

We study various properties of least cost paths under iid disorder for the complete graph and dense Erdos-Renyii random graphs in the connected phase, with iid exponential and uniform weights on edges. Using a simple heuristic, we compute explicitly, limiting distributions for (properly re-centered) lengths of shortest paths between typical nodes, as well as multiple source destination pairs; we also derive asymptotics for the number of edges on the shortest path, namely the *hopcount* and find that the addition of edge weights converts these graphs from *ultra-small* world networks to *small* world networks. Finally we study the Vickrey-Clarke-Grooves measure of overpayment for the complete graph with exponential edge weights and show that the complete graph is far from monopolistic for large n .