Abstract

Finding the Fastest Route

Track: Transportation

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Routes and networks are the interconnected features that are used for transportation and include highways, railways, and city streets. Networks are an important part of everyday lives and analysis of these networks improves the movement of people, goods, services and the flow of resources. To demonstrate the use of network analysis, this project focused on determining the best route between two destinations based on a specific travel expense. For the purposes of this project, travel cost would be based on the length of time required to travel between locations A and B. A Geographical Information System (GIS) determined both the quickest and shortest routes between these locations. Data used by this project included public data and data generated using a Global Positioning System (GPS). TIGER street data provided the vector data necessary to conduct the network analysis but several data formatting problems existed that required correction. Once analysis was completed, a route representing the shortest travel distance and a route representing the fastest travel time were developed. From this project, it is important to remember that the shortest route is not always the fastest route since travel times are generally faster on major highways instead of residential streets.

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