Building Entrances

Design considerations

Every attempt should be made to make all or most building entrances accessible to persons with disabilities. Priority should be given to having the main entrance accessible to residents and visitors with disabilities. This fact sheet will focus on the following building entrance features.

- Exterior doors
- Doorbells and intercoms
- Mailboxes

Entrances to buildings should come with a no-step entrance and a low door threshold, and the door should be a minimum of 915 mm (36 in.) wide. Ideally, the entrance should provide covered protection from the elements. A 1,525- by 1,525-mm (60- by 60-in.) level landing must exist on both sides of an entrance door; this allows for proper manoeuvring space for persons in wheelchairs and scooters. Accessible entrances should also provide the following:

- A shelf or bench that can be used to hold any packages, bags or groceries should be located at the entrance.
- Doorbells, intercom control buttons and mailboxes should be made accessible to persons in wheelchairs or scooters, by locating them between 1,070 mm (42 in.) and 1,370 mm (54 in.) above the floor.
- Intercoms and mailboxes should be made accessible to persons with visual limitations; signs and indicators should be in contrasting colours and in raised letters.
- Motion sensor lighting should be supplied and installed at places of residence.
- Doorbells should include a built-in speaker phone and security camera to provide visual and audible surveillance of the entry.
- The automatic door lock should be releasable from any of the building phones.
- Task lighting at a minimum of 250 lux should be supplied and installed near keyholes of residential entrances.

Exterior doors

Most older housing projects do not provide accessible entrances. While entrance doors are usually wide enough for people using wheelchairs and walkers, door hardware and high thresholds cause problems. Door handles and locks must be accessible from a sitting position and should be easy to operate. Thresholds are an obstacle for many people, as they are a tripping hazard and a barrier to the small wheels on walkers. Users of both wheelchairs and walkers require gently sloped thresholds. Many auto-closers make entrance doors difficult to open or cause the door to close with excessive force (see figure 1).

Provide a minimum clear door width of 915 mm (36 in.) for all entrance doors. Build thresholds to a maximum height of 13 mm (½ in.) (see figure 2).

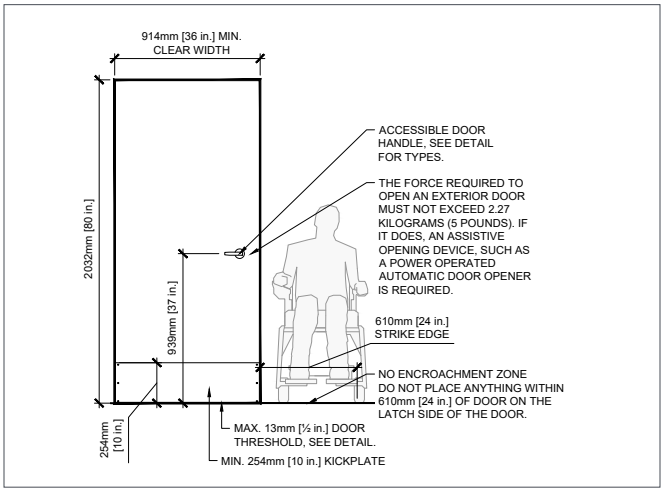

Figure 1: Exterior door elevation
Drawing by: Alberta Parks

Choose door locks that allow the user to remove the key from the lock before opening the door. Avoid spring-loaded locks. Locate the entrance door lock approximately 915 mm (36 in.) (or lower, if possible) from the floor where someone in a sitting position can reach it.

In order to lower the lock, you may have to move the locking mechanism down and cover the hole at the previous location. Relocation of the door lock may be costly, if it means replacement.

Choose a pull handle that requires minimum grasping strength and motion (see figure 3). A large Dshaped handle between 30 mm (1¼ in.) and 40 mm (1½ in.) in diameter is ideal. Locate handles approximately 915 mm (36 in.), but not more than 1,220 mm (48 in.), above the floor.

Avoid door handles that require a twisting action of the wrist to open. Door handles with integral locks should have a lever handle that is at least 75 mm (3 in.) long and requires only a downward force to open.

Changing door handles is normally a simple procedure. However, where steel door frames require a new hole for the latch, patching the old one can be difficult, and poor patching can cause problems in door operation.

Select doors and frames in contrasting colours. A glass door often looks dark from the outside and light from the inside since the perceived colour of glass is determined by the source of backlighting. Avoid highly reflective surfaces or finishes.

Select exterior hinged doors that require a force of less than 38 newtons to open (38 newtons represents approximately 8.5 pounds of force). Power-assisted doors use a motion detector, pressure plate, keypad, hand button, security card or remote transmitter to allow entry and exit.

Power-assisted doors should take a minimum of three seconds to move from a fully closed to a fully open position with a force of not more than 66 newtons (15 pounds of force) to stop the door movement. To assist persons with visual limitations, install guards at a level that can be detected by a cane. Where the door swings into the path of travel, extend the guard at right angles to the wall (see figure 4).

Proper access privileges (such as an electronic card or key) may be required for power-assisted doors. These doors can jam closed if the locking mechanism is not released before the door opener is activated. The user must be able to release the door lock and move to a suitable location before the door opens. This may require a larger approach area or a landing with sufficient space for the door to open without hitting the wheelchair.

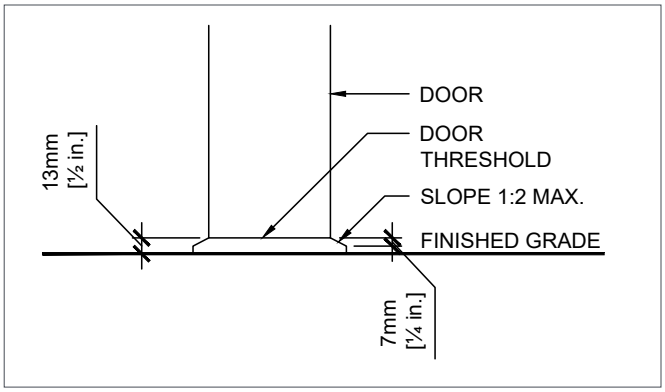

Figure 2: Exterior door threshold
Drawing by: Alberta Parks

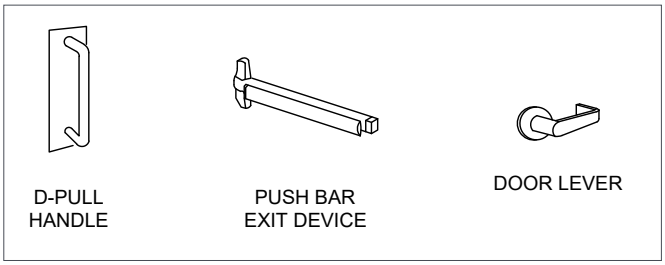

Figure 3: Acceptable door handle styles
Drawing by: Alberta Parks

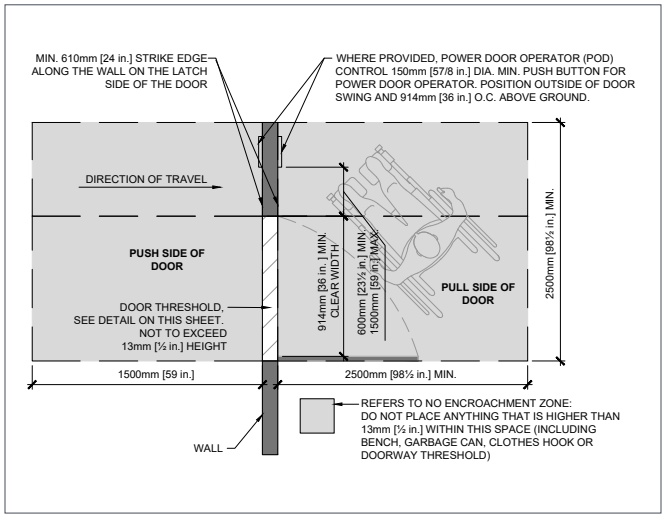

Figure 4: Exterior door plan—forward approach
Drawing by: Alberta Parks

Doorbells and intercoms

Doorbells and intercoms allow visitors to announce their arrival; they also permit residents to call for help from the building entrance. Often, they are located outside the building or in the entry vestibule at a position that is too high or blocked by mailboxes or storage bins. Most intercom systems are used by persons who are standing. People with visual limitations often cannot identify the characters on the call buttons. Good lighting, together with tactile characters or symbols on the buttons, will help individuals with low vision to identify the intercom and to press the correct button (see figure 5).

Provide a clear floor space, 760 mm (30 in.) by 1,220 mm (48 in.), in front of the doorbell or intercom and ensure that a wheelchair user can reach the handset and controls. Locate the intercom controls between 405 mm (16 in.) and 1,220 mm (48 in.) above the floor; 915 mm (36 in.) is recommended. Where space is limited or relocation costs are prohibitive, install an add-on station to the central intercom unit.

The cost of moving a doorbell or intercom can include wiring, repairs to walls, or relocating.

If the required clearance is lacking in front of the intercom, you may have to relocate the intercom or install new or larger landings to provide access.

Provide 100-lux illumination for the intercom and its controls. Provide an intercom with numbers that are at least 19 mm (¾ in.) high and raised a minimum of 0.75 mm (1/32 in.). Shop for handset intercom systems with large keypads that feature raised letters and consider providing Braille buttons.

The installation of spotlights in the entryway will improve lighting.

Figure 5: Doorbell and intercom system with easy-to-reach features and good lighting
Photo by: Ron Wickman

Mailboxes

People normally reach into their mailboxes from a standing position, and banks of mailboxes are usually designed with that in mind. However, users of wheelchairs and walkers should also be able to approach their mailboxes and reach into them comfortably. This means providing a clear path of access to lower mailboxes. Small letters and numbers on mailboxes pose problems for persons with visual limitations. Mailboxes are sometimes located in dimly lit areas of the lobby or in a stairwell, away from the entrance landing. Locking mechanisms and small keys are difficult to use.

Install mailboxes between 405 mm (16 in.) and 1,220 mm (48 in.) from the floor; 915 mm (36 in.) is recommended, with a minimum clearance of 760 mm (30 in.) by 1,220 mm (48 in.) in front. Providing space around the mailboxes that residents in wheelchairs can reach from the side is much better than if they must perform a forward reach (See Figure 6). With a forward reach, persons in wheelchairs approach at a 90-degree angle and have to bend forward. This is difficult for some persons with limited trunk strength.

You may have to lower some mailboxes or reassign numbers of lower boxes to people in wheelchairs. If the intercom and mailboxes are located together in the same vestibule, it may be difficult to find space for any such relocation.

Retrofitting existing mailboxes with a new access system can be expensive. Providing a few accessible and easy-to-open mailboxes in another location may be the best option. Tenants may agree to a mail delivery system that does not require locked boxes.

Provide at least 100-lux illumination for the mailbox areas. Use large, colour-contrasting identification numbers (for example, dark numbers on a light background). Consider using raised numbers.

Figure 6: Wheelchair-accessible lowered mailboxes complete with space for a side approach
Photo by: Ron Wickman