



SOCIETY OF ACTUARIES

Article from:

Risk Management

June 2010 – Issue 19

Commuting and ERM

By Steven Craighead

ANALOGIES, I love analogies. I use them to understand, discover interrelationships and explain complex topics, especially now in ERM.

The most fruitful that I have found is to compare ERM issues, strategies and scenarios to the process of driving to work on a four-lane highway. Every day, I try to arrive at work as quickly and as safely as possible and I must be aware of my surroundings to be able to do this.

When driving, there is a dynamic interplay between capacity, conditions and behavior. For instance, capacity is related to the number of lanes available and the traffic volume. Obviously you can get to work faster if there are fewer cars where there are wide stretches of clear pavement, but then suddenly pockets of congestion appear because of the behavior of other drivers. Realize that it only takes four drivers going the same speed in the four separate lanes to completely block traffic flow.

Varying road conditions are influenced by the weather, the quality of the tarmac, accidents and police patrols. When the weather is bad, the commute time will go up. If the far right lanes are filled with potholes, more drivers will drive in the left lanes. An accident will bring everything to a halt and police presence slows everything down, which can be both good and bad.

Individual behavior could range anywhere from extreme fear to testosterone fueled road rage. Add cell phone use and text messaging to this and things can really get bad. Remember that the driver's behavior is also influenced by road capacity and the conditions. The juxtaposition of all of the separate individual's behavior then leads to both the wisdom and the madness of crowds.

Bringing all of this together you have a rich, dynamic and frustrating system. Over time, if you observe the mob, the traffic patterns, varying conditions and your own reactions, you are able to create strategies that improve your drive time on average (or at least you think so).

For instance, finding the fastest route while avoiding traffic is like developing a strategy to enter a new market or issue an IPO—requiring an understanding of the current economic conditions, regulatory control and your competitors' behavior.

How do you handle slow and extremely cautious drivers in every lane of the highway? Does your strategy address the competitors that don't understand the business or the greedy and testosterone fueled ones who cut corners and take advantages of the system? How does your strategy address accidents that arise from a confluence of unfortunate events? Horrible things happen just from the bad actions of just one individual. Are you prepared for this? The one in one hundred year events seem to happen more and more frequently. Also, the police are out in numbers and are watching. What do you do?

What type of vehicle do you drive? Is it a slow lumbering semi that takes 40 acres to turn around? Are you restricted by the all of the inertia, so you can barely go uphill and are out of control going down? Even though you have a greater vantage point being perched up high in the cab, does it really do you any good? Or do you drive a Viper? You are able to weave in and out of traffic, but end of being short sighted.

How do you drive? Are you aware of your surroundings or do you turn on your music, get in the far left lane and proceed to miss your exit? Or are you distracted with cell phone calls and text messages?

I could go on describing various strategies such as when at certain times and locations you want to be driving in the far left lane to avoid other drivers that are entering or exiting the highway. Or avoiding the lane where traffic always mysteriously slows at a certain time each day. Also, you don't want to get behind a slow lumbering school bus that has a governor on the engine. Each of these circumstances can easily be related to ERM issues, with a little thought.

I regret to say that I don't think quickly, but I do try to think deep. For instance, I didn't realize the value of the interplay between capacity, conditions and behavior in ERM until I discovered it from my daily commute.

Why don't you try this if you can and develop your own ERM thought experiments from what you learn? ■



Steven Craighead, ASA, CERA, MAAA, is a consultant at Towers Watson in Atlanta, Ga. He can be reached at steven.craighead@towerswatson.com.