

ABSTRACT

Roads play a vital role in the transportation of people and goods, connecting communities and enabling economic growth. Good roads are essential for economic development, as they facilitate the movement of goods and services. In addition, roads promote tourism and trade and support the development of industries. Roads in hilly terrain are important as they improve access to basic services such as healthcare, education, and markets. They also promote economic growth by providing better connectivity to remote areas, opening new markets, and creating employment opportunities. Maharashtra is a state in India that has several hilly regions, which present significant challenges for road construction and maintenance. Despite these challenges, the state government has undertaken several initiatives to improve the road network in these areas and connect remote regions to the rest of the state. The road network in Maharashtra's hilly terrain includes several major highways and state roads that connect cities and towns in the region. However, planning and constructing roads in hilly terrain presents several challenges such as the high cost of construction and maintenance, the need for careful planning to minimize the environmental impact, and the technical difficulties as compared to plains. Several factors need to be evaluated to choose the best alignment among alternatives in hill roads. In this paper, the project alignment is situated in the Sahyadri hill range and two districts of Maharashtra. The proposed project stretch starts from Ghotage village Sindhudurg District to Shivdav Khurd in Kolhapur District in Sahyadri hill range. The main aim of this project is to produce highly accurate real-time data on DTM and contours so that proper analysis can be done, and further engineering general designs can be made in order to provide a proposed alignment for the missing link from Ghotage to Shivdav Khurd.