

CLAIMS

1. A traveling vehicle system comprising:
a track sectioned into a plurality of areas;
a plurality of traveling vehicles that travel on the track; and

a controller that controls, in each of the plurality of areas, the traveling vehicles within the area, wherein the controller includes

a determiner that determines, upon receiving from the traveling vehicle an entry permission request for an area under control, whether or not a remaining number of vehicles to a maximum number of vehicles allowed to enter the area is equal to or less than a predetermined number, and

an entry permitter that temporarily holds the entry permission request from the traveling vehicle if the determiner determines the predetermined number as not having been exceeded, and upon arrival of the traveling vehicle of a transmission origin of the entry permission request at an entry region for the area, grants the traveling vehicle permission to enter the area if a sum of the number of traveling vehicles present within an area of an entry target and a number of traveling vehicles already permitted to enter the area is less than the maximum number of vehicles allowed, but does not grant entry permission if the sum has reached the maximum number of vehicles allowed.

2. The traveling vehicle system according to claim 1, wherein

if the determiner determines the remaining number of vehicles as being greater than the predetermined number,

the entry permitter grants the traveling vehicles entry permission to the area in the order of receipt of the entry permission requests.

3. The traveling vehicle system according to claim 1 or 2, wherein

the entry permitter grants entry permission to the traveling vehicle that stops first at an entry point in the entry region, among the traveling vehicles from which the entry permission requests have been received.

4. The traveling vehicle system according to any one of claims 1 to 3, wherein

the entry region is set to have a length in the traveling direction of the traveling vehicle that prevents another traveling vehicle from entering thereto when one traveling vehicle is located therein.

5. The traveling vehicle system according to any one of claims 1 to 4, wherein

a plurality of the entry regions are provided for one of the areas, and

the entry permitter grants entry permission to one traveling vehicle that arrives first at any one of a plurality of the entry regions.

6. The traveling vehicle system according to any one of claims 1 to 5, wherein

the determiner is able to change the predetermined number.

7. A traveling vehicle control method for controlling a plurality of traveling vehicles traveling on a track sectioned into a plurality of areas, the method comprising:

determining, upon receiving from the traveling vehicle an entry permission request for an area under control, whether or not a remaining number of vehicles to a maximum number of vehicles allowed to enter the area is equal to or less than a predetermined number; and

if the determiner determines the predetermined number as not having been exceeded, temporarily holding the entry permission request from the traveling vehicle and granting entry permission to one traveling vehicle that arrives first at an entry region for the area.