1113-05-142 **Ralph J Faudree** (rg@mathcs.emory.edu), Atlanta, GA 30322, **Ronald J Gould*** (rg@mathcs.emory.edu), Department of Math and Computer Science, Emory University, Atlanta, GA 30322, and **Michael S Jacobson** and **Douglas B. West**. *Minimum Degree and Dominating Paths.*

A *dominating path* in a graph is a path P such that every vertex outside P has a neighbor on P. A result of Broersma from 1988 implies that if G is an n-vertex k-connected graph and $\delta(G) \geq \frac{n-k}{k+2}$, then G contains a dominating path. The lengths of dominating path include all values from the shortest up to at least min $\{n-1, 2\delta(G)\}$. For $\delta G > an$, where a is a constant greater that 1/3, the minimum length of a dominating path is at most logarithmic in n when n is sufficiently large (the base of the logarithm depends upon a). The preceding results are sharp. For constant s and $c' < 1$ an s-vertex dominating path is guaranteed by $\delta(G) \geq n - 1 - c'n^{1-1/s}$ when n is sufficiently large, but $\delta(G) \geq n - c(s\ ln\ n)^{1/s}n^{1-1/s}$ (where $c > 1$) does not even guarantee a dominating set of size s. We obtain minimum degree conditions for the existence of a spanning tree obtained from a dominating path by giving the same number of leaf neighbors to each vertex. (Received August 18, 2015)