

WAC 51-50-3116 Section 3116—Fixed guideway transit and passenger rail systems.

3116.1 Construction. Construction of fixed guideway transit and passenger rail systems shall be in accordance with NFPA 130-2020, standard for fixed guideway transit and passenger rail systems, as modified in Section 3116.2.

3116.2 Modifications to NFPA 130.

5.2.2.1 Building construction for stations shall be in accordance with Table 5.2.2.1 based upon station configuration.

5.2.2.2 Construction types shall conform to the requirements in IBC Chapter 6, unless otherwise exempted in this section.

**Table 5.2.2.1
Minimum Construction Requirements
for New Station Structures**

Station Configuration	Construction Type†
Stations erected entirely above grade and in a separate building:	
Open stations	Type IIB
Enclosed stations	Type IIA
Stations erected entirely or partially below grade:	
Open above grade portions of below grade structures*	Type IIA
Below grade portions of structures	Type IB
Below grade structures with occupant loads exceeding 1000	Type IA

* Roofs not supporting an occupancy above are not required to have a fire resistance rating.

† Construction types are in accordance with the IBC.

5.2.4.3 Ancillary spaces. Fire resistance ratings of separations between ancillary occupancies shall be established as required for accessory occupancies and incidental uses by the IBC and in accordance with ASTM E119 and ANSI/UL 263.

5.2.5.4 Materials used as interior finish in open stations shall comply with the requirements of IBC, Chapter 8.

5.3.1* General.

5.3.1.1 The provisions for means of egress for a station shall comply with IBC, Chapter 10, except as herein modified.

5.3.2 Occupant load.

5.3.2.1 The occupant load for a station shall be based on the train load of trains simultaneously entering the station on all tracks in normal traffic direction plus the simultaneous entraining load awaiting trains.

1. The train load shall consider only one train at any one track, inside a station.

2. The basis for calculating train and entraining loads shall be the peak period ridership figures as projected for design of a new system or as updated for an operating system.

5.3.2.2* For station(s) servicing areas such as civic centers, sports complexes, and convention centers, the peak ridership figures shall consider events that establish occupant loads not included in normal passenger loads.

5.3.2.2.1 Where station occupancy is anticipated to be greater than design capacity during a major event the operating agency shall initiate approved measures to restrict access to the station, when required by the fire code official, to ensure existing means of egress are adequate as an alternate to account for peak ridership associated with major events.

5.3.2.3 At multilevel, multiline, or multiplatform stations, occupant loads shall be determined as follows:

1. The maximum occupant load for each platform shall be considered separately for the purpose of sizing the means of egress from that platform.

2.* Simultaneous loads shall be considered for all egress routes passing through each level of that station.

5.3.2.4 Where an area within a station is intended for use by other than passengers or employees, the following parameters shall apply:

1. The occupant load for that area shall be determined in accordance with the provisions of the IBC as appropriate for the use.

2. The additional occupant load shall be included in determining the required egress from that area.

3. The additional occupant load shall be permitted to be omitted from the station occupant load where the area has independent means of egress of sufficient number and capacity.

5.3.3.4 Travel distance. For open stations the maximum travel distance on the platform to a point at which a means of egress route leaves the platform shall not exceed 100 m (325 ft). For enclosed stations the travel distance to an exit shall not exceed 76 m (250 ft).

5.3.5 Stairs and escalators.

5.3.5.1 Stairs and escalators permitted by Section 5.2.4.1 to be unenclosed shall be permitted to be counted as contributing to the egress capacity in stations as detailed in Sections 5.2.2 and 5.3.3.

5.3.5.2 Stairs in the means of egress shall be a minimum of 1120 mm (44 in.) wide.

5.3.5.3* Capacity and travel speed for stairs and escalators shall be computed as follows:

1. Capacity - 0.0555 p/mm-min (1.41 p/in.-min)

2.* Travel speed - 14.6 m/min (48 ft/min) (indicates vertical component of travel speed)

5.3.5.4 Escalators shall not account for more than one-half of the egress capacity at any one level.

5.3.5.6* In calculating the egress capacity of escalators, the following criteria shall be met:

1. One escalator at each level shall be considered as being out of service.

2. The escalator chosen shall be the one having the most adverse effect upon egress capacity.

5.3.5.7 Where escalators are permitted as a means of egress in stations, the following criteria shall be met:

1.* The escalators shall be constructed of noncombustible materials.

2.* Escalators running in the direction of egress shall be permitted to remain operating.

3. Escalators running reverse to the direction of egress shall be capable of being stopped locally and remotely as follows:

a. Locally by a manual stopping device at the escalator.

b. Remotely by one of the following:

i. A manual stopping device at a remote location.

ii. As part of a preplanned evacuation response.

4.* Where provision is made for remote stopping of escalators counted as means of egress, one of the following shall apply:

a. The stop shall be delayed until it is preceded by a minimum 15-second audible signal or warning message sounded at the escalator.

b. Where escalators are equipped with the necessary controls to decelerate in a controlled manner under the full rated load, the stop shall be delayed for at least 5 seconds before beginning deceleration, and the deceleration rate shall be no greater than 0.052 m/sec^2 (0.17 ft/sec^2).

5. Where an audible signal or warning message is used, the following shall apply:

a. The signal or message shall have a sound intensity that is at least 15 dBA above the average ambient sound level for the entire length of the escalator.

b. The signal shall be distinct from the fire alarm signal.

c. The warning message shall meet audibility and intelligibility requirements.

5.3.7* Doors, gates, security grilles, and exit hatches.

5.3.7.1 The egress capacity for doors and gates in a means of egress serving public areas shall be computed as follows:

1. Sixty people per minute (p/min) for single leaf doors and gates.

2.* 0.0819 p/mm-min (2.08 p/in.-min) for bi-parting multileaf doors and gates measured for the clear width dimension.

5.3.7.2 Gates in a means of egress shall be designed in accordance with the requirements for doors serving as a means of egress.

5.3.7.2.1 Security grilles are allowed when designed and operated in accordance with the IBC.

5.3.7.3 Where used, exit hatches shall comply with the requirements of Sections 6.3.3.15 through 6.3.3.17.

5.3.9* Horizontal exits. Horizontal exits shall comply with IBC Section 1026.

5.3.11 Means of egress lighting.

5.3.11.1 Illumination of the means of egress in stations, including escalators that are considered a means of egress, shall be in accordance with IBC Section 1008.

5.3.11.2 Means of egress, including escalators considered as means of egress, shall be provided with a system of emergency lighting in accordance with IBC Section 1008

5.3.11.3 In addition to the requirements of Sections 5.3.11.1 and 5.3.11.2:

1. Lighting for stairs and escalators shall be designed to emphasize illumination on the top and bottom steps and landings.

2. Where newel- and comb-lighting is provided for escalator steps, such lighting shall be on emergency power circuits.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-23-102, § 51-50-3116, filed 11/15/23, effective 3/16/24; WSR 22-13-094, 23-12-103, and 23-20-023, § 51-50-3116, filed 6/14/22, 6/7/23, and 9/25/23, effective 3/15/24.]