

Mobility within your Classroom

Here are just a few facts about the physical configuration of your classroom to be able to successfully include a student who is a wheelchair user. It is important that you remember the width of the doorway, the aisles and the space for turning.

Introduction to Mobility and Assistive technology

It is all too easy to think of mobility only as our moving through the world. Wheelchairs and scooters come to mind immediately when picturing AT for mobility. A review of merchant information on the web reveals numerous wheelchairs of varied shapes and purposes, such as those designed especially for small children that lower to 6" off the ground so that they may sit with classmates during circle time, and rise to table height; wheelchairs that stand; and wheelchairs that lean back horizontally. And most of us have cheered the wheelchair racers as they speed along in spare, lightweight devices during marathons. With motorized conveyance, those who do not have the strength to "push" themselves along can control their direction and speed with as little as a short puff of breath. But whichever style of wheelchair one uses, one must also consider the physical environment one is "moving through." Is the furniture adjustable, the room arranged with wide passageways, and the public transportation furnished with lifts into the vehicles? Throughout this section we will provide examples of high tech, low tech, and even no tech solutions to mobility.

Mobility must also consider how we interact and change our environment, and for that we look to the abilities of the person with the disability. Can the individual control her wheelchair manually, without power? If power is needed, will a simple joystick control the wheelchair? Or will the joystick need to be specially positioned and purchased for the child? What if the only reliable muscle movement that the person has is the head? Can a person operate a wheelchair that way?

Wheelchairs

Wheelchairs and scooters are fitted to the individual, just like shoes. One size does *not* fit all. Occupational and physical therapists do the mobility assessment of the specific needs of a person in a clinical setting. The child's insurance typically pays for the assessment and the wheelchair. The selection of the specific wheelchair is not an area that parents and teachers usually get involved with, but their understanding of the child's rhythms and routines—where the child needs to go, when, with whom - are invaluable to therapist. Once the appropriate wheelchair is selected based upon the person's abilities and needs, those surrounding the child must become competent with ensuring that the device remains comfortable and effective.

How wheelchairs work in classrooms

Lets' pretend that you're a teacher. Now that you have a student in a wheelchair in your classroom, how do you create a learning environment as open and inviting for her as you do for the rest of the kids? Here are some facts and diagrams to get you started with the physical room arrangement, including width of aisles, space for turning, and height of shelves. They are guidelines provided as a result of the ADA.

Item	For Adults	For Children
Door width	32 inches, see figure 1	
Aisle width	36 inches, see figure 1	36" min. preferred 44" or more
360 degree turning radius	5 square feet, see figure 2	5' x 5'
180 degree turning radius	36 inches onto 36 inches, see figure 2	36" x 36
Turning around a stationary object	see figure 3	
Stationary space	30 x 48 inches	30 x 48 inches or more
Forward reach	15 inches min. – i.e., reaching for a book off a bookcase, see figure 4	Min: 16" – 20" Max: 36" – 44"
Sideways reach	9 inches min down, see figure 5	Min: 16" – 20" Max: 36" – 44"
Table Height	34" max to top of table	31" max. to top of table
Table Knee Space	27" high, 30" wide, 19" deep	24" high, 30" wide, 17-19" deep
Ramp ratio	1:12"	1:16

Graphics below taken from the U.S. Department of Justice's *ADA Standards for Accessible Design*, retrieved from <http://www.ada.gov/stdspdf.htm>.

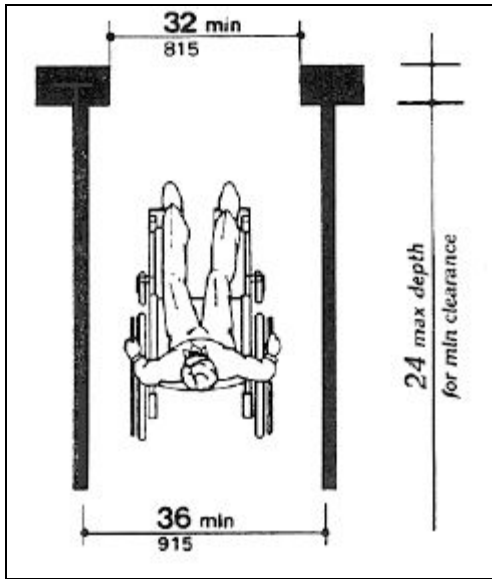


Figure 1: aisle and door width

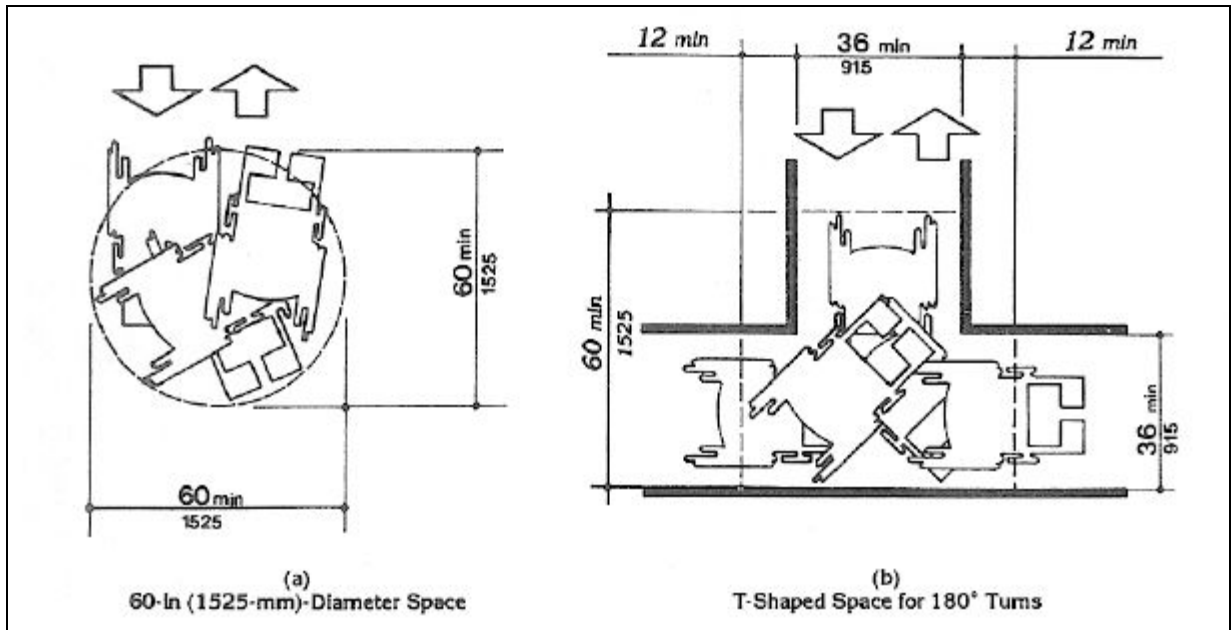
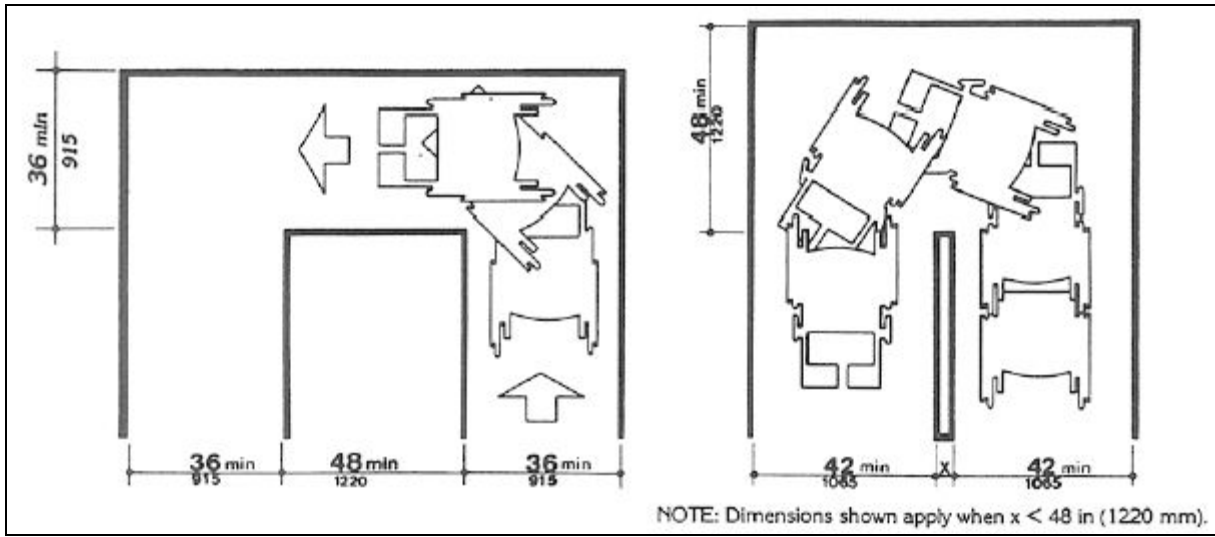


Figure 2: 5 foot circle turning radius & 90 degree turns



**Figure 3: turning around a stationary object:
left figure, a table; right figure, a partition**

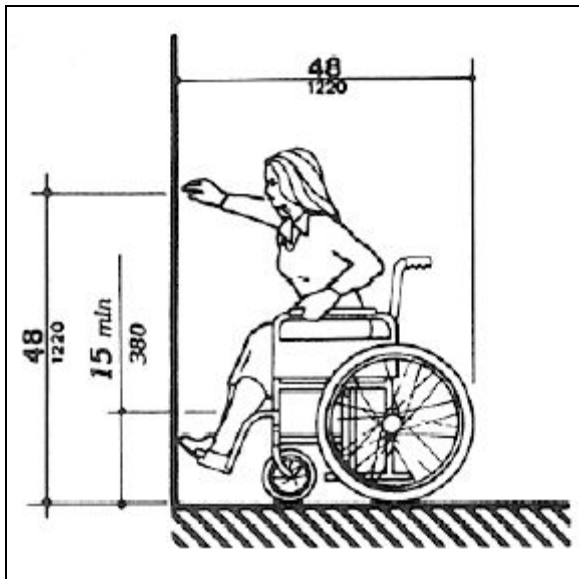


Figure 4: forward reach

Getting around tables and walls is illustrated in figure 3. Of critical importance is the ability to sit at each work center, figure 6. Not that all stations within the center need to be accessible, but at least one must be. It's not fair putting the student with a Plexiglas tray on her wheelchair off in the corner, -- the child needs to sit with his peers at the table, and his classmates need to have a chance to interact directly with him. Therefore, the table needs to provide the child with 30 inches of space (width), with clearance for feet on the foot rests of 17 - 19 inches. Otherwise, bruises or pressure sores may develop by the child unknowingly driving the wheelchair into an object.

Then there is reach--reaching for an object on the table, off the bookcase, or to the water fountain button. Keep in mind that these illustrations are for adults in wheelchairs; the actual reach is different for each child. The figures for children are in the table preceding the diagrams.

The environment must be designed to include all learners—those who are short, tall, wheelchair users, and those with other characteristics who also benefit from special considerations within the environment.

Each individual is different, so although there are recommended guidelines in the ADA, the actual figures may vary from individual to individual. Consider them just a starting point. You begin with an understanding of what each person who uses the environment needs to do, and then work to make certain that each person can move safely within the physical environment to “do what needs to be done.”