CLAIMS

1. A transport facility comprising:

a transfer point having a placement surface on which an article is placeable; and

a transport vehicle including:

a transfer device configured to transfer the article to and from the transfer point; and

a carriage body configured to travel while supporting the transfer device,

wherein the transport vehicle is configured to travel along a floor and perform a turning operation to change a travel direction at a directional change position determined in accordance with a destination,

the transfer device includes:

a support having a support surface configured to support the article from below,

a lift configured to raise and lower the support, and

a turner configured to turn the support relative to the carriage body about a turning axis extending along an up-down direction,

the lift is capable of changing a height of the support surface to a third height lower than the placement surface and a height higher than the third height,

the transport vehicle performs the turning operation with the support surface positioned at the height higher than the third height in response to changing a direction of the carriage body without changing an orientation in a plan view of the article supported by the support surface by causing the turner to turn the support relative to the carriage body, and

the transport vehicle travels with the support surface positioned at the height higher than the third height if a straight distance from a travel starting point at which the transport vehicle starts traveling while supporting the article to the directional change position at which the transport vehicle is to perform the turning operation that does not involve a change of the orientation of the article is within a predetermined distance, and the transport vehicle travels with the support surface positioned at the third height if the straight distance is longer than the predetermined distance.

2. The transport facility according to claim 1,

wherein the height higher than the third height includes a first height higher than the placement surface and a second height lower than the placement surface and

higher than the third height,

the carriage body is capable of traveling at a predetermined reference speed, and

the carriage body travels at a speed lower than the reference speed or stops while the lift raises and lowers the support surface between the first height and the second height or the third height.

3. The transport facility according to claim 2,

wherein the lift raises and lowers the support surface between the second height and the third height while the carriage body travels.

4. The transport facility according to claim 1,

wherein the transport vehicle includes auxiliary supports configured to assist the support in supporting the article,

the auxiliary supports are separated from each other with the support therebetween in a plan view,

the auxiliary supports each have an auxiliary support surface whose height is fixed, and

the third height is the same as or lower than the height of the auxiliary support surface.

5. The transport facility according to claim 4,

wherein the transport vehicle performs the turning operation with the support surface positioned at the third height in response to changing the orientation in a plan view of the article supported by the support surface in conjunction with the turning operation.

6. The transport facility according to claim 1, further comprising:

a control device,

wherein the control device sets a transport route from a transport source to a transport destination of the article, and determines based on the transport route whether the straight distance is within the predetermined distance.

7. The transport facility according to claim 6,

wherein the transport vehicle includes a detector,

the transport facility further comprises detection target sections that are detectable by the detector and located at a plurality of locations on the floor,

the transport route is set in such a manner as to connect a plurality of the detection target sections, and

the directional change position is determined based on positions of the plurality of detection target sections.

8. The transport facility according to claim 1,

wherein the support has a regular N-sided polygonal shape (N is an integer greater than or equal to three) in a plan view, and

the turner turns the support in 360/N degree increments relative to the carriage body.

9. The transport facility according to claim 1,

wherein the support has a circle shape in a plan view, and

the turner turns the support at any angle relative to the carriage body.

10. The transport facility according to claim 1,

wherein the height higher than the third height includes a first height higher than the placement surface and a second height lower than the placement surface and higher than the third height,

the transfer point includes:

a plurality of columns spaced apart from each other at least in a vehicle width direction of the transport vehicle; and

article receivers located at upper portions of the columns,

the plurality of article receivers each have the placement surface, and

the transport vehicle transfers the article to and from the transfer point by raising and lowering the support surface between the first height and the second height or the third height, with the support positioned between the plurality of article receivers in a plan view.

11.The transport facility according to claim 10,

wherein the plurality of article receivers each have a regulator protruding upward from the placement surface and configured to regulate a position in a horizontal direction of the article placed on the placement surface, and

the first height is set to a position higher than an upper end of the regulator.