CLAIMS

[Claim 1]

A terminal device comprising:

a candidate acquiring unit configured to acquire reverse traveling candidate information including positional information and traveling direction information of a vehicle when a candidate determining unit configured to determine whether there is a likelihood that the vehicle is traveling in reverse determines that there is a likelihood that the vehicle is traveling in reverse;

a candidate transmitting unit configured to transmit the reverse traveling candidate information to a rearward server configured to determine whether the vehicle is traveling in reverse by determining that the vehicle is traveling in reverse when the positional information and the traveling direction information of the reverse traveling candidate information are within a prescribed range; and

a determination receiving unit configured to receive reverse traveling determination information indicating that the vehicle is traveling in reverse from the rearward server when a determination that the vehicle is traveling in reverse is performed.

[Claim 2]

The terminal device according to claim 1, wherein the candidate acquiring unit is configured to acquire the reverse traveling candidate information from an in-vehicle transponder of the vehicle.

[Claim 3]

The terminal device according to claim 1 or 2, further comprising:

an alarm unit configured to output an alarm when the reverse traveling determination information is received.

[Claim 4]

A rearward server comprising:

a candidate receiving unit configured to receive reverse traveling candidate information including positional information and traveling direction information of a vehicle from a terminal device when a candidate determining unit configured to determine whether there is a likelihood that the vehicle is traveling in reverse determines that there is a likelihood that the vehicle is traveling in reverse;

a reverse traveling determining unit configured to determine whether the vehicle is traveling in reverse by determining that the vehicle is traveling in reverse when the positional information and the traveling direction information of the reverse traveling candidate information are within a prescribed range; and

a determination transmitting unit configured to transmit reverse traveling determination information indicating that the vehicle is traveling in reverse when a determination that the vehicle is traveling in reverse is performed.

[Claim 5]

An in-vehicle transponder comprising:

a candidate determining unit configured to determine whether there is a likelihood that a vehicle is traveling in reverse;

a candidate transmitting unit configured to transmit reverse traveling candidate information to a terminal device configured to transmit the reverse traveling candidate information to a rearward server configured to determine whether the vehicle is traveling in reverse by determining that the vehicle is traveling in reverse when positional information and traveling direction information of the reverse traveling candidate information including the positional information and the traveling direction information of the vehicle are within a prescribed range when the candidate determining unit determines that there is a likelihood that the vehicle is traveling in reverse; and

a determination receiving unit configured to receive reverse traveling determination information indicating that the vehicle is traveling in reverse from the rearward server when a determination that the vehicle is traveling in reverse is performed.

[Claim 6]

A determination system comprising:

a candidate determining unit configured to determine whether there is a likelihood that a vehicle is traveling in reverse;

a candidate transmitting unit configured to transmit reverse traveling candidate information including positional information and traveling direction information of the vehicle when the candidate determining unit determines that there is a likelihood that the vehicle is traveling in reverse;

a reverse traveling determining unit configured to determine whether the vehicle is traveling in reverse by determining that the vehicle is traveling in reverse when the positional information and the traveling direction information of the reverse traveling candidate information are within a prescribed range; and

a determination transmitting unit configured to transmit reverse traveling determination information indicating that the vehicle is traveling in reverse when a determination that the vehicle is traveling in reverse is performed.

[Claim 7]

A determination method comprising:

a step of determining whether there is a likelihood that a vehicle is traveling in reverse;

a step of transmitting reverse traveling candidate information including positional information and traveling direction information of the vehicle when a determination that there is a likelihood that the vehicle is traveling in reverse is performed;

a step of determining whether the vehicle is traveling in reverse by determining that the vehicle is traveling in reverse when the positional information and the traveling direction information of the reverse traveling candidate information are within a prescribed range; and

a step of transmitting reverse traveling determination information indicating that the vehicle is traveling in reverse when a determination that the vehicle is traveling in reverse is performed.

[Claim 8]

A program causing a computer of a terminal device to perform:

a step of acquiring reverse traveling candidate information including positional information and traveling direction information of a vehicle when a determination that there is a likelihood that the vehicle is traveling in reverse is performed;

a step of transmitting the reverse traveling candidate information to a rearward server configured to determine whether the vehicle is traveling in reverse by determining that the vehicle is traveling in reverse when the positional information and the traveling direction information of the reverse traveling candidate information are within a prescribed range; and

a step of receiving reverse traveling determination information indicating that the vehicle is traveling in reverse from the rearward server when a determination that the vehicle is traveling in reverse is performed.