

## APPENDIX F

### AIRPORTS AND THE HANDICAPPED—THE ROLE AND CONTENT OF INTERNATIONAL GUIDELINES FOR AIRPORT ACCESSIBILITY

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#### OVERVIEW

Participation of handicapped persons in normal life—and hence their use of public transport—has steadily increased in recent years. This welcome development must be taken into consideration in all public places. The United Nations, in the Declaration issued in December 1975, pointed out very strongly the rights and needs of handicapped persons. But although many countries have Government regulations to meet these requirements (for railways, public buildings, etc.), there are no international guidelines that apply to airports. ICAA therefore decided to prepare recommendations for measures to help this category of airport users.

ICAA—the International Civil Airport Association—is a worldwide professional grouping of airports, organized into Regions, and has a particularly strong European representation. The Association expresses airport opinion, defends its Members' interests, and aims to coordinate technical and practical improvements in the facilities offered to airport users. In 1980 ICAA brought out the first edition of a Manual designed to help planners and airport operators provide suitable facilities for all types of handicapped persons. The distribution of this work provoked much discussion, and additional material with improvements went into the second edition which appeared in December 1981.

ICAA is now in the process of editing the third edition of this Manual, both retaining explanations of the basic concepts involved together with many simple inexpensive ideas which can be of use to airports with insufficient funds or few possibilities of obtaining sophisticated equipment, and also giving full details and diagrams of some of the most advanced aids actually available. This third edition will conform to standards being established by the International Standardisation Organization (ISO) and the European Community (EC), and is the result of the shared expertise of a specially formed ad hoc working group of professionals from many countries, including an architect commissioned by the EC for the establishment of these standards.

In these days of increased cost awareness and at a time when an airport must more and more function as just another commercial enterprise (and rarely now as a symbol of a country's prestige) a complete reference

book with diagrams and illustrations is an invaluable aid to those countries which cannot afford to pay specialized planners and architects. Thus even on the lowest budget care can be taken to improve access for people requiring special facilities, so that an airport may be a transit area of easy use for all.

In this context, it should be said that in the developed world there is an increase in the proportion of those suffering from hearing and sight deficiencies, or general degeneracy (due to the greater number of older people), and this is taken account of in the new Manual. However it is frequently the poorer countries that are in the greatest need of good counselling and support as their economies develop and transport access areas of all kinds are built or modernized. Inevitably, whether the country provides the money, or payment for such works comes from special funds such as the United Nations Development Programme (UNDP), it is vital that the very best use be made of this money, and therefore vital that the very best advice be available easily to all.

Even when the latest aids and the most refined planning are incorporated into a transport access area, there is one element that can maintain access for all even when funds are severely limited: this is the human element. Without properly trained, efficient, courteous, and caring personnel, the efforts of architects, planners, and operators are brought to nothing in practical terms. These personnel should be part of the airport operator's staff and/or the airline concerned. They should be easily accessible, well organized, and have a thorough knowledge of the probable requirements of all kinds of handicaps. Contact with this staff should begin at a clearly marked entrance point or counter, and their assistance should be free to users, as well as being instantaneous. It must surely be considered as discrimination and segregation if a handicapped person is obliged not only to reserve in advance any required assistance but also to pay for it.

The ICAA PHAP Manual is designed to furnish the planners of structural or organizational measures with recommendations that can be useful in new planning, as well as ideas for improvements to existing facilities. These recommendations are concerned specifically with accommodating the needs of physically handicapped persons using airports, including transfer between air

terminals and aircraft. The term "handicapped person" is used to cover all those suffering from any form of disability or incapacity, or any functional limitation, visible or invisible. It must be remembered that these passengers are not ill and therefore do not need medical care. Any problems arising can normally be solved by removing architectural barriers, by providing appropriate equipment and by training personnel. Measures described may, in addition, meet the needs of elderly persons, injured passengers, mothers and children, etc. The architectural recommendations made in the first part of the Manual also apply to staff quarters, with a view to facilitating the employment of handicapped persons.

The Working Group examined actual cases of difficulties encountered by handicapped persons getting off an aircraft. It was noted that one cause of such difficulties was the failure to transmit information regarding the presence of a handicapped person on board an aircraft, by the airport of departure to the airport of arrival or transit. Due to this lack of communication, facilities to accommodate the handicapped were often not immediately available on the aircraft's arrival. However, the Group judged that these problems, which are the sole responsibility of the airline passenger services, are not within the scope of this document.

This was also the case for "desirable" or "recommended" equipment on board aircraft, and for the definition of the sharing of responsibilities at an air terminal between the various airlines and the airport management. Design features of next generation aircraft have been omitted. Recommendations for persons who need medical care are also omitted from this Manual.

## **ACCESS ROADS, CURBSIDES, PARKING AREAS**

### **Sidewalks**

Every road must be provided with at least one sidewalk for pedestrians. Next to roads with fast-moving traffic there should be a sufficiently wide safety strip or a railing between the sidewalk and the roadway. Sidewalks should not be obstructed by any obstacles.

The surface structure of pavements must be clearly visible and/or distinguishable by means of touch for the blind or persons with impaired vision. Light-coloured paving could be designed to contrast with the darker colored street. Blind and persons with impaired vision can better orientate themselves when obvious changes in the surface structure between the street curb and pavement surface are taken into consideration. Rough

structures such as cobblestones are dangerous for wheelchair occupants and persons with walking impediments. Oversized man-hole covers, gratings or the like in pavements should be covered in such a way that accidents are prevented for persons with walking impediments and/or wheelchair occupants.

### **Curbs**

Edges of sidewalks should be optically distinguishable from the sidewalk surface (colored, or of a different material). The curb height from roadway to sidewalk should be the minimum that local regulations permit. At pedestrian crossings, the curb should be level with the roadway. Curbstones should not be levelled or rounded, in order to reduce the danger of falling.

### **Pedestrian Crossings**

They should be clearly marked on the roadway by nonslip colored stripes or the like. They should also be additionally illuminated. Pedestrian islands must be provided to ease the crossing of wide roads. They should be marked by traffic signs, and wherever possible illuminated to warn passing points. If pedestrian crossings are on different levels (underpasses or overpasses), ramps must be provided in addition to steps and possibly also moving walkways or lifts.

### **Stairways**

The first and last steps of a stairway should be marked by means of a contrasting surface texture of colour. Winding stairways should be avoided. Attention should be paid to stairways whose passage beneath is possible in order to prevent hazards for persons with impaired vision.

### **Ramps**

The slope of any ramp, or series of ramps, must be consistent throughout. In addition to wheelchair occupants, people with walking disabilities are dependent upon ramps in that they are only able to maneuver minimal heights such as steps. The incline should not be more than 6 percent because wheelchair occupants who are restricted in their upper body movements and who operate the wheelchair themselves cannot manage steeper inclines. Handrails must always be provided on both sides of the ramp. The surface of the ramp must have a nonslip finish.

### **Parking Areas**

A certain number of specified parking spaces must be reserved for travellers who are severely restricted in their movements. These spaces should be as near as possible to the air terminal and should be protected from the weather. The parking spaces must be quickly and easily attainable by means of signs (international symbols).

The handicapped person must be able to easily and safely reach the departure halls from the parking areas. Differences in height must be navigable through the use of ramps and lifts. Consideration should be given to the installation of a call system for assistance, which can be reached from the driver's seat, properly signposted and preferably close to the entrance to the parking area. Parking meters and automatic ticketing should be easily accessible for wheelchair users or from the driver's seat of a car.

### **PASSENGER TERMINAL**

All areas in the air terminal building should be designed in such a way that handicapped passengers can reach and use them without difficulty. Points to avoid: doors closing too fast; doors difficult to operate; counters or push buttons too high; passages and doors too narrow. Public areas in terminals should have level or ramped access. Public corridors should be at least 150cm wide and free from any obstructions.

While the level and quality of light needed by persons with poor vision has not been quantified, glare and reflection should be eliminated by the use of matte surfaces. Special lighting should be used to accentuate stairs and handrails, particularly for the benefit of visually impaired persons, where the basic light level is low.

#### **Entrances**

Forecourts and other vehicle loading/unloading areas should be: level with main entrances; located close to entrances; protected from the elements. At least on entrance, if possible the main one, should be on the level. If the main entrance is not accessible to wheelchair users, the location of the nearest accessible entrance must be indicated. Special entrances must be marked by the international wheelchair symbol.

#### **Moving Sidewalks**

The speed of moving sidewalks with an incline of more than 8 percent must be reduced from the usual 0.5

m/sec, because the wheelchair's moment of tilt in unaided operation can lead to accidents. A reduction in speed is recommended in any case for persons with walking impediments and older persons, in that the start-up speed from 0 to 0.5 m/sec is relatively high.

#### **Lifts**

Every floor to which handicapped persons should have access has to be accessible by a lift. Every lift must be equipped with an automatic door which opens without assistance at each stop. When a normal lift is not accessible, a goods lift could be used by the handicapped person with the assistance of airport personnel. This should also be clearly signposted.

#### **Information Desks and Check-In Counters**

Information desks would be close to and visible from building entrances to provide early information and help if necessary. The design of desks and counters must be such that no difficulty in communication between handicapped passengers and staff can occur. Where special information desks or check-in counters are reserved for handicapped travellers, these should be clearly marked with the international symbol of access. An appropriate sign for those with sensory disabilities should also be installed.

#### **Passport Control, Security Check Points, and Customs Control Areas**

The passenger control areas must be accessible to handicapped passengers. If the route for ordinary passengers is not suitable for wheelchair users, a by-pass must be provided. Channels suitable for wheelchair users through security, passport, and customs controls should be marked clearly with the international symbol of access. Where automatic security detection devices are used, alternative passageways must be provided for checking handicapped passengers.

#### **Secondary Facilities within Terminal Buildings**

Shops, restaurants, banks, post offices, etc., should be readily accessible for handicapped passengers. This can be most easily accomplished by providing all or most of these secondary services on the same level as the passenger-handling facilities. The layout of these facilities should, as far as possible, guarantee the integration of the handicapped persons, and should ease communication between the staff and the handicapped persons. If there are different levels, ramps and/or lifts

must be provided. Particular attention should be paid to providing sufficient unobstructed maneuvering space for wheelchair users. Doors and corridors must be designed accordingly.

### **Toilets**

A sufficient number of special toilets for the sole use of handicapped passengers, particularly wheelchair users, must be provided. They should be unisex. The specific number of such compartments depends on the traffic volume and the size of the terminal building. The toilets for handicapped persons should be adjacent to, or grouped with, the normal sanitary facilities in order to simplify orientation. Toilets for handicapped persons must be provided on the landside and airside of a passenger terminal.

### **Telephone and Other Communications Services**

The group of passengers who are likely to have difficulty in using normal public telephones are those who are wheelchair bound, hard of hearing, or have speech problems. A sufficient number of telephones suitable for the use of handicapped persons, particularly wheelchair users, must be provided. The specific number of such telephones depends on the traffic volume and size of the terminal building. To facilitate orientation, the telephones for handicapped persons should be located adjacent to, or grouped with, normal telephones. A telex service for the deaf should be available on request.

### **SIGNS AND INFORMATION AIDS**

Public information signs should be adapted to meet the special requirements of the handicapped person. Important instructions concerning handicapped persons should be permanently and prominently displayed. All facilities suitable for handicapped passengers should be marked with the international symbol of access. This sign should be used with the agreement of Rehabilitation International or its national representatives. The symbol can stand:

- On its own;
- As additional information for suitability of facility; and
- As additional information in the form of a sticker to existing signposting.

Additional lettering of signs should be in the language of the country concerned, and in English. The purpose

of the sign should be to identify or advertise: accessible entrances to buildings; manageable routes through buildings; usable lifts; usable cloakroom facilities and lavatories; reserved car parking spaces; the availability of special sources of help or facilities.

For passengers with visual impairment, additional aids might be helpful: on airports with relatively small traffic volume, visual aids could be backed up by public address announcements; on airports with a large traffic volume, public address announcements might lead to confusion; in these cases, blind persons or passengers with visual impairments must therefore rely on assistance by accompanying persons or airline or airport personnel; for special facilities such as telephones, vending machines, lavatories, etc., raised symbols might be useful.

Passengers with hearing defects generally do not need additional aids at an airport, since they can rely on the normal visual aids and signposting for guidance. However, any facility or information center for passengers with impaired hearing (e.g., telephones fitted with amplifiers) should be clearly marked as such. Special facilities for the hard-of-hearing and the visually impaired should be identified with special symbols.

### **OPERATIONAL AND ORGANIZATIONAL MEASURES**

Good airport design and construction alone will not ensure that handicapped people can board an aircraft smoothly and easily once they have arrived at the airport. Equally important are adequate operational and organizational procedures implemented at an airport to assist handicapped people. It must not be forgotten, though, that the more attention is paid to their needs at the design and construction stage, the more efficient will be the traffic flow at the airport and the less will be required in terms of organization and operation. The following recommendations should not be seen as comprehensive but should instead be viewed as general advice on how facilities to help handicapped passengers can be improved.

#### **Overall Planning**

Airport operators and planners should consider that larger numbers and different groups of handicapped persons are using air travel. Architects and planners involved in the design of airport terminals must make sure that they keep themselves fully aware of what handicapped people require and expect of airport facilities. This should be done on a regular basis during

the lifetime of any particular airport terminal, so that they can apply new developments in technical aids for disabled people, introduce appropriate changes for their benefit in the way the airport is run, and take account of any changes in the make-up of handicapped people using the airport.

### **Existing Airports**

It is urgently recommended that the suggestions to help handicapped people should be systematically adopted in close cooperation with the airlines, handling agents, and national and international organizations serving handicapped people.

### **Realization and Coordination of Measures to be Taken**

Responsibility for planning and implementing organizational and operational measures to help handicapped passengers—in some cases according to national legislation—could rest with the airport authority itself, or with an airline or a handling company, or any combination of these agencies. Where responsibility is divided it is important that facilities are consistent at all points.

Cooperation and coordination between the various agencies operating at the airport are essential, including:

- Airlines and handling agencies;
- Customs, immigration, and security;
- Concession holders (e.g., restaurants, banks, shops, insurance companies, post offices, travel agents, car-hire firms, etc.);
- Companies employed by the airport authority, such as office cleaners; and
- Public transport organizations (e.g., buses and trains, as well as taxis).

All need to ensure that they offer handicapped people easy access to their facilities and that they operate these facilities with every attention to the convenience and well-being of their handicapped customers.

### **Different Groups of Handicapped Persons**

In the past, airports have tended to concentrate on measures to help wheelchair users. In recent years, people with other types of handicaps have been making more use of air travel, in particular those with visual and hearing impairments. This development reflects both the general increase in this method of transport and the growing numbers of people within the population, both young and old, with hearing or visual problems.

All installations manned or equipped to aid the hearing-impaired person should be marked with the international "ear" symbol. For people with impaired vision, special attention should be paid to using clearly visible and distinguishable signposting. Contrasting colors and different floor surfacing for different areas also help. Blind persons are normally accompanied to the airport. The provision of escorts is in some countries the responsibility of air carriers only.

Elderly passengers are the largest single group with possible disability problems. While elderly disabled passengers in part have the same needs as younger persons, having hearing and vision difficulties or the possible need of a wheelchair, there are also disabilities in this group, such as stroke, arthritis, etc., and often a general loss of vigor and energy, which may require special services such as airport buggies for covering long distances within the airport terminal facilities.

### **Advance Information**

It is of the utmost importance for the benefit of all concerned that disabled people should be able to obtain in advance information about conditions at the airport: where to park the car, how to move about the terminal buildings, and what kind of assistance can be expected. Airports are recommended to issue an information leaflet or brochure for handicapped people containing such necessary information. This leaflet should be readily available at all airline offices, at travel agents, and from organizations for disabled people. It should also be available by post.

### **Parking**

First contact between handicapped people and the office concerned can be arranged when parking the car or leaving the parking deck. For this purpose a call installation should be available next to the parking area for handicapped people. It is conceivable that a handicapped person could then be met by an airport attendant, possibly with an airport- or airline-owned wheelchair, if requested.

### **Airport Terminal Entrance**

To give handicapped passengers the opportunity of contacting the office concerned at the earliest possible moment, it is advisable to install at the main airport entrance, or any other specially designed and signposted entrance, a call installation or a telephone.

### Information Desks

Every general information desk should be manned. Staff should be trained to identify handicapped people at the airport and should be able to contact the appropriate airline or airport agency to request any necessary help.

### Passenger Check-In

Staff at check-in counters must be able to recognize handicapped passengers and be aware of what special help they are likely to need and advise them accordingly. With wheelchair users they should establish immediately whether the passenger wishes to retain his own wheelchair through the airport or would prefer to use an airport/airline wheelchair from that point. Wheelchair-bound passengers must be allowed to use their own wheelchair through the terminal up to the aircraft cabin door, if they wish.

### Boarding

It is important to allow wheelchair-bound passengers to use their own wheelchair not only up to the cabin door, but even within the cabin whenever possible. Where the aircraft is connected to the terminal by passenger bridges, steps or narrow passages should be avoided. Similar care should be taken when mobile lounges are used.

If the aircraft is parked away from the terminals on a remote stand and mobile lounges are not used, a vehicle with a ramp and/or lifting device should be available to transport wheelchair users. Some vehicles of this type allow a wheelchair-bound passenger to be lifted directly into an aircraft. Wheelchairs should be transferred quickly from the plane entry door to the baggage hold. This process would be similar to the handling of "last minute" baggage.

Where it is not possible for a wheelchair user to retain his own wheelchair beyond the departure lounge, shortly before boarding a suitably trained attendant should be on hand to assist in the transfer to the airport- or airline-owned carrying wheelchair to take the passenger to the aircraft and ensure the safe loading of the personal wheelchair into the aircraft hold. Upon boarding the aircraft, the wheelchair user should be guided to his seat.

### Vehicles and Equipment

The following vehicles and equipment should be considered obligatory for any airport:

- Airport-owned wheelchairs for transportation within terminal buildings. These wheelchairs will be on loan to passengers unable to walk long distances as well as to those who, for one reason or another, cannot use their own wheelchair. There should be a sufficient number of airport- or airline-owned wheelchairs with the following design criteria:
  - High backrests;
  - Vertically adjustable footrests;
  - Detachable armrests (for easier transfer);
  - Self-propelling wheels; and
  - At least two different seat widths.
- Carrying chairs to transport handicapped people within the aircraft; and
- Vehicles with a lifting device capable of taking the wheelchair up to aircraft door-sill height, including powered boarding equipment for smaller airliners.

Depending on circumstances at an airport, the availability of the following vehicles and equipment should be examined:

- Vehicles with the capability of transporting handicapped persons with or without their own wheelchairs within the airport building (buggies); and
- Vehicles with a ramp or a lifting device to transport a wheelchair on the apron.

### TRAINING OF STAFF

All airport personnel involved with passengers, including security personnel, guards and porters, should be trained to meet the special needs of handicapped passengers. Generally such training should be provided in special and regular courses dealing with the following aspects:

- The different types of handicap—physical, sensory and mental—and the kind of help each is likely to need;
- The facilities available at the airport which might be of assistance;
- How such help can be called upon and responsibilities for providing it;
- How to offer help, bearing in mind that handicapped people like to be treated in the same way as others. Understanding of some of the psychological problems associated with handicap and disability;

- How to help wheelchair users make transfers from one wheelchair to another; how to handle wheelchairs;
- Techniques for escorting blind and visually handicapped passengers; handling and carriage of guide dogs;
- Methods of communication with deaf and hard-of-hearing people. Recognition of those who can lip read and those who rely on sign language. How to speak clearly to lip readers;
- Methods of communication with speech-impaired people;
- Information about the range of equipment which can assist handicapped people; and
- Simple first aid.

## APPENDIX G

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