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Rebekah Chase* (chas11713599@evangel.edu), **Carl Hammarsten**, **Ryan A Mike** and **Laura J Seaberg**. *Intersections of Shortest Taxicab Paths in the Sierpiński Carpet*. Preliminary report.

In recent work, Berkove and Smith have developed an algorithm to construct shortest taxicab paths in the Sierpiński carpet and some of its higher-dimensional generalizations. We consider an extension of this problem examining minimal area surfaces bound by shortest taxicab paths in higher-dimensional fractals. Such a minimal surface will have zero area if and only if the associated shortest paths have non-empty common intersection. Specifically, we give a set of necessary and sufficient conditions on the relative positions for three points in the carpet which characterize when the pairwise shortest taxicab paths have non-empty triple intersection. Finally, we indicate how our work might generalize to higher dimensions. (Received August 13, 2018)