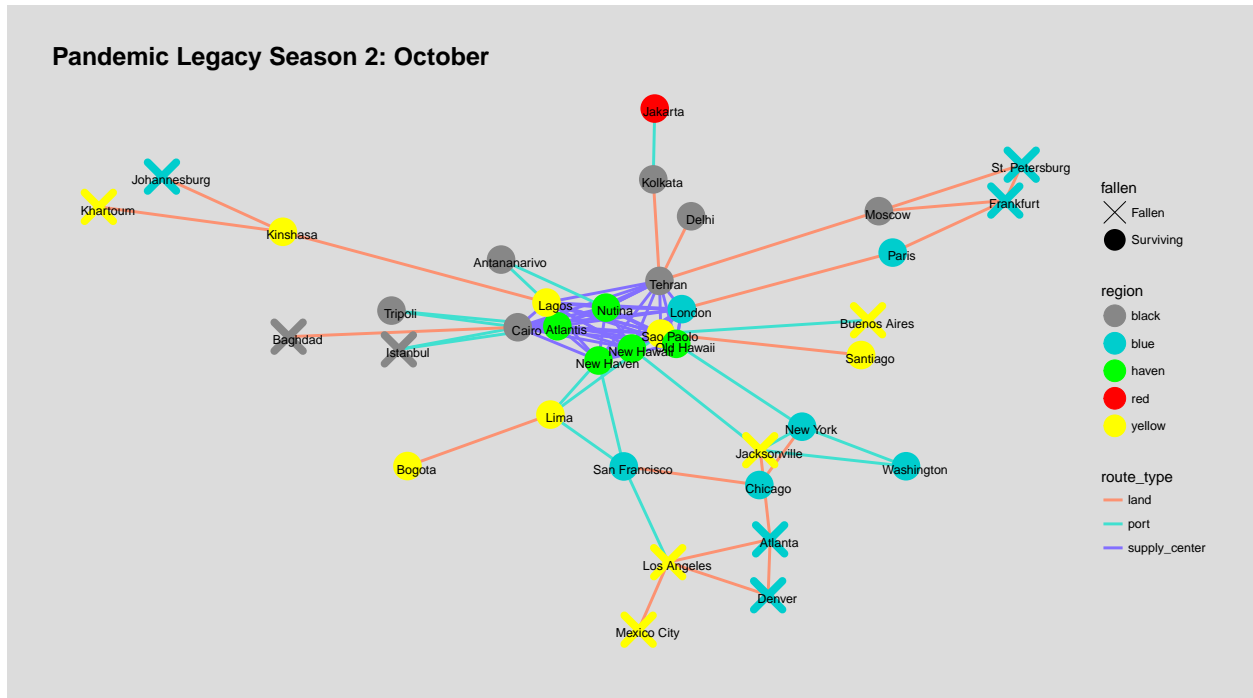


Network Analysis of Pandemic Legacy Season 2: October

The Network

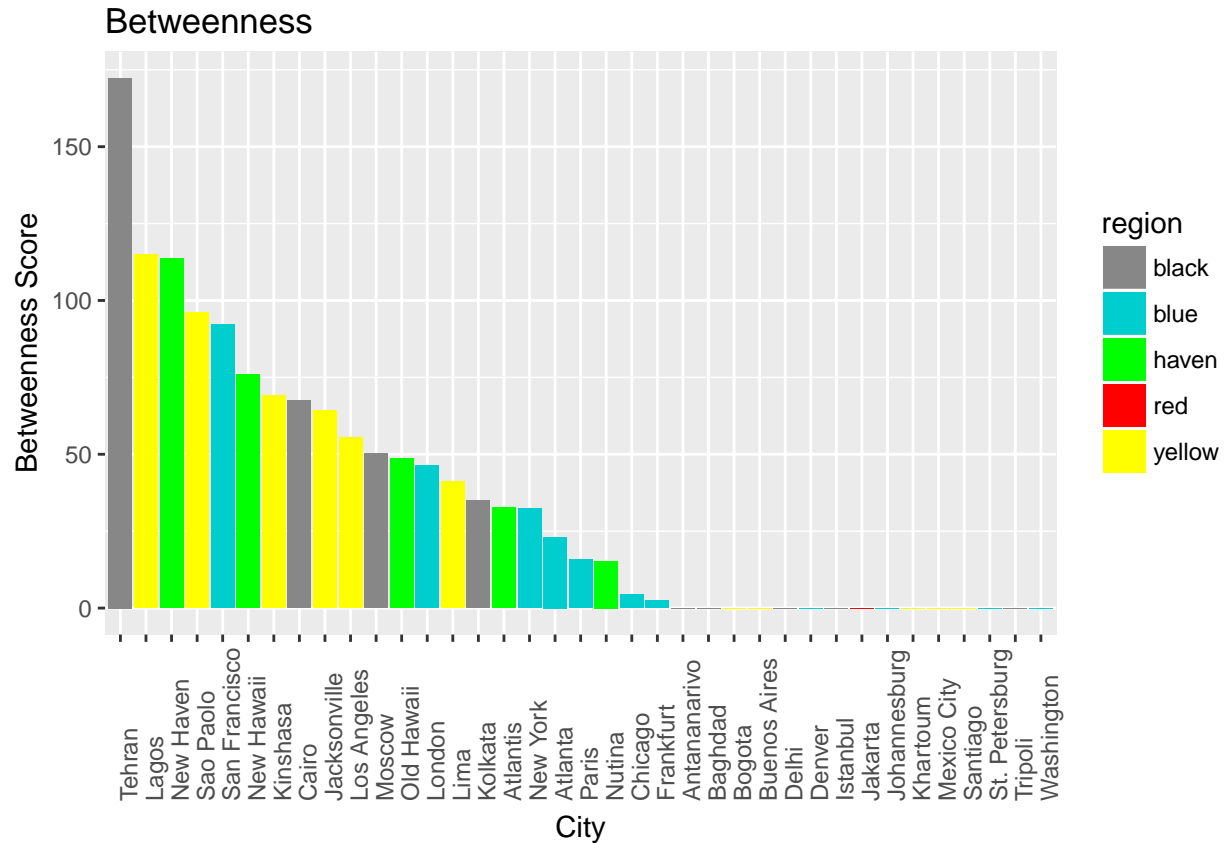


There are a couple differences from last week. First, we have connected our first red city! Additionally, with the New Haven-San Francisco sea route, our network is now much better connected—every living city is within two steps of a haven.

Betweenness

Now let's see if the betweenness has changed. As a reminder, betweenness measures how many shortest paths from one node to another in a network pass through a certain location (i.e., how “on the way” a city is). Nodes with higher betweenness are more likely to be “on the way” to other nodes, and nodes with low betweenness will rarely need to be traversed during a game (unless we are concerned about an infection at that city, of course).

Below is a bar plot of the betweenness scores of each city:

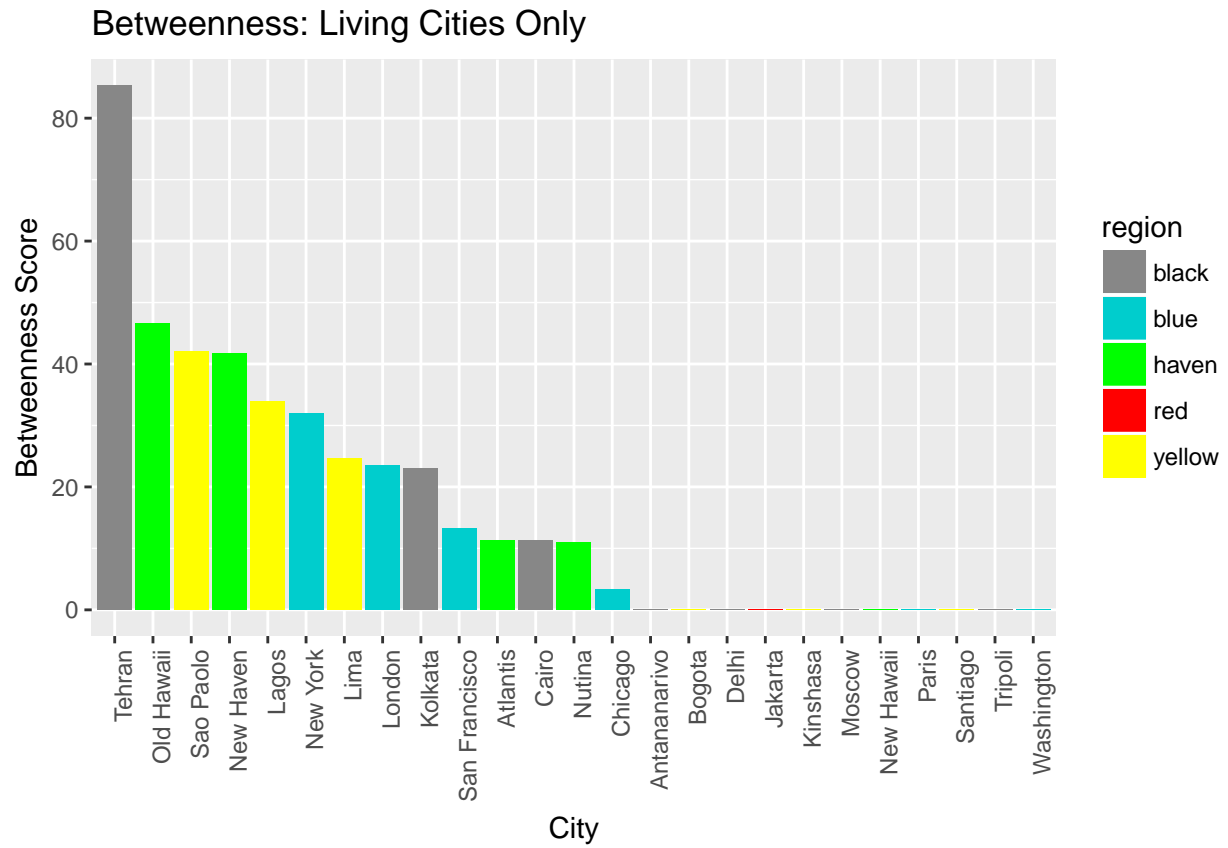
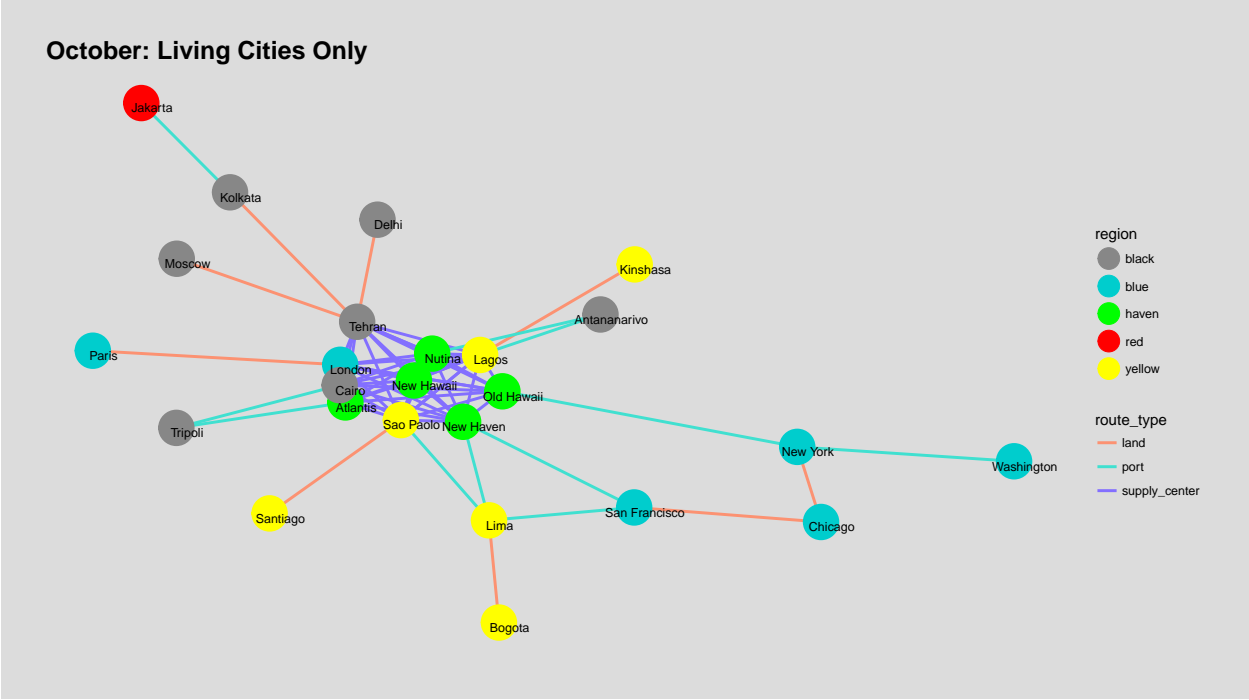


The cities with higher bars are places we are more likely to pass through on the way to other places. So, if we needed to drop off cubes in some location, it would be more likely that we would pass through Tehran on our route than pass through New Haven.

This can guide us on where we drop off cubes at the start of the game: places with higher betweenness should get more cubes, as we will be more likely to pass through them (and then pick up their cubes as a free action).

Again, this doesn't take into account *possible* connections to cities - so, for example, we may want to drop off more in Jakarta if we anticipate building our red network from there.

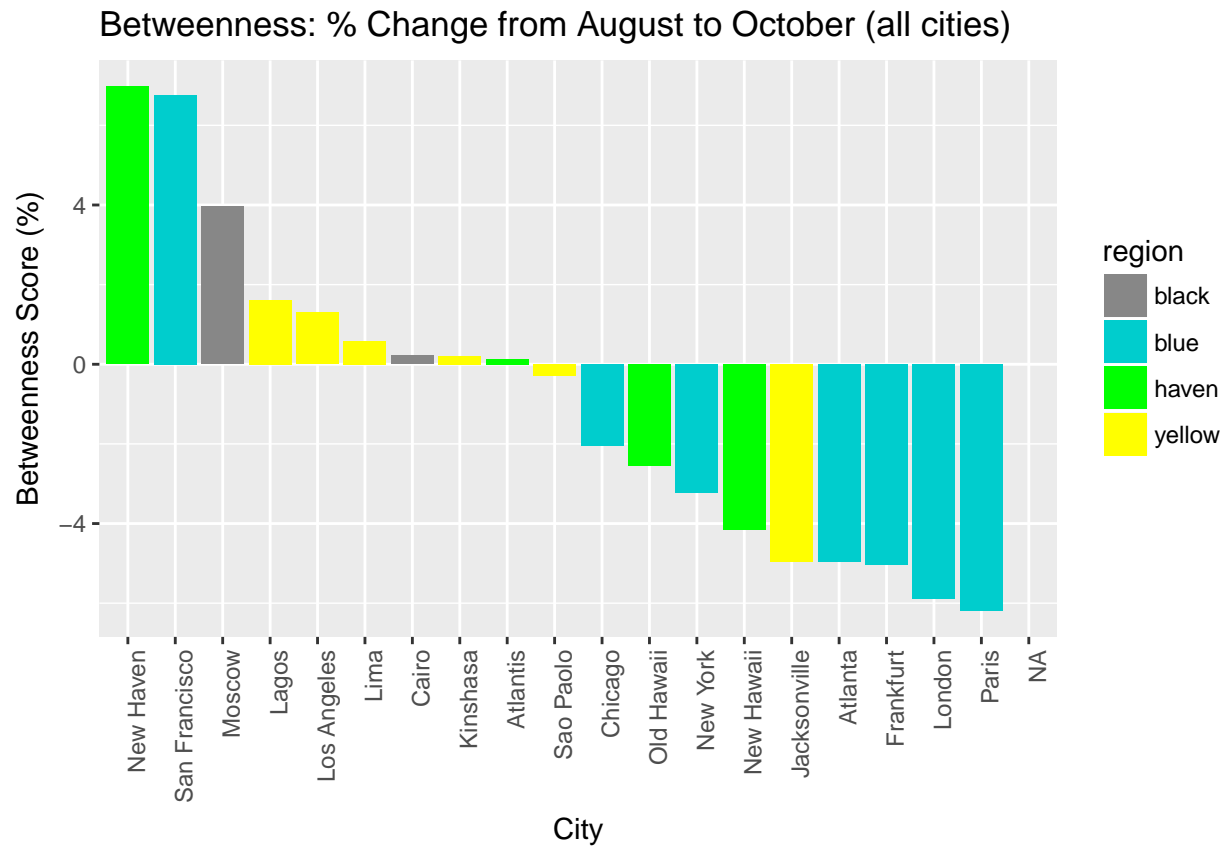
What if we only care about cities which haven't fallen?

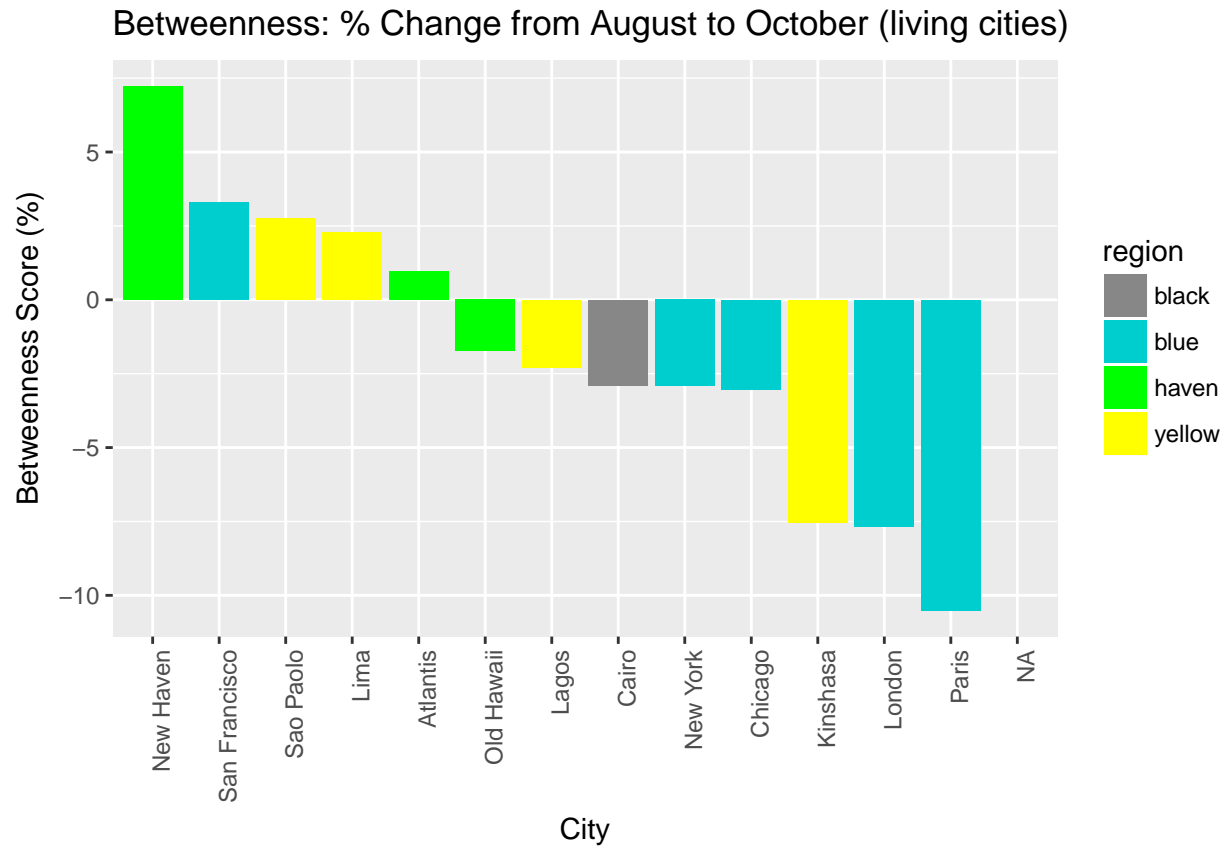


Here, it seems like Tehran becomes even more important relative to other cities. We should drop more cubes off there!

We still shouldn't be putting cubes on New Hawaii unless someone will pick them up immediately.

How has betweenness changed since August?





The biggest positive changes in betweenness seem to have occurred in New Haven and San Francisco, which would make sense with the new connection there. Paris and London became much less “on the way”, as the supply center in Tehran obviated much of the need to travel through them.