1086-VM-1899   **Hope K Snyder*** (`snyderhk@jay.washjeff.edu`), Department of Mathematics, Washington & Jefferson College, Washington, PA 15301, and **Roman Wong**. *Conics in Extended Taxicab Geometry.*

Conics under the taxicab metric are well known in geometry. In 2006, David Caballero generalized this metric to simulate the spread of forest fires in Europe. The extended taxicab distance d between two points $P(a,b)$ and $Q(x,y)$ is defined by $d(P,Q) = \max\left(|a-x|, |b-y|\right) - \min\left(|a-x|, |b-y|\right) + \sqrt{2}\min\left(|a-x|, |b-y|\right)$. Thus $d(P,Q)$ is computed using a diagonal line segment and either a horizontal or a vertical line segment. In this paper, we show that d is indeed a metric and we analyze the shapes of all the conics under this metric. These conics have more corners and surprises than those under the original taxicab distance. (Received September 24, 2012)