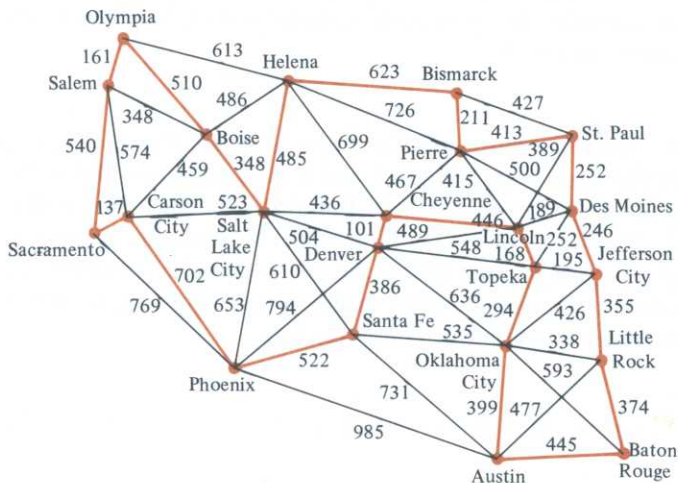


The Traveling Salesman Problem



The problem of finding the shortest route which visits each of a given collection of "cities," finally returning to the city from which it began, is traditionally called the Traveling Salesman Problem. Such problems occur in a variety of contexts, e.g., collecting the money from coin telephones, periodic servicing of a dispersed set of vending machines, security guard inspections of locations in a factory, delivery routes for a product to different stores in a city, etc.. In the figure below we show the state capitals of the states west of the Mississippi with approximate road mileages between some of them. The route shown in bold has a total length of 8119 miles. However, the shortest route has length only 8117 miles. Can you find it?