

DEPARTMENT OF JUSTICE**Office of the Attorney General****28 CFR Part 38**

[Order No. 2042-96]

Architectural and Transportation Barriers Compliance Board**36 CFR Part 1191**

[Docket No. 94-2]

RIN 3014-AA17

Americans With Disabilities Act Accessibility Guidelines for Buildings and Facilities; Children's Facilities

AGENCIES: Architectural and Transportation Barriers Compliance Board and Department of Justice.

ACTION: Joint notice of proposed rulemaking.

SUMMARY: The Architectural and Transportation Barriers Compliance Board (Access Board) proposes to amend the Americans with Disabilities Act Accessibility Guidelines (ADAAG) by adding a special application section for children's facilities. The section contains guidelines based on children's dimensions and anthropometrics for newly constructed and altered children's facilities. The section would ensure that newly constructed and altered children's facilities are readily accessible to and usable by children with disabilities.

The Department of Justice proposes to amend its regulations implementing the Americans with Disabilities Act (ADA) by adding to its Standards for Accessible Design the special application section for children's facilities proposed by the Access Board. **DATES:** Comments should be received by October 21, 1996. Comments received after this date will be considered to the extent practicable.

ADDRESSES: Comments should be sent to the Office of Technical and Information Services, Architectural and Transportation Barriers Compliance Board, 1331 F Street NW., suite 1000, Washington, DC 20004-1111. The Access Board will provide copies of all comments received to the Department of Justice. Comments will be available for inspection at the above address from 9:00 a.m. to 5:00 p.m. on regular business days. For information about availability of copies and electronic access, see the beginning of **SUPPLEMENTARY INFORMATION.**

FOR FURTHER INFORMATION CONTACT: Access Board: Marsha K. Mazz, Office of Technical and Information Services, Architectural and Transportation Barriers Compliance Board, 1331 F

Street NW, suite 1000, Washington, DC 20004-1111. Telephone (202) 272-5434 ext. 21 or (800) 872-2253 ext. 21 (voice), and (202) 272-5449 (TTY) or (800) 993-2822 (TTY).

Department of Justice: John L. Wodatch, the ADA information line, Disability Rights Section, Civil Rights Division, U.S. Department of Justice, Washington, DC 20530. Telephone (800) 514-0301 (voice) or (800) 514-0383 (TTY).

SUPPLEMENTARY INFORMATION:**Availability of Copies and Electronic Access**

Single copies of this publication may be obtained at no cost by calling the Access Board's automated publications order line (202) 272-5434 or (800) 872-2253, by pressing 1 on the telephone keypad, then 1 again, and requesting publication S25 (Children's Facilities Notice of Proposed Rulemaking). Persons using a TTY should call (202) 272-5449 or (800) 993-2822. Please record a name, address, telephone number and request publication S25. Persons who want a copy in an alternate format should specify the type of format (audio cassette tape, braille, large print, or computer disk).

The proposed rule is available on electronic bulletin board at (202) 272-5448 (Access Board) and (202) 514-6193 (Department of Justice). This rule is also available on the Internet. It can be accessed with gopher client software (gopher.usdoj.gov), through other gopher servers using the University of Minnesota master gopher (under North America, USA, All, Department of Justice), with World Wide Web software (<http://www.usdoj.gov>), or through the White House WWW server (<http://www.whitehouse.gov>).

Background

The Access Board is responsible for developing accessibility guidelines under the ADA to ensure that new construction and alterations of facilities covered by titles II and III of the Act are readily accessible to and usable by individuals with disabilities.¹ The Access Board initially issued the Americans with Disabilities Act Accessibility Guidelines (ADAAG) in 1991 (36 CFR part 1191, appendix A) and has amended the guidelines four times, most recently in 1994. See 59 FR

31676 (June 20, 1994). ADAAG consists of general sections (ADAAG 1 to 4) that apply to all types of buildings and facilities, and special application sections (ADAAG 5 to 14) that contain additional requirements for certain types of buildings.²

Under the ADA, the Department of Justice is responsible for issuing regulations to implement titles II and III of the Act. The Department of Transportation is responsible for issuing regulations to implement the transportation provisions of titles II and III of the ADA. The regulations issued by the Department of Justice and Department of Transportation must include accessibility standards for newly constructed and altered facilities covered by titles II and III of the ADA. The standards must be consistent with the accessibility guidelines issued by the Access Board. The Department of Justice has adopted ADAAG as its Standards for Accessible Design, published as appendix A to 28 CFR part 36; and the Department of Transportation has also adopted ADAAG as its accessibility standards, published at appendix A to 49 CFR part 37.³

The Access Board proposes to add a new special application section to ADAAG (section 15) for newly constructed and altered children's facilities. Section 15 contains design and construction guidelines based on children's dimensions and anthropometrics. Section 15 does not address play settings and fixed play equipment for children. These facilities will be addressed by the Access Board in a separate rulemaking on recreation facilities.

The Department of Justice proposes to amend its regulations implementing

² The special application sections cover the following buildings and facilities: restaurants and cafeterias (ADAAG 5); medical care facilities (ADAAG 6); business, mercantile and civic (ADAAG 7); libraries (ADAAG 8); transient lodging (ADAAG 9); transportation facilities (ADAAG 10); judicial, legislative, and regulatory facilities (ADAAG 11); detention and correctional facilities (ADAAG 12); accessible residential housing (ADAAG 13); and public rights-of-way (ADAAG 14).

³ The Department of Justice's and Department of Transportation's regulations currently include ADAAG 1 to 10. On June 20, 1994, the Department of Justice and Department of Transportation proposed to add ADAAG 11 to 14 to their regulations. See 59 FR 31808 and 31818 (June 20, 1994). The Department of Justice further proposed to move its Standards for Accessible Design from 28 CFR part 36, appendix A to 28 CFR part 37, appendix A. The Department of Justice subsequently assigned another set of regulations to 28 CFR part 37 and now proposes to move its standards to 28 CFR part 38, appendix A.

¹ The ADA (42 U.S.C. 12101-12213) is a comprehensive civil rights law which prohibits discrimination on the basis of disability. Titles II and III of the ADA require, among other things, that newly constructed and altered State and local government buildings, places of public accommodation, and commercial facilities be readily accessible to and usable by individuals with disabilities.

titles II and III of the ADA by adding section 15 to its Standards for Accessible Design.

Section 15 generally modifies current ADAAG technical requirements for children's facilities. It does not broaden the application of ADAAG and applies to those facilities already covered by titles II and III of the ADA. Section 15 generally does not increase the number of accessible elements and features required by current ADAAG. For example, the number of toilet rooms or toilets required to be accessible by ADAAG is not changed. Rather, where a toilet room is required to be accessible, and it is constructed according to children's dimensions and anthropometrics instead of adults', the applicable technical requirements in section 15 modify those currently in ADAAG. Other ADAAG sections not specifically referenced in section 15 shall be applied to children's facilities without modification or addition.

State and local laws and codes, as well as best practices, often recognize the need for certain facilities to be constructed according to children's dimensions and anthropometrics, rather than adults'. Typically, this need occurs where children will be the primary users of a facility, such as in child care centers and elementary schools. Some state and local laws and codes either require or recommend the application of design guidelines specifically suited to serve children. Those design guidelines may, for example, specify lower mounting heights for elements used primarily by children such as drinking fountains, lavatories and toilets. In the absence of mandatory or recommended design guidelines for children, best practices are often applied that consider that certain elements in the built environment should be usable by children rather than adults. With respect to the design and construction of buildings, the term "best practices" generally refers to design criteria or methods of construction that have been developed over time by designers and builders and that in their professional judgment and experience are best applied in situations where no formal guidance (e.g., code or regulation) exists. While state and local laws and codes may contain guidelines for children, only a few contain guidelines that address accessibility for children with disabilities.

Current ADAAG contains specifications that are based on adult dimensions and anthropometrics. Although ADAAG applies to child care centers, pre-kindergarten and elementary schools and other children's facilities, it does not currently contain

requirements that specifically address access for children. Applying specifications that serve adults to facilities for children may conflict with state and local codes or best practices that require or recommend the application of specifications based on children's sizes and dimensions. For example, a code or best practice may specify a lower seat height for toilets serving children, while ADAAG specifies a seat height suitable for adults with disabilities. Alternatives to ADAAG specifications, such as a lower toilet seat height, may be permitted under ADAAG 2.2 (Equivalent Facilitation). Equivalent facilitation allows departures from specific requirements so long as greater or equal access is provided. While equivalent facilitation may provide flexibility in the use of ADAAG, it does not provide specific guidance in designing facilities accessible to children. It is clear from technical inquiries to the Access Board that such guidance is needed in the form of design guidelines based on children's dimensions and anthropometrics, grasp, strength, and stamina.

This proposed rule does not create an obligation for covered entities to construct facilities with elements that are constructed according to children's dimensions and anthropometrics. The proposed rule is intended only to meet the expressed need for guidelines and standards for providing accessibility in buildings and facilities that a covered entity constructs according to children's dimensions and anthropometrics.

In 1986, the Access Board issued "Recommendations for Accessibility Guidelines to Serve Physically Handicapped Children in Elementary Schools."⁴ The report included recommended modifications or additions to certain sections of the Uniform Federal Accessibility Standards (UFAS) based on children's sizes. The recommendations were developed to assist states in designing and constructing accessible elementary schools. Many states and localities have applied the Access Board's 1986 children's recommendations to newly constructed schools serving grades one through six.

Subsequently, the Access Board sponsored a research project to study

accessibility requirements for children with disabilities using a variety of facilities. The research project, conducted by the Center for Accessible Housing (CAH) at North Carolina State University in Raleigh, North Carolina, resulted in the development of recommendations for children's access in 1992. The research included a review of codes, standards and guidelines, ergonomic studies and evaluation literature, and post-occupancy evaluations of children's facilities. This research was the basis for the CAH recommended accessibility guidelines for children's facilities known as "Recommendations for Accessibility Standards for Children's Environments" (also referred to as the CAH "recommendations" or "study" in this notice).⁵ The CAH study focused on facilities serving pre-kindergarten and elementary school-aged children and, to a lesser extent, facilities serving infants and toddlers.

On February 3, 1993, the Access Board published an advance notice of proposed rulemaking (ANPRM) in the Federal Register (58 FR 6924). The ANPRM sought comment on general issues, such as the recommended scope of these guidelines and the ages or grades that should be covered. The ANPRM also requested information on standards and guidelines for children's environments currently in use, building products and technologies currently available that specifically serve children, and elements and features unique to children's environments that may merit specific attention. Approximately 75 comments were received in response to this notice. Commenters included state and local departments of education, groups representing children with disabilities, plumbing fixture manufacturers, individuals, and design professionals. These comments are further discussed in the section-by-section analysis that follows. A number of commenters raised operational or programmatic issues and recommended that the guidelines address adult supervision of children, including the adult-to-child ratio, and the provision of personal care and assistance. Under the ADA, the Access Board is responsible for issuing accessibility guidelines for buildings and facilities. The Department of Justice, not the Access Board, has the authority to address programs or services provided by an entity covered

⁴ A print or microfiche copy of the full report may be ordered from the National Technical Information Services (NTIS) by writing to: NTIS, 5285 Port Royal Road, Springfield, VA 22161, or calling (703) 487-4650. The publication number is PB94-204930, and the cost for the print copy is \$17.20. Free copies of the full report on computer disk can be ordered from the Access Board. An executive summary of this report is also available at no cost from the Access Board.

⁵ A print or microfiche copy of the report may be ordered from NTIS. The publication number is PB93-208676, and the cost for the print copy is \$52.00. A copy of the study on computer disk can be ordered from the Access Board.

by the ADA. Further, many of the program and service issues raised by commenters to the ANPRM are addressed by federal, state and local law and regulation.

Section-by-Section Analysis

This section of the preamble contains a concise summary of the additions which the Access Board is proposing to ADAAG, and a summary of the Access Board's responses to certain comments received on the ANPRM. The text of the proposed common rule follows this section. Paragraphs marked with an asterisk have related, non-mandatory material in the Appendix.

Question 1: With the exception of additional handrails required on ramps or stairs (15.4), this rule generally proposes to modify, or questions whether to modify, current ADAAG provisions when designing and constructing children's facilities. Considering that facilities covered by this rule are already subject to the scoping and technical provisions in current ADAAG, the Access Board and the Department of Justice are seeking additional information or data that would assist in estimating the costs and benefits of the proposed rule.

15. Children's Facilities

15.1* Application

Section 15 applies to those facilities constructed according to children's dimensions and anthropometrics. The ANPRM asked whether the proposed guidelines for children's facilities should be limited to facilities where children are the majority user population served. Most commenters responded that the guidelines should apply broadly to facilities serving the public, such as libraries, theaters, community centers, shopping malls, pools, and gymnasiums. Other commenters, however, recommended that the application of the guidelines should be limited to those facilities that are specifically designed for use by children such as educational and child care facilities.

Generally, building codes and best practices specify that elements and features be provided at heights and locations appropriate for the primary user population served. Although children are rarely the sole occupants or users of a facility, codes and best practices often specify that elements such as drinking fountains, lavatories and toilet seats be mounted at heights according to children's size and reach when children are the primary users. Where a facility is constructed to serve children, section 15 requires that certain

elements and features be readily accessible to and usable by children with disabilities. Therefore, section 15 applies only where facilities, or portions of facilities, are constructed according to children's dimensions and anthropometrics.

The phrase "constructed according to children's dimensions and anthropometrics" means where the construction of a facility reflects the size and dimensions, reach ranges, level of strength and stamina, and other characteristics of children, thus rendering such a facility more usable by children. Facilities constructed that do not reflect children's characteristics are not covered by section 15.

The ANPRM asked what ages or grades should be covered by the guidelines. Few comments were received in response to this question. With respect to age, the comments received covered a broad spectrum of ages from birth to age 21, with a small majority of the comments recommending a range of 3 to 13 years of age. Those commenters favoring criteria based on grades, recommended application of the guidelines to facilities which serve kindergarten through eighth grade. Additionally, some commenters stated that pre-schoolers, including toddlers, should also be covered. However, the age used to define a kindergartner, preschooler or toddler varied among jurisdictions as did age requirements for particular grades. These inconsistencies made it difficult to base the application of the guidelines on grade classification or other commonly used nomenclature.

The proposed rule is intended to cover facilities which are constructed according to children's dimensions and anthropometrics for ages 2 through 12. The dimensions and anthropometrics of children aged 2 and older are reflected in many existing state and local education or building design guidelines and recommendations. Those requirements specify that certain elements intended for children's use be designed and constructed for their use rather than for adult use. With respect to schools or portions of schools primarily serving children over 12 years of age, most states apply design standards based on adult dimensions and sizes, rather than children's.

Section 15.1 also specifies that accessible elements and spaces constructed according to children's dimensions and anthropometrics for ages 2 through 12 shall be on an accessible route complying with ADAAG 4.3 (Accessible Route), 15.3 (Protruding Objects) and 15.4 (Handrails at Ramps and Stairs). For example, a

children's area in a portion of a community center may have elements and features constructed primarily for children such as storage units, toilets, or lavatories. Objects that project from walls along the accessible route are subject to the provisions covering protruding objects in section 15.3. Where the accessible route serving a covered children's area includes a ramp, section 15.4 specifies that a second set of handrails for children must be provided. An accessible route complying with this section shall also be provided where individual elements are positioned at heights or locations based on children's sizes and dimensions, such as a drinking fountain in a shopping mall. Additional routes serving the children's area are not subject to the requirements in this section. A note has been included in the appendix illustrating the requirements of accessible routes serving areas and spaces constructed according to children's dimensions and anthropometrics.

Question 2: Should the requirement for an accessible route complying with section 15.3 (Protruding Objects) and section 15.4 (Handrails on Ramps and Stairs) apply where only one element is constructed according to children's dimensions and anthropometrics (e.g., an accessible drinking fountain at a child's height)? Or, would it be more appropriate to limit the application of an accessible route complying with section 15.3 (Protruding Objects) and section 15.4 (Handrails on Ramps and Stairs) to portions of the facility that are constructed for children? Commenters should consider Questions 5 (protruding objects), 22 (accessible route width), 23 (ramp slope), and 24 (ramp length) when responding.

15.2 Reach Ranges

This section specifies reach ranges for the mounting heights of elements to be accessible to and usable by children. Such elements include controls, dispensers, receptacles and other operable equipment subject to ADAAG 4.27 (Controls and Operating Mechanisms) and storage elements covered by ADAAG 4.25 (Storage) where they are provided for use by children. ADAAG currently requires that such elements be provided within adult reach ranges specified in ADAAG 4.2 (Space Allowance and Reach Range). The reach ranges proposed in section 15.2 are intended to apply only to those controls and operating mechanisms and storage elements that are constructed according to children's dimensions and anthropometrics such as student lockers or controls of displays in children's

sections of museums. Elements provided for use by adults rather than primarily by children are not covered by this section.

Section 15.2.1 modifies the reach range requirements of ADAAG 4.2. Section 15.2 includes a table that lists three design options: A, B, and C. These options specify reach ranges according to three age groups: 2 through 4, 5 through 8, and 9 through 12. Section 15.2.2 requires the application of either A, B, or C. Further, this section states that selection of A, B, or C should correspond to the age range of the primary user group served. The term "should" is used in this section to permit discretion where accessible elements may serve more than one age group of children or where the age range of children does not correspond to the specific age groups listed in the table. According to ADAAG 3.4 (General Terminology), the term "should" denotes an advisory specification or recommendation.

The table in section 15.2.2 specifies high and low reach ranges for children according to age: 36 inches (high) and 20 inches (low) for ages 2 through 4, 40 inches (high) and 18 inches (low) for ages 5 through 8, and 44 inches (high) and 16 inches (low) for ages 9 through 12. Consistent with the CAH recommendations, the reach ranges proposed in this section are the same for both forward and side reach. The reach ranges specified in the table to section 15.2.2 are to be applied instead of the 15 to 48 inch reach range required by ADAAG 4.2.5 (Forward Reach), and the 9 to 54 inch reach range specified by ADAAG 4.2.6 (Side Reach). It should be noted that designing according to the specifications in A would also satisfy the requirements in B and C. For example, locating certain accessible storage between 20 inches and 36 inches above the finish floor would be appropriate for A (ages 2 through 4), B (ages 5 through 8), and C (ages 9 through 12), thus making the storage readily

accessible to a broad age range of children. An accessible element mounted at 44 inches above the finish floor however, may only be accessible to children age 9 and older.

The CAH study recommended a forward and side reach of 20 inches minimum and 36 inches maximum for all children. However, since the ergonomic data evaluated by CAH did not conclusively justify limiting the reach range of children older than 4 years of age to a 20 inch minimum and 36 inch maximum, the proposed reach ranges in section 15.2 may be more reflective of the sizes and anthropometrics of the age range of children considered by this rule. Responses to Question 3 below will aid the Access Board in determining whether to retain the table as proposed, amend the table, or to specify the reach ranges recommended in the CAH study for all children, in the final rule.

Question 3: Do the specifications in A, B, and C of the table in section 15.2 accurately reflect the reach ranges of children (ages 2 through 12) with disabilities? If not, what specifications are appropriate for children using facilities covered by section 15? Where possible, responses should include anthropometric data or related information.

Appropriate reach ranges over obstructions are critical to ensure the usability of controls and operating mechanisms mounted above or on counters, lavatories and other fixed elements. Current ADAAG specifications for forward and side reaches over obstructions are based on adult dimensions and anthropometrics. ADAAG 4.2.5 (Fig. 5(b)) provides that the maximum forward reach shall be 25 inches deep over an obstruction. Since the height of reach is reduced as the depth of an obstruction increases, ADAAG lowers the maximum forward reach from 48 to 44 inches for reaches over an obstruction greater than 20 inches deep. ADAAG 4.2.6 (Fig. 6(c))

specifies a maximum side reach of 24 inches over an obstruction no higher than 34 inches. Similarly, when an obstruction is greater than 10 inches in depth, the maximum side reach is reduced from 54 to 46 inches. CAH evaluated ergonomic data on the depth of reach of children with disabilities but did not provide recommendations based on this data. The CAH study did provide a recommendation for the placement of lavatory faucets, which is discussed further in the analysis of section 15.8.

Question 4: The Access Board and the Department of Justice request information or recommendations on each of the following:

(a) the maximum horizontal forward reach over an obstruction for children ages 2 through 4, 5 through 8, and 9 through 12;

(b) the maximum height of elements mounted over an obstruction (forward reach) for children ages 2 through 4, 5 through 8, and 9 through 12;

(c) the maximum horizontal side reach over an obstruction for children ages 2 through 4, 5 through 8, and 9 through 12; and

(d) the maximum height of elements mounted over an obstruction (side reach) for children ages 2 through 4, 5 through 8, and 9 through 12.

Where possible, commenters should provide anthropometric data or related information to support their recommendations and, if known, identify impacts on the design or placement of lavatory faucets, lockers, and other elements subject to reach requirements. Based on comments received, the Access Board may specify maximum forward and side reach ranges over an obstruction in the final rule.

Figures 1 and 2 which are set forth below illustrate the information sought in (a) through (d) in Question 4.

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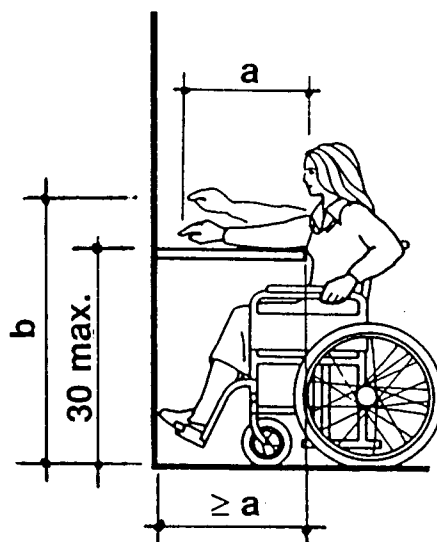


FIG. 1 FORWARD REACH

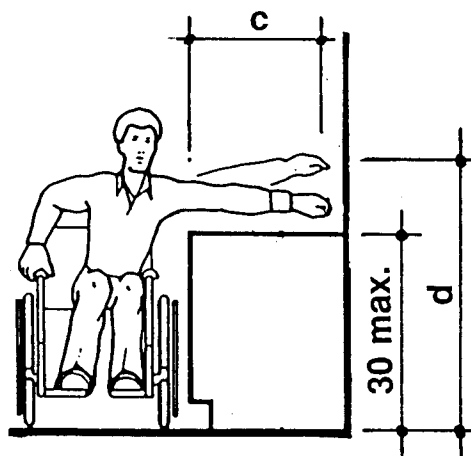


FIG. 2 SIDE REACH

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15.3 Protruding Objects

This section modifies the current technical requirements in ADAAG 4.4 (Protruding Objects). ADAAG 4.4.1 currently specifies that elements mounted on walls, such as phones and light fixtures, shall not project more than 4 inches from the wall surface if the leading edge is above 27 inches from the finish floor. ADAAG 4.4.1 also specifies that free-standing objects on posts or pylons may overhang 12 inches

maximum if the leading edge is above 27 inches from the finish floor. The cane sweep of an adult with a vision impairment generally encounters objects at or below 27 inches. However, a child's stride is shorter, and his or her cane sweep is typically narrower and lower. Therefore, a child's cane will not contact such objects at a point that provides effective warning. According to the CAH recommendations, children using canes can detect protruding objects up to 12 inches from the ground

or floor surface. This section reduces the 27 inch height specified by ADAAG 4.4.1 to 12 inches.

Under current ADAAG, elements projecting more than 4 inches such as drinking fountains and telephones may be mounted at heights or with side partitions so that the leading edge is at or below 27 inches. Section 15.3 would require that these elements be mounted or have side partitions so that the leading edge is no more than 12 inches from the floor. In order to meet this

requirement, drinking fountains and other elements which require knee clearance may have to be located in alcoves or be protected by walls, partitions, or other features.

Question 5: What are the new construction costs associated with providing walls, partitions, or alcoves for drinking fountains and other elements that require knee clearance yet must also be within the 12 inch height for effective detection by cane sweep?

15.4 Handrails at Ramps and Stairs

This section addresses handrails on ramps and stairs on the accessible route serving children's areas covered by section 15. Unlike most of the provisions proposed in this rule, this section both modifies current ADAAG specifications and requires an additional accessible feature. Under section 15.4.1, ramps subject to ADAAG 4.8 (Ramps) and stairs subject to ADAAG 4.9 (Stairs) that serve elements and spaces constructed according to children's dimensions and anthropometrics are required to provide a second set of handrails at a lower height and with a smaller diameter for children. These handrails are to be provided in addition to the higher handrail required by current ADAAG. The lower handrails for children are subject to current specifications for ramp handrails (ADAAG 4.8.5) or stair handrails (ADAAG 4.9.4), including requirements for a continuous gripping surface, 12 inch extensions beyond the top and bottom of ramps or stairs, clear space between handrails and walls of 1½ inches, rounded or returned ends, and the level of structural strength specified in ADAAG 4.26.3.

The second set of handrails required by this section is subject to mounting height and diameter requirements that are different from those currently in ADAAG. Section 15.4.2 requires the gripping surface of this handrail to be mounted between 20 to 28 inches above the ramp surface or stair nosing. Under current ADAAG, a handrail mounted at 34 to 38 inches must also be provided. Section 15.4.3 specifies that the gripping surface of the lower handrail shall have a diameter of 1 to 1¼ inches or provide an equivalent gripping surface. Current ADAAG (4.26.2) requires a diameter of 1¼ to 1½ inches. The handrail requirements for section 15 are based on the CAH recommendations and are similar to requirements or recommendations in California, Illinois, Michigan, Texas, and Florida.

Consistent with ADAAG, the lower handrail is required to have a continuous gripping surface. Where

handrails at the adult height are mounted on top of vertical posts, lower handrails required for children may have to be mounted aside or off-set from such posts so that the gripping surface of the lower handrail is not interrupted. Handrails, including lower handrails off-set from vertical supports, may not reduce the minimum 36 inch clear width required for ramps.

Question 6: The clear space between the upper handrail required by current ADAAG and the lower handrail proposed in section 15.3 may range from 16¾ to 4½ inches. Does this range of vertical distance between handrails pose any hazard of entrapment? If so, what vertical distance is narrow enough or is wide enough to prevent entrapment?

Question 7: Is the clear space between the upper and lower handrails of 4½ inches sufficient for children to grasp the lower handrail? If not, what should be the minimum vertical distance between the upper and lower handrails when one is mounted directly above the other?

Question 8: Section 15.4.3 specifies a handrail diameter of 1 to 1¼ inches instead of the 1¼ to 1½ inches required by current ADAAG. Steel pipe is often used for handrails on ramps and stairs. In the building industry, pipe size typically refers to the inside diameter so that a 1½ inch pipe handrail may have an outside diameter close to 2 inches. Under this industry practice, certain handrails specified at 1¼ inches may have an outside diameters up to 1⅝ inches or greater depending on the specifications of the pipe provided. Is a handrail diameter greater than 1⅝ inches usable by children with disabilities? Should the guidelines specify a maximum outside diameter of handrails used by children?

15.5 Drinking Fountains and Water Coolers

This section modifies technical requirements for accessible drinking fountains and water coolers in ADAAG 4.15 (Drinking Fountains and Water Coolers). Section 15.5 does not increase the number of accessible drinking fountains or water coolers currently required by ADAAG. Section 15.5.1 requires that drinking fountains and water coolers comply with ADAAG 4.15 except for the requirements for spout height (4.15.2) and clearances (4.15.5), which are modified by this section.

Section 15.5.2 specifies a maximum spout height of 30 inches measured from the floor to the spout outlet instead of the 36 inch maximum specified by current ADAAG. Since children are smaller and wheelchairs manufactured

for children may have seat heights that are approximately 1 to 2 inches lower than seat heights on adult wheelchairs, spout heights must be lower than 36 inches above the floor. The 30 inch spout outlet height is based on the CAH recommendations.

Section 15.5.3 requires that clear knee space be at least 24 inches high measured from the floor to the underside of the drinking fountain and at least 8 inches deep measured from the leading edge of the drinking fountain. The 24 inch height is based in part on the lower height typical of children's wheelchairs and is consistent with the CAH recommendations. A toe clearance at least 12 inches high, measured from the floor, is also required. According to the CAH study, this higher toe clearance is necessary for children since their legs are shorter, resulting in wheelchair footrests that are typically mounted higher than on adult wheelchairs. The drinking fountain may overlap the clear floor space no more than 14 inches. This modifies ADAAG 4.15.5, which requires a 27 inch high minimum knee space, a 9 inch high minimum toe space, and permits the fountain to overlap the clear floor space 17 to 19 inches.

Question 9: Are drinking fountains currently available that meet the proposed requirements for a maximum 30 inch spout height, a minimum 24 inch knee clearance, and a minimum 12 inch toe space height when properly mounted? If not, what are the design or product specifications that conflict with these proposed requirements, and are there design solutions which would provide the necessary knee space and spout outlet height for children? What are the costs of such recommended solutions?

15.6* Water Closets, Toilet Seats, Grab Bars, and Toilet Paper Dispensers

This section proposes technical specifications for water closets for children. It does not increase the number of water closets required to be accessible within toilet rooms and does not modify the requirement in ADAAG 4.22.4 that accessible toilet rooms have at least one accessible water closet. This section provides technical requirements based on children's dimensions to be used instead of the current provisions in ADAAG 4.16 (Water Closets), which are based on adult dimensions. Under section 15.1, toilet rooms required to be accessible by current ADAAG 4.1.3, which are constructed according to children's dimensions and anthropometrics, would be required to have at least one water closet complying

with ADAAG 4.16 as modified by this section.

The specifications proposed in section 15.6 modify ADAAG 4.16 provisions covering water closet centerline (4.16.2), toilet seat height (4.16.3), grab bars (4.16.4), toilet paper dispensers (4.16.6), and flush controls (4.16.5). The CAH recommendations, upon which these proposed specifications are based, note that the requirements appropriate for water closets vary according to grade or age. Section 15.6 includes a table that lists three options, A, B, and C, which provide specifications for mounting locations of water closets, toilet seats, grab bars, and toilet paper dispensers. A, B, and C correspond to three age groups of children: 2 through 4, 5 through 8, and 9 through 12, respectively. Section 15.6.2 requires the application of either A, B, or C. Further, this section states that selection of A, B, or C should correspond to the age range of the primary user group served by the toilet room. The term "should" is used in this section to permit discretion where toilet rooms may serve more than one age group of children, or where the age range of children does not correspond to the specific age groups listed in the table. ADAAG 3.4 (General Terminology) states that the term "shall" denotes a mandatory specification or requirement. The term "should" denotes an advisory specification or recommendation. The application of A, B, or C is further discussed in an appendix note.

Some of the technical specifications in A, B, and C of the table overlap. Thus, the application of specifications similar to both A and B, or B and C, may facilitate access for more than one age group. For example, a water closet with a centerline at 12 inches, a toilet seat at 12 inches, grab bars at 20 inches, and a toilet paper dispenser at 14 inches above the finish floor may be appropriate for A (ages 2 through 4) and B (ages 5 through 8). Similarly, a water closet with a centerline at 15 inches, a toilet seat at 15 inches, grab bars at 25 inches, and a toilet paper dispenser at 17 inches above the finish floor may be appropriate for B (ages 5 through 8) and C (ages 9 through 12). This section does not require the provision of multiple accessible fixtures in toilet rooms serving more than one age group. An appendix note to this section illustrates these examples.

Question 10: Some of the specifications in the table in 15.6.2 allow for overlap in two of the age groups, but do not provide measurements that would meet the needs of all three age groups. Are there

alternative specifications available which would provide measurements that would be appropriate for all three age groups? Where possible, comments should provide a rationale with supporting data.

The table in section 15.6.2 specifies the centerline of water closets from one side wall or stall partition according to the age group the water closet is intended to serve: 12 inches for ages 2 through 4, 12 to 15 inches for ages 5 through 8, and 15 to 18 inches for ages 9 through 12. The proximity of water closets to grab bars mounted on walls or partitions is critical for safe transfer to and from mobility aids. These specifications are generally consistent with the CAH recommendations and recognize that children's reach ranges are generally shorter than those of adults. Section 15.6.2 modifies ADAAG 4.16.2, which specifies a centerline measurement of 18 inches absolute.

Section 15.6.2 also notes that the centerline requirements in this section do not apply to water closets in the 36 inch wide alternate stall permitted in alterations by ADAAG 4.1.6(3)(e)(ii). The 48 inch wide alternate stall is subject to the centerline locations in 15.6.2 because such stalls do permit side transfer. The use of alternate stalls is permitted in alterations only where it is technically infeasible to provide a standard stall or where codes prohibit the reduction of the number of water closets.

The table in section 15.6.2 provides toilet seat heights according to the age group the water closet is intended to serve: 11 to 12 inches for ages 2 through 4, 12 to 15 inches for ages 5 through 8, and 15 to 17 inches for ages 9 through 12. According to the CAH study, toilet seats should be lower for younger children, including those with disabilities, so that their feet reach the floor in order to provide stability and greater usability. The CAH study further indicates that young children with mobility impairments are typically assisted in toileting. Therefore, for young children, maintaining a toilet seat height that is closer to the seat height of mobility aids is less critical. For older age groups the toilet seat height is increased to be in closer proximity to the seat height of wheelchairs and other mobility aids in order to facilitate independent transfers. The specifications for toilet seat height in section 15.6.2 are to be used instead of the 17 to 19 inches required by ADAAG 4.16.3.

Section 15.6.2 requires grab bars serving water closets to be mounted accordingly for the following age groups: 18 to 20 inches for ages 2

through 4, 20 to 25 inches for ages 5 through 8, and 25 to 27 inches for ages 9 through 12. These grab bar heights are based on the CAH recommendations and are to be applied instead of the 33 to 36 inch height required by ADAAG 4.16.4 and Fig. 29.

Rear grab bars mounted 18 to 27 inches above the floor cannot be provided where tank-type water closets are used because the top of the tank is usually above the grab bar mounting location. This is generally not a problem in adult facilities where grab bars are mounted above conventional tanks.

Question 11: Are tank-type water closets commonly provided in children's facilities? If so, what is the difference in cost between water closets with tanks and those without tanks? Where possible, responses should include per unit cost and installation costs of the two types of water closets.

Question 12: Do the grab bar heights specified in the table in section 15.6.2 conflict with building or plumbing code requirements for flush control location, size, and height? If so, what accessible design alternatives could avoid such conflicts and what are the costs associated with such alternatives?

Section 15.6.3 specifies that the grab bar gripping surface have a diameter of 1 to 1¼ inches or provide an equivalent gripping surface, consistent with the CAH recommendations. Current ADAAG requires a diameter of 1¼ to 1½ inches. Grab bars covered by this section, which are also subject to requirements of ADAAG 4.16, must meet the requirements of ADAAG 4.26 (Handrails, Grab Bars, and Tub and Shower Seats), including requirements for spacing from the wall of 1½ inches (4.26.2), structural strength (4.26.3), and surface (4.26.4). ADAAG 4.26.4 requires grab bars to be free of any sharp or abrasive surfaces. Some building codes require grab bars to have textured surfaces (knurled, peened or anti-slip) to prevent hands from slipping during use.

Question 13: Should a requirement be included for textured grab bars serving children? What types of texturing are most effective in preventing slippage and improving grip that are not sharp or abrasive? The Access Board may consider including such a requirement in the final rule.

The table in section 15.6.2 provides mounting heights for toilet paper dispensers according to the following age groups: 14 inches for ages 2 through 4, 14 to 17 inches for ages 5 through 8, and 17 to 19 inches for ages 9 through 12. This modifies ADAAG 4.16.6 and Fig. 29(b), which specifies a height of 19 inches.

Section 15.6.4 requires that flush controls be mounted within the reach ranges for children specified in section 15.2 (20 to 36 inches for ages 2 through 4, 18 to 40 inches for ages 5 through 8, and 16 to 44 inches for ages 9 through 12) instead of at 44 inches or below as required by ADAAG 4.16.5.

Question 14: Do the proposed heights for flush controls conflict with any plumbing codes, industry practices, or design practices? If so, responses should identify and describe the specific code or practice conflict.

15.7 Toilet Stalls

This section contains specifications for toilet stalls provided in toilet rooms constructed according to children's dimensions and anthropometrics. This section does not increase the minimum number of accessible toilet stalls required by ADAAG 4.22.4. Section 15.7 modifies requirements in ADAAG 4.17 (Toilet Stalls) for water closets (4.17.2), stall size (4.17.3), toe clearance (4.17.4), and grab bars (4.17.6). Under section 15.7.1, toilet stalls required to be accessible by ADAAG 4.22.4 shall comply with ADAAG 4.17, except as modified by section 15.7.

Section 15.7.2 requires water closets in accessible stalls to comply with section 15.6. The water closet centerline specifications in section 15.6.2 are appropriate only for stalls wide enough to allow side transfers. See section 15.6.2.

Section 15.7.3 requires standard stalls to have a minimum stall depth of 59 inches where toilets are wall- or floor-mounted. This modifies ADAAG 4.17.3 (Fig. 30(a)), which also requires a minimum depth of 59 inches for stalls with floor-mounted water closets but specifies a minimum depth of 56 inches for stalls with wall-mounted water closets. Section 15.7.3 increases the minimum depth because wall-mounted water closets serving children may not provide adequate toe clearance. Wall-mounted water closets with adult seat heights of 17 to 19 inches typically provide toe clearance beneath the water closet for adults. As water closets designed to serve young children are lower than adult water closets and as children's footrests are generally higher than adults, toe clearance is not available beneath wall-mounted water closets serving children.

Similarly, in the case of standard stalls located at the end of the row, section 15.7.3 specifies a depth of 59 inches in addition to the minimum 36 inches required for the stall door and for the 90 degree turn. This modifies ADAAG 4.17.3 (Fig. 30(a-1)), which requires the same minimum depth for

stalls with floor-mounted water closets but specifies a minimum depth of 56 inches for stalls with wall-mounted water closets.

Section 15.7.3 also specifies that when alterations are made, alternate stalls with wall- or floor-mounted water closets have a minimum depth of 69 inches. This modifies ADAAG 4.17.3 (Fig. 30(b)), which requires the same depth for stalls with floor-mounted water closets but specifies a minimum depth of 66 inches for alternate stalls with wall-mounted water closets. ADAAG 4.17.3 includes an exception permitting use of alternate stalls in lieu of the standard 60 inch wide stall in alterations where it is technically infeasible to provide a standard stall.

Question 15: What is the cost impact of requiring stalls with wall-mounted water closets to be at least 59 inches deep?

Section 15.7.4 specifies that the front partition and one side partition of standard stalls of minimum dimension provide a toe clearance of 12 inches minimum. This modifies ADAAG 4.17.4, which requires a toe clearance of 9 inches minimum. According to the CAH study, this higher toe clearance is necessary for children since their legs are shorter, resulting in footrests that are typically mounted higher than on adult wheelchairs.

Question 16: Section 15.7.4, consistent with current ADAAG, requires toe clearance beneath partitions only where the stall depth is 60 inches or less. The CAH study did not consider whether toe clearance is necessary in stalls more than 60 inches deep, including end- of-row standard stalls and alternate stalls. Is a 12 inch toe clearance beneath partitions needed for children's maneuvering in stalls more than 60 inches deep? The Access Board may include such a requirement in the final rule.

Question 17: While the CAH study recommended that toe clearance beneath partitions be at least 12 inches high, it also recommended, as proposed in section 15.6.2, that toilets serving young children (i.e., ages 2 through 4) have a seat height of 11 to 12 inches. The CAH recommendations do not address privacy considerations concerning clearances beneath partitions that are as high or higher than the toilet seat height. Does this toe clearance requirement and toilet seat height compromise privacy? What design solutions are available that provide the 12 inch toe clearance while maintaining the privacy of stall users? Should a wider width of stalls be specified in the final rule as an alternative to the provision of toe

clearance beneath partitions? If so, what should this wider stall width be? Where possible, commenters should include any information on the cost impact of their recommendation.

Section 15.7.5 requires that grab bars be mounted as specified in section 15.6.2. This modifies the height requirements in ADAAG 4.17.6, but does not change the length and configuration requirements shown in Fig. 30. Section 15.7.5 also specifies that the gripping surface have a diameter of 1 to 1¼ inches or provide an equivalent gripping surface, consistent with CAH recommendations. Current ADAAG (4.26.2) requires grab bars to have a diameter of 1¼ to 1½ inches. Grab bars subject to ADAAG 4.17 must meet ADAAG 4.26 (Handrails, Grab Bars, and Tub and Shower Seats), including requirements for spacing from the wall of 1½ inches (4.26.2), structural strength (4.26.3), and surface (4.26.4). See section 15.6.2 for discussion and questions on grab bars at water closets.

15.8 Lavatories and Mirrors

This section provides specifications for accessible lavatories and mirrors and modifies requirements in ADAAG 4.19 (Lavatories and Mirrors) for lavatory height and clearances (4.19.2), clear floor space (4.19.3), and mirror height (4.19.6). In toilet rooms, bathrooms, bathing facilities, and shower rooms constructed according to children's dimensions and anthropometrics, section 15.8.1 provides that at least one lavatory and mirror be accessible to children with disabilities. This does not increase the number of lavatories or mirrors required to be accessible by current ADAAG 4.22 (Toilet Rooms) or ADAAG 4.23 (Bathrooms, Bathing Facilities, and Shower Rooms).

Section 15.8.2 specifies a lavatory rim no higher than 30 inches above the floor and a minimum clearance 27 inches high from the floor to the underside of the apron. These specifications, like those for drinking fountains, are based on children's dimensions and CAH recommendations. This section modifies ADAAG 4.19.2, which requires a maximum rim height of 34 inches and a minimum clearance of 29 inches. One comment to the ANPRM from a local school system stated that lavatories for children without disabilities ages 2 through 5 are mounted no higher than 24 inches. Some state requirements for educational or child care facilities specify standard mounting heights of 24 to 26 inches for lavatories serving young children. Thus, a 30 inch maximum height may conflict with such requirements and may be too high to be usable by children using crutches and

by children without disabilities. In contrast, an accessible lavatory mounted at adult height (e.g., 34 inches maximum) is generally usable by all adults, including those with disabilities. Where a children's toilet room has only one lavatory constructed according to children's dimensions and anthropometrics, this rule specifies the lavatory to be accessible to children with disabilities.

Section 15.8.2 also requires that the clear knee space beyond the leading edge of the apron be at least 24 inches high measured from the floor and at least 8 inches deep measured from the leading edge. Toe clearance at least 12 inches high measured from the floor is also required. According to the CAH study, this higher toe clearance is necessary for children since their legs are shorter, resulting in wheelchair footrests that are typically mounted higher than on adult wheelchairs. The CAH study recommended these clearances to enable children using wheelchairs to approach lavatories and reach the bowl and faucets. This section modifies ADAAG 4.19.2 and Fig. 31, which specify knee clearance at least 27 inches high and toe clearance at least 9 inches high.

Question 18: Are lavatories currently available that meet the proposed requirements for rim height and knee and toe clearances when properly mounted? If not, what are the design or product specifications that conflict with these proposed requirements? What products or design solutions are available for providing lavatories with 24 inch knee clearance and a 30 inch rim height that are also usable by all children, including those with disabilities? Where possible, responses should include cost estimates for these products or design solutions.

Section 15.8.3 specifies that the required clear floor space may extend no more than 14 inches beneath the lavatory. The CAH recommendations, consistent with Florida's recommended "Building Standards for Educational Facilities for Handicapped Children" (Florida Department of Education, 1988) (the "Florida recommended standards"), (section 8.5.2.3 (Fig. 8.9)), specify a maximum overlap of 12 inches. The 14 inch maximum proposed in this provision, however, is consistent with current ADAAG requirements for knee clearance at least 8 inches deep and toe clearance no more than 6 inches deep. This modifies ADAAG 4.19.3, which allows a maximum overlap of 19 inches.

In its evaluation of children's facilities, CAH observed that many children using wheelchairs positioned themselves aside, and sometimes

between, lavatories in order to reach faucet controls. This was observed at lavatories of various heights where controls were mounted at the back of the bowl. The CAH study recommended that faucets be located within 14 inches of the front edge of the lavatory. The Florida recommended standards (section 8.5.4 (Fig. 8.10)) permit location of controls at the front of the lavatory or aside the bowl. The Texas State Building Code (section 2.1.1, Texas Accessibility Standards, April 1, 1994) requires that faucets be located no more than 18 inches from the front edge of lavatories serving children ages 4 through 10 or 11.

Question 19: The final rule may specify that faucets be located no more than 14 inches from the front edge of lavatories. Is this distance appropriate or should an alternative distance or location (i.e., aside or in front of bowls) be specified? Where possible, recommendations for alternative distances or locations should include rationale and other supporting data, as well as identification of any potential conflicts with plumbing codes. Commenters should consider Question 4 (reach over obstruction) when responding. Information is sought on design alternatives and new technologies, such as automatic sensors, that facilitate use of faucets by children.

Section 15.8.4 provides that the bottom edge of mirrors at accessible lavatories be mounted no higher than 34 inches above the floor. ADAAG 4.19.6 currently provides that mirrors at lavatories accessible to adults have their bottom edge no higher than 40 inches. The CAH study noted that mirrors mounted above lavatories are too high for many children to use and recommended providing a full-length mirror in children's toilet rooms, which are commonly provided in elementary school toilet rooms. The current appendix to ADAAG 4.19.6 notes that full-length mirrors provide more convenient access than mirrors mounted above lavatories. A 30 by 48 inch clear floor space should be provided in front of these mirrors outside the door swing.

Question 20: Should full-length mirrors and clear floor space be required in children's toilet rooms? Where possible, responses should include information on the cost and space impact. The final rule may include such a requirement.

15.9 Storage

This section covers fixed and built-in storage facilities constructed according to children's dimensions and anthropometrics. ADAAG 4.1.3(12) requires at least one of each type of

storage space or element to be accessible. Section 15.9.1 requires that these spaces and elements comply with ADAAG 4.25 (Storage), as modified by section 15.9.2.

Section 15.9.2 requires that storage facilities be within the reach range specified in section 15.2 for front or side reaches. This applies to such storage spaces as lockers, cabinets, shelves, closets, and drawers, and to such storage elements, as clothes rods, shelving, and hooks. This modifies ADAAG 4.25.3, which specifies a range of 15 to 48 inches for front reach and 9 to 54 inches for side reach.

15.10 Fixed or Built-in Seating and Tables

This section addresses fixed and built-in seating and tables constructed according to children's dimensions and anthropometrics. ADAAG 4.1.3(18) requires five percent of built-in seating or tables to be accessible. Section 15.10.1 requires compliance with ADAAG 4.32 (Fixed and Built-in Seating and Tables), as modified by this section.

Section 15.10.2 specifies that fixed tables shall not overlap the required 30 by 48 inch clear floor space by more than 14 inches. This is consistent with requirements for clear floor space at lavatories in section 15.8. ADAAG 4.32.2 currently allows an overlap of 19 inches.

Section 15.10.3 requires knee clearance at least 24 inches high, 30 inches wide, and 14 inches deep. This modifies ADAAG 4.32.3, which requires knee clearance at least 27 inches high, 30 inches wide, and 19 inches deep. Section 15.10.4 requires the tops of accessible tables and counters to be 26 to 30 inches high, measured from the floor. This differs from ADAAG 4.32.4, which specifies a range of 28 to 34 inches for this height. The specifications proposed in section 15.10 are based on the CAH recommendations.

Other Issues

In the course of the development of this proposed rule, questions have been raised about the effect of other current ADAAG requirements on accessibility for children with disabilities. These issues are discussed below.

There is no known data available to enable the Access Board and the Department of Justice to determine whether additional regulations in this area are necessary or appropriate. Therefore, the agencies have not included specific regulatory requirements on these issues in this proposed rule. The Access Board and the Department of Justice raise these

questions now in an effort to determine if there is sufficient data available to support future regulatory requirements.

Clear Floor and Knee Clearance: Width

ADAAG 4.2 (Space Allowance and Reach Ranges) specifies that clear floor or ground space 30 inches wide and 48 inches long is the minimum necessary to accommodate a single, stationary wheelchair occupied by an adult. This clear floor space is required at drinking fountains, lavatories, sinks, built-in tables, and telephones. Consistent with this requirement, ADAAG also requires knee space at least 30 inches wide beneath such elements. The CAH recommendations, as well as the Florida recommended standards (section 9.2.2 (Fig. 9.5)), specify that the clear floor space and knee clearance be at least 36 inches wide in children's facilities. According to the CAH recommendations, the upper body strength and maneuvering skills of children are not as developed as those of adults, therefore children require more space to approach and position themselves at elements. Increasing the width of the clear floor space may require additional space between adjacent elements such as drinking fountains, telephones, and lavatories, or wider alcoves in which such elements are mounted.

Question 21: Should the minimum width of clear floor space and knee clearance be increased to 36 inches, or some other recommended alternative, in facilities constructed according to children's dimensions and anthropometrics? Where possible, responses should include information on the cost impact in new construction of increasing this width to 36 inches or recommended alternatives.

Accessible Route: Minimum Width

ADAAG 4.3 (Accessible Route) requires that the width of accessible routes shall be 36 inches minimum. The CAH study recommended that accessible routes in children's facilities be at least 44 inches wide. In its evaluation of children's facilities, CAH observed children straying or diverging from a direct line of travel in traversing halls and corridors and approaching elements and fixtures. The CAH study attributed this to children's level of strength, stamina, and dexterity in the use of mobility aids. Most state building codes do not contain requirements that specifically address accessible routes for children. However, the Florida recommended standards (section 3.3.3) specify a minimum width of 44 inches for interior accessible routes. The Access Board is considering a similar

requirement. State building and life safety codes typically require hallways or corridors to be wider than 44 inches for purposes of egress. Therefore, a requirement for a 44 inch wide route may have little cost and space impact in hallways or corridors. Routes off hallways or corridors in classrooms, libraries, toilet rooms, and other spaces would be affected by such a requirement. This includes routes to accessible study carrels and between library stacks. Increasing the minimum accessible route width would impact current ADAAG requirements for widths at turns around obstructions (4.3.3, Fig. 7(a)), passing space (4.3.4), curb ramps (4.7.3), and ramps (4.8.3).

Question 22: Should the minimum width of an accessible route be increased from 36 inches to 44 inches? Where possible, responses should provide a rationale with any supporting data, and information on the cost impact of an accessible route wider than 36 inches in new construction. See Question 2 (accessible route).

Ramps: Slope and Rise

ADAAG 4.8 (Ramps) requires that the least possible slope be used on any ramp, and that the maximum slope not exceed 1:12 in new construction. The CAH recommendations and commenters to the ANPRM considered the 1:12 slope too steep for children and recommended maximum slopes of 1:16 or 1:20 to take into account the differences in strength and stamina between children and adults. The Access Board is currently conducting a research project on ramp slope. Children will be included in the test sample. The Access Board anticipates that this research will be completed prior to the issuance of a final rule on children's facilities and that the results may be incorporated in this section.

Question 23: What should the maximum slope be for ramps used by children? Where possible, commenters should provide data to support their recommendations and information on the cost impact of their recommendations in new construction. See Question 2 (accessible route).

The usability of a ramp generally depends both on its slope and length of run. ADAAG 4.8.2 specifies a maximum length of run of 30 feet for ramps steeper than 1:16 and a maximum length of run of 40 feet for ramps with slopes 1:16 to 1:20. The CAH study recommended a maximum length of run of 20 feet for ramps in children's facilities since children generally do not have the strength to negotiate longer ramps. A 20 foot maximum length of run for ramps with slopes of either 1:16 or 1:20, as

recommended by the CAH study, will limit the rise to approximately 9 $\frac{3}{4}$ and 12 inches, respectively. The ramp research which the Access Board is conducting will study and make recommendations on ramp length.

Question 24: Should the maximum length of run for ramps in facilities constructed according to children's dimensions and anthropometrics be reduced to 20 feet? Where possible, responses should include rationale with supporting data and information on the cost impact in new construction. See Question 2 (accessible route).

Door Hardware

The CAH study recommended that door hardware be mounted 30 to 34 inches from the floor. ADAAG 4.13 (Doors) specifies that door hardware be mounted no higher than 48 inches, which is generally consistent with most building codes. According to conventional design practice, door hardware is typically mounted at 36 inches above the floor.

Question 25: Doors in facilities constructed according to children's dimensions and anthropometrics are also used by adults. Is door hardware mounted between 30 to 34 inches above the floor usable by adults?

Urinals

The CAH study recommended that urinal rims be 14 inches high maximum and that flush controls be 30 inches high maximum above the floor, instead of the 17 inch rim height and the 44 inch flush control height required by ADAAG 4.18 (Urinals). In response to the ANPRM, a national manufacturer of plumbing fixtures commented that the 30 inch height for flush controls is not feasible since the average urinal is 27 inches high, and further commented that national plumbing codes require the flush valve handle to be at least 8 $\frac{1}{2}$ inches above the urinal, resulting in a flush control height of at least 38 to 40 inches.

Question 26: Are there products or design solutions currently available that meet both applicable codes and the CAH recommended specifications, including the 30 inch maximum height for flush controls? Where possible, responses should identify any cost increases associated with designing or installing urinals to meet the CAH recommendations and applicable plumbing codes.

Sinks

Sinks provided in spaces for children may serve different purposes and users. In schools for example, some sinks may serve as a wash station for children,

while others may serve as part of a work station for instructors. Often, one sink is provided for both purposes. The CAH recommendations included requirements for sinks accessible to children. Similar to the provisions for lavatories, the CAH study recommended that sinks have a rim no higher than 30 inches above the floor, knee clearance at least 24 inches high, and that the faucet and faucet controls be located within 14 inches of the front edge of the sink. Under these recommendations, sink bowls could be no more than 5½ inches deep. These recommendations modify ADAAG 4.24 (Sinks), which specifies a 34 inch maximum sink height and 27 inch minimum knee clearance. Standard mounting heights for sinks serving young children may be 24 to 26 inches, according to some state requirements for educational facilities. Thus, a 30 inch maximum height may conflict with such requirements and be too high for young children.

Question 27: What product or design solutions are available for providing sinks with 24 inch knee clearance and a 30 inch rim height that are also usable by young children who are ambulatory? Where possible, responses should include cost estimates for these products or design solutions.

Signage

The CAH study recommended that tactile signage be mounted at a height of 48 inches, while the Florida recommended standards (section 3.20.5 (Fig. 3.31)) specify a maximum height of 42 inches. ADAAG 4.30 (Signage) requires raised and Brailled signage to be mounted 60 inches above the finish floor.

Question 28: Are signs primarily used by children in children's facilities? If so, how should the guidelines accommodate adults? Is a specific height of either 48 inches or 42 inches appropriate for signage provided for children? Are there other heights which would be more appropriate?

Wheelchair Seat Heights

The type, size, and specifications of wheelchairs vary widely and, as with any consumer product, individuals may have a number of reasons for using one type or model rather than another. The CAH recommendations, as well as available product information on wheelchairs, suggest that the average seat height on child-sized wheelchairs may range from 1 to 2 inches lower than the average seat height on adult-sized wheelchairs. The proposed requirements in this rule for the minimum knee clearance height and maximum height of such accessible

elements as drinking fountain spout outlets, fixed tables, and lavatories are based on the size and stature of children, as well as the average seat height of child-sized wheelchairs.

Question 29: What is the average age where children begin to use adult-sized wheelchairs?

Regulatory Process Matters

Executive Order 12866

The Office of Management and Budget has reviewed this proposed rule as a "significant regulatory action" under Executive Order 12866, section 3(f)(4). Facilities covered by this rule are already subject to the scoping and technical provisions in current ADAAG. Therefore, with the exception of additional handrails required on covered ramps or stairs, this rule does not add new requirements. Rather, it generally proposes to modify, or questions whether to modify, current ADAAG provisions when constructing facilities according to children's dimensions and anthropometrics. The Access Board and the Department of Justice have determined that the costs associated with the application of the proposed requirements will have a minimal cost impact on new or altered facilities constructed according to children's dimensions and anthropometrics; and therefore a cost-benefit analysis is not required under Executive Order 12866, section 6(a)(3)(C). However, the agencies have requested additional cost information in this proposed rule and, upon receipt of that information, will reevaluate whether a cost-benefit analysis is required for the final rule.

Regulatory Flexibility Act Analysis

Under the Regulatory Flexibility Act, the publication of a rule requires the preparation of a regulatory flexibility analysis if such rule could have a significant economic impact on a substantial number of small entities. For the reasons discussed above, the Access Board and the Department of Justice have determined independently that this proposed rule is not expected to have a significant economic impact on a substantial number of small entities. Accordingly, a regulatory flexibility analysis is not required.

Federalism Assessment

The Access Board and the Department of Justice also have determined independently that this rule will not have sufficient federalism implications to require a federalism assessment under Executive Order 12612.

Enhancing the Intergovernmental Partnership

Executive Order 12875, Enhancing the Intergovernmental Partnership, encourages Federal agencies to consult with state and local governments affected by the implementation of legislation. Prior to the issuance of this NPRM, the Access Board issued an ANPRM on February 3, 1993. (See 58 FR 6924.) The ANPRM sought comment on general issues and also requested information on standards and guidelines for children's environments currently in use, building products and technologies currently available that specifically serve children, and elements and features unique to children's environments that may merit specific attention. The Access Board received a number of comments from various state and local governments. Those comments are discussed in the section-by-section analysis above. In addition, the Access Board specifically contacted the departments of education in a number of states regarding this rulemaking. Furthermore, the Access Board and the Department of Justice are forwarding a copy of this NPRM to the departments of education, state education associations, the state building code authorities, and other various responsible agencies in each of the 50 states seeking their input and comment on the proposed rule. Interested state and local government agencies, as well as the general public, may obtain technical assistance regarding this NPRM by contacting the Access Board at (202) 272-5434 or (800) 872-2253 (voice) and pressing 2 on the telephone keypad or (202) 272-5449 or (800) 993-2822 (TTY).

Text of Proposed Common Rule

Appendix A to part is proposed to be amended by adding a new section 15 and by adding A15.1 and A15.6.2 in the appendix to appendix A to read as follows:

* * * * *

15. CHILDREN'S FACILITIES.

15.1* Application.

This section applies to facilities, or portions of facilities, constructed according to children's dimensions and anthropometrics for ages 2 through 12. Facilities covered by this section shall comply with the applicable requirements of 4.1 through 4.35 and the special application sections, except as modified or otherwise provided in this section. All public and common use areas covered by this section are required to be designed and constructed to comply with 4.1 through 4.35, except

as modified or otherwise provided in this section. Accessible elements and spaces covered by this section shall be on an accessible route complying with 4.3, 15.3, and 15.4. The specifications in this section are based on children's dimensions and anthropometrics.

The phrase "constructed according to children's dimensions and anthropometrics" means where the construction of a facility reflects the size and dimensions, reach ranges, level of strength and stamina, or other characteristics of children. Facilities constructed that do not reflect children's characteristics are not covered by this section.

15.2 Reach Ranges.

15.2.1 General. The requirements in 4.2.5 and 4.2.6 are modified by the following provisions.

15.2.2 Forward and Side Reach. The high forward or high side reach, and the low forward or low side reach shall comply with A, B, or C in the table below. Selection of A, B, or C should correspond to the age range of the primary user group.

FORWARD AND SIDE REACH

	High reach (not more than)	Low reach (not less than)
A— Ages 2 through 4.	36 in (915 mm)	20 in (510 mm).
B— Ages 5 through 8.	40 in (1015 mm)	18 in (455 mm).
C— Ages 9 through 12.	44 in (1120 mm)	16 in (405 mm).

15.3 Protruding Objects.

The requirements in 4.4.1 are modified by 15.3. Objects projecting from walls with their leading edges between 12 in and 80 in (305 mm and 2030 mm) above the finish floor shall protrude no more than 4 in (100 mm) into walks, halls, corridors, passageways, or aisles. Objects mounted with their leading edges at or below 12 in (305 mm) above the finish floor may protrude any amount. Free-standing objects mounted on posts or pylons may overhang 12 in (305 mm) maximum from 12 in to 80 in (305 mm to 2030 mm) above the ground or finish floor. Protruding objects shall not reduce the clear width of an accessible route or maneuvering space.

15.4 Handrails at Ramps and Stairs.

15.4.1 General. In addition to the handrails required by 4.8 and 4.9, a second set of handrails shall be provided complying with 4.8.5 or 4.9.4 and 4.26.2, except as modified by the following provisions.

15.4.2 Height. The top of handrail gripping surfaces shall be mounted between 20 in and 28 in (510 mm and 710 mm) above ramp surfaces or stair nosings.

15.4.3 Size. The gripping surfaces of handrails shall have a diameter or width of 1 in to 1¼ in (25 mm to 30 mm), or the shape shall provide an equivalent gripping surface.

15.5 Drinking Fountains and Water Coolers.

15.5.1 General. Drinking fountains or water coolers required to be wheelchair accessible by 4.1 shall comply with 4.15, except as modified by 15.5. The requirements in 4.15.2 and 4.15.5 are modified by the following provisions.

15.5.2 Spout Height. Spouts shall be no higher than 30 in (760 mm),

measured from the floor or ground surface to the spout outlet.

15.5.3 Clearances. Wall-mounted and post-mounted cantilevered units shall have a clear knee space between the bottom of the apron and the floor or ground at least 24 in (610 mm) high and 8 in (205 mm) deep, measured from the leading edge of the fountain. Clear toe space shall be 12 in (305 mm) high minimum, measured from the finish floor. Such units shall also have a minimum clear floor space 30 in by 48 in (760 mm by 1220 mm) to allow a forward approach to the unit. The clear floor space may extend a maximum of 14 in (305 mm) underneath the fountain.

15.6 Water Closets, Toilet Seats, Grab Bars, and Toilet Paper Dispensers.

15.6.1 General. Water closets required to be accessible by 4.22.4 shall comply with 4.16, except as modified by 15.6. The requirements in 4.16 and 4.26.2 are modified by the following provisions.

15.6.2* Placement. The centerline and seat height of the water closet and the centerline height of the grab bars and toilet paper dispenser shall comply with A, B, or C in the table below. Selection of A, B, or C should correspond to the age range of the primary user group. The centerline requirements in the table do not apply to the 36 in (915 mm) wide alternate stall permitted in alterations by 4.1.6(3)(e)(ii). The centerline of water closets shall be measured from one side wall or stall partition.

SPECIFICATIONS FOR WATER CLOSETS, TOILET SEATS, GRAB BARS, AND TOILET PAPER DISPENSERS

	Water closet centerline	Toilet seat height	Grab bar height	Dispenser height
A (Ages 2 through 4)	12 in (305 mm)	11 in to 12 in (280 mm to 305 mm).	18 in to 20 in (455 mm to 510 mm).	14 in (355 mm).
B (Ages 5 through 8)	12 in to 15 in (305 mm to 380 mm).	12 in to 15 in (305 mm to 380 mm).	20 in to 25 in (510 mm to 635 mm).	14 in to 17 in (355 mm to 430 mm).
C (Ages 9 through 12)	15 in to 18 in (380 mm to 455 mm).	15 in to 17 in (380 mm to 430 mm).	25 in to 27 in (635 mm to 685 mm).	17 in to 19 in (430 mm to 485 mm).

15.6.3 Grab Bar Size. The diameter or width of the gripping surface of a grab bar shall be 1 in to 1¼ in (25 mm to 30 mm), or the shape shall have an equivalent gripping surface.

15.6.4 Flush Controls. Flush controls shall be located within the reach ranges specified by 15.2.

15.7 Toilet Stalls.

15.7.1 General. Toilet stalls required to be accessible by 4.22.4 shall comply with 4.17, except as modified by 15.7. The requirements in 4.17.2, 4.17.3,

4.17.4, 4.17.6, and 4.26.2 are modified by the following provisions.

15.7.2 Water Closets. Water closets in accessible stalls shall comply with 15.6.

15.7.3 Depth. Standard stalls with floor- or wall-mounted water closets shall have a depth of 59 in (1500 mm) minimum. Standard stalls at the end of a row with floor- or wall-mounted water closets shall have a depth of 59 in (1500 mm) in addition to the minimum 36 in (915 mm) required for the stall door. Where provided in alterations, alternate stalls with floor- or wall-mounted water closets shall have a depth of 69 in (1745 mm) minimum.

15.7.4 Toe Clearance. In standard stalls of minimum dimension, the front partition and at least one side partition shall provide a toe clearance of 12 in (305 mm) minimum above the finish floor. If the depth of the stall is greater than 60 in (1525 mm), then the toe space is not required.

15.7.5 Grab Bars. Grab bar mounting heights shall comply with the heights specified in 15.6. The diameter or width of the gripping surfaces of a grab bar shall be 1 in to 1 1/4 in (25 mm to 30 mm), or the shape shall provide an equivalent gripping surface.

15.8 Lavatories and Mirrors.

15.8.1 General. Lavatories and mirrors required to be accessible by 4.22.6 and 4.23.6 shall comply with 4.19, except as modified by 15.8. The requirements in 4.19.2, 4.19.3, and 4.19.6 are modified by the following provisions.

15.8.2 Height and Clearances. Lavatories shall be mounted with the rim or counter surface no higher than 30 in (760 mm) above the finish floor. A clearance of 27 in (685 mm) minimum measured from the finish floor to the bottom of the apron shall be provided. Minimum clear knee space 24 in (610 mm) high, measured from the finish floor, and 8 in (205 mm) deep, measured from the leading edge of the lavatory, shall be provided. Clear toe space shall be 12 in (305 mm) high minimum, measured from the finish floor.

15.8.3 Clear Floor Space. Clear floor space shall extend a maximum of 14 in (355 mm) underneath the lavatory.

15.8.4 Mirrors. Mirrors shall be mounted with the bottom edge of the reflecting surface no higher than 34 in (865 mm) above the finish floor.

15.9 Storage.

15.9.1 General. Fixed storage facilities such as lockers, cabinets, shelves, closets, and drawers required to be accessible by 4.1 shall comply with 4.25, except as modified by 15.9. The

requirements in 4.25.3 are modified by the following provision.

15.9.2 Height. Accessible storage spaces shall be within at least one of the reach ranges specified in 15.2. Clothes rods, hooks, or shelves shall be a maximum of 36 in (915 mm) above the finish floor for a side approach.

15.10 Fixed or Built-in Seating and Tables.

15.10.1 General. Fixed or built-in seating or tables required to be accessible by 4.1 shall comply with 4.32, except as modified by 15.10. The requirements in 4.32.2, 4.32.3, and 4.32.4 are modified by the following provisions.

15.10.2 Seating. Clear floor space shall not overlap knee space by more than 14 in (355 mm).

15.10.3 Knee Clearances. Knee clearance at least 24 in (610 mm) high, 30 in (760 mm) wide, and 14 in (355 mm) deep shall be provided.

15.10.4 Height of Tables or Counters. The tops of accessible tables and counters shall be from 26 in to 30 in (660 mm to 760 mm) above the finish floor or ground.

Appendix

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A15.1 Application.

Section 15 modifies the technical requirements in section 4. This section applies to facilities, or portions thereof, constructed according to children's dimensions and anthropometrics for ages 2 through 12. State and local codes and guidelines, as well as best practices, often specify that facilities be designed to accommodate children rather than adults, particularly where children are the primary population served by a facility. These codes, guidelines, and best practices may specify lower mounting heights for certain elements used primarily by children, such as water fountains, lavatories, and toilets. This section provides accessibility requirements for these elements and is intended to apply where state or local codes, guidelines, or best practices specify design for children.

The phrase "constructed according to children's dimensions and anthropometrics" means where the construction of a facility reflects the size and dimensions, reach ranges, level of strength and stamina, or other characteristics of children, thus rendering such a facility more usable by children. Facilities constructed that do not reflect children's characteristics are not covered by section 15.

Section 15 also specifies that accessible elements and spaces constructed according to children's dimensions and anthropometrics shall be on an accessible route complying with 4.3, 15.3, and 15.4. Additional routes serving the children's area are not subject to the requirements in this section. Accessible routes subject to this section must comply with the requirements for protruding objects (15.3) and handrails at ramps and stairs

(15.4). For example, a children's area may be located in a portion of a community center and may have elements and features constructed according to children's dimensions and anthropometrics, such as storage units, toilets, or lavatories. Where the accessible route serving the children's area includes a ramp, additional handrails for children must be provided. Additionally, objects along this accessible route that project from walls must comply with the requirements for protruding objects in 15.3. An accessible route complying with this section shall also be provided where individual elements are positioned at heights or locations based on children's sizes and dimensions, such as a drinking fountain in a shopping mall.

A15.6.2 Placement. The requirements for water closets, toilet seats, grab bars, and toilet paper dispensers in 15.6 reflect the differences in the size, stature, and reach ranges of children ages 2 through 12. Section 15.6.2 requires such elements to comply with the specifications in A, B, or C in the table provided. A, B, and C correspond to three age groups of children: 2 through 4, 5 through 8, and 9 through 12, respectively. To permit design discretion where toilet rooms may serve more than one age group, or where the age group of users does not correspond to the specific age groups listed in the table, this section specifies that selection of A, B, or C "should" correspond to the age of the primary user group. (See 3.4 General Terminology, regarding use of the term "should.")

The application of the specifications in A, B, or C in the table may allow flexibility when designing for more than one age group. For example, a water closet with centerline at 12 in (305 mm), toilet seat at 12 in (305 mm), grab bars at 20 in (510 mm), and dispenser at 14 in (355 mm) above the finish floor may be appropriate for A (ages 2 through 4) and B (ages 5 through 8). Similarly, a water closet with centerline at 15 in (380 mm), toilet seat at 15 in (380 mm), grab bars at 25 in (635 mm), and dispenser at 17 in (430 mm) above the finish floor may be appropriate for B (ages 5 through 8) and C (ages 9 through 12). Multiple accessible fixtures are not required in toilet rooms serving more than one age group.

Adoption of Proposed Common Rule

The agency specific proposals to adopt the proposed common rule, which appears at the end of the common preamble, are set forth below.

DEPARTMENT OF JUSTICE

Office of the Attorney General

28 CFR Part 38

List of Subjects in 28 CFR Part 38

Buildings and facilities, Civil rights, Individuals with disabilities, Intergovernmental relations.

Authority and Issuance

By the authority vested in me as Attorney General by 28 U.S.C. 509, 510; 5 U.S.C. 301; and 42 U.S.C. 12134, 12186, and for the reasons set forth in the common preamble, part 38 (originally proposed as part 37) of chapter I of title 28 of the Code of Federal Regulations, as proposed to be added at 59 FR 31816, June 20, 1994, is further proposed to be amended as set forth below:

PART 38—NONDISCRIMINATION ON THE BASIS OF DISABILITY IN STATE AND LOCAL GOVERNMENT SERVICES AND BY PUBLIC ACCOMMODATIONS AND IN COMMERCIAL FACILITIES

1. The authority citation for 28 CFR part 38 continues to read as follows:

Authority: 5 U.S.C. 301; 28 U.S.C. 509, 510; 42 U.S.C. 12134, 12186.

2. Appendix A to part 38 is amended as set forth at the end of the common preamble.

Dated: July 9, 1996.
Janet Reno,
Attorney General.

ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD**36 CFR Part 1191**

List of Subjects in 36 CFR Part 1191

Buildings and facilities, Civil rights, Individuals with disabilities.

Authority and Issuance

For the reasons set forth in the common preamble, part 1191 of title 36

of the Code of Federal Regulations is proposed to be amended as follows:

PART 1191—AMERICANS WITH DISABILITIES ACT (ADA) ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES

1. The authority citation for 36 CFR part 1191 continues to read as follows:

Authority: 42 U.S.C. 12204.

2. Appendix A to part 1191 is amended as set forth at the end of the common preamble.

Authorized by vote of the Access Board on December 22, 1994.

Judith E. Heumann,

Chair, Architectural and Transportation Barriers Compliance Board.

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