CLAIMS

[Claim 1]

A transport capacity adjusting device for adjusting the number of operations of transport vehicles running on a plurality of routes which share a transfer station, comprising:

a route calculation unit which extracts a detour route connecting a first transfer station, which is included in a section from one end station on one route to a start station of a troubled section, and a second transfer station, which is included in a section from the other end station on one route to an end station of the troubled section, by another route different from one route when there is the troubled section where the transport vehicles cannot operate on one route included in the plurality of routes;

an adjustable range calculation unit which specifies a section of another route connecting a first turnaround station, which has a track record of turnaround of the transport vehicles included in a section from one end station to the first transfer station on the other route, and a second turnaround station, which has a track record of turnaround of the transport vehicles included in a section from the other end station to the second transfer station on the other route, as a minimum vehicle operation increasable section and calculates an upper limit value of the number of vehicle operations that can be increased

in the minimum vehicle operation increasable section based on an operating vehicle service that has a track record of running at least a part of the minimum vehicle operation increasable section by considering that a running section of an operating vehicle service that runs only the part of the minimum vehicle operation can be extended to the entire minimum vehicle operation increasable section; and

an adjustment amount determination unit which determines a target increasing vehicle operation number in the minimum vehicle operation increasable section based on the upper limit value of the minimum vehicle operation increasable section and a movement demand of the troubled section.

[Claim 2]

The transport capacity adjusting device according to Claim 1, wherein

the adjustable range calculation unit calculates the upper limit value based on an operation record in the minimum vehicle operation increasable section.

[Claim 3]

The transport capacity adjusting device according to Claim 2, wherein

the adjustable range calculation unit calculates the upper limit value based on an operation record in a time zone

when the number of operating vehicle services in the minimum vehicle operation increasable section is maximum.

[Claim 4]

The transport capacity adjusting device according to Claim 1, wherein

when it is proceed from the end station of the troubled section toward the other end station of one route and detects a transfer station shared with other route, if it is possible to reach the transfer station included in a section from one end station on one route to the start station of the troubled section by passing through the other route from the transfer station, the route calculation unit sets the former transfer station as the second transfer station, sets the latter transfer station as the first transfer station and extracts a section connecting the first transfer station and the second transfer station on the other route as a detour route.

[Claim 5]

The transport capacity adjusting device according to Claim 1, wherein

the adjustment amount determination unit allocates the movement demand of the troubled section to the detour route based on movement utility of the detour route and determines a target increasing vehicle operation number in the minimum

vehicle operation increasable section within a range not exceeding the upper limit value of the minimum vehicle operation increasable section.

[Claim 6]

The transport capacity adjusting device according to Claim 1, further comprising:

an output unit which displays a route map which illustrates the troubled section and the minimum vehicle operation increasable section in an identifiable manner.

[Claim 7]

The transport capacity adjusting device according to Claim 6, wherein

the output unit displays information related to the target increasing vehicle operation number in the minimum vehicle operation increasable section.

[Claim 8]

A transport capacity adjusting system comprising a plurality of transport capacity adjusting devices according to Claim 7, wherein

the transport capacity adjusting device comprises a state update unit which acquires at least one of information related to a target increasing vehicle operation number in the

minimum vehicle operation increasable section determined in another transport capacity adjusting device and information related to an actual number of vehicle operations increased in the minimum vehicle operation increasable section.

[Claim 9]

A transport capacity adjusting system comprising the transport capacity adjusting device according to any one of Claims 1 to 7 and a route search device which performs a route search based on a search condition input from a passenger terminal device, wherein

the route search device acquires information related to a target increasing vehicle operation number in the minimum vehicle operation increasable section from the transport capacity adjusting device and transmits information related to a target increasing vehicle operation number in the minimum vehicle operation increasable section transmitted from the transport capacity adjusting device together with a result of the route search to the passenger terminal device.

[Claim 10]

A transport capacity adjusting method for adjusting the number of operations of transport vehicles running on a plurality of routes which share a transfer station, comprising:

extracting a detour route connecting a first transfer

station, which is included in a section from one end station on one route to a start station of a troubled section, and a second transfer station, which is included in a section from the other end station on one route to an end station of the troubled section, by another route different from one route when there is the troubled section where the transport vehicles cannot operate on one route included in the plurality of routes;

specifying a section of another route connecting a first turnaround station, which has a track record of turnaround of the transport vehicles included in a section from one end station to the first transfer station on the other route, and a second turnaround station, which has a track record of turnaround of the transport vehicles included in a section from the other end station to the second transfer station on the other route, as a minimum vehicle operation increasable section and calculating an upper limit value of the number of vehicle operations that can be increased in the minimum vehicle operation increasable section based on an operating vehicle service that has a track record of running at least a part of the minimum vehicle operation increasable section by considering that a running section of an operating vehicle service that runs only the part of the minimum vehicle operation can be extended to the entire minimum vehicle operation increasable section; and

determining a target increasing vehicle operation number

in the minimum vehicle operation increasable section based on the upper limit value of the minimum vehicle operation increasable section and a movement demand of the troubled section.