

### **Case Study: 55 or 65 mph highway**

Many environmental groups and politicians are suggesting a return to the federal 55-mile-per-hour (mph) speed limit on America's highways. They argue that not only will a lower national speed limit reduce greenhouse emissions; it will also increase traffic safety.

Cameron Grinnell believes that a lower speed limit will not increase traffic safety. He argues that traffic safety is based on the variability of the speeds with which people are driving, rather than the average speed. The person who drives 20 mph below the pace of traffic is often as much a safety menace as the speeder. Cameron gathers the speeds of 40 cars from a highway with a speed limit of 55 mph (Highway 1) and the speeds of 40 cars from a highway with a speed limit of 65 mph (Highway 2). Data is available on course Titanium page.

Cameron would like to use the above sample information to:

1. Compute and interpret the typical speed for each of these highways.
2. Compute and interpret the variability of speed on these highways.
3. Discuss if the reduction in the speed limit to 55 mph would increase safety on the highways.