
This article deals with a question in hub-and-spoke network design: are some nodes better off sending their interactions through a local mini-hub, rather than through a single central facility, and where should the hubs be located if this form of allocation is allowed? While the allocations are obtainable by a simple calculation for fixed facility locations, it turns out that additional model formulation decisions have to be made to best capture the reality of the way that these interactions are allowed to be routed through the network. In particular, the analyst must determine whether the system being represented (a) allows interactions to make more than one stop; (b) requires the interacting nodes to deal with each other through an exclusive mini-hub "club"; or (c) permits each interacting pair to select its own least cost route (consistent with the number of allowed stop overs). In order to reflect the "reality" of time-windows, the research finds that it is necessary to constrain the maximum distance of the service region for the mini-hub. This is accomplished by adding a simple covering constraint to the location model. Then, given the model design choice, it is relatively easy to formulate and solve appropriate location/allocation models for the problem using integer programming. The article is illustrated with examples of these formulations, and sample solutions are provided for a well-studied test data set.