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In this paper, we extend the study of connectivity for optimization of theoretical network reliability measures given specific conditions. Expanding on and combining the ideas of restricted and component order connectivities, we define *Partially Restricted Connectivity* in terms of both edges and vertices. We establish formulas and bounds for the partially-restricted connectivities of different classes of graphs including paths, cycles, trees, and complete graphs. Finally, we present an analysis of the reliability of graphs in the general class $G(n, m)$ in relation to this new definition. (Received September 25, 2017)