Guide to the ABA Standards

CONTENTS

About this Guide ................................................................. 1

Chapter 1: Application and Administration

  • Using the ABA Standards ............................................ 1

Chapter 2: Scoping Requirements

  • New Construction ......................................................... 12
  • Alterations, Additions and Leases ............................. 21

Chapter 3: Building Blocks

  • Floor and Ground Surfaces .......................................... 34
  • Clear Floor or Ground Space and Turning Space ......... 40
  • Protruding Objects ...................................................... 51
  • Operable Parts ........................................................... 58

[Upcoming: Guides covering Chapters 4 – 10]
About this Guide

Standards issued under the Architectural Barriers Act (ABA) apply to facilities designed, built, altered, or leased with federal funds. Four agencies establish the ABA Standards according to guidelines issued by the Access Board:

- Department of Defense (DOD)
- Department of Housing and Urban Development (HUD)
- General Services Administration (GSA)
- U.S. Postal Service (USPS).

This guide explains requirements in the current editions of the ABA Standards issued by DOD, GSA, and USPS, which are substantively the same as each is closely based on the Board’s updated ABA guidelines (2004). (HUD has yet to update its ABA Standards and continues to apply the Uniform Federal Accessibility Standards to facilities under its jurisdiction.)

It is important to use this guide along with a complete copy of the ABA Standards as it explains, but does not contain or reprint, the text of the ABA Standards. In addition to explaining the requirements of the ABA Standards, this guide also provides clearly labeled recommendations for best practices that exceed the minimum requirements and are thus optional to follow.

This guide is in the public domain, and users are free to distribute and share its content or to disseminate copies. Questions or comments on the guide should be directed to the Access Board at ta@access-board.gov, (800) 872-2253 (voice), or (800) 993-2822 (TTY).
Using the ABA Standards

The Architectural Barriers Act (ABA)

The Architectural Barriers Act (ABA) requires access to facilities that are designed, built, or altered with federal funds or leased by federal agencies. Passed in 1968, it is one of the first laws to address access to the built environment. The law applies to federal buildings, including post offices, social security offices, federal courthouses and prisons, and national parks. It also covers non-federal facilities, such as public housing units and mass transit systems, built or altered with federal grants or loans. Coverage is limited to those funding programs that give the federal agency awarding grants or loans the authority to establish facility standards. The Americans with Disabilities Act (ADA) of 1990 has similar design mandates but applies to facilities in the private sector and the state/local government sector without regard to federal funding.

Four agencies establish the ABA Standards according to guidelines issued by the Access Board: the General Services Administration (GSA), the Department of Defense (DOD), the Department of Housing and Urban Development (HUD), and the U.S. Postal Service (USPS). The latest editions of the ABA Standards issued by GSA, DOD, and USPS are substantively the same and replace the earlier Uniform Federal Accessibility Standards. HUD’s update of the standards is still pending. Regulations and directives from these agencies apply the standards to facilities within their purview.

Postal Facilities
USPS regulations (39 CFR Part 255) and RE-4 Handbook apply the current standards to USPS projects and leases as of October 1, 2005.

Defense Facilities
A DOD policy memorandum applies the current standards to defense facilities as of October 31, 2008, and exempts facilities or spaces “used exclusively by able-bodied military personnel.”

Residential Facilities
HUD regulations (24 CFR Part 40) apply the standards (currently UFAS) to all residential structures covered by the ABA except those on military installations.

All Other Facilities Covered by the ABA
Military Exclusions
The ABA exempts military facilities and spaces designed and constructed for use exclusively by “able-bodied military personnel,” including Reserve and National Guard facilities. Facilities used by DOD in emergencies and natural disasters are also exempt. DOD nonetheless recommends that exempted military facilities meet the standards “to the maximum extent that is reasonable and practicable” because facility uses often change over time.

Enforcement of the ABA

Under the ABA, the standard-setting agencies (GSA, DOD, HUD, and USPS) are responsible for making sure that facilities under their authority meet the standards. The Access Board also plays an enforcement role by examining complaints or allegations of non-compliance. Upon receipt of a complaint, the Board opens an investigation to determine whether the facility is covered by the ABA and, if so, whether it meets the applicable standards. If a covered facility is not in compliance with the standards, the Board will pursue a corrective action plan from the responsible entity and monitor the case until violations are remedied. Investigations are conducted in cooperation with the appropriate federal agencies, and cases are typically resolved amicably.

The Access Board also provides free technical assistance and training on the ABA Standards to the public, federal agencies, architects, advocates, and others.

Filing an ABA Complaint
Filing an ABA complaint with the Access Board is easy to do. All the Board needs is the facility name and address and a brief description of the access issues. Complaints must be received in writing by email (enforce@access-board.gov), mail, fax, or through the Board’s website. The identity of complainants is kept confidential.

Technical Assistance
Technical assistance is available through the Board’s toll-free help line and by email (ta@access-board.gov).

(800) 872-2253 (voice)
(800) 993-2822 (TTY)

The Rehabilitation Act (Section 504)
Another law that requires compliance with access standards is the Rehabilitation Act of 1973. Section 504 of this law requires access to programs and services that are funded or conducted by the federal government. By attaching compliance requirements to program monies, its scope is generally broader than the ABA’s. Compliance with access standards is required under Section 504 where covered programs involve facility construction and alteration. Section 504 also may require retrofits to existing facilities as necessary to provide access to programs and services. Federal agencies are responsible for issuing regulations to ensure compliance by funding recipients and have designated Section 504 officials. It is expected that most federal agencies will update their 504 regulations to apply design requirements consistent with those of the ABA and ADA to facilitate compliance.
Chapter 1: Application and Administration

Using the ABA Standards

Current Edition of the ABA Standards

The design requirements of the ABA are first developed by the Access Board as guidelines. The Board’s guidelines set a minimum baseline for the enforceable standards issued by GSA, DOD, HUD, and USPS. The current ABA Standards (except those issued by HUD) are based on updated guidelines the Board issued in 2004 without any substantive changes.

Differences Between the ABA and ADA Standards

The Board also maintains guidelines for non-federal facilities covered by the ADA. These guidelines serve as the basis for ADA Standards issued by the Department of Justice (DOJ) and, in the case of facilities used to provide designated public transportation, the Department of Transportation (DOT). The Board jointly updated its ADA and ABA guidelines to make them more consistent. As a result, the current ABA Standards and ADA Standards are very similar, but there are several substantive differences between them.

The ABA Standards differ from the ADA Standards in these areas:

- **Modifications and Waivers (§F103)**
  Requests for a modification or waiver of the ABA Standards must be based on need and processed through the appropriate standard-setting agency, while the ADA Standards permit “equivalent facilitation” alternatives providing equal or greater access.

- **Work Areas**
  The ABA Standards generally require full access to work areas, while requirements for work areas in the ADA Standards are more limited (§203.9 and §206.2.8).

- **Additions (§F202.2)**
  The ABA Standards provide more stringent requirements for additions.

- **Leased Facilities (§F202.6)**
  The ABA Standards include requirements for newly leased facilities not contained in the ADA Standards.

- **Exceptions for Vertical Access/ Elevators (§F206.2.3)**
  Provisions unique to private sector facilities in the ADA Standards, including an exception from the requirement for vertical access or elevators, are not included in the ABA Standards (a more limited exception for public sector facilities is included in both the ABA and ADA Standards).
Chapter 1: Application and Administration

Using the ABA Standards

• **Outdoor Developed Areas (§F244 - §F248, §1011 – §1019)**
  The ABA Standards address access to outdoor areas developed by the federal government, including trails, picnic and camping areas, and beach access routes. The ADA Standards do not yet include similar requirements for non-federal sites.

  The ADA Standards as implemented by DOT and DOJ include unique provisions not contained in the ABA Standards:

  • **DOT’s ADA Standards for Transportation Facilities**
    DOT’s ADA Standards modify provisions for accessible route location (§206.3), bus stops/stations (§810.2.2), and rail station platform (§810.5.3), and require detectable warnings on curb ramps (§406.8).

  • **DOJ’s ADA Standards and Regulations**
    Unique provisions in the DOJ’s ADA Standards address scoping for assembly areas (221), medical care facilities (223), transient lodging, including housing at places of education (224), detention and correctional facilities (232), and residential dwelling units and social service establishments (233).

**Model Building Codes and Industry Standards**

The current ABA Standards have been harmonized to a significant extent with industry standards and model building codes, including the International Building Code (IBC). The IBC contains application and scoping provisions for accessibility (in chapters 10, 11 and 34) that correspond to those in the ABA Standards (chapters F1 and F2). For technical provisions, the IBC references a consensus standard developed through the American National Standards Institute (the ANSI A117.1 standard) which is highly consistent with the technical chapters (3 – 10) of the ABA Standards. There are some substantive differences. For example, unlike the ABA Standards, the ANSI standards require an additional vertical grab bar at water closets, transfer shower stalls, and tubs.

The ABA Standards also reference several industry standards, including the ASME elevator safety code and the NFPA 72 Fire Alarm Code. In addition, the ABA Standards reference provisions in the IBC covering accessible means of egress.

**Chapter 1: Application and Administration**

**Purpose [§F101]**

The ABA Standards apply to newly constructed or leased facilities and to alterations and additions. Since the Board jointly published the ABA guidelines with its ADA
guidelines, the letter “F” (for “federal”) precedes section numbers in the application and scoping chapters of the ABA guidelines. While the scoping and technical requirements for new construction also apply to alterations and additions, provisions and exceptions specific to existing facilities and elements are provided throughout the document. Requirements for additions and leased facilities are scoped separately but reference the same technical criteria.

Existing Facilities

In existing facilities, the ABA Standards apply directly to altered areas and additions. While the ABA does not have retrofit mandates, other laws do. Section 504 of the Rehabilitation Act, which requires access to federally funded or conducted programs, may necessitate retrofits where no alterations are planned. While this “program access” requirement can sometimes be satisfied operationally, such as by relocating a program, in many cases retrofits to existing facilities are necessary. The Rehabilitation Act also requires accommodations for employees with disabilities in the federal sector under Section 501.

Existing facilities previously built, altered, or leased according to earlier editions of the ABA Standards, such as the Uniform Federal Accessibility Standards (UFAS), generally do not have to be modified to meet the current standards except where altered. Existing facilities that are newly leased must be brought into compliance with relevant requirements in the current standards (but existing elements that comply with earlier ABA Standards do not have to meet the current standards unless altered).

Furnishings and Equipment

The ABA Standards, like most building requirements and codes, apply to those elements that are fixed or built-in. Moveable elements and furnishings are generally not addressed or covered by the standards. Other regulations, such as those issued under the Rehabilitation Act, may impact non-fixed elements, such as changing office furniture to accommodate an employee.

Recommendation: Design spaces so that planned furnishings and moveable elements are accommodated without encroaching into accessible routes and clearances. It is also helpful to consider relevant requirements in the standards when specifying or acquiring moveable furnishings, such as tables, systems furniture, and vending machines to ensure their usability.

Unless specifically permitted, access features required by the standards must be fixed or built-in even though portable alternatives may be available. This includes requirements for assistive listening systems, visual alarms, ramps, and platform lifts.
Maintenance of Accessible Features

It is important that accessible features be properly maintained in working order. Features of facilities and equipment required to be accessible should be maintained in operable working condition, except for isolated or temporary interruptions in service due to maintenance or repairs. However, it is important that accessible features be properly maintained in working order.

Dimensions for Adults and Children [§F102]

The ABA Standards provide technical specifications for building elements designed specifically for use by children 12 and younger. These provisions address access for children to:

- drinking fountains (§602)
- water closets and toilet compartments (§604)
- lavatories and sinks (§606) and
dining and work surfaces (§902).

The standards also include requirements for play areas (§1008) and recommendations (advisory notes) on children’s reach ranges (§301.1) and ramp handrails (505.4).

The standards do not specify where or when elements are to be designed for children. This determination is left to other building requirements or regulations, good practice, client preference, or other factors. The provisions for children’s use (other than those for play areas) are structured as exceptions to specifications based on adult dimensions, and following an exception is always optional. However, where the decision is made to design certain elements based on children’s dimensions and to use the exceptions, the alternate specifications provided in the standards must be followed. The standards do not require provision of additional accessible elements in order to separately accommodate both children and adults, although doing so may be advisable in mixed use spaces. For example, in some restrooms at facilities such as schools and children’s museums, it is a good idea to provide a wheelchair accessible toilet compartment for adults and another for children.

Modifications and Waivers [§F103]

The standard-setting agencies (GSA, DOD, HUD, and USPS) are authorized to grant modifications and waivers of the ABA Standards on a case-by-case basis where clearly necessary. Modifications and waivers are rare and are usually considered only in unique circumstances that make compliance with certain provisions exceptionally
problematic. The Access Board is responsible for making sure that modifications and waivers are based on findings of fact and are consistent with the ABA.

Requests for modifications or waivers are reviewed by designated officials or departments:

- Administrator of General Services upon request forwarded by agency or GSA department heads (for facilities other than military, postal, and residential facilities)
- Principal Deputy Under Secretary of Defense for Personnel and Readiness as forwarded through the DOD chain of command (defense facilities)
- USPS Facilities Headquarters, Design and Construction Programs (postal facilities)
- Secretary of Housing and Urban Development (residential facilities)

Conventions [§F104]

Most dimensions in the standards are specified as a minimum, maximum, or range. In a few areas, an absolute dimension is specified.

Construction and Manufacturing Tolerances

A tolerance is an unintended, but permitted (i.e., “tolerated”), variation from a specified dimension resulting from the process of construction or manufacture. The ABA Standards recognize conventional industry tolerances for dimensions not expressed as a range. This applies to field work, not design work. Tolerances necessary for a particular manufacturing process are also permitted. Information on specific tolerances may be available from industry and trade organizations, code groups and building officials, and published references.

Many dimensions in the ABA Standards are expressed as a range instead of an absolute so that designers can allow some room for minor deviations in construction or manufacturing. Tolerances do not apply to dimensions specified as a range.

Grab Bar Diameter and Clearance

Construction or manufacturing tolerances are permitted for the required clearance at grab bars, since this is an absolute dimension (1½ inch), but they are not permitted for the grab bar diameter because a range is specified (1¼” to 2”).
Calculation of Percentages

Some provisions in the standards specify a minimum number of elements or spaces as a minimum percentage or proportion. Rounding up to the next greater whole number is required where fractions or remainders occur. For example, if the standards require access to at least 5% of an element and a total of 25 are provided, at least 2 must be accessible (rounding up from 1.25).

In the case of specifications for dimensions or sizes that involve percentages or ratios, rounding down for values less than ½ is allowed.

Recommendation: Dimensions expressed as a range are intended to accommodate deviations in the field. It is good practice to specify accordingly. For example, for the location of wheelchair accessible water closets (16” – 18” centerline from side walls or partitions), specifying to the midpoint of the range (17”) will accommodate any construction variations up to 1” plus or minus. For dimensions not expressed as an absolute (“X maximum” or “Y minimum”), specify in a manner that accommodates the expected tolerance within the required dimensions by subtracting the tolerance from the required maximum or adding it to the required minimum.

Figures in the Standards

Figures are provided in the standards for informational purposes (unless stated otherwise) to illustrate dimensions and requirements contained in the text. For compliance purposes, the text governs.

Referenced Standards [§F105]


The specific editions of these documents referenced by the ABA Standards must be followed. The Access Board intends to update references to these standards and codes to recognize later editions, as appropriate.
Definitions [§F106]

Terms used in the standards are defined in this section. Some terms are defined not in the standards, but in regulations and directives from standard-setting agencies, such as those pertaining to alterations to “primary function areas” and requirements for accessible paths of travel. Defined terms in referenced standards govern when not defined in either the ABA Standards or regulations. Definitions provided by collegiate dictionaries are relevant for terms not defined by either the ABA Standards, regulations, or referenced standards.

Common Questions

What types of Federal funding are covered by the ABA Standards?

The ABA Standards apply to facilities that are federally funded. This includes facilities that are designed, built, altered, or leased by, or on behalf of, the Federal government. The ABA Standards also apply to other types of facilities that receive federal funding, but ABA coverage is limited to federal grants or loans that are used for facility design, construction, or alteration where the federal agency that awards the grant or loan has the authority to establish facility standards.

Does an existing facility that complies with UFAS (or an earlier ABA standard) have to be brought into compliance with the latest edition of the standards under the ABA?

No, if the facility meets the standards that were in effect at the time of its construction, alteration, or leasing. However, any new alterations or additions must comply with the current ABA Standards. Also, existing facilities that are newly leased by the federal government are subject to provisions in the current standards for leased facilities. Existing elements that comply with earlier ABA Standards are not required to meet the current ABA Standards unless altered, as noted in the standards (§F203.2).

Are federal facilities required to meet the ADA Standards as well as the ABA Standards?

Federal government facilities are subject only to the ABA Standards (which are very similar to the ADA Standards). However, non-federal facilities that receive federal funding may be subject to the ABA Standards in addition to the ADA Standards. For example, a county courthouse or jail built with federal monies would be covered by the ADA Standards (as a local government building) and by the ABA Standards (as a consequence of federal funding). Also, in a privately owned office building covered by the ADA Standards, space leased by a federal agency would be subject to the ABA Standards as well.
Can later editions of the industry standards or building codes referenced by the ABA Standards be used?

The specific editions of these standards referenced by the ABA Standards are to be followed (although the Access Board intends to update references to keep them current).
Chapter 2: Scoping Requirements

New Construction

Alterations, Additions, and Leases
ABA Scoping: New Construction

This guide provides an introduction to the scoping requirements of the ABA Standards and is intended to be used with a complete copy of the ABA Standards since it does not contain or address the full content of the Standards. It is important that users familiarize themselves with the specific scoping requirements contained in the ABA Standards.

Scoping Requirements

Requirements in Chapter F2 indicate which elements and spaces must be accessible on a site or in a facility (the scope of coverage). These “scoping” requirements apply technical provisions in Chapters 3 – 10 to those covered elements and spaces provided on a site.

Applicable building codes, design practices, and other factors determine the elements and spaces required for a site, including parking, means of egress, and plumbing fixtures. The ABA Standards, on the other hand, specify the elements and spaces provided that must be accessible.

Application [§F201]

The ABA Standards apply to the various types of federally funded facilities subject to the ABA, from simple structures to complex, multi-facility sites. Requirements in the standards apply to both exterior and interior spaces and elements provided on a site, usually without distinction. Provisions for parking, for example, apply equally to exterior lots and to parking garages. The standards cover permanent facilities and temporary facilities (other than those used in construction), such as reviewing stands, stages, portable toilets, and temporary classrooms.

In new construction, all areas must be fully accessible, including multiple spaces of the same type, unless otherwise specified. Areas not required to be fully accessible include:

- certain limited-use or raised spaces that are exempt (§F203)
- spaces covered by scoping provisions that require only a specified portion of the total number to comply, such as dressing rooms and patient bedrooms (various provisions in Chapter 2)

General Exceptions [§F203]

These structures and spaces are fully exempt from the standards and are not required to be accessible or on an accessible route:

Existing Elements (§F203.2)

In existing facilities, alterations, additions, or leasing actions may require retrofit of existing elements. Existing elements that meet an earlier ABA standard, such as the Uniform Federal Accessibility Standards, do not have
to be retrofitted to meet the current standards unless they are altered.  
Examples: Existing restrooms, drinking fountains, and telephones in additions or that are part of an accessible path of travel to altered primary function areas do not have to be upgraded to meet the current standards if they comply with a previous ABA standard.

Construction Sites (§F203.3)
Structures directly associated with the actual processes of construction and portable toilets used only by construction workers
Examples: scaffolding, bridging, materials hoists, construction trailers

Areas Raised for Security/ Safety (§F203.4)
Areas raised primarily for purposes of security or life/ fire safety
Examples: life guard stands, fire towers, and prison guard towers

Limited Access Spaces (§F203.5)
Spaces accessed only by ladders, catwalks, crawl spaces, or very narrow passageways
Examples: lighting/ equipment catwalks at stages and performing areas, platforms served only by ladder

Machinery Spaces (§F203.6)
Spaces used only by service personnel for maintenance, repair, or occasional monitoring of equipment
Examples: elevator pits/ penthouses, mechanical/ electrical/ communications equipment rooms, water or sewage treatment pump rooms, electric substations, and transformer vaults

Single Occupant Structures (§F203.7)
Single occupant structures accessed only by below-grade passageways or elevated above standard curb height
Examples: toll booths that are accessed by underground tunnels or elevated above curb height, such as those serving dedicated truck lanes

Detention/Correctional and Residential Facilities (§F203.8 - §F203.9)
Common use spaces in detention/ correctional facilities or residential facilities that do not serve accessible cells or dwelling units are exempt.

Certain Sports/ Recreation and Other Structures (§F203.10 - §F203.14)
These structures and spaces are also exempt:
- raised structures used solely for refereeing, judging, or scoring a sport
- raised boxing/ wrestling rings
- water slides and raised diving boards/ platforms
- animal containment areas not open to the public
Scoping Requirements [§F204 – §F243]

Scoping provisions for elements and spaces, which are summarized here, are further discussed with relevant technical provisions in the following chapters of this guide.

Site Arrival Points, Entrances, and Egress

Entrances (§F206.4)
At least 60% of all public entrances must be accessible, in addition to entrances serving parking structures, tunnels or elevated walkways, tenant spaces, or those entrances that are restricted.

Accessible Routes (§F206)
An accessible route to accessible entrances is required from public streets and sidewalks (unless site arrival is by vehicle only), parking, passenger loading zones, and transportation stops provided within the boundary of the site.

Accessible Means of Egress (§F207)

Parking (§F208)
The minimum number of accessible spaces is based on the total number of spaces provided in each parking lot or garage. At least 1 of every 6 accessible spaces must be van accessible.

Passenger Loading Zones and Bus Stops (§F209)
Where passenger loading zones are provided, an accessible loading zone is required in every continuous 100 linear feet or fraction thereof. Bus stops and bus loading zones for designated or specified public transportation, where provided, must meet requirements for bus boarding and alighting areas.
General Elements

Most scoping provisions apply to both interior and exterior elements where provided throughout facilities and sites (and are not limited to those in corridors as shown here).

**Accessible Routes (§F206) and Doors (§F206.5)**
An accessible route must connect all accessible spaces and elements in a facility, and doors on accessible routes must comply.

**Protruding Objects (§F204)**
Objects on all circulation paths (not just accessible routes) must be installed so that they do not pose hazards to people with vision impairments.

**Operable Parts (§F205)**
Controls, outlets, receptacles, and other operable parts are covered (excluding those used only by maintenance personnel or serving a dedicated use).

**Elevators (§F206.6)**
Vertical access between stories is required in multi-story facilities with few exceptions.

**Stairways (§F210)**
All stairs that are part of a required means of egress must comply.

**Windows (§F229)**
If windows are provided in accessible spaces for operation by occupants, at least 1 must comply. Each window that is required to be operable by a local code or authority also must comply. These requirements do not apply to residential facilities.
Chapter 2: ABA Scoping Requirements

Communication Elements

**Fire Alarm Systems (§F215)**
Fire alarms, if provided, must comply with the National Fire Alarm Code (NFPA 72) which covers audible and visual features.

**Signs (§F216)**
Directional and informational signs, where provided, must meet requirements for visual access, and signs identifying permanent spaces, room numbers/names, floor levels, and exits must also have raised characters and braille.

**Telephones (F§217)**
All public telephones must have volume control and wheelchair access is required to at least 1 public phone of each type (e.g., pay, closed circuit, courtesy, etc.) provided on a floor/level or exterior site (or at each bank if more than 1 bank is provided on a floor). TTYs are required based on the number of pay telephones provided.

**Assistive Listening Systems (§F219)**
Assistive listening systems for people who are hard of hearing are required in all assembly areas equipped with audio amplification and all courtrooms.

**Two-way Communication Systems (§F230)**
Two-way communication systems provided to gain admittance to buildings must be accessible and have audible and visual signals.

**Transient Lodging (§224) and Dwelling Units (§233)**
A specified portion of transient lodging guest rooms and dwelling units must be equipped with accessible communication features, such as visual devices for door bells and visible alarms.
Plumbing Elements and Facilities

**Drinking Fountains (§F211)**
Half the units provided on floors and exterior sites must be wheelchair accessible and the other half accessible to standees (dual access must be provided where 1 unit is planned on a floor or exterior site).

**Toilet and Bathing Facilities (§F213)**
All toilet and bathing facilities provided must be accessible, except portable units (5% minimum) and single user toilet rooms clustered at one location (no more than 50% for each use are required to comply).

**Kitchens, Kitchenettes, and Sinks (§F212)**
Kitchens, kitchenettes, and sinks must comply. Access is required to at least 5% of each type of sink in accessible rooms or spaces but no less than 1 (excluding mop or service sinks).

**Washing Machines and Clothes Dryers (§F214)**
At least 2 washing machines must comply if more than 3 are provided, and at least 1 washing machine must comply if 3 or fewer are provided. This level of access is also required for clothes dryers.
Sales and Service Elements

Sales and Service Counters (§F227.3)
Access is required to at least 1 of each type of sales and service counter provided. If counters are dispersed throughout a facility, accessible counters must also be dispersed.

ATMs and Fare Machines (§F220)
At least one of each type at each location must comply.

Check-out aisles (§F227.2)
A minimum number of check-out aisles of each type must comply based on the total provided and must be dispersed where check-out aisles are dispersed throughout a facility.

Fuel Dispensers, Vending Machines, Change Machines, Depositories (§F228)
Access is required to at least 1 of each type of dispenser, machine, or depository provided that is fixed or built-in.

Mail Boxes (§F228.2)
At least 5% of mail boxes provided in an interior location of non-residential facilities must be accessible. In residential facilities, if mail boxes are provided for each dwelling unit, mail boxes serving mobility accessible units must comply.

Dining Surfaces (§226) and Food Service Lines (§F227.4)
At least 5% of seating and standing spaces at fixed or built-in dining surfaces are required to be accessible. Food service lines, where provided, must comply and at least 50% of self-service shelves are required to be within accessible reach range.

Work Surfaces (§F226)
At least 5% of work surfaces are required to comply.

Self-Service Shelving (§F225.2)
Self-service shelves in stores, banks, post offices, libraries and other facilities must be on an accessible route.
Chapter 2: ABA Scoping Requirements

Specific Spaces and Occupancies

The ABA Standards include scoping requirements specific to certain types of spaces and facilities that apply based on the intended use and design. Spaces with multiple uses must meet all applicable requirements for each use. Scoping provisions for specific spaces and occupancies address:

- **Transportation Facilities (§F218) and Bus Stops (§F209)**
- **Assembly Areas (§F221)**
- **Dressing, Fitting, and Locker Rooms (§F222)**
- **Medical Care and Long-Term Care Facilities (§F223)**
- **Transient Lodging Guest Rooms (§F224)**
- **Storage (§F225)**
- **Judicial Facilities (§F231)**
- **Detention and Correctional Facilities (§F232)**
- **Residential Facilities (§F233)**
- **Recreation Facilities and Outdoor Developed Areas (§F234 – §F248)**
Common Questions

Are all public use and common use areas required to be accessible?

All areas of facilities are required to be fully accessible in new construction except those that are specifically exempt (e.g., certain types of limited use or raised spaces) or that are covered by provisions that require only a specified portion to comply (e.g., transient lodging guest rooms and patient bedrooms). All other rooms and spaces, including multiple ones of the same type, such as patient exam rooms, classrooms, and courtrooms, are required to be accessible.

Are employee work areas required to be accessible?

Yes, the ABA Standards apply fully to employee work areas (unlike the ADA standards which have more limited requirements for such spaces). Elements used by employees in work areas, including work surfaces, must comply. Spaces used by employees for purposes other than work, including restrooms, break rooms, locker rooms, lounges, and parking are also fully covered.

Can access be provided after construction based on need?

Access required by the ABA Standards must be put in place and ready for use as part of construction. This is required in all but a few specified instances, such as:

- Toilet and bathrooms in residential dwelling units or accessed through an individual’s private office for his or her exclusive use are not required to be built with certain specifically enumerated access features, such as grab bars and lavatory clearances, if they are built according to criteria that will facilitate later installation or adaptation, such as reinforcement for grab bars and removable vanity cabinets.
- Vertical access to work stations in courtrooms, such as judges’ benches, can be provided after construction if space and other requirements are met to ease later installation of necessary ramps or lifts.
ABA Scoping: Alterations, Additions, and Leases

This guide provides an introduction to the scoping requirements of the ABA Standards and is intended to be used with a complete copy of the ABA Standards since it does not contain or address the full content of the Standards. It is important that users familiarize themselves with the specific scoping requirements contained in the ABA Standards.

General [§F202.1]

Additions and alterations undertaken at existing facilities are covered by the ABA Standards. The extent of application is largely determined by a project’s scope of work as the standards apply to those elements or spaces that are altered or added. Additional requirements apply to projects that affect or could affect the usability of, or access to, an area containing a primary function. The standards also require certain elements and spaces to comply in existing facilities leased by Federal agencies.

Additions [§F202.2]

Projects that increase, expand, or extend a facility’s gross floor area or height of a facility are considered additions (as defined in §F106.5) and must comply with requirements of the standards applicable to new construction. However, existing elements and spaces affected by an addition are treated as alterations and qualify for certain allowances or exceptions that are not permitted in new construction.

Additions, alterations, and leasing actions may require retrofit of existing elements. Existing elements that meet earlier editions of the ABA standards, such as the Uniform Federal Accessibility Standards, do not have to be modified to meet the current standards unless altered (§F203.2).

Application of the Standards in Additions

If not provided in an addition, entrances, toilet and bathing facilities, telephones, and drinking fountains provided in existing facilities must be made accessible to serve the addition.

Newly built portions added to an existing facility are treated as new construction.

An accessible route must connect additions to site arrival points directly or, if an addition does not include an entrance, through an existing facility.

Existing portions of a facility affected by an addition are treated as alterations.
Requirements for Additions

If not included in an addition, these elements and spaces must be made accessible in the existing facility, where provided:

- toilet and bathing facilities for each sex (an accessible unisex facility is allowed where only 1 toilet or bathing facility is provided or where compliance to multi-user facilities is technically infeasible)
- a public telephone
- a drinking fountain

At least 1 accessible route is required from site arrival points (accessible parking, passenger loading zones, public streets and sidewalks, and transit stops, where provided) to an accessible addition entrance. If the addition does not have its own entrance, an entrance of the existing facility must be made accessible to serve the addition and an accessible route must serve all accessible spaces and elements of the addition.

These requirements apply fully to all additions. Cost caps based on “disproportionality” are not recognized for additions (but are permitted for a path of travel to altered primary function areas).
Alterations [§F202.3]

Alterations are defined in the standards (§F106.5) as “a change in a building or facility that affects or could affect the usability of a building or facility or portion thereof.” Many types of projects are covered as “alterations,” including remodeling, renovation, rehabilitation, reconstruction, restoration, resurfacing of circulation paths or vehicular ways, and changes or rearrangement of structural parts, elements, or walls. Normal maintenance, reroofing, painting or wallpapering, or changes to mechanical and electrical systems are not considered alterations unless they affect a facility’s usability. For example, a project limited to an HVAC system that includes the addition of thermostats would affect a facility’s usability because it involves elements (operable parts) covered by the standards.

The standards ensure that the opportunities for accessibility presented by an alteration are taken. How and to what extent the standards apply is determined by the scope of a project and the elements and spaces altered. Only those elements or spaces altered are required to comply, but alterations made to areas containing a primary function (a major activity for which a facility is intended) also require an accessible path of travel.

Application of the Standards in Alterations

Altered elements and spaces are required to comply. In areas not containing a primary function, an accessible route to an altered element or space is required only when the circulation path to the altered element or space is also altered.

Alterations made to areas containing a primary function also require an accessible path of travel to the extent that it is not “disproportionate” to the cost.

The accessible path of travel must extend to site arrival points, including parking.
If alterations are limited only to elements in a room or space, then the standards apply only to the elements altered. Similarly, where spaces are altered, the standards apply to those spaces that are altered. If a room or space is completely altered (or built new as part of an alteration), the entire room or space is fully subject to the standards. Compliance is required to the extent that it is technically feasible.

Example: Toilet Room Alterations

In a restroom project involving alterations to the toilet, grab bars, faucet controls, and mirror, the standards apply to these elements but not to those that remain unaltered. In more extensive projects where additional elements are altered, application of the standards is greater, commensurate with the scope of work.

Recommendation: While only those elements altered are required to comply, it is advisable to maximize opportunities for accessibility in alterations. Alteration of multiple elements in a room or space may provide a cost-effective opportunity to make the entire room or space fully accessible.

The standards do not require alterations to exceed the level of access required in new construction. For example, spaces that are exempt in new construction are also exempt in alterations.

Prohibited Reduction in Access

New construction requirements also set the baseline for any alteration that would effectively reduce existing accessibility. Alterations that reduce accessibility below the level that would be required in new construction are prohibited. Reductions in access are allowed only where, and to the extent that, the minimum level required in new construction is exceeded. For example, if an alteration will reduce the number of parking spaces on a site, accessible parking spaces can be proportionately reduced as long as the minimum required in new construction (based on the parking facility’s new total) is met. Elements that are not required by the standards to be provided for accessibility, such as phones, can be completely removed from a site.
Chapter 2: ABA Scoping Requirements

Special Provisions for Alterations

The standards apply the same requirements used in new construction to alterations but also include provisions unique to alterations. Some provisions clarify application, while others are structured as exceptions that limit coverage or relax technical criteria under certain conditions. Located throughout the standards at the relevant scoping or technical requirement, these provisions and exceptions are distinguished by references to “alterations” or “existing facilities.”

Examples of Provisions for Alterations

**Vertical Access**

An accessible route to stories and mezzanines is required in alterations (or additions) where stairs or escalators are added where none existed previously and major structural modifications are necessary (§F206.2.3.1) (or as needed to provide an accessible path of travel to an altered primary function area if not disproportionate to the cost (§F202.4)), unless the building is exempt from the requirement for access between stories.

**Elevators**

If elevators are altered, all cars programmed to respond to the same call control must be similarly modified (§F206.6.1).

**Fire Alarms**

Compliant fire alarm systems are required only in alterations where fire alarm systems are installed, replaced, or upgraded (§F215.1, Ex. 1).

**Ramps**

Slightly steeper running slopes are permitted for short ramps (maximum 6” rise) where space is limited (§405.2, Ex.).

**Stairs**

Full handrail extensions at stairs are not required where they would project hazardously into circulation paths (§505.10, Ex. 3).
Technical Infeasibility

Compliance in an alteration is not required where it is “technically infeasible.” The term is defined as “something that has little likelihood of being accomplished because existing structural conditions would require removing or altering a load-bearing member that is an essential part of the structural frame; or because other existing physical or site constraints prohibit modification or addition of elements, spaces, or features that are in full and strict compliance with the minimum requirements.”

Where technical infeasibility is encountered, compliance is still required to the maximum extent technically feasible.

Other examples where compliance could potentially be technically infeasible include:

- conflicts with applicable building, plumbing, life safety or other codes (such as when combining two toilet stalls to create an accessible stall would violate the plumbing code’s required fixture count);

- meeting slope requirements on existing developed sites located on steep terrain where necessary re-grading and other design solutions are not feasible; or

- work that would impact load-bearing walls and other essential components of the structural frame, including structural reinforcement of the floor slab.
Alterations Affecting Primary Function Areas [§F202.4]

Additional requirements apply when alterations are made to areas containing a “primary function,” which is a major activity intended for a facility. Examples of primary function areas include dining areas of a restaurant, retail space in a store, exam rooms in a doctor’s office, classrooms in a school, and offices and other work areas where the activities of a covered entity are carried out. Spaces not considered primary function areas include entrances, corridors, restrooms, break rooms, employee locker rooms, and mechanical or electrical closets. Restrooms are not primary function areas unless their provision is the primary purpose of a facility, such as a highway rest stop.

Accessible Path of Travel

When alterations are made to a primary function area, an accessible path of travel to the area must be provided. The accessible path of travel must extend from the altered primary function area to site arrival points, including public sidewalks and parking and passenger loading zones provided on the site. The path of travel also includes access to restrooms, telephones, and drinking fountains, where provided to serve the primary function area.

Disproportionality (20%)

The accessible path of travel is required to the extent that it is not “disproportionate” to the total cost. Regulations and directives implementing the standards define “disproportionate” as exceeding 20% of the total cost of alterations to the primary function area. The 20% cap applies only to costs associated with the accessible path of travel, including an accessible route to the primary function area, entrances, and retrofits to restrooms, telephones, and drinking fountains.

Prioritization

Compliance is required up to the point the 20% cost cap is reached, even where it does not result in a fully accessible path of travel. Where costs exceed this cap, ABA standard-setting agencies recommend compliance in this order of priority:

1. an accessible entrance
2. an accessible route to the primary function area
3. restroom access
4. an accessible telephone
5. an accessible drinking fountain
6. accessible parking

Additional information on the requirements for alterations to primary function areas is provided in regulations and directives implementing the ABA standards.
The accessible path of travel extends from the altered primary function area to site arrival points (public sidewalks, parking, passenger loading zones, public transit stops located on the site).

The path of travel also includes an accessible restroom (for each sex unless only unisex restrooms are provided), telephone, and drinking fountain serving the primary function area, where such elements are provided.
Alterations to Qualified Historic Facilities [§F202.5]

The standards contain specific provisions for qualified historic facilities which are defined as buildings or facilities that are “listed in or eligible for listing in the National Register of Historic Places or designated as historic under an appropriate State or local law.”

Like other existing facilities, the requirements for alterations apply in relation to the planned scope of work. Alterations provisions and exceptions, including those based on technical infeasibility, and requirements for path of travel to primary function areas, apply equally to historic facilities.

The standards also provide several exceptions where compliance with the standards would threaten or destroy the historic integrity or significance of a facility as determined by the appropriate State Historic Preservation Official or Advisory Council on Historic Preservation. These exceptions apply to requirements for accessible routes (§F206.2) entrances (§F206.4), and toilet rooms (§F213.2).

Exceptions for Qualified Historic Facilities
(where compliance would threaten or destroy a facility’s historic significance)

**Vertical access** to stories above or below the accessible story is not required (§F206.2.3, Ex. 7).

At least 1 unisex **toilet room** or 1 men’s and 1 women’s room is required to comply (§F213.2, Ex. 2).

At least 1 **accessible route** is required from a site arrival point to an accessible entrance (§F206.2.1, Ex. 1).

At least 1 **public entrance** is required to be accessible (if that would also threaten the historic significance, access can be provided to a non-public entrance but a notification or remote monitoring system is required for locked entrances) (§F206.4, Ex. 2).
Leases [§F202.6]

Existing facilities leased in whole or in part by federal agencies must meet a minimum level of access specified in the standards. These requirements apply when a new lease is negotiated, even when the space was previously occupied by a federal agency. Compliance is not required at facilities that are either leased:

- for 12 months maximum without renewal or extension options; or
- on a temporary, emergency basis for government officials providing disaster relief services.

Certain elements, spaces, and routes are required to comply to ensure a minimum level of usability. Other elements are required to comply only if altered or added. Facilities that are built for leasing by federal agencies must fully comply with standards as new construction.

Requirements for Federally Leased Space

**Parking (§F208)**
Accessible parking, including van spaces, must be provided based on the number of spaces provided. In multi-tenant facilities, compliance can be limited to the portion allotted the federal tenant.

**Accessible Route (§F206)**
At least 1 accessible route is required from site arrival points (accessible parking, passenger loading zones, public streets and sidewalks, and transit stops, where provided) to an accessible entrance.
Requirements for Federally Leased Space

Compliance is required where these elements and spaces are provided to serve the leased space (whether located within the space or in joint-use areas serving other building tenants).

- **Fire Alarms (§F215)** (unless compliance requires upgrading existing power sources)
- **Drinking Fountains (§F211)**
- **Sales and Service Counters (§F227)**
- **Public Telephones (§F217)**
- **Accessible Route (§F206)**
- **Toilet and Bathing Facilities (§F213)** At least 1 for each sex on each floor with toilet facilities serving the leased space (access to a unisex facility is allowed in buildings with only 1 men’s and 1 women’s room)
- **Assembly Areas (§F221) and Assistive Listening Systems (§F219)**
- **Dining and Work Surfaces (§F226)**
- **Depositories, Vending Machines, Change Machines, and Mail Boxes (§F228)**
- **Residential Facilities (§F233)**

Existing elements that meet UFAS or other previous ABA standards do not have to be brought into compliance with the current standards unless they are altered.
Common Questions

What requirements of the standards apply in an alteration?

Application of the standards in an alteration is determined by the scope of work and whether it involves areas containing a primary function. Altered elements or spaces must comply with relevant provisions of the standards except where compliance is technically infeasible. Where compliance is technically infeasible, compliance is required to the maximum extent feasible. If alterations are made to an area containing a primary function (a major activity for which a facility is intended), an accessible path of travel from the area to site arrival points, as well as the restrooms, telephones, and drinking fountains serving the area, must be made accessible as part of the work to the extent it is not “disproportionate” (more than 20% of the total cost).

How is “technically infeasible” determined in an alteration?

Determining “technical infeasibility” requires a site-specific assessment of constraints or complications in relation to the planned scope of work. The term, as defined in the standards (§106), is intended to encompass design, site, engineering or other constraints that prohibit compliance. Examples include work that would impact a facility’s structural frame or that would conflict with applicable codes or building requirements.

Do the standards apply to existing facilities that are not being altered?

The ABA Standards only address existing facilities where alterations or additions occur or where facilities are leased by federal agencies. However, the Rehabilitation Act (section 504) requires access to federally funded or conducted programs and may necessitate retrofits to existing facilities where no other alterations are planned. The obligation to provide “program access” can sometimes be satisfied operationally, such as by relocating a program, but retrofits to remove existing access barriers are often necessary.
Chapter 3: Building Blocks

Floor and Ground Surfaces

Clear Floor or Ground Space and Turning Space

Protruding Objects

Operable Parts
Floor and Ground Surfaces

Specifications for floor and ground surfaces address surface characteristics, carpeting, openings, and changes in level. They apply to:

- interior and exterior accessible routes, including walking surfaces, ramps, elevators, and lifts
- stairways that are part of a means of egress
- required clearances, including clear floor space, wheelchair seating spaces, turning space, and door maneuvering clearances
- accessible parking spaces, access aisles, and accessible passenger loading zones.

Firmness, Stability, and Slip Resistance [§302.1]

Accessible floor and ground surfaces must be stable, firm, and slip resistant. Stable surfaces resist movement, while firm surfaces resist deformation by applied forces. Accessible surfaces remain unchanged by external forces, objects, or materials.

Hardened materials such as concrete, asphalt, tile, and wood are sufficiently firm and stable for accessibility.

Most loose materials, including gravel will not meet these requirements unless properly treated to provide sufficient surface integrity and resilience. Binders, consolidants, compaction, and grid forms may enable some of these materials to perform satisfactorily but require repeated maintenance.
Slip Resistance

Accessible surfaces must be slip resistant to minimize hazards to people with disabilities, especially those who are ambulatory or semi-ambulatory or who use canes, crutches, and other walking aids. However, the standards do not specify a minimum level of slip resistance (coefficient of friction) because a consensus method for rating slip resistance remains elusive. While different measurement devices and protocols have been developed over the years for use in the laboratory or the field, a widely accepted method has not emerged. Since rating systems are unique to the test method, specific levels of slip resistance can only be meaningfully specified according to a particular measurement protocol. Some flooring products are labeled with a slip resistance rating based on a laboratory test procedure.

Compliance with the standards requires specifying surface materials, textures, or finishes that prevent or minimize slipperiness under the conditions likely to be found on the surface. Standard practices for minimizing floor or ground slipperiness will likely satisfy compliance with the standards as slip resistance is important not just for accessibility but for general safety as well. Applications and finishes used to increase a surface material’s slip resistance may require continued maintenance or re-application.

Surface Smoothness

The standards limit changes in level and openings in floor and ground surfaces, but they do not further address overall surface smoothness. Rough surfaces composed of cobblestones, Belgian blocks, and similar materials can be difficult and sometimes painful to negotiate with wheeled mobility aids due to the vibrations they cause.

Cobblestones and other rough surfaces make wheelchair travel difficult and uncomfortable.

Recommendation: Avoid materials or construction methods that create bumpy and uneven surfaces in areas and along routes required to be accessible.
Carpet [§302.2]

Carpet that is thick, cushiony, or loose impairs accessibility, particularly wheelchair maneuvering. The standards specify the maximum pile height (1/2” measured to the backing, cushion, or pad) and texture (level or textured loop, level cut pile, or level cut/uncut pile) and require firm backing. Cushions or pads also must be firm or can be avoided to ensure greater firmness.

Exposed edges must have trim on the entire length of the exposed edge and be fastened to the floor to prevent curling. Trim must meet specifications for changes in level, including requirements for beveled edges when the height exceeds ¼ inch. The maximum height is ½ inch.

Carpet Edge Treatment

Carpet to Tile Transition

1/2” max height, 1:2 max beveled edge

Changes in level 1/4” max high permitted vertical edge
Openings [§302.3]

Openings in ground and floor surfaces, such as grates, are limited in width to prevent passage of a ½” diameter sphere. Wheelchair casters can get wedged into wider openings.

Surface Opening (Cross Section)

Elongated openings, like those of most grates, must be oriented so that the long dimension is perpendicular to the dominant travel direction. In locations where there is no dominant flow pattern, openings must be limited to ½” in both dimensions. Where an accessible route is available to bypass openings completely, they can be oriented in any direction.
Chapter 3: Building Blocks

Floor and Ground Surfaces

Changes in Level [§303]

Changes in level can be up to ¼" without treatment or ½" if beveled with a slope no steeper than 1:2. Changes in level above a ½” must be treated as a ramp or curb ramp (or a walkway if a slope no steeper than 1:20 can be achieved). These specifications apply to all portions of accessible routes, including thresholds and carpet trim.

1/4” Max Change in Level

1/2” Max Change in Level

Common Questions

Must accessible surfaces be paved?

Concrete, asphalt, and other paved surfaces are more reliably compliant, but other materials, such as wood, and construction methods can be used to provide firm and stable surfaces. Loose material like gravel will not perform adequately unless it is sufficiently stabilized by binders, compaction, or other treatments and will likely require repeated maintenance.

What is the minimum level of slip resistance required by the standards?

The standards require ground and floor surfaces to be slip resistant, but they do not specify a minimum level of slip resistance or coefficient of friction. This value varies according to the measurement method and protocols used. Some products are labeled with a rated level, but in the absence of a consensus test procedure, the standards do not set a minimum value. Standard methods to prevent or minimize slipperiness in the specification of floor materials, textures, applications, and finishes may be sufficient for compliance with the standards.
Is there a minimum distance between changes in level?

The standards do not require a minimum horizontal separation between changes in level of a ½” or less. Such level changes may need to be in close proximity, such as at raised thresholds (otherwise a minimum 48” separation will provide enough wheelchair space so that only one vertical change is negotiated at a time). Ramps and curb ramps, which must be used to span vertical changes greater than ½”, must have level landings and clearances at the tops and bottoms of each run to provide adequate separation and resting intervals between sloping surfaces.

Elongated surface openings must be perpendicular to the dominant direction of travel, but what if there is no dominant direction of travel?

When there is no dominant direction of cross traffic, openings must be limited to ½” in both dimensions. Where space allows accessible routes to completely bypass the area with openings, elongated openings can be oriented in either direction.
Clear Floor or Ground Space and Turning Space

Clearances are required at accessible elements, fixtures, and controls so that people with disabilities, including those who use wheelchairs, can approach and use them. The standards also address maneuvering space for wheelchair turning. Provisions throughout the standards reference these basic “building block” requirements.

Clear Floor or Ground Space [§305]

Sufficient clear floor or ground space is required at accessible controls, operable parts, drinking fountains, lavatories and sinks, ATMs and fare machines, appliances, beds, and other elements. Provisions for these elements apply the clear floor or ground specifications in 305.

Clear Floor Space at Elements

Clear floor space is required at each accessible element, including storage cabinets, drinking fountains and other fixtures, and electrical outlets. Clear floor spaces can overlap where elements are in close proximity.
Position [§305.5]

At most elements, clear floor or ground space can be positioned for either a forward or a side approach. For better usability, a forward approach is required at certain elements, including dining and work surfaces, drinking fountains, lavatories, and most sinks. At other elements, a side approach is allowed. A side approach is typically provided or required at sales and service counters, beds, and most appliances.

Forward Approach

Side Approach

Centering

Centering the clear floor or ground space on elements is often advisable but is only required at drinking fountains, kitchen work surfaces, and washers and dryers.
**Surface and Size [§305.2 and §305.3]**

Clear floor spaces must meet requirements for ground and floor surfaces, including criteria for firmness, stability, and slip resistance. They must be free of level changes and not slope more than 1:48.

The minimum size (30" by 48") applies whether the space is positioned for forward or side approaches. Additional space is required when the space is confined on three sides and is obstructed for more than half the depth, such as when elements are recessed in alcoves.

**Approach and Maneuvering Clearance [§305.6 and §305.7]**

Where the space is obstructed on both sides for more than half the depth, additional clearance is required for maneuvering. Accessible routes must connect to the unobstructed side of the space.
Knee and Toe Space [§305.4 and §306]

Objects that provide space for toes or knees can overlap a portion of the clear floor space. Knee and toe space allows a closer approach to elements and reduces the reach to operable parts. It is required at some elements, such as drinking fountains and lavatories, so that people using wheelchairs can pull up to them.

Objects that provide clearance for toes can overlap a portion of the clear floor space. Objects that provide clearance for knees and toes can overlap a greater portion of the clear floor space (up to a depth of 25”).

Knee and toe space must be at least 30” wide and up to 25” deep measured to the leading edge of the clear floor space. The specifications allow space for plumbing, enclosures, and supports outside the minimum clearances. No object can protrude into the required clearances (other than the dip of the overflow at lavatories and sinks).
Knee and Toe Space Depth

Where knee and toe space is required, it must be at least 17” deep. In all cases, the minimum depth may be further determined by the required reach to operable parts served by the clear floor space.

Knee and toe space is required below drinking fountains, lavatories and sinks, dining and work surfaces, and those sales and service counters that provide a forward approach.

Obstructed Reach Depth

At any element, the knee and toe space must be as deep as the required reach to operable parts. This facilitates access since a forward reach does not extend far beyond the toes. Both the reach depth and the knee and toe space depth are limited to 25” measured from the leading edge of obstructions. Space beyond this depth is not usable.
Knee and Toe Clearances

Where knee and toe space is required at an element, it must be at least 17” deep.

Beyond a depth of 8” measured from the leading edge, the 27” minimum high knee clearance can reduce 18” (to the 9” toe space) over a 3” span.

When the knee and toe depth exceeds the 17” minimum, the additional space must provide full knee clearance at least 27” high.
Turning Space [§304]

Turning space is required in these accessible rooms and spaces:

- toilet and bathing facilities
- dressing, fitting, and locker rooms
- transient lodging guest rooms
- dwelling units (all rooms on an accessible route)
- patient bedrooms
- holding and housing cells
- saunas and steam rooms
- raised courtroom stations served by ramps or lifts with entry ramps
- certain recreation spaces (amusement ride load/ unload areas, fishing piers and platforms, play components, and shooting facilities)

Space for turning is also required along accessible routes where a 180 degree turn around an obstruction less than 48” wide is required (§403.5.2).

**Clear Width at 180 Degree Turn Around a Narrow Obstruction**

![Diagram of clear width at 180 degree turn around a narrow obstruction]

**Recommendation:** Turning space is recommended in small spaces with entrapment risks as well as at dead-end aisles and corridors so that people using wheeled mobility aids do not have to back up considerable distances.
Maneuvering for Turns

Maneuvering for 180 degree turns varies by person and the mobility aid used. An efficient way of turning using a manual wheelchair is to turn the wheels in opposite directions for a pivoting turn. Some power chairs also may permit tight circular turns.

A three-point turn is common when using scooters and other motorized devices that have a larger turning radius.
Size [§304.3]

Turning space can be provided in the shape of a circle or a T. Elements with knee and toe space can overlap a portion of the turning space.

**Circular Turning Space**

![](image)

**Recommendation:** To provide easier access, locate elements with knee and toe space outside the turning space or, with circular space, limit overlap to approximately 12" so that wheelchair space 48" long minimum remains clear.

**T-Shaped Turning Space**

T-shaped space can be configured for approach on any segment (stem or either arm).
Door Swing [§304.4] and Other Space Requirements

Doors can swing into the turning space. The turning space can overlap other space requirements, including clear floor space required at elements and fixtures.

Common Questions

Is clear floor space required to be centered on elements?

The standards require the clear floor space to be centered on wheelchair accessible drinking fountains (forward approach), kitchen work surfaces, (forward approach), and washers and dryers (side approach). Centering the clear floor space on other elements is often advisable, but not required.
Can doors swing into required clear floor or ground space?

Doors cannot swing into required clear floor or ground spaces in these specific instances:

- clear floor space at controls for automatic and power assisted doors and gates (404.3.5)
- fixture clearances in toilet and bathing facilities (except those that are single user where wheelchair space beyond the door swing is provided) (603.2.3)
- clear floor space required at benches in saunas and steam rooms (612.2)
- clear floor space required at tactile signs, which must be beyond the arc of any door swing between the closed position and 45 degree open position (703.4.2)
- dressing, fitting, or locker rooms unless wheelchair space is provided beyond the arc of the door swing (803.3)

In other locations, doors can swing into clear floor or ground space, although locating door swing outside required clearances is advisable.

Can doors swing into turning space?

Yes, doors can swing into turning space.

Can clear floor/ground space or turning space overlap other space requirements?

Yes, clear floor or ground spaces and turning space can overlap other required clearances, including other clear floor spaces, door maneuvering clearances, and fixture clearances.

Is turning space required in all rooms and spaces?

No. Turning space is required in certain spaces, such as toilet and bathing facilities, dressing and fitting rooms, and transient lodging guest rooms. Unless addressed by a specific requirement for turning space in the standards, other spaces are not required to provide them, including lobbies, offices, and meeting rooms.
Protruding Objects

Protruding Objects [§F204]

To prevent hazards to people with vision impairments, the standards limit the projection of objects into circulation paths. These requirements apply to all circulation paths and are not limited to accessible routes. Circulation paths include interior and exterior walks, paths, hallways, courtyards, elevators, platform lifts, ramps, stairways, and landings.

Examples of Protruding Objects

Sconces, handrails, cabinets, drinking fountains and other elements that project into circulation paths must comply with provisions for protruding objects (unless they are located within cane sweep or above headroom clearance). Requirements for protruding objects apply to all interior and exterior circulation paths of sites. They are not limited to hallways and corridors and apply equally to circulation paths in rooms and spaces.
Protrusion Limits [§307.2]

People with vision impairments often travel closely along walls which can provide wayfinding cues sometime called a “shoreline.” Objects mounted on walls, partitions, columns, and other elements along circulation paths can pose hazards unless their projection is limited. Those with leading edges that are within cane sweep (27” high maximum) or that provide minimum headroom clearance (80” minimum) do not pose hazards and can protrude any amount.

Limits of Protruding Objects

Protruding objects cannot reduce the minimum width of accessible routes

Objects above headroom clearance can protrude any amount

Objects with leading edges within cane sweep can protrude any amount

Protruding object limits apply to the full width of circulation paths.
Location Above Detectable Elements

Objects located above elements that are within can sweep can protrude 4” maximum from the leading edge of such elements provided that any required reach or clear floor space is not obstructed.

Side Partitions and Wing Walls

Side partitions or panels and wing walls can also be used to make protruding objects compliant. The bottom edge of panels or partitions must be 27” high maximum.
Recessed Objects

Objects can be recessed in alcoves so that they do not project more than 4" into circulation paths. Alcoves must be sized to accommodate required clear floor space at accessible elements.

Elements, such as wheelchair accessible drinking fountains, must provide a knee clearance of at least 27”. If located to provide, but not exceed this clearance (27” above the floor or ground absolute), they are not protruding objects because the leading edge will be within cane detection.

A wheelchair accessible unit located 27” absolute above the ground or floor is cane detectable and can be used to enclose one side of high units for standing access. In this instance, the 27” height is effectively an absolute dimension because it is the minimum required for knee clearance and the maximum specified for cane detection.
Post-Mounted Objects [§307.3]

Free-standing objects with leading edges 27” to 80” high that are mounted on posts or pylons cannot protrude more than 12” into circulation paths. The 12” limit also applies to the clearance between multiple posts (excluding the sloping portions of handrails).

Objects with leading edges 27” maximum or above 80” can protrude any amount from posts or pylons.
Vertical Clearance [§307.4]

Headroom clearance of at least 80" high is required along all circulation paths (except at doors and doorways where a 78" minimum clearance is permitted to accommodate door stops and closers).

Fixed barriers, such as guardrails, are required where the vertical clearance is less than 80" such as at open stairways and along sloped or curved walls. Barriers must have leading edges no higher than 27" so that they are within cane sweep. Fixed planters, benches, and other elements can be used instead of guardrails.

Barriers at Circulation Areas with Reduced Vertical Clearance

Recommendation: A minimum height is not specified for barriers demarcating areas with less than 80" of vertical clearance. It is recommended that barriers be high enough so that they are not mistaken for a step or other change in level and do not pose a tripping hazard.
Common Questions

Are requirements for protruding objects limited to hallways and corridors?

No, requirements for protruding objects apply to all circulation paths, including those in rooms and spaces off corridors. They apply to both interior and exterior circulation paths.

Do drinking fountains pose hazards as protruding objects?

Cantilevered units at standard heights for people who stand must be recessed or protected as protruding objects. This is not required for wheelchair accessible units with no more than a 27” clearance below (the minimum required for knee clearance and the maximum recognized for cane detection).

Can curbs be used to indicate areas with less than 80” of vertical clearance?

The standards specify a maximum height (27”) for the leading edge of barriers so they are within cane sweep, but a minimum height is not specified. Curbs may be mistaken for a step or change in level, instead of a barrier. For this reason, barriers significantly higher than a curb or riser, such as a guardrail, planter box, bench, parapet wall, or similar elements are recommended.
Operable Parts

Operable Parts Covered [§F205]

Compliance is required for operable parts located in accessible spaces and along accessible routes. Operable parts include light switches, electrical and communication receptacles, thermostats, alarm pulls, automatic door controls, and other elements used by facility occupants.

Examples of Operable Parts

Compliance is required for the operable portions of fixed elements, such as cabinet hardware, but not for inoperable portions or to non-fixed components, such as fire extinguishers.

Electrical outlets, alarm pulls, and many other types of receptacles and controls are covered.

Provisions for drinking fountains and other elements covered by the standards also apply the criteria for operable parts.

Exempt: floor receptacles and operable parts used only by service or maintenance personnel.
Examples of Operable Parts in Kitchens

Electrical outlets, switches, and faucet controls are required to comply.

Exempt: HVAC diffusers and dedicated electrical or communication receptacles.

Appliance controls and handles to accessible storage are also covered as operable parts.

Controls on elements outside reach range, such as range hoods, require provision of a second control.

If redundant controls (other than light switches) are provided for an element, one control in each space is not required to comply.
Operable Parts [§309]

Requirements apply generally to all types of operable parts covered. They are also referenced by technical sections of the standards covering drinking fountains, faucet and flush controls, ATM and fare machines, appliances, storage, windows, and door and gate hardware, and other elements.

Accessible Features of Operable Parts

Forward and Side Approaches

At most elements, clear floor space can be positioned for either a forward approach or a side approach. A forward approach is required at some elements, such as drinking fountains and lavatories, for easier access.
Forward Approach and Reach

Clear Floor Space [§309.2]

Clear floor space for forward approaches must extend up to or, if knee or toe space is provided, below operable parts. This facilitates access since the forward reach does not extend beyond a wheelchair user’s toes.

If clear floor space is obstructed on both sides more than half the minimum required depth, a wider clearance (36” min.) is required for maneuvering and sway.

Knee and Toe Space

If the forward reach to operable parts extends over an obstruction, such as a counter, clearances for toes and knees is required below. The knee and toe space must be at least as deep as the reach depth measured from the leading edge of the obstruction.
Forward Reach [§308.2]

The range for unobstructed reaches (15” – 48”) applies only to those portions of elements that are operable. Non-operable portions can be located outside the range.

Obstructed High Reach

The maximum reach of 48” is reduced to 44” when the depth of reach over an obstruction exceeds 20.” Knee and toe space must extend the full depth of reach.
Side Approach and Reach

Clear Floor Space [§309.2]

Clear floor space can be oriented for a side approach instead of a forward approach at most operable parts. Nominal centering of the space on operable portions of elements is advisable, but not required (except at washers and dryers).

Clear Floor Space

Additional clearance is required if the space is obstructed on three sides for more than half the depth to allow easier maneuvering into the space.
Side Reach [§308.3]

The range for side reach, like forward reach is 15” to 48” if unobstructed. The maximum reach depth for this range is 10” measured from the available clear floor space.

Fuel Dispensers
The operable parts of fuel dispensers located on existing curbs can be up to 54” high.

Obstructed High Reach

The maximum high reach is reduced to 46” when the reach over an obstruction is deeper than 10” (to a maximum of 24”). Obstructions at side reaches are limited to a height of 34”. 
Side Reach Radius

Elements located in corners can be difficult to reach from a side approach.

Recommendation: Where a side reach is provided, locate elements away from corners in consideration of the typical reach radius.

Advisory Reach Range for Children

The standards include advisory (non-mandatory) reach ranges based on children’s dimensions that can be followed when operable parts are designed for use by children. This guidance provides reach ranges recommended according to three age groups.
Operation [§309.4]

Operable parts must be usable with one hand and not require:

- tight grasping, pinching, or twisting of the wrist, or
- more than 5 pounds of force (lbf) to operate.

Parts that can be operated without hand or finger dexterity, fine motor movement, or simultaneous actions provide easier access and accommodate a broader range of users.

Operability with a closed fist is a reliable test of usability, but is not required by the standards.

Push Plates, Buttons, and Bars
Push-activated controls not requiring more than 5 lbf are acceptable. Buttons that are raised or flush are easier to use than those that are recessed. (Elevator control buttons cannot be recessed, and input keys at ATM and fare machines must be raised.)

Handles, Pulls, and Knobs
Standard U-shaped pulls and lever-shaped handles are acceptable. Stationary knobs with a shape that can be loosely gripped also are acceptable. Knobs that require a full hand grip and turning, including round door knobs and shower controls, do not comply because they require twisting of the wrist.

Latches and Locks
Latches and locks with small parts that must be manipulated can be difficult to use and will not comply if pinching is necessary. However, non-fixed portions of locks and other operable parts, such as keys and access cards, are not required to comply (but those that do not require pinching or turning provide better access). Hardware that does not require simultaneous actions are better, but some types, such as handles with thumb latches are acceptable.

Controls and Switches
Dials and other controls that can be turned with the fingers but not the full hand can be used if they do not require twisting of the wrist or pinching. Flip switches and similar controls are acceptable, though push plate types can provide easier access.
Common Questions

Are redundant controls for an element required to comply?

If redundant controls, other than light switches, serve a single element, one control in each space is not required to comply. If a redundant control is located in a different space, however, it must comply. All light switches are required to comply.

What types of electrical or communication receptacles are exempt because they serve a “dedicated use”?

Electrical receptacles serving a dedicated use include those installed for appliances, including refrigerators, ranges, and dishwashers, and wall clocks. Floor electrical receptacles are also exempt. Communication receptacles serving a dedicated use include phone jacks, data ports, network and audio-visual connections. Electrical receptacles provided for portable communication devices such as TTYs are not covered by this exception and must comply.

Do reach range requirements apply to elements or only to operable parts of elements?

Reach range requirements apply to the operable portions of elements, including handles, controls, switches, buttons, control pads and other mechanisms that must be activated or manipulated for use. Non-operable portions of elements do not have to be within accessible reach ranges.

Must operable parts be usable with a closed fist?

Closed-fist operation is a good performance test but is not required by the standards. Many types of operable parts, such as pull handles, satisfy the requirements even though they may not be operable with a closed fist.

Are turn-key locks prohibited by the standards?

Key locks or key cards are not prohibited by the standards which apply only to the fixed portions of operable parts. Similarly, items dispensed by ATMs and fare machines, such as receipts, cash, fare cards, and vending machine products are not covered by the standards.