

Lies, Big Lies & Statistics

By Rod Machado

Have you ever heard someone say that flying commercially is safer than walking? I have. Every time I hear this statement I wonder why we don't put insurance machines in shoe stores. Hmmm.

Statistics are impressive and persuasive. But before forfeiting your Birkenstocks for boarding passes, think about what this statistic doesn't tell you. It says nothing about your ability to *control* the risks associated with walking. It simply suggests that a risk exists. This is precisely the reason to be suspicious of statistics, especially those concerning travel by general aviation airplanes.

Perhaps you've heard that travel by automobile is safer than traveling by small airplane. The problem is, it's simply not true, but not for the reason you think.

The mathematical brew from which these numbers are plucked contains many ingredients. Passenger seat miles, X number of accidents and homogenized averages are just a few. Depending on the source of the numbers and the sorcery applied to them, you can calculate all sorts of things.

The problem is, doing it that way will get you the wrong answer.

The reason travel by small plane is safer than travel by car is that you, the PIC, have far greater control over your fate (and that of your passengers) than does the pilot of car. The vast majority of general aviation accidents consist of pilots making poor choices for themselves (and their trusting passengers) and then paying the price. The vast majority of car accidents involve someone else's purchase of idiocy for which an innocent party pays the bill.

The California Highway Patrol offers the cheery statistic that 35% of the people killed on the state's freeways are done in by drunk drivers. The victim didn't control his or her own fate. No VFR into IFR; no fuel exhaustion; no aerobatics at 10 feet above ground level. Just driving along goofy and happy until whacked by a mentally impaired driver. In the wink of an eye, someone's happy hour becomes another's unhappy fate.

Sure, you can drive with your headlights on, which makes your car look bigger and keeps other cars eight inches farther away (I'd drive with my doors open if it were legal). Unfortunately, it does nothing to make the other driver more sober or less fatigued. It doesn't force the other person to slow down on a curve, not pass in impossible situations, or stop tailgating. Clearly, your safety options are limited in a car, because you have

absolutely no control over the single largest risk factor—the other person. If most of us thought seriously about this, we'd have anxiety attacks on every road trip.

The bad but good fact is, most GA accidents are of our own making. It's a bad fact because it shouldn't be that way. It's a good fact because it means we can actually do something about it. And we need not depend on planetary alignment, proper potty training or sacrificing a goat before departure to do it. Our fate is based on the choices we make, not the choices made for us by others.

When traveling by general aviation airplane, you exercise enormous control over the risks associated with flight. Granted, there may be more risks associated with flying than with driving. But to most of us, governable flight risks are far more preferable than the risks associated with automobile travel over which we have no control. After all, we can plan for these risks with science, not superstition.

For instance, suppose the propeller comes completely off your airplane while turning final (this happens in approximately 1% of all propeller blade accidents). Preventing the propeller's escape is probably beyond your control, assuming you properly (no pun intended) inspected it before departure. Managing the risk of a departed propeller, however, isn't beyond your control. What do you do?

You calmly inform the controller that you are now number two to land. Hey, airplanes just don't fall out of the sky when the prop flies off. They glide, just like you'll do. The successful outcome of your glide is based on the previous choices you've made regarding how you fly the traffic pattern. Choose wisely.

Suppose your carburetor falls off during departure (I've had it happen). Obviously your carburetor has been talking with your propeller. What a gas. In my case, the mechanic failed to bolt the carburetor on correctly after an annual inspection. Even with a good preflight, you may not detect this. Does this spell curtains? Should you bring a sacrificial goat along just in case? I don't think so.

Responsible pilots always prepare for engine failure on takeoff. This is no more inconvenient than looking both ways before crossing an intersection. These pilots know the location of emergency landing sites off the departure runway. How? They checked it out upon entering the pattern. When departing, they climb at V_y (the best rate of climb speed), which gives the largest, continuous upward deflection of the VSI needle. Altitude is their insurance. They know the minimum height above ground necessary for an emergency return to the airport (assuming a landing straight ahead isn't reasonable). In short, they make choices that keep them safe.

Pilots choose the degree of safety they desire during each flight. In my opinion, you can't say the same for automobile drivers, regardless of how defensively they drive. This

is precisely the reason that automobile-airplane comparative statistics are misleading. It's also the reason that most pilots find transportation by airplane more appealing than by car.

Now that I've nailed my colors to the mast regarding statistics, the responsible thing to do is tackle the tough questions. Questions like, "Is it possible to make choices that reduce risks, while sustaining general aviation as a practical means of travel?" I believe it is. Let's tackle one of the toughest versions of this question.

It seems that we might render an airplane impotent for travel if we followed every common sense rule on the books. A good example is the rule which suggests that we always remain within gliding distance of an acceptable landing site. Come on! Is this really practical? Of course it is.

Suppose you're departing an airport in the middle of a busy city. A straight out departure will place you over building-strewn terrain. Is it possible to depart safely? Sure. Simply call the controller and request a shuttle-climb in the traffic pattern. Keep the pattern tight. This keeps you within gliding distance of the runway. When high enough to select additional emergency landing sites, head in that direction.

If you're in a heavily loaded airplane on a hot day, you may not be able to maneuver tight enough to remain within gliding distance of the runway. You still have a choice. Wait until it's cooler or depart with a partial fuel load or do both. If that doesn't float your boat, then don't land at that airport in the first place. It's your choice.

What about an engine failure when flying single engine IFR at night? That's a good question. You might examine the *weather depiction chart* before departure and select a routing with ceilings of at least 1,000 feet or more. Now you have a little time to detect emergency landing sites like roads and highways that are lit by the CLS (Cadillac Lighting System). If you tote a portable oxygen system along, you can choose to fly at higher altitudes. This gives you greater range with which to glide to distant airports. Your GPS with its moving map display allows gliding to, circling down upon and landing at these airports, even when low ceilings are present.

IFR pilots can even reduce the risk of ice accumulation by asking ATC for a climb in a holding pattern at a nearby intersection. Go up and take a look. If you can't get on top of the clouds or don't like what you see, you're right next to your departure airport. Come back home. It's all a matter of choice.

Yes, pilots crash airplanes, but not because of a goat shortage. Our aerial safety isn't based on mysticism, nor is it based on statistics. It's based on choices. Airplanes, not automobiles, allow us more control over the choices affecting our safety. Making these

choices is the sane thing to do. Perhaps one day all pilots will understand this implied sanity clause in our contract with safety.

Then again, maybe not. After all, not everyone believes in a sanity clause.