COUNCIL CONSEIL
OF EUROPE DE L'EUROPE

ACCESSIBILITY:
PRINCIPLES AND GUIDELINES

Handicap and integration

ACCESSIBILITY:
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Adaptation of buildings
in an accessible built environment

Council of Europe Publishing

CONTENTS

FOREWORD

The Council of Europe, founded in 1949, was the first European political organisation to be created. It now has thirty-one member states: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, lceland, Ireland, Italy, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, San Marino, Slovak Republic Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom of Great Britain and Northern Ireland.

Its aim has always been to work towards a united Europe, to improve living conditions, to develop human values and to defend the principles of parliamentary democracy and human rights.

The Council of Europe has a vast range of activities since only questions of defense are excluded from its competence. Where, however, some states wish to engage in an activity in which flot ail their European partners wish to join, they can conclude a 'partial agreement' committing only them selves.

Thus fourteen countries (Austria, Belgium, Finland, France, Germany, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom of Great Britain and Northern Ireland) have decided to co-operate particularly closely in the social sector within the Committee on the Rehabilitation and Integration of people with disabilities with the aim of promoting their social integration. The following countries take part in these activities as observers: Hungary, Ireland, Poland, Slovenia and Canada.

Part of this committee's work is entrusted to various committees of experts, one of which is the Committee of Experts on the Training of Personnel other than Health Care Personnel concerned with Rehabilitation (Architects and Town Planners). This Committee of experts was mandated to produce a brochure on accessibility and adaptation of buildings for people with disabilities of which the present publication is the first part.

I - RECOMMENDATIONS

Introduction

The conditions and quality of daily life depend very much on the environment in which we live, including buildings and transport.

To have a home which is adapted to one's capabilities, to be able to come and go without meeting obstacles and to use public places as one wishes — these are natural aspirations which most people take for granted.

However, about 10% of the population lives with disability, varying in degree, which prevents it taking part in daily life, or makes it difficult to do se. For medical arid demographic reasons, the number of people who are losing their autonomy will increase more and more in the coming years. Their social integration is, therefore, a major challenge in societies which value solidarity and openness and which respect individual freedoms.

Each country implements programmers which promote the integration of people with disabilities and, more widely, of people with reduced mobility and perception. Nevertheless, in an increasingly mobile society, in which lifestyles evolve, in which disabilities change and in which the aspirations of people with disabilities and their families increase, much remains to be done to create an environment which is accessible to everyone, which promotes choice of lifestyle at school, at work and at leisure and which avoids isolating and marginalizing an increasing proportion of the population: a real human disaster which costs more and more to society.

Fulfilling the legitimate right of people with disabilities to use the whole built environment will lead to important improvements in the comfort and safety of the whole population. A complete change in attitude must be achieved in order that disabilities are property recognized and integrated into the discipline of building and town planning.

The need to extend the concept of accessibility and obvious progress in this field since the publication of Resolution AP (84) 3 of 1984, justify in-depth consideration and updating of a policy on accessibility for everyone, reliant upon better training for decision-makers and more widespread information for the public.

Six approaches emerge as major objectives to pursue. They are:

Integrated solutions

Accessibility should be based on the adoption of integrated which space is conceived as a support to interactive relationships.

Building for everyone

The existence of architectural barriers is not only of concern to people with physical, sensory or intellectual disabilities. Account should be taken off all handicaps caused by particular situations. Designing and building for everyone is a socially and economically profitable investment.

Accessibility charts for existing areas

It is necessary to establish parameters and criteria for evaluating and potential accessibility. In this context, a regularly updated 'Accessibility Chart' is an important instrument which should be adopted as standard procedure in urban planning.

Monitoring

It is necessary to evaluate each solution. Rather than assume that models will always work as intended, they should be tested periodically. Monitoring the usage of space should be seen as a fundamental research need. Methods, parameters and tools for analysis and monitoring should be developed.

Integration in architectural education

t is important that the concepts of integrated accessibility and interactivity are incorporated into architectural education.

International co-operation

In all countries, the number of people with reduced mobility is increasing. Moreover, however paradoxical it may seem, they are more and more on the move. It is necessary, therefore, to exchange experience on access standards and legislation and their implementation.

1.1 Integrated solutions

All countries should encourage the development of integrated solutions to this problem in the home, the workplace, public buildings and the external environment.

It may also be necessary to introduce or revise national or local regulations to achieve proper accessibility for everyone. Where that is the case, the regulatory bodies should ensure regular liaison with organisations of and for people with disabilities.

Where proposals are made to introduce new regulations or amend existing ones, steps should be taken to consult with as many of these organisations as is practicable as well as organisations representing building firms, architects and responsible local authorities.

Interactivity of space

Since the improvement of accessibility seeks to facilitate normal usage of space, the response of the immediate environment to usage becomes an important issue.

The solutions envisaged should contain no architectural 'barriers'. They should accommodate a wide range of ancillary aids and be able to support interactive usage. It is also essential to produce solutions in which, along with improvement in accessibility, there will be an improvement in the freedom of choice offered to the user.

1.2 Building for everyone

Designing and building should take account of the diverse capabilities of human beings. The major difficulties experienced by people with disabilities are due, often, to the same obstacles encountered by people without disabilities, but who are handicapped for other reasons, such as their age, their family situation or their job. Taking account of the wide range of disabilities cannot but improve the quality and convenience of products and services provided for the population at large. The priority should be to provide accessibility for everyone in new buildings. This should be seen as a way of making life more convenient for everyone and, therefore, as an investment t the long run, since t takes account of changing lifestyles,

1.3 Accessibility chart — improvement of existing urban developments

Existing urban areas should be assessed in terms of their accessibility.

Since these areas form a major part of the living environment, a significant overall improvement in accessibility can only be achieved through modifying them. It is crucial that in all renovation work, increased accessibility major objective.

Despite the limitations associated with space in these areas, it is often possible to improve accessibility to them and better adapt then impairments.

A fundamental element in town and country planning should be the study of existing areas in order to identify:

— their scope for accessibility; and

— specific ways of achieving accessibility.

A regularly updated 'Accessibility Chart' should be established as a standard procedure in town planning. It should be made available as a source information for the general public. The chart should include an inventory of public buildings and spaces as well as classifications of existing potential accessibility.

Every effort should be made to co-ordinate classifications so that the exchange of information can become more effective.

1.4 Monitoring

The effectiveness of measures taken to improve accessibility cannot be ascertained without systematic analysis. The degree of success of each measure should be considered and problems emerging in use identified. It is therefore recommended that regular surveys should be carried out and that monitoring of usage should become a common procedure.

The parameters and criteria of classification should be compatible in order that the exchange of information and the assessment of progress more effective.

1.5 integrated solutions as part of architectural education

Until now, the subject of accessibility has been confined to courses for post-graduate architects and special seminars. Now, it has become necessary to integrate this concept into undergraduate study.

The objective behind 'barrier-free' design may take some time to implement: particularly in the private sector. It will necessitate changes in preconceived ideas and traditional design features, entrances with steps, for example.

In view of the need, not only for accessibility but also for a completely new approach to the concept of space, it is clear that nothing short of a policy of teaching integrated design will suffice. Such teaching should integrate the needs of people with any kind of disability whether physical, sensory or intellectual. Information concerning these needs should be obtained from people with disabilities themselves This would have a considerable impact on students of architecture and planning and help to reinforce the concept of consumer consultation.

Moreover, this represents an important condition for making progress in the search for models. Together with the development of methods of analysis and the evaluation of solutions, it should become an established part of architect and ergonomic curricula.

There should be an increase of continuous professional training by relevant institutions and the general public should be encouraged to take part in architectural research.

1.6 International co-operation

An exchange of information and research findings between member states on standards of accessibility and design for everyone is necessary. These activities should be extended to include products used in daily life in the home, the workplace and public buildings.

II — AN IMAGINARY JOURNEY

Considerations related to an accessible environment were included in a draft document on access prepared for the Commission of the European Communities. It identified these considerations describing an imaginary journey through the external environment and public transport to buildings. A number of paragraphs from that draft report have been reproduced here. The description of the journey is intended to increase the awareness of users, designers, regulators and building owners.

An imaginary journey

Just imagine you are at home and you want to go to, say, the office, the park, a shop, or a friend's house. On your way there, you will be able to give a sound evaluation of the built environment by constantly checking whether it is adequate to its purpose and whether you can reach your destination without difficulty. However if this is a journey you often do you may be tempted to find alternative ways. The moment you find yourself looking for alternatives you are already checking not only its functional adequacy but also its scope for interaction. As with this journey, you can also move round your own home and ask yourself whether it is right for you and if it will be suitable should your needs or wishes change.

This type of travel sequence is a helpful method of judging the existing environment and also of evaluating new plans. However no matter how detailed your approach may be, the reality is far more complex than you can anticipate. You need to follow up the process of usage so that you can draw accurate conclusions.

Approaching buildings

You continue your journey. From the public transport stop or — when using your own car — the parking place, you move towards your destination. This may be, for example, an office building, sports ground, post office, shopping centre or dwelling. To reach it, you will use footpaths, pavements and pedestrian crossings. Perhaps you will have to 'negotiate' differences in level.

You follow signs and on your way you might feel like taking a rest.

Moving around in buildings

If your destination is a public building — or a dwelling — you enter it and you move to the area of your choice. You then find yourself against the spatial structure of the building. You pass through doors and along corridors. You might use the stairs or perhaps you prefer the lift. You will find your way by following the signs. In case of an emergency, you should be able to use an escape route.

Use of specific areas

During your stay in the building you may use a whole range of areas with specific functions: places to congregate, to eat, to view, to communicate, to sleep. Generally, these areas will be accompanied by supporting facilities such as toilets.

Use of interior furnishings

In a building or dwelling, you can engage in all kinds of activities. In the course of these activities, you use interior furnishings like chairs, tables, cup boards, telephones, desks, shelves, and so on. The way in which such interior furnishings have been designed and fitted influences the ease with which activities can be performed. Other influential factors are the interior decoration finishing, the atmosphere and appliances.

Obstacles on a journey

A built environment which is designed with the 'average' person in mind incorporates numerous barriers in physical, sensory and intellectual terms. Sometimes barriers are difficult to overcome and sometimes they are insurmountable, depending on the type and seriousness of those limitations. Some people can only engage in certain activities with great effort or not at ail. Barriers in the built environment restrict their opportunities to act in society in an independent or natural way.

The sort of journey, described here, helps identify barriers in the existing environment.

Public transport

For many people, buses, trains and taxis are difficult or even impossible to use, Problems arise at the very outset with getting in. For wheelchair users, the height difference between 'outside' and 'inside' the vehicle is insurmountable.

For people who cannot fully use their arms and legs, it is difficult to climb steep steps which often exist. People with prams can only get in when they are helped. Aisles are mostly narrow and often crowded, making it difficult to accommodate prams, wheelchairs or people with suitcases.

Often it is impossible for people to reach a safe place before departure. Straps for standing passengers are mounted too high for many people and, often, they cannot be used by people with impaired arm functions. Often seating space for tall and stout passengers or people with stiff legs is too restricted.

Finally, those people who had difficulty getting in face even more difficulty getting out.

Outdoor environment

At the public transport stop, new bottle-necks may arise. A bus stop can be inaccessible because cars are parked in front of it.

Difficulties may arise if the surface of the bus stop is too smooth. Very often there are no signs or they are difficult to read and therefore it is not immediately clear where you are alighting.

Parking your own car may also cause problems. Not only because of the shortage of parking places, but also because of the fact that there s only a very limited free area for each parking place. Wheelchair users and people with crutches, for example, require some extra space for getting in and out of a car.

Continuing your journey in the open, you may come across a number of obstacles. Narrow pavements and footpaths are difficult for people who need extra space for moving. Uneven streets and/or streets with smooth surfaces are difficult or even risky to cross, for most people. If the kerbs are interrupted, the blind or partially-sighted who use the kerbs as guiding lines may become disorientated.

A pedestrian crossing is a difficult obstacle for all, but especially for those who can only move very slowly. Furthermore it s difficult for people with sight or hearing difficulties to assess the situation in the street.

Differences in level are insurmountable for most wheelchair users, and they constitute difficult obstacles for many others. Unexpected obstacles that are not indicated in one way or another can even be dangerous for the blind and partially-sighted. People who are unfamiliar with the environment depend on clear signposting.

Street furniture may enhance the environment, but it may represent a barrier if it is located on a walking route. Tall people must bend for low-hanging objects. Unexpected objects can be dangerous for the blind and partially sighted. Furthermore, objects sometimes are obstructive far wheelchair users or people with prams.

However, street furniture can also contribute to accessibility.

Sign posts are necessary, as 15 good lighting. Facilities for taking a rest are indispensable for people with reduced physical stamina or who are carrying heavy bags.

Signs

Signs are based on the user's capacity to interpret, learn, understand and use symbols.

They aim at giving information on routes in public areas and also on the exact location of facilities (for example toilets, an information centre, connecting trains in a station).

They contribute to people's autonomy of movement but can also, if not used carefully, worsen or create situations of dependence.

The codes used should therefore be simple and limited in number and easy to understand by everybody, particularly by people who cannot or who do not know how to read.

Finally, signs and information materials must be coherent.

Approach to the entrance

It is important that the approach to the entrance is reasonably level and wide and free from obstruction. Blind and partially sighted people need to be made aware of safe routes to buildings and the location of entrances. Entrance doors should contain glazed visibility zones so that people may see and be seen by other users of the building.

Indoor Layout

Very often, the entrance inside is already the first barrier you encounter, There may be steps, or the door may be too narrow or too low. The door

step may be too high or the hall not wide enough. Sometimes the corridors turn out to be too narrow, whereas difficulties arise with the opening width of inside doors. Upper floors are more difficult to access than ground floors. Many people can only use stairs with great difficulty: they depend on ramps and lifts, which must be designed to be adequate for effective use.

People with impaired sight may have difficulty in identifying steps, individually or as parts of stairs. Ramps in exposed locations may become slippery in adverse weather conditions. Some people feel insecure on ramps and prefer easy-going steps and stairs.

No one particularly likes to have to escape in an emergency situation, e.g. in case of fire. People who are less mobile are especially vulnerable in this respect. The lift that took them upstairs may be disconnected for safety reasons and they may not be able to use the stairs without assistance. They need to be assured of properly planned and protected escape routes as well as management strategies which include assistance in using them.

If the design of a dwelling does net provide any facilities for the accommodation of its occupants, particularly those with a physical handicap, the house will no longer be fit to live in if one of them becomes disabled. The entrance area wilt be too narrow, the upper floor cannot be reached, corridors and doors will be too narrow. The occupants must decide either to have their house altered — which often involves high costs — or to move to another house. They may even have to give up living on their own.

However, there may be other features which can simply be incorporated into an existing dwelling to suit the changing needs of the occupants with a disability as it begins to manifest itself. If the house is not capable of being adapted to the needs of visitors, the visits may have to be cancelled.

Specify areas

Facilities such as toilets, bathrooms or dressing rooms have in general tightly controlled dimensions and are designed for their particular purposes. If the dimensions and designs are based exclusively on the possibilities of 'the average person', a number of people will be unable to use them.

In a dwelling, the balcony and the storage room can also be seen as areas which are designed in accordance with a very restricted dimensional co-ordination. Many dweilings are too narrow for people who need more room for manoeuvring, because of a physical limitation. If the balcony and the storage room are unusable for the occupants, the house will not meet the needs of the occupants.

Interior design

The quality of finishing and design determines whether a building can be used by everybody. The design and finishing constitute the final link of the travel sequence. A facility which is addressed to everyone may not be fit to be used if it fails to be accessible. A coat rack that is mounted too high cannot be used by short people, children and wheelchair users. The same applies to cabinets, cash desks, telephones and letter boxes,

Furthermore, the view, the ease with which doors and windows open and close and the design and location of the fixed furniture are factors that influence the usability of a building or dwelling for people with physical impairments. For people who are blind or partially-sighted and people with impaired cardiac and pulmonary functions or respiratory systems or who have allergies, special attention must be given to the choice of materials, the use of colours, texture of materials and the interior climate.

The design and finishing of dwellings depend primarily on the occupants' individuate needs, wishes and taste. In general, interior design is their own responsibility. If an occupant is confronted with a physical limitation, it may become necessary to adapt certain aspects of the interior design to their individual needs: a new sink unit in the kitchen, for example. The house will no longer be fit to live in if changing needs cannot be met for technical or dimensional reasons.

Conclusions

From this imaginary journey, it is hoped that those who have taken it will be better able to recognise what is needed to improve it and to know what objectives should be set in designing new environments. In doing that it is important to be conscious of the need to balance provisions so that the safety and convenience of one person is not prejudiced in the attempt to satisfy those of another.

III — BUILDING FOR AIL: PUSHING BACK FRONTIERS

In the past, the built environment was based upon the standard average. Yet, every individual deviates from this average, reflecting not only the dimensions of the body and physical abilities but also perception and psychology. The consequences of using such standards were developments which proved unsuitable for many people, among whom were those suffering from disabilities.

This mistake was clearly identified by M. J. Moroney: It is an easy and fatal step to think that the accuracy of our arithmetic is equivalent to the accuracy of our knowledge about the problem in hand.'

The environment often constitutes a hindrance for anyone deviating from the average. Certainly, anyone who has had a broken leg and has spent time in plaster has been faced with an environment which has suddenly become difficult to cope with.

Frequently, one can see people with shopping trolleys, suitcases or large parcels, people in wheelchairs or who have difficulty in walking, or those with pushchairs, all struggling to get through an entrance. And blind people may suffer bruising from colliding with poorly-sited street furniture.

Many people find that their ability to use the built environment is restricted because the design process failed to take account of their deviation from the standard average. However, the consequences of such mistakes in design were not limited only to those whose deviation from the average was most obvious. In recent years, we have witnessed the rejection of whole sections of our cities by the very people for whom they were sup posed to be suitable.

Awareness of the limitations imposed by such environments on some members of the community prompted several methods of dealing with them. The efforts fell into three principal categories:

— the individual approach

— the itemised approach

— the integrated approach.

Initially, the individual approach viewed the problem as a direct consequence of individuals' limitations. It proved to be a somewhat limited approach In the first place, it dealt principally with physical disabilities which could not be overcome effectively, simply by providing individual aids. Secondly, it did not address the broad range of psychological and sensory impairments.

Eventually, it was found that more significant results, even in the development of individual aids, could only be attained by introducing changes in a number of standards used to shape the environment.

The itemised approach was intended to reduce the handicaps of people with specific physical impairments by introducing special facilities into the normal environment. Examples of this approach include the provision of separate entrances, specially adapted toilets for wheelchair users, induction loops for the 'hard of hearing' and housing for elderly people. This 'item ised approach' still views people with disabilities as exceptions to the rule.

Even though the scope of usability has been extended by combining the 'individual' and the 'itemised' approaches, there remains a degree of uncertainty about the parameters used.

In many cases, solving one problem only reveals another, For instance, there is little point in providing wider entrances for wheelchair users into buildings which, themselves, cannot be reached. On the other hand, it is not only impossible to itemise each and every difficulty to be catered for by specific standards or individual aids: it is also socially unacceptable that parts of our environment should be built as ghettos for the disabled.

Even if a wholly accessible environment could result tram an 'itemised approach', we should still be faced with problems in the light of evolution any change through use.

In order to create an accessible environment, it is necessary to approach standard - setting by taking into account limits of uncertainty rather than the 'standard average'. We need to address the relationship between the individual and his environment in broader terms. This means that the range of 'normality' must be extended: in terms of anthropometry, physical capabilities and psychological characteristics.

Now, an integrated approach can be seen aimed at the anonymous user and allowing differences between individuals to be easily accommodated.

This approach provides equal opportunity of access to and use of the environment buildings, housing and transportation, for example.

We need to extend the scope of our response to include the problems we can anticipate and those which we cannot. Ideally, the 'integrated approach' should be able to respond equally to the needs of everyone whether suffering some form of disability or not. This approach needs also to be sensitive to evolutionary change through use.

To attain this goal, the following prerequisites have be identified:

— integral accessibility

— adaptability

— interactivity

3.1 Integral accessibillty

By adopting this approach, the built environment s arranged in such a way that everyone is allowed access to it in the most independent and natural manner possible. Three terms encapsulate the essence of integrated accessibility': everyone, independent and natural.

The term 'everyone' means that no differences will be imposed by the environment upon the individual.

The term 'independent' means the ability to act without having to rely an a helping hand. That might not always be possible and, so, may imply a dependency that the individual would find demeaning. To the extent that the desire far independence is felt throughout European society, it should be enjoyed by everyone.

The term 'natural' stresses the integral aspect of the definition. It implies that provisions far access and usability are perceived as normal and not for the benefit of particular groups or individuals. However, accessibility is often associated only with 'the disabled'. This attitude leads to provisions that are perceived as special additions, such as special doors for wheelchair users next to revolving doors and turnstiles.

Accessibility must be seen as a basic facility for everyone. The use of the built environment is a natural one when ail facilities can be perceived as normal. This is possible only when the 'extended scope' is recognised as being normal and when accessibility for everyone is a basic premise within the design process. Information about the degree of accessibility within the environment should be available to the general public at all times.

Nevertheless, it is impossible to make ail of the urban environment wholly accessible to everyone. in planning a journey, one should be able to make oneself aware of the obstacles one might encounter. A regularly updated 'Accessibility Chart' should be made for each conurbation.

3.2 Adaptability

The term adaptability' describe the capability of space to be rearranged easily, whenever the need arises, or to accommodate particular fittings which may be needed in each case. Individual needs may change, as time goes by. One can move on, leaving the place for new occupants with different needs, wishes and tastes. Someone might become disabled, in which case they may have to move if their dwelling cannot be altered to suit them. When a dwelling or a workplace is adaptable, it can be changed easily, incurring relatively low costs.

3.3 Interactivity

The term interactivity' describes the ability of a space to respond to evolutionary change through use. This means that the user should have a degree of freedom of decision with respect to the functional arrangement of space and, with that, the capacity to respond to necessities which were impossible to anticipate.

For the purpose of taking early action to promote a radical and coherent policy for accessibility for people with disabilities, the concept of integrated accessibility should be at the roots of the basic training syllabus for architects, town planners and engineers.

This publication — the first of a two-part booklet

— sets out the fundamental principles underlying this concept and offers guidelines for solutions to the practical everyday problems facing people with disabilities. It was elaborated by the Committee of Experts on the Training of Personnel, other than Health Care Personnel, concerned with rehabilitation (architects and town planners) within a remit issued by the Committee on the Rehabilitation and Integration of People with Disabilities.

Part II of the brochure, which concerns the technical aspects of accessibility, will be published at a later stage.