

General Guidelines

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GENERAL GUIDELINES

The Americans with Disabilities Act design standards established guidelines to provide accessibility to commercial buildings and public accommodation facilities. The guidelines are general in nature, and even though they address most conditions, each facility is different. This chapter will address the general guidelines that affect the building types that you will find in the remainder of the book. Many of the figures shown in this book were taken directly from the 2010 ADA Standards. As such, their dimensions and nomenclature are shown exactly the way they are depicted in the Standards. The following figure shows the way the ADA delineates dimension and gives measurements.

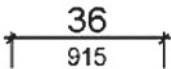
Convention	Description
	dimension showing English units (in inches unless otherwise specified) above the line and SI units (in millimeters unless otherwise specified) below the line
	dimension for small measurements
	dimension showing a range with minimum - maximum
min	minimum
max	maximum
>	greater than
≥	greater than or equal to
<	less than
≤	less than or equal to
	boundary of clear floor space or maneuvering clearance
	centerline
	a permitted element or its extension
	direction of travel or approach
	a wall, floor, ceiling or other element cut in section or plan
	a highlighted element in elevation or plan
	location zone of element, control or feature

Figure 104
Graphic Convention for Figures

BUILDING BLOCKS

A person with disabilities occupies a certain amount of space. The space is measured both in plan and in section. A person with different disabilities uses certain equipment for either mobility or wayfinding. A person in a wheelchair will require a certain amount of space, typically 30 inches x 48 inches of floor space (see Figure 1.1).

If there are larger wheelchairs, such as power wheelchairs, Segways, and the like, they might even need more space. The ADA Standards are only the minimum requirements, and

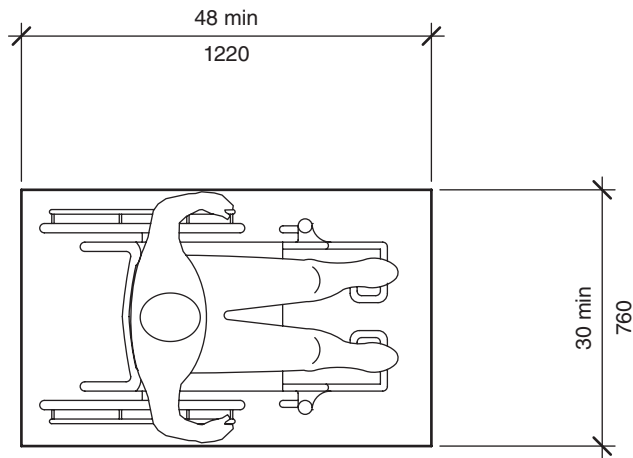


Figure 1.1: ADA Figure 305.3. Clear Floor Space Required [for wheelchairs]. The space required for a wheelchair is a minimum of 30 inches × 48 inches, and when required, it should have a slope of no greater than 2% in all directions.

whenever there is an option to have more space, one should allow for that. Vertical clearances are also required, which allow for maneuvering (see Figure 1.2).

Wheelchairs are not the only type of mobility equipment that requires certain amount of space. Persons with limited mobility who use walkers and crutches, for example, and visually impaired people who use white canes or service animals will also require a certain amount of clear floor space (see Figure 1.3).

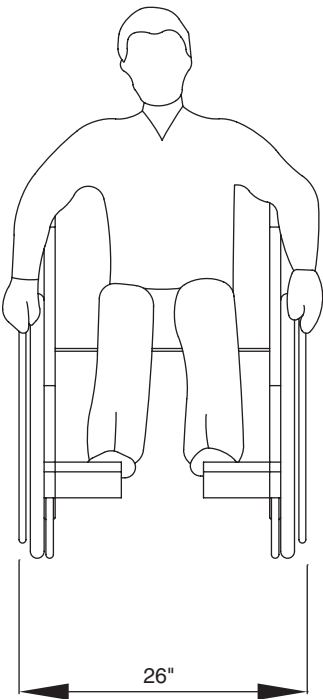


Figure 1.2a: This is a minimum width that a standard wheelchair will require.

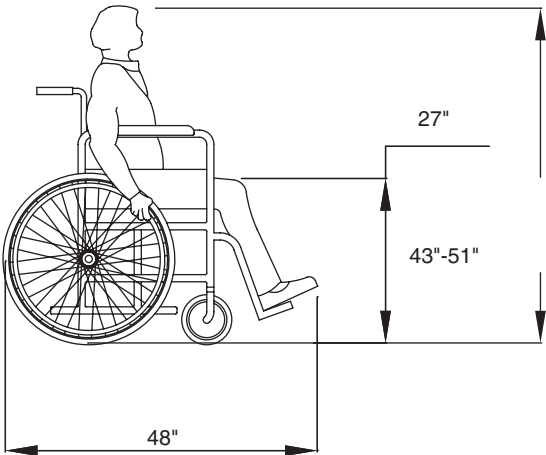
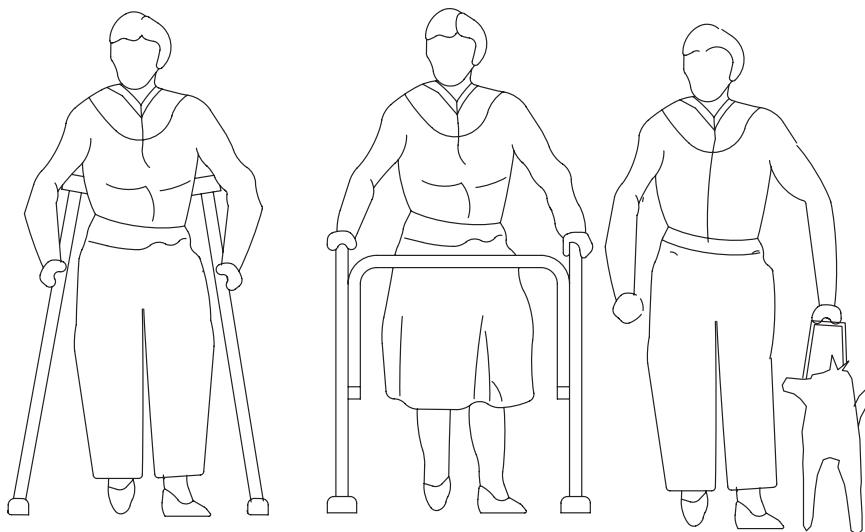


Figure 1.2b: Vertical clearances take into consideration the wheelchair and the person using the wheelchair.

Figure 1.3: Crutches, walkers, and service animals will require different clearances. The minimum ADA requirements take into consideration these other devices.



The ADA has an entire chapter that specifically designates all the dimensions for the minimum amount of space that will be required for a person with disabilities to use and maneuver around the area. The clear floor dimensions provided in the chapter also work for the amount of space that a person with disabilities will require to turn around once he or she is inside the space. The chapter gives two types of turning clearances: a circle and a “T” (see Figures 1.4 and 1.5).

When designing a space for turning, keep in mind that a person in a wheelchair does not make a perfect circle when turning. He or she will probably need a space greater than 60 inches in diameter to turn. Also, the clearances on the floor must be clear from obstructions, as well as have a slope of 2% maximum in every direction of the space where for turning is to be completed.

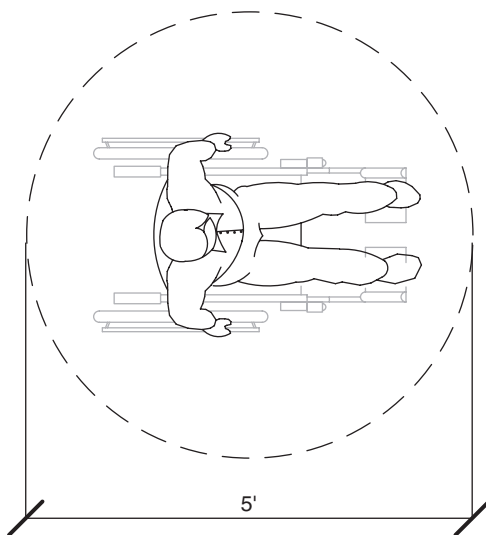


Figure 1.4: A 60-inch-diameter circle is the minimum amount of space that a wheelchair will require to make 180° turn.

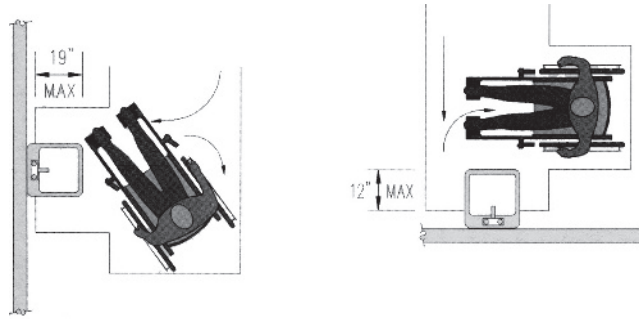


Figure 1.5: “T” turn. When there is not enough room for a 60-inch-diameter circle, space for a “T” turn is allowed.

The ADA also has guidelines for persons who are visually impaired, in order to protect them from hurting themselves with objects they cannot detect with their canes as they walk. These are called “protruding objects.” A wall-mounted object is considered a “protruding object” if it is mounted higher than 27 inches from the ground, it projects more than 4 inches from the mounting surface, and it is located along a circulation path (see Figure 1.6).

There is a misconception on what constitutes a “circulation path.” A circulation path is not an accessible route for a wheelchair. A circulation path is not the main hallway or corridor where

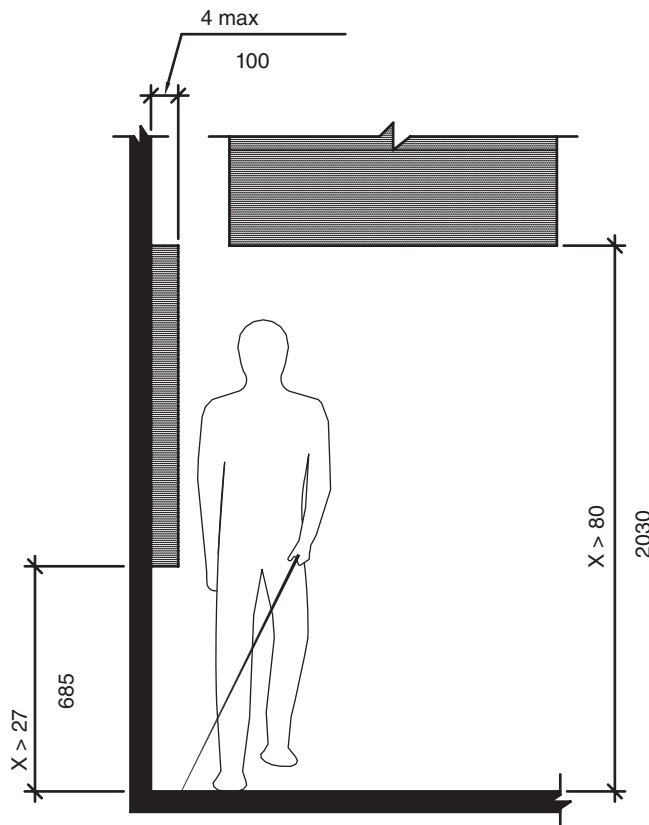


Figure 1.6: ADA figure 307.2. An object mounted higher than 27 inches from the ground or lower than 80 inches from the ground cannot be detected by a person who is visually impaired. A cane, which some visually impaired people use for wayfinding, can only detect objects mounted below 27 inches.

Figure 1.7: This drinking fountain is not located along the main path of travel, but it is a protruding object because it is along a path of travel that a blind person would use.



people walk. A circulation path is any path of travel used by a pedestrian, including the path of travel inside and around any interior space. The path of travel that a person uses inside a restroom to find the plumbing fixtures is the circulation path. Because a person who is visually impaired cannot see a sign directing him to a “designated” circulation path, we must design all walls inside an interior space or exterior space without protruding objects. If, along the path of travel, there is a permanent object mounted lower than 27 inches or even mounted on the ground, this will be detectable by a person using a cane for wayfinding (see Figure 1.7).

The ADA not only discusses the clearances for knees, toes, and floor space, but it also gives recommendations and guidelines for the way elements operate. A person with limited dexterity, arthritis, or no use of the hands will have a hard time opening or closing elements or operating any type of mechanism unless it is built in accordance with the standards. An operating mechanism should be able to be used without tight grasping, pulling, or twisting of the wrist. Also the amount of force that is required to operate it should be no more than 5 lbs. (see Figure 1.8). These requirements are universal. They help not only those who are disabled but also others who may not be able to use their hands temporarily.

The operating mechanisms will also be required to be at certain heights. There are forward approaches and side approaches that have minimum requirements according to the ADA (see Figure 1.9).

Sometimes the object that people are reaching for is over an obstruction. The obstruction could be a counter, an appliance, or even a doorway. There are reach range requirements provided for those conditions as well (see Figure 1.10).

In some instances, building owners place storage cabinets above toilets. They use them especially in single user restrooms where storage is scarce. But in doing so, they have violated



Figure 1.8: An accessible operable part should not require tight grasping or twisting of the wrist to use.

the reach ranges required over an obstruction. Since most toilets are deeper than 24", the cabinet would have to be mounted at 44" a.f.f. which would then become a hazard to the person using the water closet, since it would be so low. But if they mount it higher a person would not be able to reach the cabinet. ADA requires that at least one cabinet be accessible if it is located in a common use space (such as a restroom). This would violate that requirement. (See Figure 1.10c)

Figure 1.9a and 1.9b: ADA Figures 308.2.1 and 308.3.1. Operating mechanisms are mounted for a forward or a side approach.

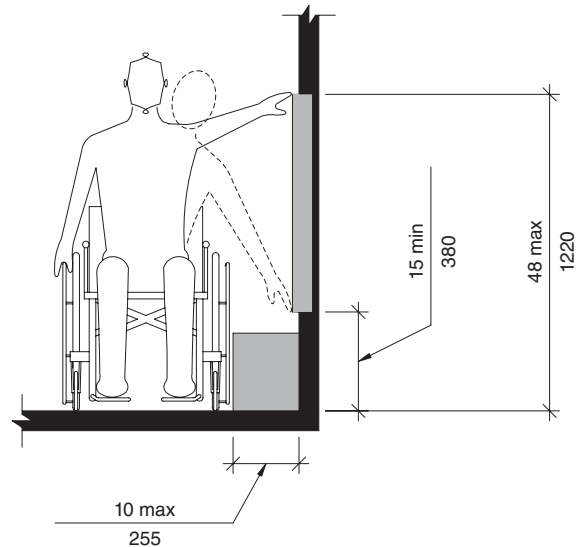
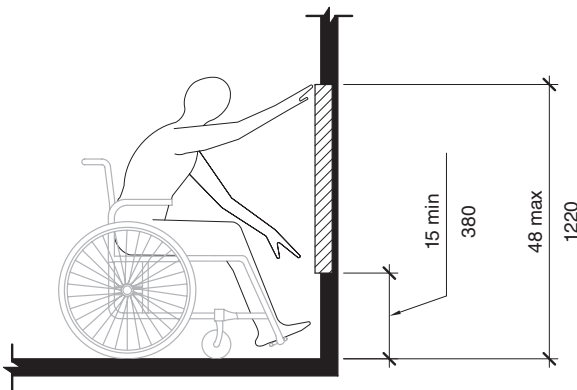


Figure 1.10a: ADA Figure 308.2.2. Objects mounted over a counter are required to be mounted lower so that a person with a disability can reach and operate them.

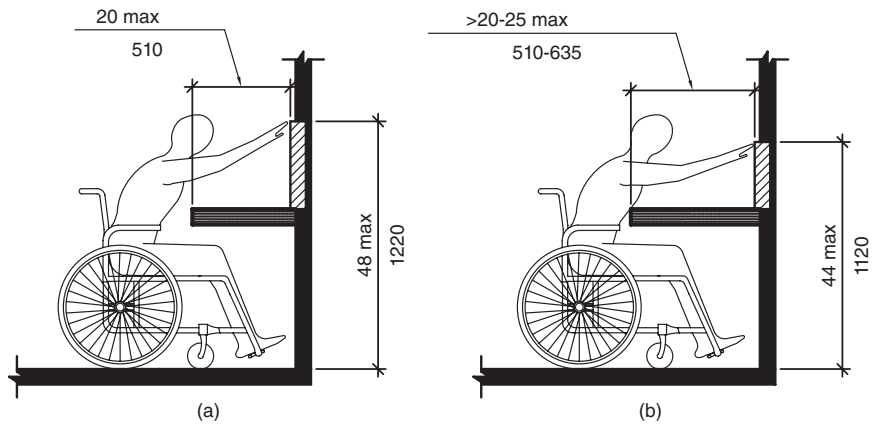


Figure 1.10b: ADA Figure 308.3.2 shows the requirements for objects located so that people must reach sideways over obstructions.

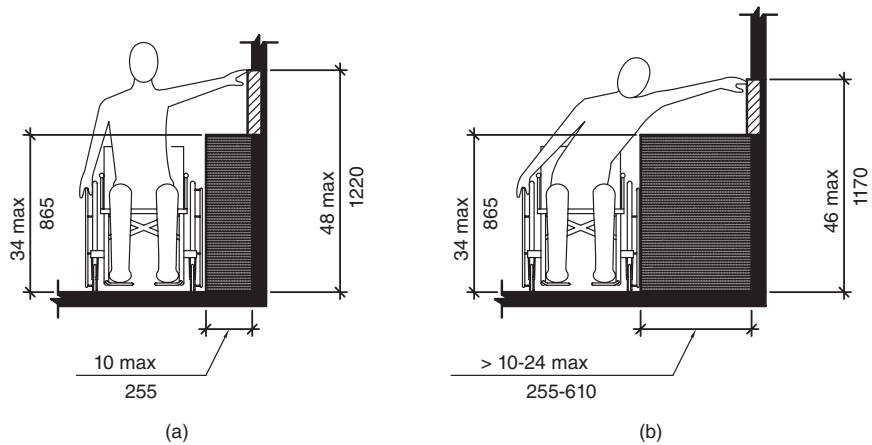


Figure 1.10c: The cabinet located above the toilet does not meet the reach ranges as directed by the ADA Standards.



ACCESSIBLE ROUTES

All routes that are used by people in wheelchairs or with mobility equipment are considered their “accessible routes.” Such a route must meet the requirements in Chapter 4 of the ADA Standards. They must be 36 inches wide, but the width can be reduced to 32 inches if the path has a depth of 24 inches (see Figure 1.11).

The running slopes along the accessible route should be no greater than 5%, and the cross slope should be no greater than 2%. If slopes are greater, it becomes harder to maneuver along the path. If a slope along the accessible route is between 5% and 8.33%, that is considered a ramp and it must then have handrails on both sides, landings at the top and bottom of the ramp run, and edge protection as specified in Section 405 of the ADA Standards.

The ADA requires that at least one accessible route be provided within the site from public streets or sidewalks. An accessible route to the accessible entrances served must connect each site arrival point. The ADA advises that, if there are multiple arrival points, including multiple bus stops near the site, each one should be located along an accessible route and each must connect to the accessible entrances. It is difficult to determine which site arrival point a disabled person will be using; therefore, in order to avoid discriminating, all arrival points should be made accessible. If pedestrian access is not provided and the only means of access is vehicular, then the site arrival point will begin at the parking space.

If any part of the accessible route crosses a curb, a curb ramp must be installed. The requirements for a curb ramp are similar to those for ramps, except that they do not need to have handrails. The minimum width is 36 inches, and the maximum slope must be 1:12. A 36-inch landing at the top of the ramp must also be provided (see Figure 1.12).

Along the accessible route, doorways must be accessible. But the ADA makes a distinction between doors used for passage and those that are not used for passage. Only those manual doors used for passage must comply with the Standards. This means that a shallow closet may not be deep enough for users to enter it fully and therefore the door will not be used for passage into the closet. That door will not be required to meet the ADA guidelines.

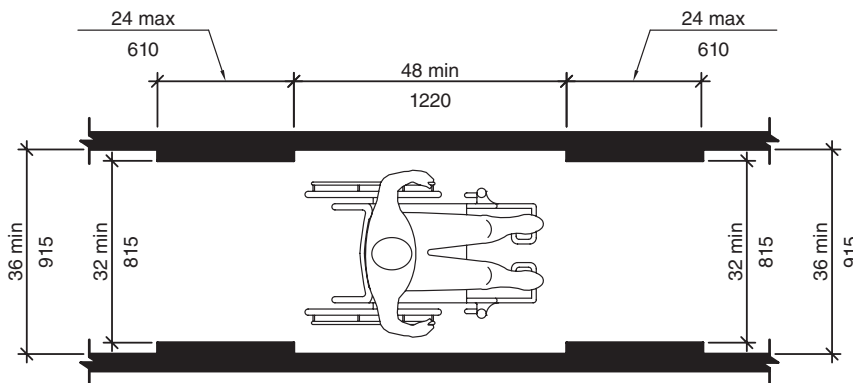
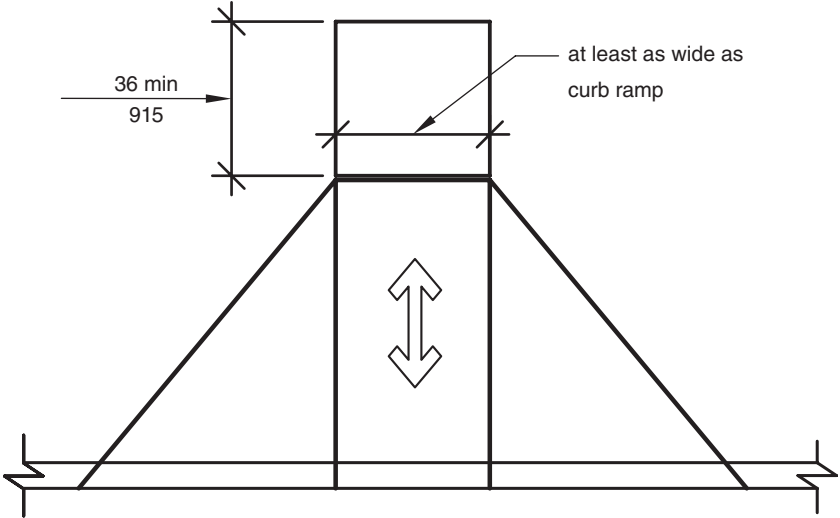


Figure 1.11: ADA Figure 403.5.1. This figure shows the allowable width reduction along the accessible route.

Figure 1.12: ADA Figure 406.4. This figure shows the landing required at the top of the curb ramps.



Doors used for passage or entry must have a minimum clear width of 32 inches, although most commercial doors are specified as 36 inches wide. A 36-inch-wide door will ensure compliance, since a 32-inch clear width is required for a wheelchair to get through. In addition to the appropriate width, the door hardware must be a type that does not require tight grasping and twisting of the wrist to operate. Also there needs to be enough maneuvering clearance at the door that a person in a wheelchair can easily reach the door handle, open the door, and get out of the way of the door to get through. The clearance to reach the door handle must be unobstructed by any permanent objects, including sinks or counters (see Figures 1.13 and 1.14).

The maneuvering clearances at the door must also be at no more than 2%, since a person in a wheelchair would not be able to reach the door handle without the worry of rolling down a steep slope before opening the door. Door opening forces should also be 5 lbs. maximum, and the door must not close in less than 5 seconds. An exterior door does not have the same requirements, since there are many factors that affect the opening force of an exterior door. Automatic doors are sometimes installed as the exterior doors to make it easier for a person with disabilities to open them and maneuver into the building (see Figure 1.15).

GENERAL SITE

At accessible facilities where parking is provided, accessible parking will also have to be provided. The two main considerations of parking are the minimum number of accessible parking spaces required and their location in relation to facility entrances. The minimum number of parking spaces is determined by The ADA table 208.2 (refer to Figure 1.16). This table is used by looking at the total number of parking spaces provided in a parking facility and allocating a minimum number of accessible parking spaces accordingly. Both a surface parking lot and a parking garage are considered facilities.

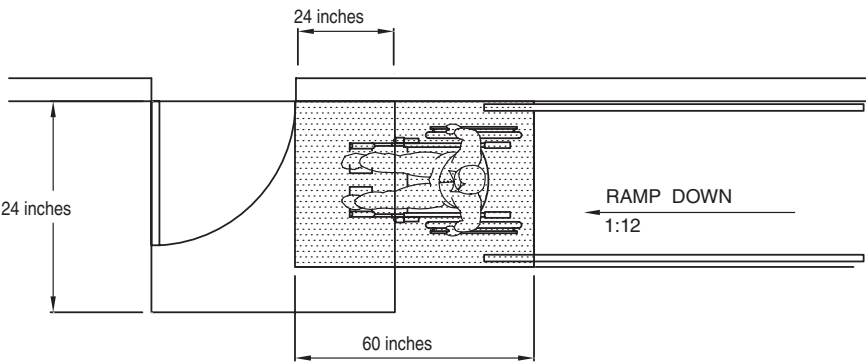


Figure 1.13: This door handle is obstructed by the paper towel dispenser, since it is closer than 18 inches, which prevents a person in a wheelchair from reaching it to open it.



Figure 1.14: This door has plenty of room for a person in a wheelchair to reach the door handle and open the door.

Figure 1.15: A ramp exiting close to a doorway, must be far enough away to allow for enough clearance at the door that a person in a wheelchair can open it to enter the building.



When designing a building or a campus of buildings, the planner will locate the building and then arrange the parking closest to it. In order to determine the minimum number of accessible parking spaces required, the planner will have to ask how many parking facilities will be provided and which building entrance each will serve. When there is only one building, there is technically only one large parking facility, if only surface parking is provided. If there is a combination of surface parking and parking garages, then the entire surface parking will be considered one facility, and each individual parking garage will be counted as a separate facility. If there are multiple buildings on the site, the parking locations should be determined by making sure at least one accessible parking space will be provided at each building and as close to its entrance as possible. There will be unique situations, such as campus-type settings like universities, hospital campuses, and shopping centers with multiple buildings. Some universities have assigned parking for faculty and students and even for visitors. In that case, each type of lot will have to have accessible parking. Some of the strategies listed in the following chapters may increase the accessible parking count more than the table requires (see Figures 1.17 and 1.18).

Table 208.2 Parking Spaces

Total Number of Parking Spaces Provided in Parking Facility	Minimum Number of Required Accessible Parking Spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2 percent of total
1001 and over	20, plus 1 for each 100, or fraction thereof over 1000

Figure 1.16: ADA Table 208.2. This table is used to determine how many accessible parking spaces are required in a parking lot or parking garage.

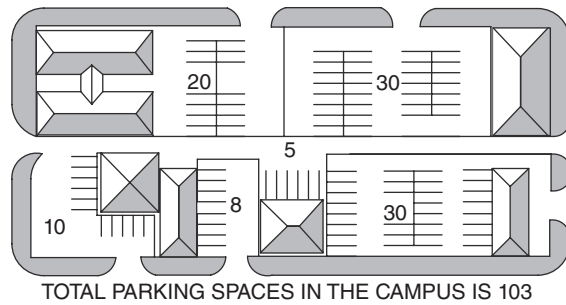


Figure 1.17: The campus of buildings has a total of 103 parking spaces, if you take the entire site as a whole. This would require five accessible parking spaces, which would be dispersed among the six buildings on the site.

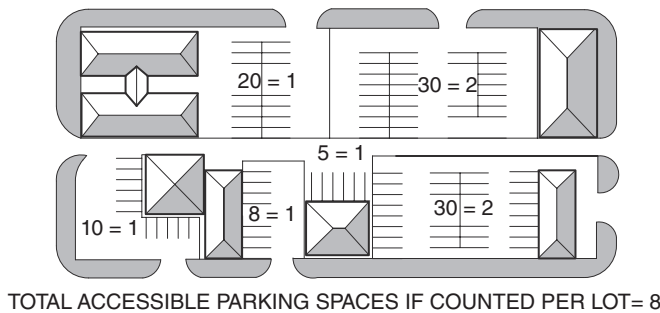


Figure 1.18: If the parking count is determined by building and parking lot, then the number of accessible spaces would increase to eight for the entire facility.

Once the number of parking spaces and their location have been determined, the layout of the parking is figured out. There are two types of parking spaces we design for and provide for the disabled. One is the standard parking space, and the other is the one designated for a van. A standard parking space is 8 ft. 0 in. wide and has an access aisle that is 5 ft. 0 in. wide to enter and exit the vehicle. Some disabled patrons use vans as their mode of transportation. Vans have a wheelchair lift mechanism that is around 48 inches wide. This mechanism will require a wider parking space (see Figure 1.19).

For every six accessible spaces that are provided, at least one has to be designated for vans. Van spaces are 11 ft. 0 in. wide. This will ensure the proper amount of space for wheelchair lifts. Both the parking spaces and the access aisle must be an area that has a slope no steeper than 2% or $\frac{1}{4}$ inch per foot. This amount of slope will enable a person in a wheelchair to place the wheelchair on the access aisle without the risk of it rolling down hill. After a wheelchair is safely placed on the access aisle and the wheelchair user has transferred into it, that person is ready to travel to the accessible entrance closest to the parking space.

The ADA recommends that accessible routes from the accessible parking spaces to the facility's entrance be located so that a person in a wheelchair does not have to wheel behind someone else's parked car or be placed in a more hazardous situation than anyone else. The same route that the general public would take to get into the facility should be the same route that a person in a wheelchair would take. However, because they are lower than standing person, if people in wheelchairs have to wheel behind a parked car other than their own, a driver may not see them when backing out of the parking space.

Figure 1.19: A van requires more space than a standard car because of the lift mechanism required for the wheelchair to enter or exit the van.



This advice is found in the advisory section of the ADA Standards, but some states require it as part of their standard guidelines.

If the parking space is not in the same level as the sidewalk, a curb ramp will be required to access it. One of the most common mistakes that occur with curb ramps is locating them within the access aisle of parking spaces. The flares of a curb ramp or the curb ramp itself are not allowed to encroach on either vehicular ways or access aisles. Also, access aisles are required to have a 2% slope in all directions. If a curb ramp is located in the access aisle, both of those rules are violated (see Figure 1.20). These types of curb ramps, called built-up curb ramps, are typically found on the existing facilities. Newer facilities plan for a curb ramp that is part of the sidewalk.

Once the disabled person is on the sidewalk, the route to the entry is the next consideration as we design for accessibility. The sidewalk should have a surface that is stable, firm, and slip resistant. “Stable and firm” means that once pressure is applied to a surface and it is released, the surface goes back to the way it was or remains unchanged once the pressure is taken off.



Figure 1.20: A curb ramp should not be located in the access aisle, since doing this gives the aisle a slope steeper than 2%.

Some examples of materials that are stable are concrete, grass, and even crushed granite, if it is compacted properly. Some examples of surfaces that would not be a good accessible route because they are not stable are gravel (including decomposed granite or any derivative of gravel), sand, and muddy dirt. “Slip resistant” is a bit harder to define and determine. In the 1991 version of the ADAAG, there was a coefficient of friction found in the appendix that they recommended be used for flooring materials. The relationship of the foot to the surface is called “traction” or “friction.” Friction is the resistance to lateral movement caused by the contact between two surfaces. Dividing the horizontal force by vertical force, we get a number called the coefficient of friction (COF). Concrete, with .8 COF, would have more traction, and be less slippery, than ice, with a COF of .3. However, it was later determined that slip resistance is hard to test, and the coefficient of friction recommendations is no longer part of the Standards. Despite many reservations, most codes recognize a static coefficient of friction of .5 as legal and enforceable for slip-resistant pedestrian walkways. This does change for sloped surfaces. OSHA and other safety standards have recommendation for the COF of surfaces, but the ADA no longer does.

The path should not only be free from obstructions but also should have plenty of room for multiple pedestrians using it. The minimum width is 36 inches, but that amount of space is only adequate for one wheelchair. For multiple-pedestrian access, a 60-inch-wide sidewalk is recommended. Another consideration along the path of travel is any openings that might be found on the ground. Some sidewalks incorporate drainage through grates. These grates should be placed so that the openings are perpendicular to the path of travel so that the wheels of wheelchairs do not get caught in the grooves (see Figure 1.21).

Not only should there be no openings that would be a hazard for wheelchairs, but also no part of the sidewalk should be higher than $\frac{1}{2}$ inch. Depending on the type of ground that the sidewalk is built upon, there might be some settling and heaving. These are not usually addressed as part of the design criteria, but they may become a maintenance issue as the sidewalk ages. The accessible route and the circulation path of travel should lead directly and unobstructed to the front door of desired destination within the facility, even if it's located in different level, and they should coincide with the general public's path of travel (see Figure 1.22).

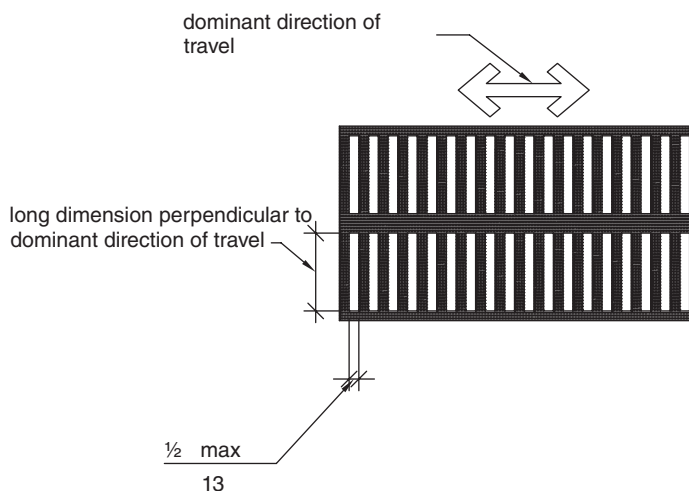


Figure 1.21: ADA Figure 302.3. Any openings, including grates, along the path of travel should not be wider than $\frac{1}{2}$ inch. The figure shows a grate, but this also applies to control joints, grout lines of pavers, and other openings along the route.

Figure 1.22: This existing sidewalk is not accessible because of the heaving that occurs, which makes it higher than ½ inch.



Changes in Level

If there are ever any changes in level along the accessible route, there are some accessible options. A change of level less than ¼ inch is acceptable without any problems. A level change that is between ¼ inch and ½ inch will require a bevel as shown in the ADA figure 303.3. Any level change more than ½ inch will require a ramp, elevator, or other means of accessibility (see Figure 1.23). Ramps must also follow the same guidelines as the accessible route itself. It should not be narrower than 36 inches wide; it must have handrails on both sides and landings on the top and bottom. It should also have edge protection if the ramp is open on both sides.

ACCESSIBLE ENTRANCES

According to the ADA section 206.4 60% of new entrances must be accessible. If not all entrances are accessible, they should have signage to lead people to the accessible door. Some facilities have multiple entrances, and will be challenging to determine which entrance should be designated as accessible in order to not discriminate against those who are disabled. Certain building types are more straightforward than others. The chapters that follow will describe some of the unique circumstances related to entrances and the best way to proceed in the design and construction of the entrances.

Automatic door or power-assisted doors are typically used in facilities, but they are not required. These doors are helpful because they open the door for people with disabilities and eliminate the need for them to maneuver to open the door. This could be helpful in existing



Figure 1.23: A ramp is required when the changes in level exceed ½ inch.

facilities where the existing entryway may exceed the 2% maximum slope required at the entrance. Also, it is very helpful for exterior doors, since the opening force may be greater than that which a person with weak upper-body strength could open. The 5 lb. required opening force for interior doors does not apply to exterior doors, since there are many factors that affect the ability to open an exterior door, which are beyond the designer's control. A door might be harder to open if the wind loads are high. Exterior pressures will also affect the door-opening force. Therefore, there are no requirements for a minimum opening force for exterior doors. All exterior doors will then lead persons with a disability into the interior spaces of the facility.

According to the 2010 ADA Standards in order to use the power-assisted door so that maneuvering clearances are not required, the door would have to remain open when the power was off. This would ensure that, if the power went out, the door would remain open, which then would still allow persons with disabilities to enter the facility without having to maneuver around the door (see Figure 1.24).

Interior Accessible Route

Interior accessible route to all levels of the facility should be provided, and they should be located in the same path of travel used by the general public. This means that a person with a disability should not be made to exit the building, or even an interior space, in order to reach an accessible route to upper levels. If a means of access is provided for other people, the same or equivalent means should be provided for persons with a disability. To access the upper levels, the acceptable accessible route for wheelchair users is an elevator. Elevators have complicated guidelines and many requirements. There are size requirements for person in a wheelchair, height requirements for seated persons but also for persons that are short in

Figure 1.24: This exterior door does not have the proper slope at the landing and could benefit from a power-assisted door opener that will keep the door open if the power is off.



stature, visual elements for persons who are hearing impaired, and audible and tactile mechanisms for the visually impaired. In general, the ADA requires that the elevator be automatic and follow the standards required by ASME A17.1. If there is more than one elevator, all must be accessible, since there is no way to control which elevator will open. The elevator cab size must be large enough to fit a wheelchair with ample room for a person to turn around and operate the car's control buttons (see Figure 1.25). The same ADA requirements for ground surface, reach ranges, and controls as stated previously should be followed.

The 2010 ADA Standards allows for two other type of access to be used for persons with a disability, but only in limited ways. These two are platform/wheelchair lifts and a Limited Use Limited Access elevator (LULA). A LULA is a new option for access, but it is only allowed when the accessible route is exempted. A person may use them only when the facility is not a shopping center, an office of a medical health provider, or a transportation station and meets other requirements as stated in ADA Section 206.2.3. Also, the facility must not have more than three stories, and each story should not be larger than 3,000 square feet. There are other requirements for publically owned vs. privately owned buildings and exclusions that the reader should be aware as well as different State requirements that differ from those of the ADA.

PLUMBING FIXTURES

At accessible facilities, restrooms have to be provided for the disabled. All restrooms that are provided at the facility should be accessible. There is an exception for single user restrooms that are located in a "cluster" which will be explained later in this chapter. The restrooms



Figure 1.25: This elevator is not acceptable since it is not deep enough for a person to use it unassisted.

should be designed for the primary users. Some restrooms may be used primarily for children, as in elementary schools and maybe shopping centers. If multiple fixtures are provided in a restroom, one of each type of plumbing fixture will have to be accessible. Therefore, if there is an adult toilet and a child toilet, both must have the clear floor space and grab bars per the ADA Chapter 6. In a public restroom, where toilet stalls are provided, one standard accessible compartment must be provided as well (see Figure 1.26).

If urinals are provided and there is more than one, then it must also be accessible. An accessible urinal must be mounted no higher than 17 inches a.f.f., must have an elongated rim that projects 13½ inch, flush controls no higher than 44 inches a.f.f., and a forward approach of clear floor space. If there is only one, then it is not required to be accessible. If there are more than six water closets and urinals located within one restroom, then in addition to the standard accessible stall, a stall that is referred to as “ambulatory” must be provided. This is not for wheelchairs but for people who have other mobility issues, such as using walkers, crutches, or braces (see Figure 1.27).

Figure 1.26: ADA Figure 604.8.1.1 shows the required dimensions of a standard accessible toilet compartment.

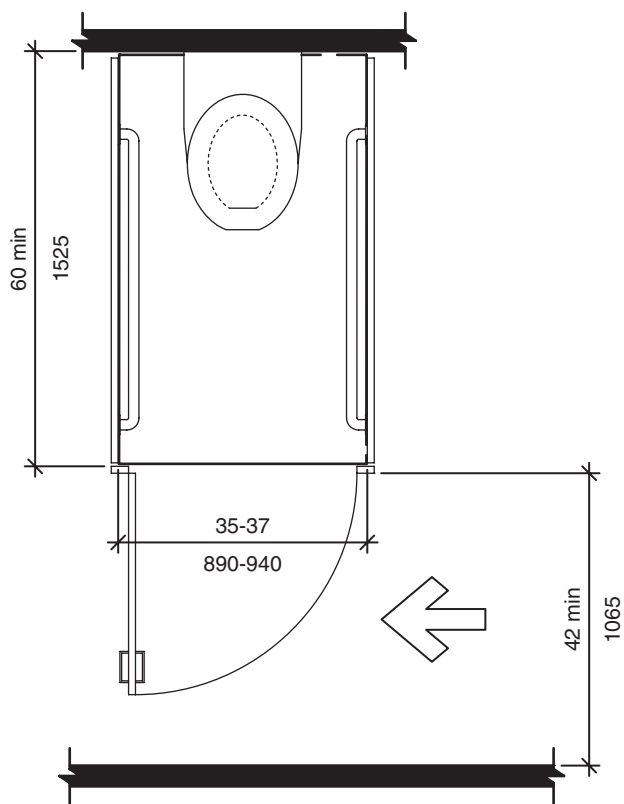
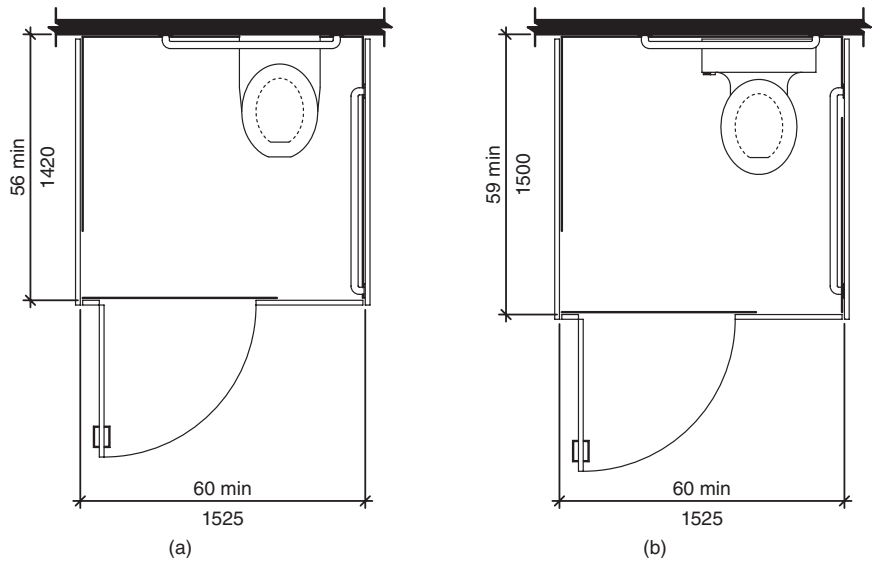


Figure 1.27: ADA Figure 604.8.2 shows the ambulatory compartment requirements.

Single-user restrooms are also allowed and must also be accessible. The definition of a single-user restroom according to the ADA is a restroom with one lavatory, and two water closets or a combination of one water closet and one urinal. In the 2010 ADA Standards, all new restrooms are required to be accessible, including single-user restrooms. However, if you have multiple single user restrooms in close proximity to each other, then only 50% of the single-user restrooms are required to be accessible. The restrooms that are not accessible must have directional sign to those that are. Those that are accessible should have signage with the Universal symbol of accessibility.

Within the single-user restroom, the door may swing into the clear floor space of any fixture as long as there is a 30 inch x 48 inch space beyond the swing of the door. This is so that if a door opens, a person can get out of the way of the door and not get hit. (See Figure 1.28.) In a multiuser restroom, this is not allowed, since there is no way to control who is coming in and when. A single-user restroom can be locked once a person is using it, which prevents a different person from coming in at the same time. In a multiuser restroom, since there is no lock, if the door swings into the clear floor space of the lavatory, for example, and a person in a wheelchair is washing her hands, the person washing her hands could get hit by the door.

The Accessibility Standards also have provisions for showers. There are two types of showers. One is a transfer shower, which is what the name implies: a person will park their wheelchair next to the shower stall and will “transfer” to a foldable seat in the shower itself. Those showers should only be 36 inches x 36 inches, no more or no less. (See Figure 1.29.) This is because, when a disabled person is seated in the transfer shower, he or she will not be able to reach the controls if the shower is larger.

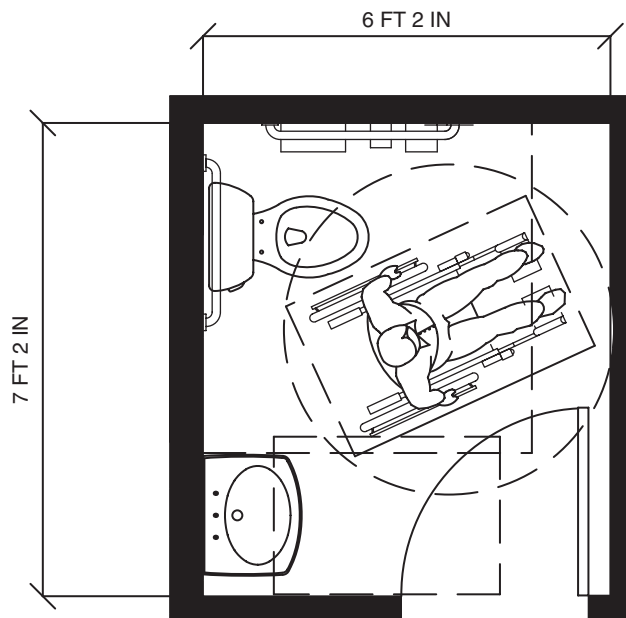


Figure 1.28: A single-user restroom is allowed to have the door swing in, as long as the restroom has a 30 inch x 48 inch space where a wheelchair can be away from the swing of the door.

Figure 1.29: ADA Figure 608.3.1.

A transfer shower should not be larger than the required dimensions; otherwise, the wheelchair user may not be able to reach the controls.

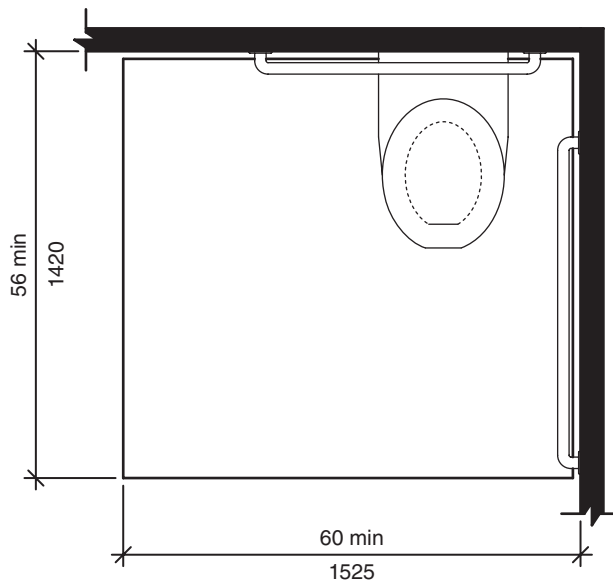


Figure 1.30: This roll-in shower has a seat that is not foldable and is, therefore, an obstruction in the floor space.

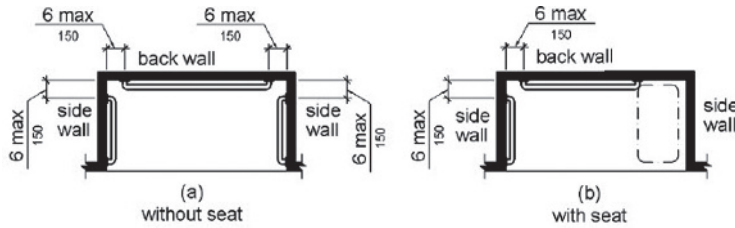


Figure 1.31: ADA Figure 608.3.2. A roll-in shower is designed for wheelchairs to wheel into them. Grab bars will not be required behind the foldable seat if one is provided.

The other type of shower is a roll-in shower. Those are also what the name implies: a person will roll the wheelchair into the shower stall and bathe in it. There should not be any obstructions, so that the wheelchair can fully enter the shower and be usable (see Figure 1.30). So, no curbs are allowed, except a 1/2" maximum curb, neither is a fixed unfoldable seat allowed. If a foldable seat is provided, the controls must be located within the reach range from the seat itself. The maximum size allowed is 27 inches from the back of the seat wall. (See Figure 1.31.)

COMMUNICATION FEATURES

In order for persons who are visually and hearing impaired to maneuver inside a facility that requires access, they must have communication features, such as signage with Braille, strobe lights, and telephones that allow them to communicate. 2010 ADA Standards Chapter 7 gives guidelines on what these communication features must provide.

Permanent rooms must have signage with raised text and Braille as well as contrasting colors for the background and the text, for wayfinding purposes. The sign should be located adjacent to the strike side of the door in order for people to avoid getting hit while reading the sign. An exception in the standards allows for signage to be mounted to the door if the sign is on the push side approach, and the door has a closer. (See Figure 1.32.)

Another requirement for signage is an 18 inch x 18 inch clear floor space in front of the sign. This allows a person to read the sign without any obstructions (see Figure 1.33).

Figure 1.32: This photo shows a sign that is mounted to the pull side of the door where a person could open the door as the visually impaired person is trying to read the sign.



Figure 1.33: This drinking fountain encroaches on the 18 inches x 18 inches required clear floor space in front of the sign, which impedes the reading of the sign.

Lettering on the signage must be in a san serif font, which does not have additional style elements that could prevent someone who is visually impaired from reading the sign clearly. The type of Braille required is Grade 2 Braille, which essentially is English. If a sign has a pictogram, it must be located above the text, and it must not be smaller than 6 inches. The sign should be mounted so that the tactile portion of the sign is no lower than 48 inches and no higher than 60 inches a.f.f. This will ensure that persons with shorter stature can read the sign as well.

SUMMARY

These general guidelines will apply to many different conditions and situations, which will be described in the chapters that follow. The rest of this book will guide you on how to use these very general guidelines and make them more specific to unique building conditions. The format of the book is meant to walk you through a building and site as if you were the person with a disability and show how you would utilize the facility.

