PROGRESS REPORT1

Agent behaviour:

Agents start from left side of the world, which is outside of the station, move through the entrance and get on the train. The entrance is represent by a white blank. The black area is the wall and agents can not move through the wall.

System behaviour:

Number of turtles start from outside the entrance and move to the train. If there are too many turtles trying to get through the entrance, they might stop and wait. They should never run into other turtles.

Rationale for agent rules

Agents find the shortest path to get on the train and avoid collide. I give the agents these rules to make them behave like a real person.

Model output

I didn't come up with new measures. I think number of people getting on trains in a certain period and mean waiting time can reflect the performance of a station structure. Because a good design of the station structure is to make more people move through this area in the same time. Longer waiting time shows the flow didn't move smoothly, which might lead to less people getting on the train in the same time.

Questions:

It's hard to make agents find the right shortest path without specifying where the entrance is. In current model, I give the agent position of the entrances. But in real model, agents should find where is the entrances and find out which entrance is on the shortest path to the train.
How to represent stairs or different floors? Maybe a tunnel that only one person can get through in one time.

Next steps:

1. Fix current bugs. Sometime agent may move through the wall.

2. Improve the path finding algorithm to make agents more intelligent.

3. Design more complex station structures.

Model Analysis:

Having more entrance may reduce the waiting time.

Advanced feature:

I plan to use HubNet to let users control an agent to get on a train.