branch among block sections desired to be reserved by vehicles.

The reservation holder identification information is information storing identification information of a reservation source (a vehicle, a control center, a station, or the like) that reserves the block section.

[0047]

In the block section reservation management table 401, the reservation state is information indicating the current reservation state (reservation available, reservation unavailable, reservation completion, and the like) of the block section. The reservation state "reservation available" indicates a situation where reservation is not made by a vehicle. The resource management device 4 mainly performs a process of updating the information of the block section reservation management table 401.

[0048]

The connection boundary reservation management table 402 stores the reservation state (presence "Y" and non-presence "N"), the reservation holder identification information, and the like in association with identification information of the connection boundary. The resource management device 4 performs a process of updating the information of the connection boundary

the line in the block section 1WT(R) included in the reservation request and the on-ground device corresponding to the block section 1WT(R) is not malfunctioning. In a case where the reservation state of the connection boundary i indicates N and the reservation state of the block section 1WT(R) indicates reservation available, the reservation management unit 41 updates the block section reservation management table 401 and the connection boundary reservation management table 402 such that the reservation holder identification information corresponding to those information is set with the information of the vehicle 0001 (step S107).

[0055]

In a case where the reservation state of the connection boundary i indicates presence (Y), the reservation management unit 41 discards the reservation request for the block section 1WT(R) having the connection boundary i at another end. The reservation management unit 41 determines whether or not all of the block sections included in the reservation request and the connection boundaries can be reserved using the same process in order in accordance with the route direction. When reservation is available, the reservation management unit 41 reserves the block section and the connection boundary of the block section on the advancing

request. Accordingly, the traveling management device 30 included in the vehicle 0002 cannot reserve the block section 2WT(R). Meanwhile, the traveling management device 30 of the vehicle 0002 can reserve the block section 4T and up to the connection boundary g present ahead in the route direction D2 in a case where the block section 4T and the connection boundary g are not reserved by the vehicle 0001. That is, according to the above process, in a case where the connection boundary is reserved by the traveling management device 30 of another vehicle, the traveling management device 30 of the vehicle 0002 cannot reserve the block section having the connection boundary at one end. Accordingly, block sections reservable by vehicles having opposite route directions are always separated by one block section. Thus, the opposition protection can be performed by the processes of the traveling management device 30 and the resource management device 4. The resource management device 4 may control reservation of the block sections such that block sections reservable by vehicles having opposite route directions are separated by one or more block sections.

In addition, by immediately releasing the reservation of the passed block section and the connection boundaries included in the block section based on the

position of the vehicle and enabling another vehicle traveling at an interval in the same direction to make a reservation, the resource management device 4 performs control such that an interval is not present between the vehicles as far as possible. Accordingly, an accident can be avoided by always disposing a block section that cannot be reserved by vehicles in opposition to each other. High operation efficiency control can be performed without disposing a block section for the vehicle advancing in the same direction.

[0059]

In the above process, in a case where the block section 2WT(R) cannot be reserved, the traveling management device 30 of the vehicle 0002 performs control for reserving the block section 2WT(N) and temporarily moving the vehicle 0002 to the block section 2WT(N). By doing so, after the vehicle 0001 passes through 2WT(R) and the connection boundary g, the vehicle 0002 returns to the block section 4T again and can reserve the block section 2WT(R) in accordance with the route direction D2.

[0060]

<Second Embodiment>

Fig. 6 is a diagram illustrating the installation state of the resource management device.

For example, the track on which the vehicle 1