

Accessible Routes

ACCESSIBLE ROUTES & CLEARANCES

Accessible routes or paths of travel in new and existing projects are essential aspects of Accessible design. If you cannot even get to an area, no matter how accessible that portion is, it will still not be accessible. Not only is the route or path itself required to be accessible, but there are a variety of component requirements that make it accessible. This chapter will look at a broad view of these elements and their specific requirements.

General Notes

- A minimum of one accessible route within the site connects all site arrival points from the public right of way and public transportation stops, to accessible parking, accessible loading zones, accessible building elements and spaces on the site, and required building entrances
- If the only means of access is a vehicular way with no pedestrian access, then an accessible route is not required to connect the site arrival points with the building entries, but instead from the accessible parking and passenger drop-off areas to the building entries

Note Access aisles for accessible parking spaces are considered to be part of the accessible route

- The accessible route is located in the same general area and coincides with the circulation path, but does not include stairs or escalators [nor can it pass thru kitchens, restrooms, storage rooms, or closets, unless explicitly permitted by Chapter 10 of the CBC]
- Qualified historical buildings that are allowed exemptions for alterations are required to have one minimum accessible path of travel from the public right of way to the entry

Note: *Path of travel* is a concept that only applies to alterations and existing buildings. It not only includes

the area where pedestrians move—such as corridors, hallways, lobbies, sidewalks, ramps, parking access aisles, walkways, doorways, and elevators—but, by definition, it also includes the restrooms, phones, and drinking fountains. Generally a *path of travel* connects an exterior approach, to an entry, to an altered area. The required width and height meet the same requirements as *accessible routes*. The term *path of travel* is used when providing an approach to an altered area that is required to be upgraded using 20% of the construction costs for *proportional spending*. CFR § 36.403(e) and § 35.151(b)(4)(ii):

A *path of travel* includes a continuous, unobstructed way of pedestrian passage by means of which the altered area may be approached, entered, and exited, and which connects the altered area with an exterior approach (including sidewalks, streets, and parking areas), an entrance to the facility, and other parts of the facility.

An accessible *path of travel* may consist of walks and sidewalks, curb ramps, and other interior or exterior pedestrian ramps; clear floor paths through lobbies, corridors, rooms, and other improved areas; parking access aisles; elevators and lifts; or a combination of these elements.

For the purposes of this section, the concept of *path of travel* also includes the restrooms, telephones, and drinking fountains serving the altered area.

- A minimum of one accessible route within the building/facility connects all accessible entries with all accessible spaces and elements connected by a circulation path unless specifically exempted
- Both manual and powered revolving doors/gates/turnstiles are not part of an accessible route, although they can be considered part of a common use circulation path

| Items in black are where ADAS provides for greater access or where ADAS and CBC are equivalent | Items in blue are where California provides greater access | Outside of California ignore blue text and the blue [strikeout] line itself—everything in black pertains |

- In new construction with over 10,000 SF per floor where elevators are required, a vertical accessible route is provided within 200 LF of each stairway and escalator; in existing projects when new stairs or escalators are added (if not used only for emergency egress), a vertical accessible route is also provided per CBC
- Accessible routes are not required to connect [mezzanines in one-story buildings, or] levels and stories within places of public accommodation that are less than 3 stories or multi-story buildings with less than 3,000 SF per each floor, unless they are offices of health care providers or shopping centers/malls, with a few other exceptions [per CBC]

CBC NOTE

While the intent in the CBC is to always connect mezzanine levels with an accessible route, this is not how it is actually stated in the code

- Accessible routes connect required clear floor spaces at accessible elements—one full unobstructed side of the clear floor space adjoins the accessible route or overlaps the route where not prohibited
- Units in self-storage facilities that are not required to be accessible are not required to be located on an accessible route

Route Clearances

- Sidewalks and exterior walkways are a minimum of 36" clear [only if restrictions exist caused by right-of-way, natural barriers, or other existing conditions causing an unreasonable hardship, otherwise it is 48" minimum clear per CBC]
- If the overhang of parked cars intrudes upon the minimum required clear width of sidewalks or walkways, then wheelstops, bollards, or some other means must be provided to prevent encroachment into the minimum required clear walkway width

NOTE

Bollards are considered a viable and appropriate alternative to stop a vehicle, whereas wheelstops can easily lead to trip and falls when there is no vehicle parked in the space, and cars can jump the wheelstop if going too fast

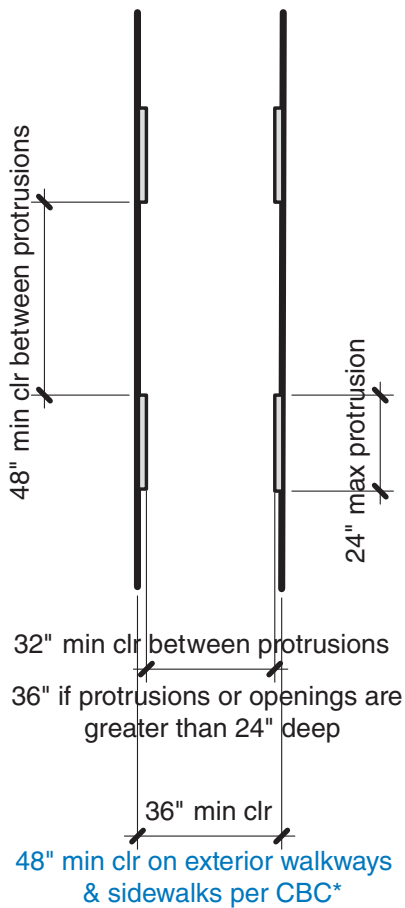
- The accessible route [preferably] does not go behind parking spaces, with the exception of the specific space the person is parked in [per CBC]
- Walking surfaces are 36" minimum clear [if it is an aisle serving 1 side (ie, check stand, employee work area, food service, fixed seating, tables, or counters) per CBC]
- Aisles serving 2 sides are 44" minimum clear per CBC
- Routes to the accessible toilet compartments in multi-accommodation restrooms are 44" minimum clear except at doors per CBC
- Corridors are 44" minimum clear if serving 10 or more people and 36" minimum if serving less than 10 people per CBC
- Protrusions of 24" maximum in length parallel to the direction of travel can reduce the route from 36" minimum down to a 32" clear width if separated by a distance of at least 48" between each occurrence of the protrusion
- Protrusions more than 24" in length parallel to the direction of travel, as well as openings more than 24" in depth, are required to have a clear width of 36" minimum
- In multi-accommodation restrooms, the area in front of the accessible toilet stall door is [42" minimum clear for a latch approach] [48" minimum clear for push side approach and 60" minimum clear for pull approach per CBC]
- Ambulatory stalls with latch side approach have a minimum clear route minimum width of [42] [44" per CBC]

Note: *Accessible route* is a term used to describe a route taken by pedestrians that is accessible for people with limited mobility meeting specific requirements. With a few exceptions, the *accessible route* connects the accessible parking spaces and accessible passenger loading zones with the public right of way, and public transportation stops to the accessible building entrance and to accessible elements and spaces both on the site and within the building including each story and mezzanine. The term *path of travel* is generally used for existing projects and is also accessible.

If spaces and elements are connected by a *circulation path*, then for the most part they are also required to be connected by an *accessible route*, preferably in the same

vicinity. If spaces or elements are accessible, they are located on an *accessible route* and are to coincide or be in the same general area as *circulation paths*. *Accessible routes* are comprised of walking surfaces with a 5% maximum slope, doorways, pedestrian ramps, curb ramps excluding their flared sides, elevators, and lifts. Revolving doors, gates, and turnstiles are not part of an *accessible route*, although they are part of a *circulation path*. An *accessible route* is considered to be a volume of 80" minimum clear height. The minimum width is 36" per ADAS [whereas in California it is 48" on the exterior, 44" on double-loaded and 36" on single-loaded interior routes]. There are further width requirements for U-turns, doorways, and passing spaces. This required minimum clear width of an *accessible route* cannot be reduced by any protruding objects.

Accessible Route Clear Widths



* Exterior exit balconies are typically 44" minimum clear depending upon exiting requirements per CBC

Assembly Areas

- Accessible routes directly connect performance areas to assembly seating if a circulation path directly connects both areas
- Performance areas have an accessible route connecting the performance area to ancillary areas used by performers unless it is a place of public accommodation (private building) with less than 3 stories or a private multi-story building with less than 3,000 SF per each story; [orchestra pits and similar performance areas are considered to be a level and are required to be inter-connected per CBC]

Public Multi-Family Housing Dwelling Units

According to HUD's May 23, 2014, deeming document, ADAS can be used as an alternative accessibility standard for projects under their jurisdiction, with some exceptions. For housing, the exception allowed by ADAS for common use areas not serving mobility feature dwelling units per 203.8, is not allowed, and all common use areas are required to be accessible unless there is another specific exception that applies.

- In multi-family residential facilities built by or on behalf of a public entity, common spaces not serving mobility dwelling units [nor serving units with adaptable features] are not required to be accessible or on an accessible route [per CBC]
- Within the mobility feature dwelling unit, the accessible route connects all spaces with the exception of unfinished attics and basements
- All rooms in a mobility feature dwelling unit are located on an accessible route, and have a turning space, which includes all bathrooms and walk-in closets, with the exception of small exterior spaces with 30" maximum in one direction
- If there is only one accessible route thru the dwelling unit, it does not pass thru bathrooms, closets, or similar spaces

Employee Only Areas

- Employee work areas [and work stations] are located on a common use circulation path and are able to be approached, entered, and exited [excepting portions that are less than 300 SF and elevated 7" or more for the space to function][per CBC]

NOTE

Individual work stations and offices have doors or openings 32" minimum clear and allow for a 30" x 48" clear floor space just over the threshold within the room or space itself—no requirement for a turning space inside the individual work station or office

- Within employee work [station] areas, a common use circulation path exists that complies with accessible route requirements for clear widths, door requirements, slope, and floor height change components; unless it is an exterior work area fully exposed to the weather, or if it is an integral component of work area equipment, [or if the area is less than 1,000 SF and defined by permanent partitions, counters, casework, or furnishing] although these areas are still required to be on an accessible route just not within [per CBC]
- Employee work stations are on an accessible route and spaces and elements within are on a common use circulation path complying with means of egress, floor surface and change in level requirements, and clear width at doors per CBC
- Machinery spaces used only by service personnel for maintenance, repair, or occasional monitoring are not required to comply or be on an accessible route

NOTE

Elevator pits/penthouses, mechanical, electrical, and communication equipment rooms are considered machinery spaces, and if only frequented on an occasional basis by service personnel for maintenance, repair, or occasional monitoring, are not required to be accessible or on an accessible route

- Common use circulation paths within employee work areas can be reduced in width by work area equipment if it is required for the equipment to function

Note: *Circulation path* is a general term. It can be a *common use circulation path* within an employee work area, which has several specific exceptions, or just a *circulation path* in general. *Circulation paths* are where pedestrians move from one place to another, and do not necessarily mean they are accessible. *Circulation paths* thru vehicular ways and unpaved paths are required to either be designed to be accessible or have an *accessible route* nearby.

Stairs are considered vertical *circulation paths*, which obviously are not accessible for the majority of people with mobility issues. There still are requirements such as tread/riser dimensions, nosing profiles, and handrails to assist people who can navigate stairs. If a vertical *circulation path* leads to an accessible area or element, there is to be an *accessible route* within the same general area—whether lift, elevator, or ramp—unless there is a specific exemption. The *accessible route* can overlap the *circulation path* or be separate in the same area.

Compliant protruding objects can project into a *circulation path* if they do not protrude into the minimum required clearance of an *accessible route*, if it does overlap the *circulation path*.

Circulation Path. An exterior or interior way of passage provided for pedestrian travel, including but not limited to, walks, hallways, courtyards, elevators, platform lifts, ramps, stairways, and landings.

Common Use. Interior or exterior circulation paths, rooms, spaces, or elements that are not for public use and are made available for the shared use of two or more people.

SOURCES – RELEVANT CODES AND STANDARDS

2010 ADA Sources:

- 106.5 Definitions – Defined Terms – Circulation Path
 - 106.5 Common Use
- 203 General Exceptions
 - 203.4 Limited Access Spaces
 - 203.5 Machinery Spaces
 - 203.8 Residential Facilities
 - 203.9 Employee Work Areas
- 206 Accessible Routes
 - 206.2.1 Where Required – Site Arrival Points
 - 206.2.2 Where Required – Within a Site
 - 206.2.3 Where Required – Multi-Story Buildings and Facilities
 - 206.2.4 Where Required – Spaces and Elements
 - 206.2.6 Where Required – Performance Areas
 - 206.2.8 Where Required – Employee Work Areas
- 206.3 Location
 - 206.4.5 **except** Entrances – Tenant Spaces
- 305.6 Clear Floor Or Ground Space – Approach
 - 305.7 Maneuvering Clearance
- 402.2 Accessible Routes – Components
- 403.5 Walking Surfaces – Clearances
 - 403.5.1 Clear Width
 - 403.5.3 Passing Spaces
- 404.2.1 Doors, Doorways, and Gates – Manual Doors, Doorways, and Manual Gates – Revolving Doors, Gates, and Turnstiles
 - 404.2.3 Clear Width
 - 404.3.7 Automatic and Power-Assisted Doors and Gates – Revolving Doors, Revolving Gates, and Turnstiles
- 502.7 Parking Spaces – Relationship to Accessible Routes
- 604.8.1.2 Water Closets and Toilet Compartments – Toilet Compartments – Wheelchair Accessible Compartments – Doors
 - 604.8.2.2 Ambulatory Accessible Compartments – Doors
- 809.2 Residential Dwelling Units – Accessible Routes
 - 809.2.1 Location
 - 809.2.2 Turning Space

2016 CBC Sources:

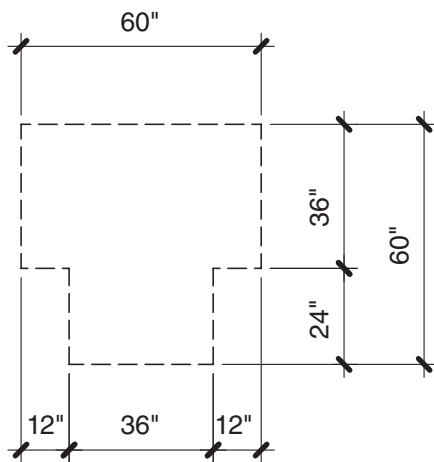
(Sources shown in blue italics differ from ADA)

- 11B-203 General Exceptions*
 - 11B-203.4 Limited Access Spaces*
 - 11B-203.5 Machinery Spaces*
 - 11B-203.8 Residential Facilities*
 - 11B-203.9 Employee Work Stations*
- 11B-206 Accessible Routes*
 - 11B-206.2.1 Site Arrival Points*
 - 11B-206.2.2 Within a Site*
 - 11B-206.2.3 Multi-Story Buildings and Facilities*
 - 11B-206.2.3.2 Distance to Elevators*
 - 11B-206.2.4 Spaces and Elements*
 - 11B-206.2.6 Performance Areas*
 - 11B-206.2.8 Employee Work Areas*
- 11B-206.3 Location*
 - 11B-206.4.5 except Tenant Spaces*
- 11B-302 Floor Or Ground Surfaces*
- 11B-303 Changes In Level*
- 11B-402.2 Accessible Routes – Components*
- 11B-403.5 Walking Surfaces – Clearances*
 - 11B-403.5.1 Clear Width*
 - 11B-403.5.3 Passing Spaces*
- 11B-404.2.1 Doors, Doorways, and Gates – Manual Doors, Doorways, and Manual Gates – Revolving Doors, Gates, and Turnstiles*
 - 11B-404.2.3 Clear Width*
 - 11B-404.3.7 Automatic and Power-Assisted Doors and Gates – Revolving Doors, Revolving Gates, and Turnstiles*
- 11B-502.7 Parking Spaces – Relationship to Accessible Routes*
- 11B-604.8.1.2 Water Closets and Toilet Compartments – Toilet Compartments – Wheelchair Accessible Compartments – Doors*
 - 11B-604.8.2.2 Ambulatory Accessible Compartments – Doors*
- 11B-809.2 Residential Dwelling Units – Accessible Routes*
 - 11B-809.2.1 Location*
 - 11B-809.2.2 Turning Space*

CLEAR FLOOR, TURNING, & MANEUVERING SPACES

General Notes

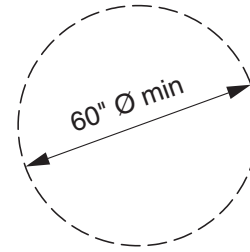
- Maneuvering, turning, and clear floor spaces are level with a maximum slope of 1:48 (2.083%) with no height changes greater than 1/2"—with 1/4" vertical + an additional 1/4" beveled with a 1:2 maximum slope
- Maneuvering, turning, and clear floor spaces require a firm, stable, and slip resistant surface and can use knee/toe clearance under objects with a clear height of 27" minimum, which can extend 25" maximum under an element
- T-shaped turning spaces can use knee and toe clearance on one of the three ends of the T only
- One full unobstructed side of a clear floor or turning space adjoins an accessible route or another clear floor space [and can overlap the accessible route unless specifically prohibited per CBC]



Only one of the 3 arms of the T can go underneath an object with knee/toe clearance below

60" T-Shaped

Turning Spaces



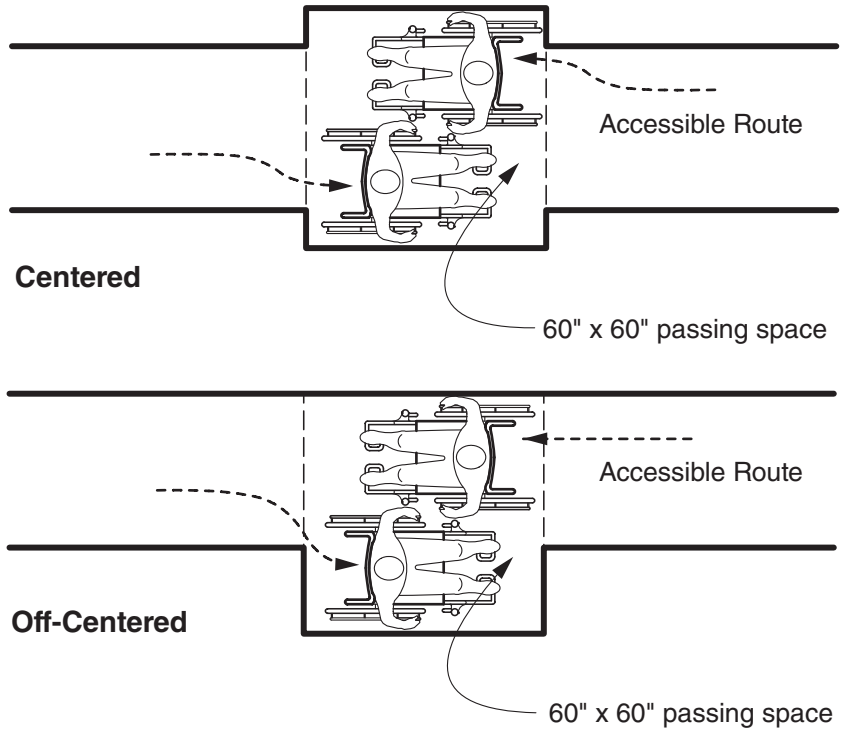
60" Diameter

- Accessible routes with a clear width of less than 60" have either a 60" x 60" minimum clear passing space, or a T intersection where 2 walking surfaces meet and extend 48" minimum beyond the intersection in all 3 directions of the T every 200 LF maximum

Note Having the route widen out more often not only helps those in wheelchairs or the elderly to rest, but also helps those who are Deaf, by providing them with space to view each other for communication

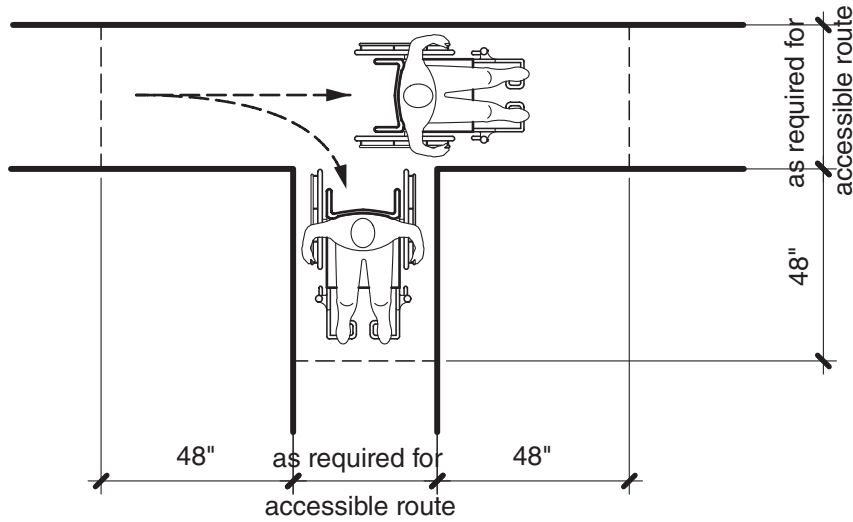
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60" x 60" Passing Space



If the accessible route is less than 60" wide every 200 LF maximum provide a 60" x 60" passing space

T-Shaped Intersection Passing Space



If the accessible route is less than 60" wide provide every 200 LF maximum a T-intersection that extends 48" minimum in all 3 directions of the T

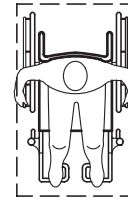
- A clear floor space is generally 30" × 48" unless located in an alcove or otherwise restricted on all or part of 3 sides

Note Elevator call controls require a clear floor space preferably to a volume of 80" above finished floor (AFF) with no recessed or protruding objects at or within that volume of space

Note: Generally a clear floor space is considered to be a volume to a height of 80" that can have a counter, table, work surface, lavatory, or drinking fountain protrude into it

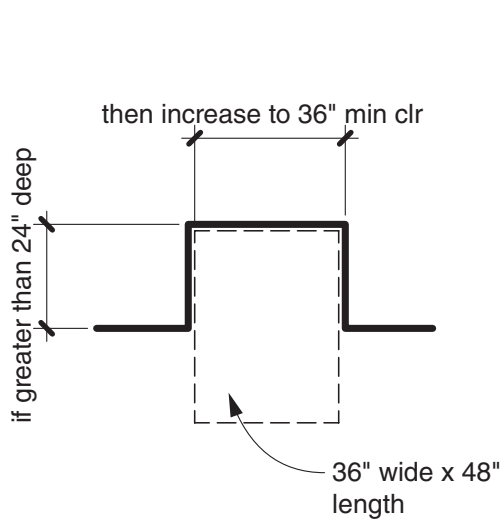
- If the required clear floor space is confined for more than half of its distance along all or part of 3 sides, the space increases—alcoves more than 24" deep for forward approach increase from 30" to 36" × 48" minimum, and those more than 15" deep for parallel approach increase to 30" × 60"

Unobstructed Clear Floor Space

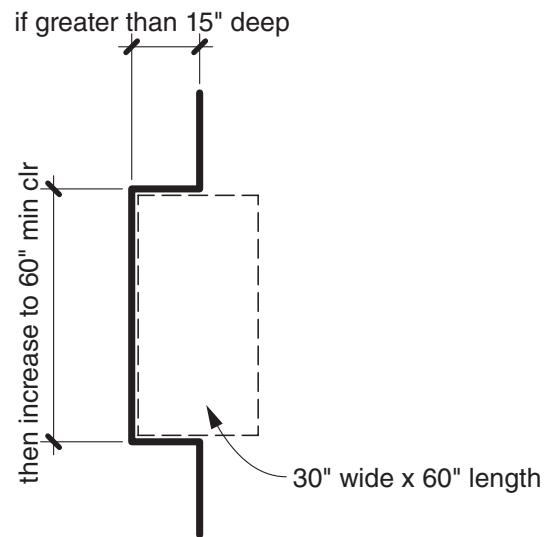


30" x 48" Clear Floor Space

Obstructed Clear Floor Spaces



Front Approach



Parallel Approach

Clear Floor Spaces in Alcoves or Otherwise Blocked on All or Part of Three Sides

- In multi-accommodation restrooms, doors cannot swing into a required clear floor space for any fixture, but can swing into turning spaces [12" maximum unless it is the accessible compartment door, which does not have any limitations per CBC]
- In single user restrooms, doors can swing into clear floor spaces of fixtures and the turning space

if there is a 30" × 48" clear floor space beyond the arc of the door swing [in mobility dwelling units in public housing only—in all other single-accommodation restrooms, doors can swing into clear floor spaces of fixtures if there is a 30" × 48" clear floor space beyond the arc of the door swing, but are limited to a 12" maximum intrusion into the turning space itself per CBC]

180° Turning Aisles Around An Element

- Approach aisles with less than 42" clear width leading to a 180° turn around an element with less than a 48" width, have a minimum of 60" clear at the end aisle
- Approach aisles with a minimum of 42" or more clear width leading to a 180° turn around an element with less than a 48" width, have a minimum of 48" clear at the end aisle

CBC NOTE

If the approach aisles are 2-sided, they are required to be a clear width of 44" minimum, then the end aisle has 48" minimum clear if the element is less than 48" in width per CBC

- If the element is at least 48" minimum in width, all of the aisles, including the end aisle, are to comply with the required clear widths for accessible routes

NOTE

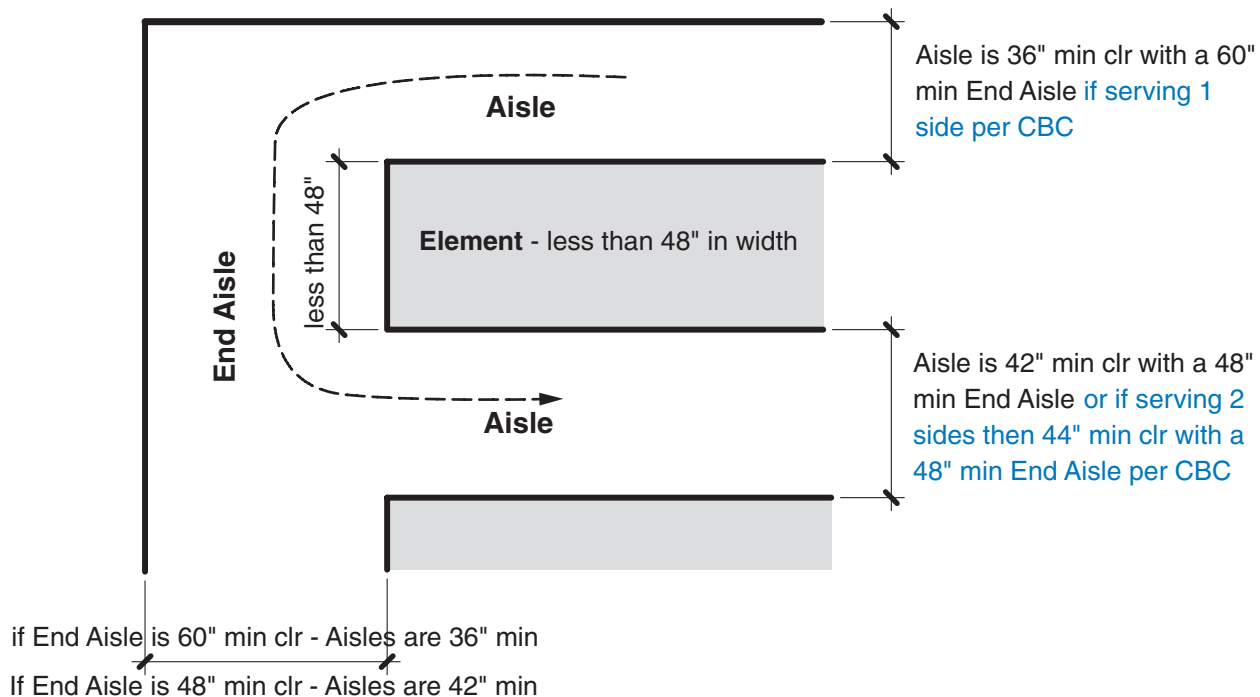
SPEED RAILS

If speed rails are placed in a switchback configuration, rather than having the queue as a single straight line, the question is whether providing 36" continually between the rails is adequate.

Typically, 36" would be fine if there is 36" clear between the edges of the stanchion base, or the stanchion itself supporting the speed rail with no base, and presuming that the queue is a single straight line. But if there are switchbacks, the end at the switchback requires more space in order to navigate the 180° switchback turn. This clear dimension at the end is 60" minimum with a 36" minimum aisle leading to it, or it can go down to 48" if the aisles are increased to 42" minimum. It can also decrease if the switchback is around an object that is 48" or wider. In the latter case, you would only need 36" at the end.

[If you have a queue that is double-loaded, such as with merchandise on both sides, the minimum width of the queue goes up from 36" minimum to 44" per CBC.] In this case, with a switchback, you only need 48" minimum clear at the end, rather than 60", since the aisles leading to it are greater than 42" minimum.

180° Turning Aisles Around an Element



If an Element is 48" or more in width then all Aisles and End Aisles comply with the required accessible route clear widths

SOURCES – RELEVANT CODES AND STANDARDS

2010 ADA Sources:

- 302 Floor or Ground Surfaces
- 303.3 Changes in Level – Beveled
- 304 Turning Space
- 305 Clear Floor or Ground Space
 - 305.6 Approach
- 306 Knee and Toe Clearance
 - 306.3.2 Knee Clearance – Maximum Depth
- 307.4 Protruding Objects – Vertical Clearance
- 403.5.2 Walking Surfaces – Clearances – Clear Width at Turn
 - 403.5.3 Passing Spaces
- 407.2.1.3 Elevators – Elevator Landing Requirements – Call Controls – Clear Floor or Ground Space
- 603.2.3 Toilet and Bathing Rooms – Clearances – Door Swing

- Advisory 407.2.1.3 Clear Floor or Ground Space

2016 CBC Sources:

(Sources shown in blue italics differ from ADA)

- 11B-302 Floor or Ground Surfaces
- 11B-303.3 Changes in Level – Beveled
- 11B-304 Turning Space
- 11B-305 Clear Floor or Ground Space
 - 11B-305.6 Approach*
- 11B-306 Knee and Toe Clearance*
 - 11B-306.3.2 Knee Clearance – Maximum Depth
- 11B-307.4 Protruding Objects – Vertical Clearance*
- 11B-403.5.2 Walking Surfaces – Clearances – Clear Width at Turn
 - 11B-403.5.3 Passing Spaces
- 11B-407.2.1.3 Elevators – Elevator Landing Requirements – Call Controls – Clear Floor or Ground Space
- 11B-603.2.3 Toilet and Bathing Rooms – Clearances – Door Swing*