Levels of lead, zinc, cadmium, copper and nickel were determined in roadside moss samples within towns in the northern and south-eastern regions of Nigeria. Average lead level in the south-east (59 ppm) was higher than the average for the northern region (44 ppm). Average levels of zinc, cadmium, copper and nickel did not differ significantly between the two regions, with overall averages for the entire study area being 50.9, 1.2, 11.3 and 5.6 ppm for these metals. Lead levels were poorly correlated with those of the other metals, indicating that automobile emissions may not be the main source for these metals in the moss. In comparison with a previous study of the south-west region, the results indicate a generally slightly higher level of metal pollution in the south-west region than in both the northern and south-eastern regions.