

GIS for Highway Engineering in Developing Countries

Abstract:

A Geographic Information System (GIS) is a computer based information system that enables the input, management, analysis, output and dissemination of geospatial data and information. It is therefore an invaluable management tool in all fields where geospatial data is applied, such as highway engineering. Unfortunately, many highway engineers, especially in the developing world, are not aware of this technology and the strength it can bring to their work. This paper outlines the nature, components and strengths of GIS and how it can be applied in highway engineering, principally for managing a road maintenance database and in route location. One Kenyan example is given to illustrate how GIS was effectively used in planning the rehabilitation of roads destroyed by ELNINO rains. The paper concludes that, considering its benefits, GIS is a technology that needs to capture the attention of highway and other civil engineers a lot more, especially in the developing countries.