



Cuyahoga County
Department of Public Works

and

The Cuyahoga County Advisory Committee
on Persons with Disabilities

UNIVERSAL DESIGN STANDARDS



Guidelines for Cuyahoga County Facility
Construction

PURPOSE

Cuyahoga County has always been committed to the philosophy that all of its programming and buildings must be fully accommodating to all people. To achieve this, the County has instituted these Universal Design Standards.

These standards address not only people with disabilities, but the total population: all age ranges, stages of life, and physical and mental abilities. At times, these guidelines may exceed the minimal requirements set forth by the federal Americans with Disabilities Act (ADA).

Universal Design makes things *safer, easier* and *more convenient* for everyone.

Universal Design involves designing products and spaces so that they can be used by the widest range of people possible. Universal Design evolved from Accessible Design, a design process that addresses the needs of people with disabilities. Universal Design goes further by recognizing that there is a wide spectrum of human abilities. Everyone, even the most able-bodied person, passes through childhood, periods of temporary illness, injury and old age. By designing for this human diversity, we can create things that will be easier for **all people** to use. <http://www.universaldesign.com/universal-design.html>

PROJECT INVOLVEMENT

These standards shall be implemented, to the maximum amount practical, for all new construction, renovations and remodeling of all county owned and leased buildings. The Cuyahoga County Department of Public Works is the technical authority with the discretion to consider a totality of circumstances for the implementation of the standards for County controlled and/or County occupied properties. The Cuyahoga County Department of Public Works will consider permitting requirements, fiscal constraints, mission requirements and compliance with federal/state/local laws, codes and ordinances during implementation of these standards in coordination with the CCACPD.

The Cuyahoga County Advisory Committee on Persons with Disabilities (CCACPD), Accessibility Subcommittee shall be involved in the following project phases:

- Schematic Design Phase
- 90% Construction Document Drawings
- Prior to Punch List Phase
- Quarterly Meetings with Department of Public Works

All coordination with the CCACPD shall be through the Cuyahoga County Department of Public Works Facilities Project Manager.

UNIVERSAL DESIGN STANDARDS

CRITERIA FOR CONSTRUCTION PROJECTS

UNDER ADMINISTRATION BY CUYAHOGA COUNTY DEPARTMENT OF PUBLIC WORKS

- Only requirements that supersede minimal Ohio Building Code (OBC) requirements are listed in this document. This document augments and further refines selected, specific standards. All other requirements of the OBC shall govern, if not explicitly addressed herein.
- Refer to OBC 2017 and ANSI ICC A117.1-2017 for all accessibility requirements.
- Under ANSI ICC A117.1-2017 the county considers new buildings and facilities to include major renovations or alterations.
- Throughout this document, exact measurements have been indicated. It is understood that in the construction industry, actual measurements may vary a minimal amount, and to be compliant, the measurement cannot exceed these maximum numbers. Very close alignment to the requirements stated in this document should be achieved.
- Any changes to the OBC 2017 that may supersede the requirements in this document shall be followed.
- Section references are made to corresponding sections within the ANSI ICC A117.1-2017.

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SCOPING

- All areas of newly designed and newly constructed buildings and facilities and altered portions of existing buildings and facilities shall make all efforts to comply with these guidelines.
- Alterations to qualified historical buildings and facilities shall comply with these standards and the OBC, unless the State Historical preservation Officer agrees that compliance with the requirements for a specific element would threaten or destroy the historical significance of the building or facility.
- Operable parts shall comply with the OBC, including light switches, circuit breakers, environmental and appliance controls, plumbing fixture controls, and security and intercom systems.
- Unless technically unfeasible, all public entrances shall be accessible except loading and service entrances that are not the only entrance to a tenant space, and to restricted areas.
- Accessible means of egress are recommended in alterations of existing buildings.

SITE ACCESSIBILITY FROM STREET & PARKING TO BUILDING ON CUYAHOGA COUNTY PROPERTIES

Walking Surfaces (Section 403.2)

- No pavers, precast concrete or deeply ridged surface.¹ Regular colored, stamped concrete, asphalt or macadam acceptable.

Slopes (Section 403.3)

- Cross slope of 1% (1:100) preferred, where feasible, especially on long sidewalks.²

Ramps (Section 402 and 405)

- 1:20 max slope for new construction and 1:15 max slope for existing sites, building and facilities alterations. In existing buildings or facilities with space limitations, ramps shall be permitted to have slope steeper than 1:15 complying with Table 405.2 .
- Length of any ramp shall not exceed 30'-0", without a landing.

Curb Ramps (Section 406)

- 1:12 max side flares at all times.
- Cross slope of curb ramps shall be 1:48, no exceptions. (406.5.3)
- Recommend parallel curb ramps.
- Allow Blended Transitions as long as the perpendicular path of travel is provided.

1. *These uneven surfaces are jarring for wheelchair users and dangerous for people with unstable ambulation. Pavers and paver / concrete junctions settle unevenly during the climate changes, posing significant tripping hazards. However, pavers can be used as a decorative edge.*

2. *Use natural drainage wherever possible, to minimize cross slope. Steep cross slopes require manual wheelchair users to readjust frequently and travel is uncomfortable. People with ambulatory impairments have difficulties with balance when the cross slope is steep.*

Walking Surfaces Clearances (Section 403.5)

- All walk surfaces shall be vibration and obstruction free – no trees, grates, vendors, benches, etc.
- Provide minimum 48” wide walking surface and 36” clearance between obstructions.

PARKING LOTS (Sections 502 and 503)

Location and Dispersion

- Accessible parking spaces shall be dispersed at each accessible entrance.

Parking Spaces

- All accessible parking spaces shall be 132" (11'-0") wide with adjacent 60" (5'-0") wide access aisle.³
- Highly recommend additional accessible spaces if feasible, as the number of issued disability placards has increased.

Minimum and Recommended Number of Accessible Parking Spaces

Total number of parking spaces provided per parking facility	Total minimum number of accessible parking spaces	Recommended number of accessible parking spaces
1 to 25	1	2
26 to 50	2	3
51 to 75	3	4
76 to 100	4	5
101 to 150	5	6
151 to 200	6	7
201 to 300	7	8
301 to 400	8	9
401 to 500	9	10
501 to 1000	2%	2% plus 1
1001 and over	2% plus 1	2% plus 2

- Symbol of Accessibility shall be painted on the ground of all accessible parking spaces.⁴

Passenger Loading Zones

- Provide minimum 60" wide access aisle for existing, and 67" wide access aisle for new buildings and facilities.
- All new constructed or renovated passenger loading zones shall be accessible.

3. *This parking space configuration allows for the necessary flexibility for people with disabilities. A sedan can park on either side of the parking space and allow ingress and egress for the drivers or passenger side of the vehicle. A van can utilize any of the accessible spaces, as opposed to being limited to one out of every six accessible parking spaces.*

4. *As drivers are pulling into the space, this is an additional and useful way to communicate that the spaces are for people with disabilities.*

SIGNS - EXTERIOR (Section 502)

General

- International Symbol of Accessibility shall be displayed with white figure on blue background.⁵

Accessible Parking Space Signs

- Permanent signs shall be mounted 84" (7'-0") high to center line of sign, on wall or pole, regardless of the number of accessible spaces.
- All signs shall have "Van Accessible" signage.

Passenger Drop Off

- Passenger drop off shall be identified as such and include the International Symbol of Accessibility. Signage shall be on a post, located 60" (5'-0") before drop off area.

Entrances

- Directional signage shall be located to minimize backtracking.
- Tactile signs and Braille shall be located at all public and employee entrances.

ENTRANCES (Section 404)

Scope

- Unless technically infeasible, all primary public and employee entrances shall be accessible.
- Designated accessible entrances shall have a motion sensor door opener or power assist opener if not operated by security personnel.⁶

Doors, Doorways and Gates

- Doorways shall have a clear opening of 32 inch minimum, measured from any protruding object of the door face (such as a handle) and the door stop, if the maximum door swing is 90 degrees or the door is exceeding 5 lb. push power.
- Hardware that requires simultaneous hand and finger movements shall not be allowed.
- When two doors are in a series and both are open, there shall be a 60" diameter turning space (or 67" diameter turning space for new buildings) and the doors shall not encroach on this turning space. (404.2.5)

ELEVATORS (Section 407 and 309)

Car Controls

- Shall comply with Sections 407.4.6 and 309.

5. Symbol with blue / white is most easily recognizable by people with disabilities.

6. Electric eye door opener allows more flexibility for more types of disabilities. This is standard practice in many municipalities and governmental entities, such as the Village of Arlington Heights and the University of Illinois at Chicago.

ACCESSIBLE ROUTE – INSIDE BUILDINGS (Section 402)

Floor Surface

- No rounded edge, uneven or grooved tiles.⁷
- If specifying a protective carpet pad, firm felt or hemp can be used, but shall not compress or increase roll resistance.
- Recommend solid/speckled for carpeting or other floor covering on stairs.⁸ Reddish colors shall not be used on the stairs.

SIGNS – INTERIOR (Section 703)

General

- Building directory shall have Raised Character and Braille options or audio for people who are sight-impaired.

Directional Signs

- All directional signs mounted between 48" - 60" shall have Raised Characters and Braille.

Type of signs required (Section 703.6.3.3)

- Assistive Listening System, alternative accommodations, etc. Assistive listening system signage (and other alternative accommodations) shall notify patrons of ALS availability and type of system provided.⁹

Visual Characters and Pictograms

- A contrast of at least 70% is required.¹⁰

Symbol of Accessibility

- International Symbol of Accessibility shall be displayed with white figure on blue background.

TOILET ROOMS (Section 603)

Lavatories (Fixtures for hand-washing in toilet or bathing facilities)

- Front rim of lavatory shall be 3 inch max from front edge of counter.
- Lavatory shall not be an elongated, shallow medical-type lav.¹¹
- Shall not have gooseneck spout.
- If lavatory is wall hung, a wall mounted shelf with side or forward reach shall be provided.

Mirrors

- In group toilet rooms and family restrooms a 60 inch × 60 inch clear floor space shall be provided in front of the full-length, commercial grade mirror unit.

7. *These tiles are jarring for people who use wheelchairs and can be a hazard for people with unstable ambulation or low visual acuity.*

8. *Visual contrast required.*

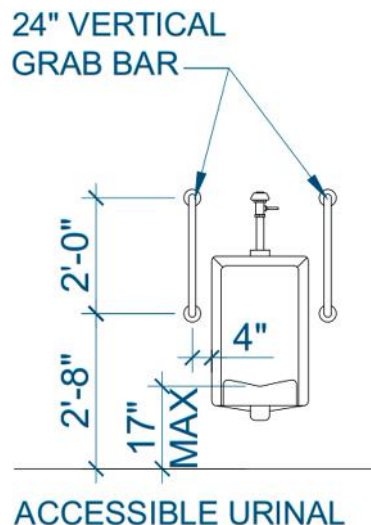
9. *Example: "Infrared Assistive Listening System Available – Please Ask" or "FM Assistive Listening System Available – Please Ask" Also, the sign must include the international symbol of access.*

10. *Signs with this contrast level are most legible for persons with low vision. <http://asisignage.com/resources/lrv-calculator>*

11. *Handicapped fixtures MUST meet ADA Standards.*

Urinals

- When just one urinal is provided, it shall be accessible.
- Privacy screens/partitions shall be required for the accessible urinal with 2 vertical grab bars. Screens/partitions shall have a width of 30 inch minimum and extend beyond the depth of the urinal by 6 inch min.
- Back wall shall have two 24 inch vertical grab bars. Bottom of flange, of vertical bars, should be mounted at 32 inches.¹² Vertical grab bars shall be mounted, 4 inch on center, from outside edge of urinal.



Toilets (Water Closets) and Ambulatory Accessible Compartment

- Top of accessible toilet seat height shall be between 18 ½ -19 inch.¹³

Wheelchair Accessible Toilet Compartment Size

- Compartment shall have 60" diameter turning space for alterations or 67" diameter turning space for new construction.¹⁴
- Door shall NOT swing into turning space.¹⁵
- Rear wall grab bar shall be 36" minimum, no exceptions.

Toilet Doors / Stalls

- One horizontal pull bar, mounted 6" from toilet stall door edges, at a height of 36" or self-closing door shall be provided.¹⁶
- Door latch – flip action preferred or slide bolt action.
- Coat hook (and shelf if provided) shall be installed on a wall or door in the accessible stall at a height of 44".

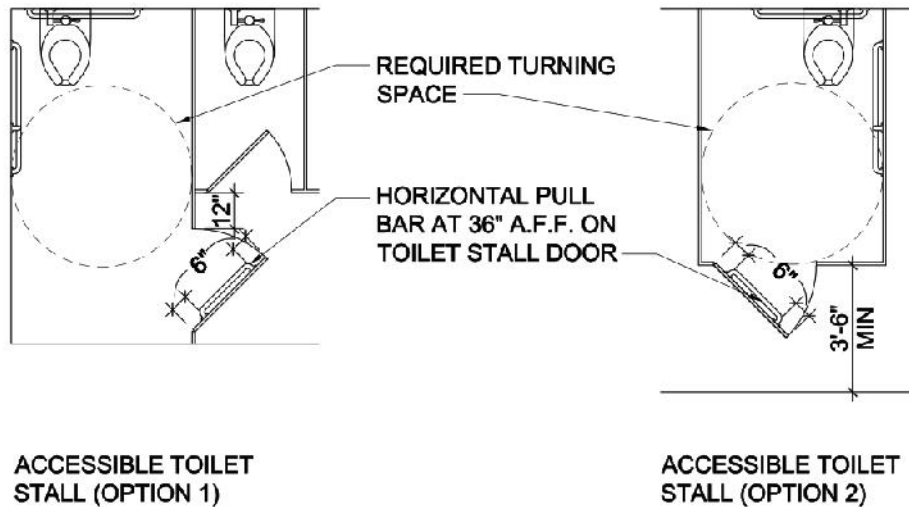
12. Vertical bar assists people who stand, especially those who use wheelchair.

13. Allows for easier transfer from wheelchair seat and less knee bending for someone with knee ailments.

14. This allows someone with a larger wheelchair, who transfers from the front of the toilet, to close the door. These front or diagonal transfers are common and may reduce shoulder injuries. www.herl.pitt.edu.

15. The 60" x 60" wheelchair area is not usable if the door swings into the space. This exceeds Section 604.3 requirements.

16. This bar allows a user to hold the door closed with one handle while latching the door closed. This bar also makes it easier to close the door.



Family or Assisted Use Toilet Rooms

- At least one family toilet room shall be provided within a facility.
- Highly recommend the family toilet room is adjacent to the regular group of male and female toilet rooms.
- All other sections of the Universal Design document, especially the Toilet Room section, shall apply.



Controls & Dispensers

- At all wall and countertop mounted lavatories dedicated for a person with disability use, the operable portion of a soap dispenser, paper towel dispenser and electric hand dryer shall be within a reach without moving a wheelchair.
- Toilet paper dispenser shall have recessed unit with two single roll dispensers, no cover, with personal hygiene disposal unit and shall be in men's and women's accessible toilet stalls.¹⁷ Dispensers shall be recessed, unless technically infeasible.
- Toilet seat cover dispenser shall not be located on the back wall behind accessible toilet.

17. Allows discrete disposal of personal hygiene products for men and women.

Miscellaneous

- Baby changing station, when open, shall not obstruct accessible route, turning radius, transfer space or fully opening of stall door.
- Baby changing station shall have clear floor space of 30" × 48" when in use and allow for forward approach or a 30" × 52" clear floor space for new construction.

BATHTUBS (Section 607)

Seats

- A portable, stable, padded shower bench 16" deep, with removable cut-out seat for convenient perineal access, with back and transfer bench, able to be secured to tub wall with adjustable clamp, shall be provided. (610.2)
- Bathtub shall not have a permanent seat.

Shower Spray Unit and Water

- Hose shall be 84" minimum for bathtub.¹⁸ (607.6)

Bathtub

- 12" clear floor space beyond the control wall shall be provided unless technically unfeasible.¹⁹

SHOWERS (Section 608)

Shower Spray Unit and Water

- Hose shall be 84" minimum.

Shower Stall Thresholds

- All thresholds shall be beveled or rounded. Threshold less than ½ inch is preferred.

ACCESSIBLE DRINKING FOUNTAINS (Section 602)

General

- Drinking fountain shall have front or side-mounted push bar controls. No small circular push buttons.

Clearances (Section 602.2)

- Drinking fountains must allow for forward and parallel approach.

DRESSING, FITTING, NURSING AND LOCKER ROOMS (Section 803)

Access

- Throughout the building and premises, if privacy may be desired, there shall be a clear 60" diameter turning space (67" diameter turning space for new construction) or T-shaped turning space in the room.

18. This will allow the hose to reach and be operable by a person sitting on the bench.

19. This allows people using wheelchairs access to controls from outside the shower stall.

Coat Hook and Shelves

- Where coat hooks or shelves are provided, highly recommend 44" for uniformity of heights of controls and dispensers, to maximize aesthetics and ease of use throughout the building.

Dressing / Fitting Room

- 60" × 60" clear floor space shall be provided in front of each full-size mirror.

Lockers

- Lockers shall be identified with the international accessible symbol.

Bench

- Bench height shall be 18 ½ -19 inches. (903.5)

CONFERENCE ROOM AND GATHERING AREAS

- Bulletin board, blackboard, and dry-erase/white board shall be mounted for accessibility.

ASSEMBLY AREAS (Section 802)

Designated Aisle Seats

- Designated aisle seats shall be evenly dispersed in location throughout.

Wheelchair Spaces

- Wheelchair spaces shall be 36" wide, regardless of the number of adjacent spaces.
- Wheelchair seating shall be dispersed regardless of the number of seats. (802.10.2 and 802.10.3)

Companion Seats (802.7)

- Assembly area shall offer no fewer than 3 companion seats with each wheelchair seat.

KITCHEN SINKS

- In all employee common rooms, even those without a cook top or conventional range, a roll-under, accessible sink shall allow for a forward approach with 30" × 48" clear floor space in alterations and 30"× 52" for new buildings.

AUTOMATIC TELLER MACHINES AND FARE MACHINES (Section 707)

Scoping

- Machines shall be grouped near gates and vending machines in close proximity to other accessible elements and be identified with the international accessible symbol.
- The farecard shall have one tactually distinctive corner.

MEDICAL CARE FACILITY

General

- Dispersion requirements for accessible rooms shall apply for all medical specialties.

TRANSIENT LODGING/ DORMITORY ROOMS (Section 1001)

General

- Rooms requiring mobility features shall be dispersed among different floor levels, unless technically unfeasible.

Mobility Features

- At least one of the beds shall have clear floor space (30" × 48") on both sides.
- Clear floor space shall be required at non-fixed furnishings.
- If furniture, heating/cooling units, etc., obstruct the ability to easily open and close the window curtains, a motorized curtain closer shall be provided.

Miscellaneous

- Accessible room shall have electrical outlets, electrical switches at a height of 44" with 60" diameter clear floor turning space for existing buildings and 67" diameter turning space for new construction.
- At least one accessible room bed shall have 6" clearance underneath.
- All common areas, including dining areas, kitchen areas, etc., shall have accessible features, such as accessible microwave, roll under sink, etc.

CAFETERIAS

Menu

- Recommend Braille menu option for people who are sight impaired.

DINING SURFACES AND WORK SURFACES

Toe Clearance (306.2.3)

- 20" is highly recommended minimum toe clearance depth.

Acceptable Table Examples

- To ensure appropriate clear floor space under tables, the following are acceptable and unacceptable table designs:

Not acceptable:



Acceptable:



Acceptable:



SALES AND SERVICE COUNTERS

Check-Out Aisles

- Check-out aisles shall be provided for each function.

JUDICIAL FACILITIES AND COURTROOMS (Section 807)

Courtrooms

- Courtroom alterations shall comply with Section 807, unless technically infeasible.
- In existing courtrooms, transient area(s) during the courtroom session such as witness, jury member, attorney, bailiff a temporary desk with modesty panel shall be provided to a person with a disability, to provide the appropriate separation from the rest of the courtroom.

PLAY AREAS (Section 1008)

General

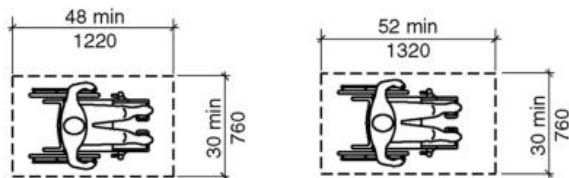
- 50% of play components shall be on an accessible route. If elevated areas are provided, 50% should be accessible by a ramp only.

REFERENCE GRAPHICS FOR DESIGN

Wheelchair space

Existing – 48"

New – 52"



Turning space

Existing – 60"

New – 67"

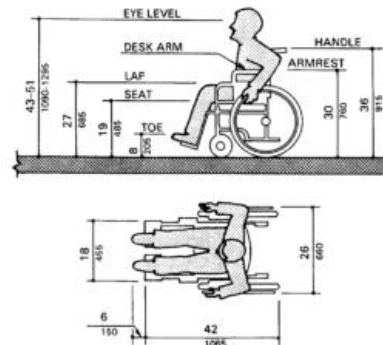
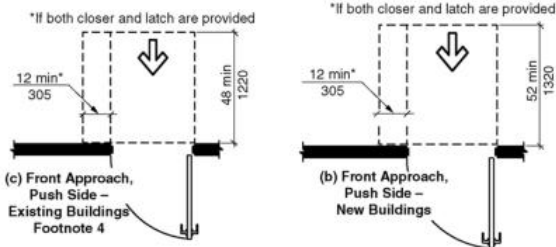


Basis for A117.1 - Dimensions of Adult-Sized Wheelchair

Door maneuvering size

Existing – 48"

New – 52"



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