

Using GIS Network Analysis to Evaluate Spatial Accessibility and Equality of Green Space in Kunming, China

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Abstract

Urban green space serves as an important amenity, providing a variety of social benefits to citizens. Locations proximate to green space promote the life quality of the citizens by affording them with recreational opportunities, rendering aesthetic enjoyments and improving psycho-physiological health. However, accompanying with the fast urbanization process, large area of the urban green space is converted into impervious land and the distribution of the remnant green space becomes spatially unbalanced. Consequently, to evaluate the spatial accessibility and equality of green space for the residents becomes imperative. In this study, the network analysis in GIS in conjunction with land use and transportation data is used to investigate the green space supply and resident demand. The accessibility to urban green space based on pedestrian walk and public transportation in the beginning of 2009 and the accessibility in the master plan by the end of 2010 are examined in Kunming, China. This study addresses two questions. First, does the green space pattern reflect the social equality that citizens in each part of the city can equally reach these green resources? Second, are there any places still in lack of green space so that further effort could be done to insert green area into the urban environment?

Keywords: *Accessibility, Green Space, Network Analysis, GIS, Spatial Equality*