

(8) *Handrails.* If provided, handrails shall allow persons with disabilities to grasp them from outside the vehicle while starting to board, and to continue to use them throughout the boarding process, and shall have the top between 30 inches (760 mm) above the ramp surface. The handrails shall be capable of withstanding a force of 100 pounds (445 N) concentrated at any point on the handrail without permanent deformation of the rail or its supporting structure. The handrail shall have a cross-sectional diameter between 1¼ inches (32 mm) and 1½ inches (38 mm) or shall provide an equivalent grasping surface, and have eased edges with corner radii of not less than ⅜ inch (3.5 mm). Handrails shall not interfere with wheelchair or mobility aid maneuverability when entering or leaving the vehicle.

(d) *Securement devices*—(1) *Design load.* Securement systems, and their attachments to vehicles, shall restrain a force in the forward longitudinal direction of up to 2,000 pounds (8,880 N) per securement leg or clamping mechanism and a minimum of 4,000 pounds (17,760 N) for each mobility aid.

(2) *Location and size.* The securement system shall be placed as near to the accessible entrance as practicable and shall have a clear floor area of 30 inches (760 mm) by 48 inches (1220 mm). Such space shall adjoin, and may overlap, an access path. Not more than 6 inches (150 mm) of the required clear floor space may be accommodated for footrests under another seat, modesty panel, or other fixed element provided there is a minimum of 9 inches (230 mm) from the floor to the lowest part of the seat overhanging the space. Securement areas may have fold-down seats to accommodate other passengers when a wheelchair or mobility aid is not occupying the area, provided the seats, when folded up, do not obstruct the clear floor space required. (See Figure 2 to this part.)

(3) *Mobility aids accommodated.* The securement system shall secure common wheelchairs and mobility aids and shall either be automatic or easily attached by a person familiar with the system and mobility aid and having average dexterity.

(4) *Orientation.* At least one securement device or system required by paragraph (a) of this section shall secure the wheelchair or mobility aid facing toward the front of the vehicle. Additional securement devices or systems shall secure the wheelchair or mobility aid facing forward or rearward. Where the wheelchair or mobility aid is secured facing the rear of the vehicle, a padded barrier shall be provided. The padded barrier shall extend from a height of 38 inches (965 mm) from the vehicle floor to a height of 56 inches (1420 mm) from the vehicle floor with a width of 18 inches (455 mm), laterally centered immediately in back of the seated individual. Such barriers need not be solid provided equivalent protection is afforded.

(5) *Movement.* When the wheelchair or mobility aid is secured in accordance with manufacturer's instructions, the securement system shall limit the movement of an occupied wheelchair or mobility aid to no more than 2 inches (50 mm) in any direction under normal vehicle operating conditions.

(6) *Stowage.* When not being used for securement, or when the securement area can be used by standees, the securement system shall not interfere with passenger movement, shall not present any hazardous condition, shall be reasonably protected from vandalism, and shall be readily accessed when needed for use.

(7) *Seat belt and shoulder harness.* For each wheelchair or mobility aid securement device provided, a passenger seat belt and shoulder harness, complying with all applicable provisions of the Federal Motor Vehicle Safety Standards (49 CFR part 571), shall also be provided for use by wheelchair or mobility aid users. Such seat belts and shoulder harnesses shall not be used in lieu of a device which secures the wheelchair or mobility aid itself.

[63 FR 51698, 51702, Sept. 28, 1998]

§ 1192.161 Moveable aisle armrests.

A minimum of 50% of aisle seats, including all moveable or removable seats at wheelchair or mobility aid securement locations, shall have an armrest on the aisle side which can be

raised, removed, or retracted to permit easy entry or exit.

[63 FR 51700, 51702, Sept. 28, 1998]

Subpart H—Other Vehicles and Systems

§ 1192.171 General.

(a) New, used and remanufactured vehicles and conveyances for systems not covered by other subparts of this part, to be considered accessible by regulations issued by the Department of Transportation in 49 CFR part 37, shall comply with this subpart.

(b) If portions of the vehicle or conveyance 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.

(c) Requirements for vehicles and systems not covered by this part shall be determined on a case-by-case basis by the Department of Transportation in consultation with the U.S. Architectural and Transportation Barriers Compliance Board (Access Board).

§ 1192.173 Automated guideway transit vehicles and systems.

(a) Automated Guideway Transit (AGT) vehicles and systems, sometimes called “people movers”, operated in airports and other areas where AGT vehicles travel at slow speed, shall comply with the provisions of §§ 1192.53 (a) through (c), and 1192.55 through 1192.61 for rapid rail vehicles and systems.

(b) Where the vehicle covered by paragraph (a) of this section will operate in an accessible station, the design of vehicles shall be coordinated with the boarding platform design such that the horizontal gap between a vehicle door at rest and the platform shall be no greater than 1 inch and the height of the vehicle floor shall be within plus or minus ½ inch of the platform height under all normal passenger load conditions. Vertical alignment may be accomplished by vehicle air suspension or other suitable means of meeting the requirement.

(c) In stations where open platforms are not protected by platform screens, a suitable device or system shall be provided to prevent, deter or warn individuals from stepping off the platform between cars. Acceptable devices include, but are not limited to, pantograph gates, chains, motion detectors or other appropriate devices.

(d) Light rail and rapid rail AGT vehicles and systems shall comply with subparts D and C of this part, respectively.

§ 1192.175 High-speed rail cars, monorails and systems.

(a) All cars for high-speed rail systems, including but not limited to those using “maglev” or high speed steel-wheel-on-steel-rail technology, and monorail systems operating primarily on dedicated rail (i.e., not used by freight trains) or guideway, in which stations are constructed in accordance with subpart C of 49 CFR part 37, shall be designed for high-platform, level boarding and shall comply with § 1192.111(a) for each type of car which is similar to intercity rail, §§ 1192.111(d), 1192.113 (a) through (c) and (e), 1192.115 (a) and (b), 1192.117 (a) and (b), 1192.121 through 1192.123, 1192.125(d), and 1192.127 (if applicable). The design of cars shall be coordinated with the boarding platform design such that the horizontal gap between a car door at rest and the platform shall be no greater than 3 inches and the height of the car floor shall be within plus or minus ⅝ inch of the platform height under all normal passenger load conditions. Vertical alignment may be accomplished by car air suspension or other suitable means of meeting the requirement. All doorways shall have, when the door is open, at least 2 foot-candles of illumination measured on the door threshold.

(b) All other high-speed rail cars shall comply with the similar provisions of subpart F of this part.

§ 1192.177 Ferries, excursion boats and other vessels. [Reserved]

§ 1192.179 Trams, similar vehicles and systems.

(a) New and used trams consisting of a tractor unit, with or without passenger accommodations, and one or