Lesson 1: The Road Less Traveled

One aspect of disaster planning is establishing evacuation routes from areas in danger from natural and human-caused catastrophic events. Potential road closures and traffic flow must be considered when planning these routes. Do you think that you can plan the most effective evacuation routes for a given area?

Doing the Science

- 1. Start the Evacuation Planning Simulation by clicking on the "Sim" tab.
- 2. Select the following: Time to Evacuate = 1 hour, Stores Close = 1 hour, and City Gasoline Supply = 25%.
- 3. For the #1 route, select a single route to the far left of the screen. To define a route, click on the red "X's." Clicking again on a green arrow changes the direction of the arrow. Do not allow the route to branch at any point.
- 4. For the #2 route, select a single route to the far right of the screen. Do not allow the route to branch at any point.
- 5. Select the "Start" button and allow the simulation to run to the end.
- 6. Note and record the data for the run in Table 1 below.
- 7. Select the "Reset" button to change the existing evacuation routes.
- 8. For the #1 route, select the route that immediately turns to the *right*. Continue the route to exit the area.
- 9. For the #2 route, select the route that immediately turns to the *left*. Continue the route to exit the area.
- 10. Select the "Start" button. Note and record the data for the run in Table 1 below.

Trial	# Evacuated Cars	# Not Evacuated Cars	# Out of Gas Cars	Congestion Index
1				
2				

Table 1.

Do You Understand?

- 1. How did your isolated evacuation route (Trial 1) results compare to the joined evacuation route (Trial 2)?
- 2. What would have happened in Trial 1 if one of the planned evacuation routes would have become blocked and impassable?