

(b) *Exception.* Between-car barriers are not required where platform screens are provided which close off the platform edge and open only when trains are correctly aligned with the doors.

Subpart D—Light Rail Vehicles and Systems

§ 38.71 General.

(a) New, used and remanufactured light rail vehicles, to be considered accessible by regulations in part 37 of this title shall comply with this subpart.

(b)(1) Vehicles intended to be operated solely in light rail systems confined entirely to a dedicated right-of-way, and for which all stations or stops are designed and constructed for revenue service after the effective date of standards for design and construction in §§ 37.21 and 37.23 of this title shall provide level boarding and shall comply with §§ 38.73(d)(1) and 38.85 of this part.

(2) Vehicles designed for, and operated on, pedestrian malls, city streets, or other areas where level boarding is not practicable shall provide wayside or car-borne lifts, mini-high platforms, or other means of access in compliance with § 38.83 (b) or (c) of this part.

(c) If portions of the vehicle are modified in a way that affects or could affect accessibility, each such portion shall comply, to the extent practicable, with the applicable provisions of this subpart. This provision does not require that inaccessible vehicles be retrofitted with lifts, ramps or other boarding devices.

(d) Existing vehicles retrofitted to comply with the “one-car-per-train rule” at § 37.93 of this title shall comply with § 38.75, § 38.77(c), § 38.79(a) and § 38.83(a) of this part and shall have, in new and key stations, at least one door which complies with §§ 38.73 (a)(1), (b) and (d) of this part. Vehicles previously designed and manufactured in accordance with the accessibility requirements of part 609 of this title or the Secretary of Transportation regulations implementing section 504 of the Rehabilitation Act of 1973 that were in effect before October 7, 1991, and which can be entered and used from stations

in which they are to be operated, may be used to satisfy the requirements of § 37.93 of this title.

§ 38.73 Doorways.

(a) *Clear width*—(1) All passenger doorways on vehicle sides shall have minimum clear openings of 32 inches when open.

(2) If doorways connecting adjoining cars in a multi-car train are provided, and if such doorway is connected by an aisle with a minimum clear width of 30 inches to one or more spaces where wheelchair or mobility aid users can be accommodated, then such doorway shall have a minimum clear opening of 30 inches to permit wheelchair and mobility aid users to be evacuated to an adjoining vehicle in an emergency.

(b) *Signage.* The International Symbol of Accessibility shall be displayed on the exterior of each vehicle operating on an accessible light rail system unless all vehicles are accessible and are not marked by the access symbol (see fig. 6).

(c) *Signals.* Auditory and visual warning signals shall be provided to alert passengers of closing doors.

(d) *Coordination with boarding platform*—(1) *Requirements.* The design of level-entry vehicles shall be coordinated with the boarding platform or mini-high platform design so that the horizontal gap between a vehicle at rest and the platform shall be no greater than 3 inches and the height of the vehicle floor shall be within plus or minus $\frac{5}{8}$ inch of the platform height. Vertical alignment may be accomplished by vehicle air suspension, automatic ramps or lifts, or any combination.

(2) *Exception.* New vehicles operating in existing stations may have a floor height within plus or minus $1\frac{1}{2}$ inches of the platform height. At key stations, the horizontal gap between at least one door of each such vehicle and the platform shall be no greater than 3 inches.

(3) *Exception.* Retrofitted vehicles shall be coordinated with the platform in new and key stations such that the horizontal gap shall be no greater than 4 inches and the height of the vehicle floor, under 50% passenger load, shall

§ 38.75

be within plus or minus 2 inches of the platform height.

(4) *Exception.* Where it is not operationally or structurally practicable to meet the horizontal or vertical requirements of paragraphs (d) (1), (2) or (3) of this section, platform or vehicle devices complying with §38.83(b) or platform or vehicle mounted ramps or bridge plates complying with §38.83(c) shall be provided.

§ 38.75 Priority seating signs.

(a) Each vehicle shall contain sign(s) which indicate that certain seats are priority seats for persons with disabilities, and that other passengers should make such seats available to those who wish to use them.

(b) Where designated wheelchair or mobility aid seating locations are provided, signs shall indicate the location and advise other passengers of the need to permit wheelchair and mobility aid users to occupy them.

(c) Characters on signs required by paragraphs (a) or (b) of this section shall have a width-to-height ratio between 3:5 and 1:1 and a stroke width-to-height ratio between 1:5 and 1:10, with a minimum character height (using an upper case "X") of $\frac{5}{16}$ inch, with "wide" spacing (generally, the space between letters shall be $\frac{1}{16}$ the height of upper case letters), and shall contrast with the background, either light-on-dark or dark-on-light.

§ 38.77 Interior circulation, handrails and stanchions.

(a) Handrails and stanchions shall be sufficient to permit safe boarding, on-board circulation, seating and standing assistance, and alighting by persons with disabilities.

(b) At entrances equipped with steps, handrails and stanchions shall be provided in the entrance to the vehicle in a configuration which allows passengers to grasp such assists from outside the vehicle while starting to board, and to continue using such handrails or stanchions throughout the boarding process. Handrails shall have a cross-sectional diameter between $\frac{1}{4}$ inches and $\frac{1}{2}$ inches or shall provide an equivalent grasping surface, and have eased edges with corner radii of not less than $\frac{1}{8}$ inch. Handrails shall be

49 CFR Subtitle A (10-1-13 Edition)

placed to provide a minimum $1\frac{1}{2}$ inches knuckle clearance from the nearest adjacent surface. Where on-board fare collection devices are used, a horizontal passenger assist shall be located between boarding passengers and the fare collection device and shall prevent passengers from sustaining injuries on the fare collection device or windshield in the event of a sudden deceleration. Without restricting the vestibule space, the assist shall provide support for a boarding passenger from the door through the boarding procedure. Passengers shall be able to lean against the assist for security while paying fares.

(c) At all doors on level-entry vehicles, and at each entrance accessible by lift, ramp, bridge plate or other suitable means, handrails, stanchions, passenger seats, vehicle driver seat platforms, and fare boxes, if applicable, shall be located so as to allow a route at least 32 inches wide so that at least two wheelchair or mobility aid users can enter the vehicle and position the wheelchairs or mobility aids in areas, each having a minimum clear space of 48 inches by 30 inches, which do not unduly restrict movement of other passengers. Space to accommodate wheelchairs and mobility aids may be provided within the normal area used by standees and designation of specific spaces is not required. Particular attention shall be given to ensuring maximum maneuverability immediately inside doors. Ample vertical stanchions from ceiling to seat-back rails shall be provided. Vertical stanchions from ceiling to floor shall not interfere with wheelchair or mobility aid circulation and shall be kept to a minimum in the vicinity of accessible doors.

§ 38.79 Floors, steps and thresholds.

(a) Floor surfaces on aisles, step treads, places for standees, and areas where wheelchair and mobility aid users are to be accommodated shall be slip-resistant.

(b) All thresholds and step edges shall have a band of color(s) running the full width of the step or threshold which contrasts from the step tread and riser or adjacent floor, either light-on-dark or dark-on-light.