



Tracing Your Routes

The *Traveling Salesman Problem* entails finding the shortest route that passes through each assigned town exactly once. (The route below visits over 13,000 towns.) The problem is noteworthy for its complexity, which grows exponentially with the number of towns, and for its applications, which range from wiring a chip to scheduling airline crews. Researchers use graph theory and linear programming to solve the problem when feasible and to find near-optimal solutions in other instances, saving industry time and money.



Image courtesy of D. Applegate, R. Bixby, V. Chvátal, and W. Cook; www.math.princeton.edu/tsp.



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