

**§ 38.175**

per hour at any location on their route during normal operation are covered under this paragraph rather than under paragraph (a) of this section.

[56 FR 45756, Sept. 6, 1991, as amended at 61 FR 25416, May 21, 1996]

**§ 38.175 High-speed rail cars, mono-rails 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 part 37, subpart C of this title, shall be designed for high-platform, level boarding and shall comply with § 38.111(a) of this part for each type of car which is similar to inter-city rail, §§ 38.111(d), 38.113 (a) through (c) and (e), 38.115 (a) and (b), 38.117 (a) and (b), 38.121 through 38.123, 38.125(d), and 38.127 (if applicable) of this part. 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 5/8 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-

**49 CFR Subtitle A (10–1–10 Edition)**

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.

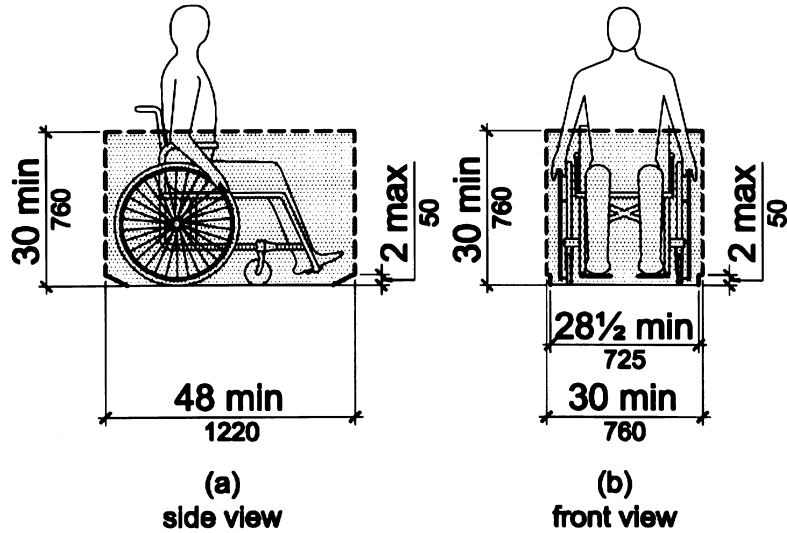
**§ 38.177 Ferries, excursion boats and other vessels. [Reserved]**

**§ 38.179 Trams, and similar vehicles, and systems**

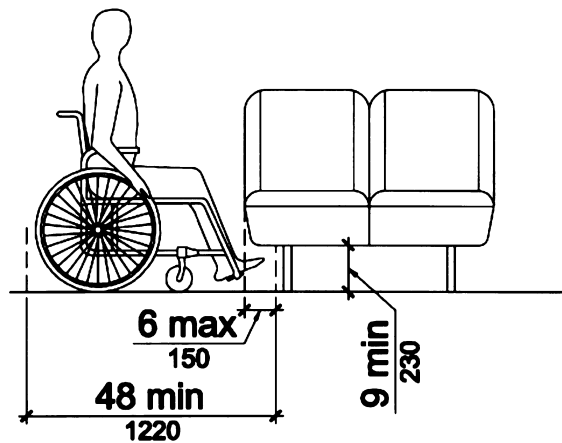
(a) New and used trams consisting of a tractor unit, with or without passenger accommodations, and one or more passenger trailer units, including but not limited to vehicles providing shuttle service to remote parking areas, between hotels and other public accommodations, and between and within amusement parks and other recreation areas, shall comply with this section. For purposes of determining applicability of 49 CFR 37.101, 37.103, or 37.105 the capacity of such a vehicle or “train” shall consist of the total combined seating capacity of all units, plus the driver, prior to any modification for accessibility.

(b) Each tractor unit which accommodates passengers and each trailer unit shall comply with § 38.25 and § 38.29 of this part. In addition, each such unit shall comply with § 38.23 (b) or (c) and shall provide at least one space for wheelchair or mobility aid users complying with § 38.23(d) of this part unless the complete operating unit consisting of tractor and one or more trailers can already accommodate at least two wheelchair or mobility aid users.

FIGURES TO PART 38



**Figure 1**  
**Wheelchair or Mobility Aid Envelope**



**Figure 2**  
**Toe Clearance Under a Fixed Element**

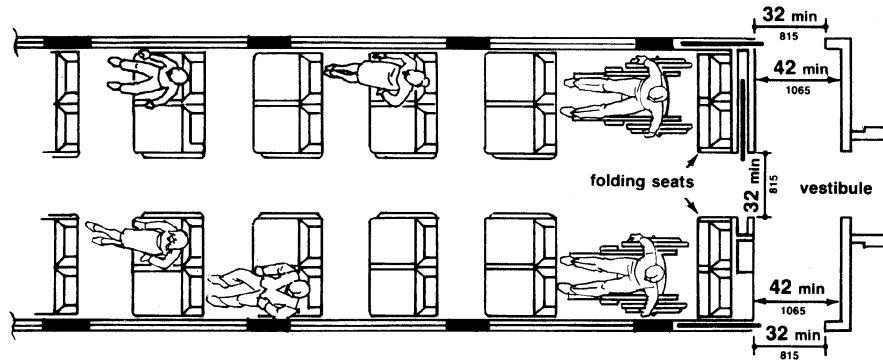


Fig. 3  
Commuter Rail Car (without restrooms)

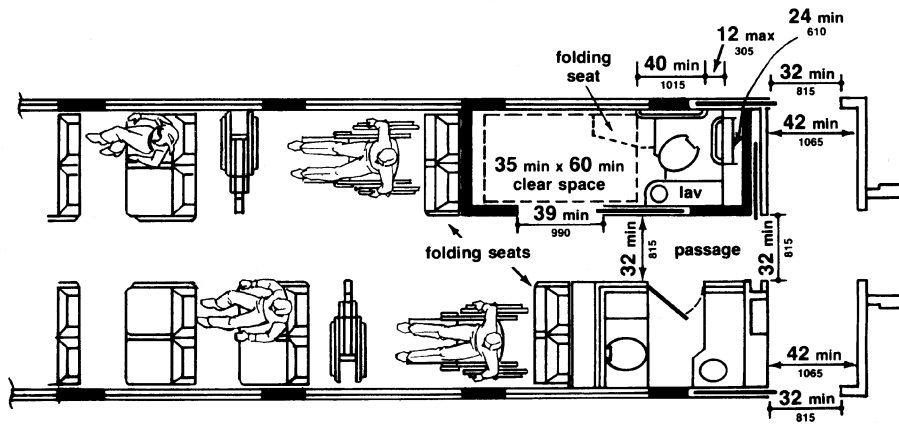


Fig. 4  
Intercity Rail Car (with accessible restroom)

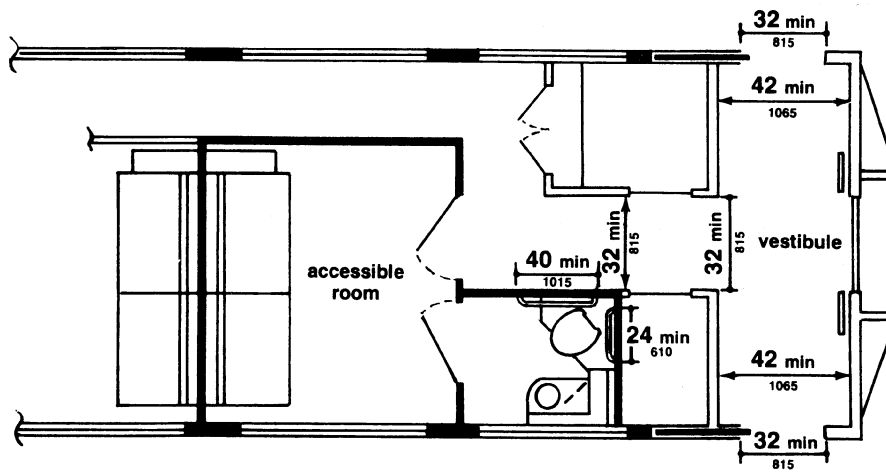
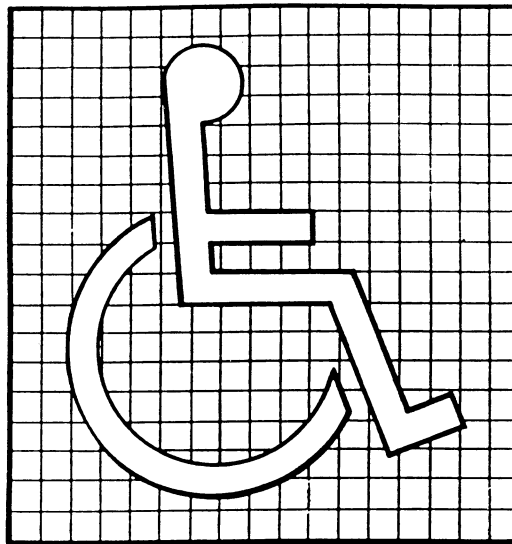


Fig. 5  
Intercity Rail Car (with accessible sleeping compartment)



(a)  
Proportions



(b)  
Display Conditions

**Fig. 6**  
**International Symbol of Accessibility**

[56 FR 45756, Sept. 6, 1991, as amended at 63 FR 51700, 51703, Sept. 28, 1998]

APPENDIX TO PART 38—GUIDANCE  
MATERIAL

This appendix contains materials of an advisory nature and provides additional information that should help the reader to understand the minimum requirements of the standards or to design vehicles for greater accessibility. Each entry is applicable to all subparts of this part except where noted. Nothing in this appendix shall in any way obviate any obligation to comply with the requirements of the standards themselves.

*1. Slip Resistant Surface—Aisles, Steps, Floor Areas Where People Walk, Floor Areas in Se-  
curement Locations, Lift Platforms, Ramps*

Slip resistance is based on the frictional force necessary to keep a shoe heel or crutch tip from slipping on a walking surface under conditions likely to be found on the surface. While the dynamic coefficient of friction during walking varies in a complex and non-uniform way, the static coefficient of friction, which can be measured in several ways, provides a close approximation of the slip resistance of a surface. Contrary to popular belief, some slippage is necessary to walking,