The ratios of total train capacity getting down at different station class [junction and non-junction] = [, ]

The ratio of the passengers that get down walk out of the junction and ratio of the passengers that get down remain at the junction (assuming equal number walk into the junction from outside) = [, ]

Each combination of the above parameters was taken as a single parameter configuration. For example, Parameter configuration 1-([0.1, 0.9], [0.1, 0.9]) implies 10% of total train capacity gets down at junctions while remaining 90% get down at non-junctions. 10% of passengers that get down walk out of the junction whereas the remaining 90% stay back at the junction and the same percentage walk into the junction from outside. Understanding how the model dynamically updates the parameters based on the changes in metro variables done by the user. **(Refer to the python code at FigShare)**

**Case 1-** Let actual\_avg\_footfall=16000

Set peak and non-peak hour train frequency

ph\_freq, nph\_freq=120, 150 (seconds)

Run the model

This parameter configuration gives the minimum error-([0.95, 0.05], [0.85, 0.15]). This implies 95% of total train capacity gets down at junctions while remaining 5% get down at non-junctions. 85% of passengers that get down walk out of the junction whereas the remaining 15% stay back at the junction and the same percentage walk into the junction from outside.

**Case 2-** Let actual\_avg\_footfall=16000 (Same as Case 1)

Lower peak and non-peak hour train frequency

ph\_freq, nph\_freq=100, 120 (seconds)

The train frequencies have been increased by decreasing the seconds (increasing frequency leads to more people being brought in by the train) but the actual\_avg\_footfall is the same. This can only be possible if either lesser number of people now get down at the junctions than before or more percentage of people who get down leave the junction or a combination of both.

Run the model

This parameter configuration gives the minimum error-([0.8, 0.2], [0.85, 0.15]).

The results show that compared to Case 1, lesser people are getting down at junctions (from 95% in Case 1 to 80% in Case 2) which should indeed be the case.

**Case 3-** Let actual\_avg\_footfall=10000

peak and non-peak hour train frequency

ph\_freq, nph\_freq=120, 150 (seconds) (Same as Case 1)

The train frequencies have been kept the same but the actual\_avg\_footfall is lower. This can only be possible if either lesser number of people now get down at the junctions than before or more percentage of people who get down leave the junction or a combination of both.

Run the model

This parameter configuration gives the minimum error-([0.5, 0.5], [0.95, 0.05]).

The results show that compared to Case 1, lesser people are getting down at junctions (from 95% in Case 1 to 50% in Case 3) and more percentage of people getting down are leaving the junction (from 85% in Case 1 to 95% in Case 3) which should indeed be the case.