

Low Cost Solutions to Increase Accessibility in Disaster/ Emergency Shelters

Title II of the Americans with Disabilities Act (ADA) provides that state and local governments must provide emergency and disaster related services, activities, communication and facilities in the most integrated and accessible setting to avoid discrimination against people with disabilities. This includes all services provided by third parties such as Red Cross, faith based groups and private nonprofits. The ADA also requires making reasonable modifications/accommodations to ensure inclusion. Because disaster shelters are temporary, modifications can be temporary, however they must be safe, sturdy and meet ADA specifications. Some municipalities may have restrictions on temporary structures/signage. Determine ahead of time if any of these modifications are possible or if a waiver could be issued in the event of a disaster/emergency. More compliance information can be found on www.ada.gov/ .

All areas that are available to the public should be accessible. However, if a shelter has several levels or floors without an elevator and services can be provided on the accessible level that is acceptable.

Shelters usually consist of four main areas – parking, entrance, sleeping/eating, and bathroom/shower. The following are ways to increase accessibility and meet minimum ADA requirements.

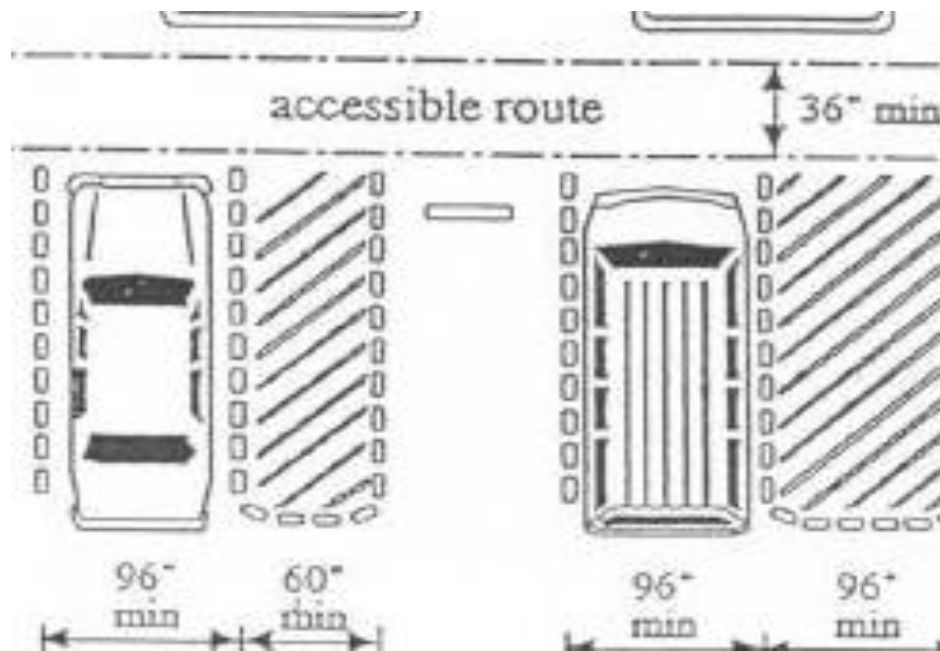
Parking

If the parking lot does not meet minimum ADA requirements simply designate temporary stalls closest to the accessible entrance, like the photo posted below.

- Three stalls = two accessible
- Use the middle stall as an access aisle, blocking with an orange cone for example
- Orange cones are easy to move
- Stalls should be near accessible side walk and entrance
- Flat level surface
- Post temporary upright signs using the universal symbol of accessibility at least 60 inches (5 feet) from the lower edge to the finished pavement.
- First space needs to be van accessible



The access aisle should be on the rider's side of the car for van accessibility and can be shared with another parking stall. The upright signs would need to be mounted on something more secure than the orange cones. They were used for visual purposes only. The graphic below indicates the dimensions of the stalls. Just repeat the process to achieve the number of spaces to meet minimum compliance.



Below are the requirements for the number accessible parking stalls. The number of van-accessible spaces is still one of every six accessible parking spaces, or fraction thereof.

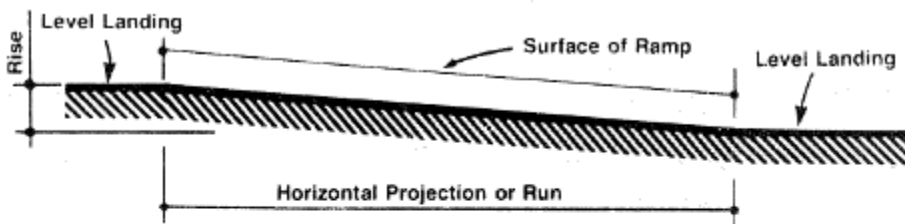
Total Number of Parking Spaces in Parking Facility (Lot or Garage)	Minimum Number of Accessible Parking Spaces Required
1 - 25	1
26 - 50	2
51 - 75	3
76 - 100	4
101 - 150	5
151 - 200	6
201 - 300	7
301 - 400	8
401 - 500	9
501 - 1000	2% of total
1001 and over	20, plus 1 for each 100, or fraction thereof,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

Entrance

If the entrance is not accessible because of stairs, temporary ramps can be installed to eliminate that barrier. The graphic below indicates the rise or slope of the ramp to meet ADA compliance. Ramps can be wooden or made from any material but be sure that the

surface is not slick, or able to pool water. Ramps must be sturdy and able to hold significant weight. Motorized scooters and wheelchairs can weigh over 400 pounds.

- Slope of a ramp is between 1:12 and 1:16, the maximum rise is 30 inches
- The maximum horizontal run is 30 feet
- If the ramp is between 1:16 and 1:20, the maximum rise is 30 inches
- The maximum horizontal run is 40 feet
- Most ambulatory people and most people who use a wheel chair can manage a slope of 1:16
- Many people can't manage a slope of 1:12 for 30 feet
- Build with the least amount of slope
- For permanent fixtures the maximum slope is 1:12, maximum rise 30 inches
- The width of the ramp is a minimum of 36 inches
- Ramps that change direction at landings, the minimum landing size is 60 inches by 60 inches
- If ramp run has a rise greater than 6 inches or a horizontal projection greater than 72 inches, then handrails are needed on both sides
- Railings need to be smooth, continuous, inside handrail with a switchback or dogleg
- Handrail gripping surfaces shall be mounted between 34 in and 38 inches
- If used predominantly by children the handrail should be no higher than 28 inches
- A lower handrail can be installed in addition to meet that standard
- If the handrail is mounted on the wall the space between the wall and rail can be no more than 1 ½ inches
- Handrails cannot rotate in their fittings
- Handrails should extend out 12 inches at landings unless it would obstruct traffic flow



Slope	Maximum Rise		Maximum Horizontal Projection	
	in	mm	ft	m
1:12 to < 1:16	30	760	30	9
1:16 to < 1:20	30	760	40	12

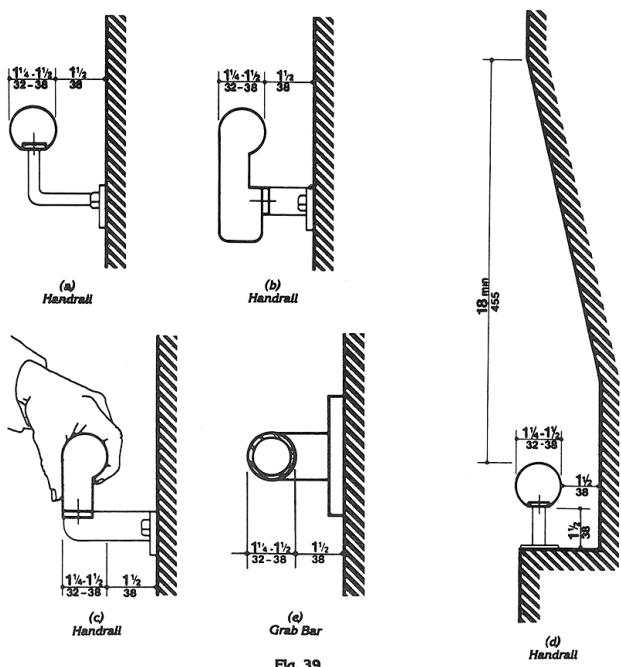
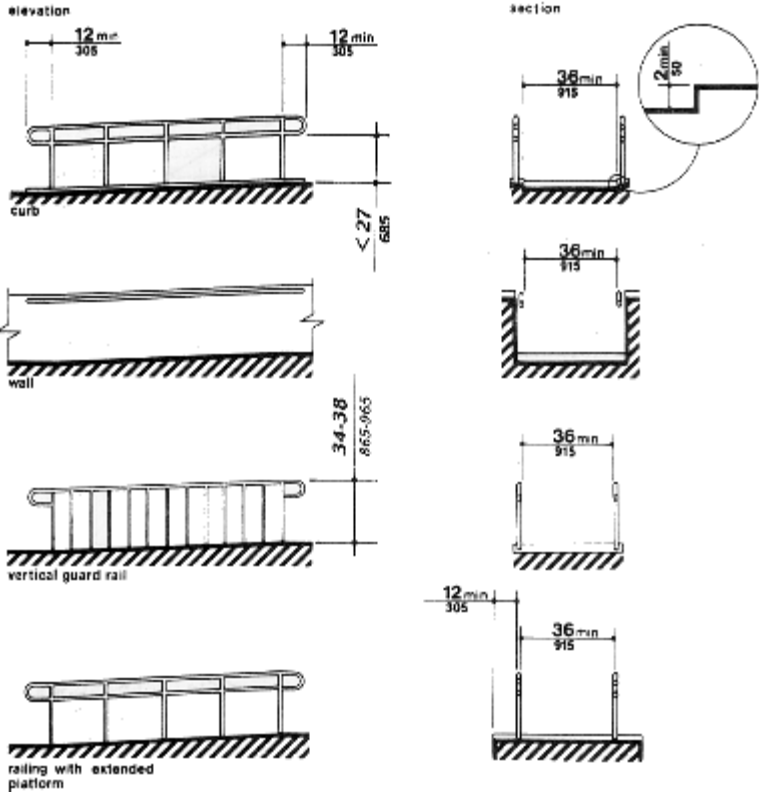


Fig. 39 Size and Spacing of Handrails and Grab Bars

Below are photos of temporary ramps for purchase. They can be expensive. Some disability organizations have programs that will loan assistive technology and that may be an option instead of purchasing. There would be planning though, to ensure the ramp would work in the shelter location. There is the risk that the ramp would be in use so planning would need to include backup.



Door way width should be at least 32 inches clear. Fire code usually determines the weight of exterior doorways. All interior doors must have a push/pull weight of 5 pound or less. This can sometimes be achieved by adjusting the closer hardware on the door. **Automatic doors are not required.** There is no language in the ADA requiring automatic doors, it is recommended. In a shelter setting it is acceptable to have staff or shelter residents assist with opening doors. Below is a photo of a lever handle which can be purchased at hardware or big box stores and installed on knob handles which can increase accessibility.



Bathroom/Shower

There are many options that increase the accessibility of bathroom/showers. Below are temporary grab bars. They must be able to hold up to 250 pounds of pressure. If you are considering purchasing temporary grab bars be sure to determine if they meet that weight requirement. These could be used in around a toilet and in the shower. These can be expensive.



Risers for toilets can achieve the 17 – 19 inch requirement for the height of a toilet. There are many different types. Some with handles on the side may limit the ability to transfer for people using wheelchairs. The grab bars on the wall are a much better option.

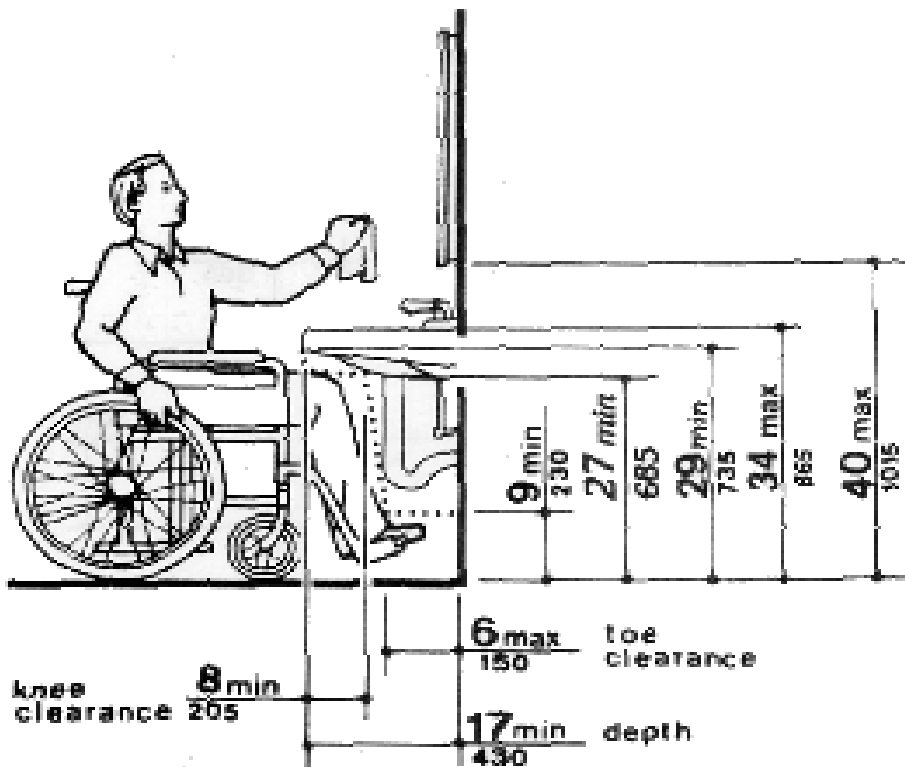


Transfer benches like the one pictured below can be used to increase accessibility of a tub to a shower. Another feature to increase accessibility would be a handheld shower head.



The graphic below shows the requirements for a compliant sink. These temporary modifications can increase accessibility.

- If the soap and paper towel dispensers are out of reach range place another bar of soap or dispenser with towels on the counter
- If the pipes underneath the sink are exposed purchase insulation for sink pipes at a hardware or big box store and install
- Lever handles would need to be installed
- If the mirror is too high install another at a maximum 40 inches from finished floor



Medicots or something similar would benefit people with disabilities. The cots are higher and are more stable providing ease of transfer. Placing these cots against the wall also provides increased stability. People with disabilities may need more space too, plan for at least 80 square feet to accommodate assistive technology, service animals or care givers.

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