1135-05-120 **Connor Mattes***, Applied Mathematics and Statistics, Colorado School of Mines, Golden, CO 80401-1887, and **Marika Witt**, Mathematics and Computer Science Department, 300 W. Hawthorne Road, Whitworth University, Spokane, WA 99251. *$L(h,k)$ labeling of graphs.*

$L(h,k)$ labeling is a generalization of the $L(2,1)$ labeling, which was introduced by Griggs and Yeh and motivated by the channel assignment problem. In $L(h,k)$ labeling, labels of adjacent vertices differ by at least h and labels of vertices that are at distance two differ by at least k. The span of an $L(h,k)$ labeling is the difference between the largest and smallest labels of a graph, while the $L(h,k)$ span of a graph is the smallest span of all $L(h,k)$ labelings of a graph. The decision problem of whether the $L(2,1)$ span of a general graph is less than or equal to t is shown to be NP-complete. We determined the $L(h,k)$ labeling and span of some subgraphs of complete graphs and complete bipartite graphs for all positive integer values of h and k, obtained by removing a maximum matching and removing the edges in an arbitrary path. We also determined the $L(2,1)$ span of the complete bipartite graph minus the edges of an arbitrary path by giving a lower bound and a construction. (Received July 29, 2017)