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Mohammad Ghomi (ghomi@math.gatech.edu), School of Mathematics, Georgia Institute of Technology, Atlanta, GA 30332, and **Ralph Howard*** (howard@math.sc.edu), Department of Mathematics, University of South Carolina, Columbia, SC 29205. *Tangent Cones and Regularity of Convex Sets.*

Let X be a locally closed subset of \mathbf{R}^n so that all the tangent cones (in the sense of Federer), $T_p X$, are affine hypersurfaces of \mathbf{R}^n , the dependence on p is continuous, and the measure theoretic multiplicity at each point is at most $m < 3/2$. Then X is an embedded C^1 hypersurface of \mathbf{R}^n . This is used to show: (1) any convex real analytic hypersurface of \mathbf{R}^n is C^1 and (2) if X is real algebraic, strictly convex, and unbounded, then it is a graph of a C^1 function over a hyperplane. (Received September 02, 2010)