In mobile networks, node movements may lead to a situation called network partition where an end-to-end path may never exist because the network is divided into several isolated subnetworks. Deploying stationary relays introduces new transmission opportunities leading to the improvement of network connectivity and performance. The majority of the proposed solutions concentrated on deploying the minimum number of relays in the network. However, relay deployment should also be resilient regarding relay node failures. In this paper, we show how the relay deployment problem can be modelled as a k-element connectivity problem in which multiple relay-disjoint paths are deployed to connect isolated subnetworks. To solve this problem, we present three heuristic algorithms targeting at _finding the minimum number of relays to form k-element connected networks. Our experiments using synthetic and real data showed that the proposed greedy algorithm is 2 or 3 orders of magnitude faster and never worse than the other two algorithms.