In 1990 Paul Seymour conjectured that every directed graph contains a vertex with second neighborhood at least as large as its first neighborhood. We introduce the notion of “super-Seymour graphs” – graphs in which at least k vertices have second neighborhood at least the size of the first neighborhood plus some constant – and study their structure in hopes of characterizing Seymour graphs themselves, or shedding light on the structure of a counterexample. In addition, we demonstrate that the conjecture holds for graphs of diameter 2, planar graphs, and k-connected graphs with minimum outdegree k, and provide a proof that every vertex is Seymour in certain graphs. (Received September 21, 2010)