#This program is for uncommitted move-ups. We need to compare two situations.

#(1)What if the dispatcher did not took our move-up recommendation.

#(2)What if the dispatcher took our move-up recommendation.

# The way how we chose unit to the incident is that chose the nearest available one from the incident location.

1.At time t1, unit 1 was sent to incident 1, and we know the corresponding ETB. This means during t1 and t1+ETB, unit 1 could not serve for any other incidents.

2. According to the log, we can find the move-up recommendation during (t1,t1+ETB) from LiveMum.

Now there is one move-up recommendation from LiveMum: move unit 2 from station 2 to station 1 .

3. Incident 2 is a new incident. For this incident, we need to see what would happened if the dispatcher took the recommendation or not.

(1)We first need to see which station(s1 or s2) the incident 2 is closer to. Here s1 is the move-up-to location; s2 is the move-up-from location of unit 2.

(2)If the incident 2 is closer to s1, this means the move-up is accurate;

Else, the incident 2 is closer to s2, this means the move-up is inaccurate.

(3)When incident 2 happens, we can also find out the nearest available unit of incident 2.

Let’s say the distance from the nearest available unit to incident2 is dist(local3,incid);

The distance from station 1 to incident 2 is dist(s1,incid);

The distance from station 2 to incident 2 is dist(s2,incid).

(4)If the move-up is accurate, compare dist(local3,incid) and dist(s1,incid),

If dist(local3,incid)> dist(s1,incid), the move-up shorten the respond time for incident2 by {dist(local3,incid)-dist(s1,incid)}/v;

Else, it doesn’t matter if have move-up or not, the respond time for incidents 2 is the same;

Therefore, we do not need to have move-up because it does nothing.

(5)If the move-up is inaccurate, we do not need move-up.

Compare dist(local3,incid) and dist(s2,incid).

If dist(local3,incid) > dist(s2,incid), the move-up makes the respond time be longer by dist(local3,incid) -dist(s2,incid);

Else, it doesn’t matter if have move-up or not, the respond time for incidents 2 is the same.