***Abstract*—With the rapid development in the geographical positioning system (GPS) technology, the geographical routing category of the MANET protocols has recently been a hot research area. Practically many of the ad hoc networks have 3-dimensional existence. Most of the research for determining the density of ad hoc networks, unrealistically, only considers 2-dimensional networks.**

**This research paper presents a density determining mechanism for location aware nodes in a 3-dimensional context. As the nodes are location aware, the location information is used as a key parameter to conduct a census of nodes. The nodes in a network with implementation of CARP can use this density value to form the logical broadcast area. The simulation results in OPNET Modeler 10.5 validate the performance of this density determining algorithm for CARP.**