for disabled people, the Serapeum is better for PWDs than the others. It is followed by Kom el-Dikka, The Citadel of Qaitbay and finally the Catacombs of Kom el-Shoqafa. Secondly, parts of the facilities in and around these sites such as car parks, info disks, ramps and staircases, were not readily accessible to PRMs & PWDs. Also, fittings, such as directional signs, underfoot warnings, Braille texts, and seats for wheelchair users, were absent in all of the Sites. In general Results of this research could be summarized as follow:

- 1- Obstacles to accessibility for people with disabilities encompass a broad range of elements including, for example:
  - Information, where presented in inaccessible formats.
  - Lack of awareness of the needs of people with disabilities.
  - The physical environment e.g. poor design, layout, signage, lighting, etc.
  - Service design e.g. where systems, procedures and practices can present obstacles.
- 2- Heritage sites can be made accessible when they are developed and adapted to meet the needs of those individuals who may otherwise not have access to them. In general, this can be facilitated by adopting a proactive and consultative approach to design and service delivery that does not compromise either the archaeological, historical or environmental characteristics of a heritage site.
- 3- One important result of this study is that the big problem is not the lack of financing, the bad infrastructure or even the inaccessible services and information. Actually the main barrier here is the lack of available guidance that holds them back and understand what they need to make their visit more accessible.
- 4- To remove barriers in access, we must first remove barriers in perception.
- 5- Accessibility is not an additional cost, but synergistic to sustainability objectives.

## **Conclusions**

Accessibility is not a requirement solely and exclusively for persons with disabilities, as they are not its only beneficiaries; tourism destinations that address these requirements and understand them as positive measures will see their product and service offerings evolve, thus facilitating the tourism experience and improving the quality of life of all their residents and visitors.

Access is generally interpreted to mean Physical and Perceptual access to the site, although this may be somewhat limiting in the selected Monuments. There are other barriers, including behavioral issues such as stereotyping (within marketing), a lack of relevant information, poor transport links and the belief that changing and adapting the nature of the product is expensive and unnecessary because of an apparent limited demand. However the best way to maintain historic buildings is to keep them in active and economic use, new and continued uses will generally necessitate some degree of adaptation.

Despite persons with disabilities, around the world, are participating more and more frequently in tourism activities as a result of their growing level of economic and social integration, little has been done on the provision of access for people with disabilities in Egypt. The fact that a large number of archaeological sites and Monuments exist in Egypt is particularly important, since they are a unique feature and a powerful attraction for tourists. In Alexandria in particular, there are some Monuments that could become friendlier to all visitors and not just to people with

disabilities, if their accessibility and perceptibility were improved, this will provide all of us with the opportunity to live the unique experience of visiting a Monument or an Archaeological Site.

### **Recommendations**

Based on the conclusions drawn, the following recommendations are made:

1. Improve cultural monuments accessibility to enable all visitors to enjoy cultural tourism.
2. Staff should be trained to deal with persons with disabilities courteously and expeditiously, to provide complete information about the monuments, and to offer assistance to facilitate their access to non-accessible cultural heritage sites.
3. Ensuring Physical and Perceptual access for all to and within the Egyptian Monuments.
4. Besides to the physical access, there is a must to ensure intellectual access in all of the historical sites.
5. Offering price-accessible entry.
6. Facilitate the provision of accurate and accessible information about tourism product, services, experiences, and destinations in Egypt.
7. Develop interactive comprehensive and user friendly supporting initiatives enabling the visitor's involvement.
8. Educational Institutions should develop and improve on curriculum to include subjects related to accessible tourism.
9. Develop a greater public awareness and build a positive attitude towards accessible tourism within the tourism industry in Egypt.

### **References**

- Americans with Disabilities Act Accessibility Guidelines (ADAAG), 1992. "Checklist for Buildings and Facilities" Available At < [Http://www.Accessboard.Gov/Adaag/Checklist/A16.Html](http://www.Accessboard.Gov/Adaag/Checklist/A16.Html)>
- Baris, E.M. and Uslu, A. (2009). "Accessibility for the disabled people to the built-environment in Ankara, Turkey", *African Journal of Agricultural Research*, Vol. 4.
- British Standards Institution (2001). *Design of buildings and their approaches to meet the needs of disabled people*, BS 8300, London.
- English Heritage, 2005. *Easy Access to Historic Landscapes*. English Heritage, <http://www.english-heritage.org.uk/upload/pdf/eahl.pdf> (Accessed 2016).
- English Heritage. 2005. "Easy Access to Historic Landscapes", Swindon, EH EU Council. 2003. "Council Resolution Of 6 May 2003 On Accessibility Of Cultural Infrastructure And Cultural Activities For People With Disabilities (2003/C 134/05)", *Official Journal Of The European Union*.
- Europe for all <http://europeforall.com/home.seam> (Accessed 2016).
- European Network for Accessible Tourism ENAT[official website]. Available at: [http://www.accessibletourism.org/resources/enat-a3\\_greek.pdf](http://www.accessibletourism.org/resources/enat-a3_greek.pdf) (Accessed 2016).
- Global Code of Global Ethics for Tourism <http://dtxqtq4w60xqpw.cloudfront.net/sites/all/files/docpdf/gcetbrochureglobalcodeen.pdf> (Accessed 2016).
- Goodall, B., Pottinger, G., Plimmer, F., Russell, H., Dixon, T., Leverton, P., 2005. *Historic Environments and Tourism: Improving Access for Disabled People*. College Of Estate Management, University Of Reading, UK.
- Hansen, J. (n.d.). "The Inclusive City: Delivering a more accessible urban environment through inclusive design", Faculty of the Built Environment, University College of London, London.

Imrie, R., Hall, M., 2001. An Exploration of Disability and the Development Process. *Urban Studies*, 38:2, Pp. 231-237.

Knowledge Transfer and Management in Tourism Organisations  
<http://epubs.surrey.ac.uk/59939/2/Shaw%20and%20Williams%20TM.pdf> (Accessed 2016).

Naniopoulos A. Et Al. 2010b. "Proposal of Functional Alternative Solutions in Pre-Study Level for Selected Monuments/Spaces", PROSPELASIS Project Deliverable, Thessaloniki.

Naniopoulos A. Et Al.2011. "Proposal of Functional Solutions in Final Study Level for Selected Monuments/Spaces", PROSPELASIS Project Deliverable, Thessaloniki.

Naniopoulos A. Et Al.2011b. "Handbook of Basic Principles for the Realization of Accessibility Improvements in Monumental Spaces", PROSPELASIS Project Deliverable, Thessaloniki.

Salmen, J.P.S. (2001). "U.S. Accessibility Codes and Standards: Challenges for Universal Design," Wolfgang F.E. Preiser & Elaine Ostroff (eds.), *Universal Design Handbook*, McGraw-Hill, Boston.

UNESCAP. 2003, Barrier-Free Tourism for People with Disabilities in the Asian and Pacific Region, United Nations, New York.

[http://www.addc.org.au/documents/resources/barrier-free-tourism-for-people-with-disabilities-in-the-asian-and-pacific-region\\_1062.pdf](http://www.addc.org.au/documents/resources/barrier-free-tourism-for-people-with-disabilities-in-the-asian-and-pacific-region_1062.pdf)

UNWTO Recommendations on Accessible Information in Tourism  
[http://dtxqt4w60xqpw.cloudfront.net/sites/all/files/pdf/a21\\_10\\_report\\_of\\_the\\_world\\_committee\\_on\\_tourism\\_ethics\\_add3\\_en.pdf](http://dtxqt4w60xqpw.cloudfront.net/sites/all/files/pdf/a21_10_report_of_the_world_committee_on_tourism_ethics_add3_en.pdf) (Accessed 2016).

UNWTO Recommendations on Accessible Tourism for All  
<http://dtxqt4w60xqpw.cloudfront.net/sites/all/files/docpdf/accessibilityenok.pdf> (Accessed 2016).

World Health Statistics 2016: Monitoring Health for the Sdgs (WHO).

Appendix



Figure 9: Entrance to the Roman Theater (taken by the researcher)



Figure 10: Roman Theater: height of information / ticket desks (taken by the researcher)



Figure 11: Lack of information sign (taken by the researcher)



Figure 12: Ramps lead to the Pillar (taken by the researcher)



Kom el-Dikka Complex



The Catacombs of Kom el-Shoqafa



the Serapeum/ (Pompey's Pillar)



The Citadel of Qaitbay

Figure 13: Bad infrastructure, unsuitable dimensions and lack of suitable toilet Furniture in all of the sites (taken by the researcher)

Toilet Dimensions

Source: Adapted from UK Guideline



Toilet Furniture Dimensions

Source: Adapted from UK Guideline

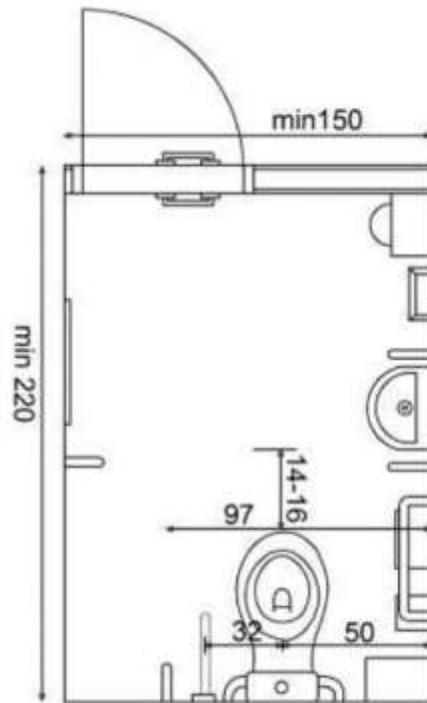


Figure 14: Ideal bathroom infrastructure standards