

Phi's Safety Tips Managing Risks



The ARCS (*Attitude-Readiness-Conditions-Situation*) approach is a way to break down risk. Accidents are all about probability. You could be struck by a meteor while riding, but that is unlikely. Someone could hit you if you go through a red light, and that is more likely. The ARCS logic is that *accidents occur when probabilities cumulate*. The four sources are: mental attitude, physical readiness, surrounding conditions, and the current situation. These form the four ARCS elements:

Attitude: To the world.

Readiness: Your physical state.

Conditions: The environment.

Situations: The current scenario.

Attitude:

If your riding attitude is wrong, nothing will work. Your attitude colors all your actions. Attitude runs through and through every aspect of riding. So this needs to be right from the beginning. To ride a motorcycle, the first attitude you must deal with is fear.

Readiness:

Armed with a healthy attitude, the next thing is to be ready. Readiness means being prepared for whatever happens. You must expect the unexpected, for it is sure to occur. Readiness includes your motorcycle, gear, what you carry (and how), maintenance and your skills. Readiness starts before you even get on the motorcycle. It begins right when you buy your bike in the first place.

Conditions:

Conditions are the environment you ride in. They include the weather, the road, the bike and your state. Conditions change the risk, and when the risk changes, so must you. This is common sense. We all see conditions like rain, wind, snow and ice. They are not secrets. Yet many drive in the rain at the same speed they drive in fine weather, because this is their habit.

You can't ride as you normally do, if the world isn't as it normally is

Heavy rain "causes accidents", but the real cause is people not adapting to the conditions. You can't ride as you normally do, if the world isn't as it normally is. We are part of the world, so ignoring conditions is not a virtue. If you ride the same in dry and wet, accidents will follow. Conditions change *the feedback loop* that connects you and the physical world.

The riding feedback loop

Conditions change the rules of riding

On a motorcycle, you act and the world responds accordingly, by the laws of physics. There is a feedback loop between you and the world, and it follows certain rules. As you learn to ride, you learn the rules of this fast feedback loop. You learn the numbers: how far to lean on a corner, how long it takes to stop, how much to swerve, etc. However when conditions change, these numbers also change, sometimes drastically. When conditions change, it is a whole new feedback loop from the one you are used to. Conditions change the rules of riding.

When conditions change, so must you!!

If it rains, it takes twice as long to stop without skidding. To keep the same risk, when it rains you must double your following distance. Yet many highway drivers in torrential rain follow as close as they normally do. The risk has changed but they haven't. They want business as usual in unusual conditions. Then when the car ahead stops suddenly, they find they have nowhere to go and nothing to do but crash. Bottom line: when conditions change, so must you.

Adapt to conditions

Adapting to conditions has two aspects:

- 1. Recognize the changed conditions.**
- 2. Change your behavior accordingly.**

A fast rider who goes slow in bad conditions is adaptable

The details following help you recognize condition changes, and suggests how you change what you do to compensate. This can be hard if it is a sudden change, as when you hit a patch of oil or ice on a turn. It is hard to quickly change how you are doing things. It requires attention, as well as being adaptable. A fast rider who goes slow in bad conditions is adaptable. Adapting is not just changing what you do, it is changing your whole action framework. This is why it is so hard. It is like playing a game when suddenly all the rules of the game change.

Situations:

Situations are events that arise when others on the road do unexpected things. Handling situations is critical to riding safely. If it was just you on the road, riding would just be skill. But there are other people on the road, and they are the biggest threat any motorcycle faces. In fact, in general, the greatest danger to any human being comes from other human beings. People are far more dangerous to you than tigers, sharks or snakes.

Think before, not after, situations

Do your logical thinking before, not during, events

In motorcycle situations you don't usually have the leisure to make "rational" decisions. You are often lucky to make a decision at all. So use your big, slow, clever brain to figure out likely accident scenarios advance. Then plan your response beforehand. Do your logical thinking before, not during, events. Then when something happens, the instinctive part is prepared. This is the principle behind the sort of training they do in the army.

Tacit knowledge

After you figure something out, you then have to somehow convey these conclusions to the parts of your brain in charge when you actually ride the bike. This is the difference between intellectual and "tacit" knowledge. Tacit knowledge is stuff you know but don't know consciously, like how to not fall off a motorcycle. How do you "translate" intellectual knowledge into tacit knowledge? It isn't always easy, but it can be done, and people do it all the time.

Enjoy the trip

What do you do if someone pulls out so fast you can't avoid crashing into them? Here is my best, high quality advice - relax! As you fly through the air, enjoy the trip. Drunks and babies make the point. The more you relax, the less likely you are to get hurt. If you didn't know this already, now you do (because I just told you). However probably you only know it intellectually. When you fall off the bike (or trip on the pavement), will you actually relax? Or will you naturally tense up? You may know an idea intellectually, but doing it in practice is another thing entirely. Your intellectual part has to talk to your instinctive reaction parts.

Automating responses

On a motorcycle, only automated responses are fast enough

For a skill to be useful in riding, it must be fast. Riding responses are "real time", so you don't have time to think about them. When a skilled pianist's fingers fly over a keyboard, he or she is not thinking "I will play A sharp". Their fingers respond automatically to play the notes. Likewise on a motorcycle, the details of riding must be made automatic. The normal way things become automatic is habit and repetition. But what if you have bad habits? How can you change to better habits? First, define two things about your desired habit:

- **What starts it?** Define the situation that initiates the habit
- **What is the response?** You "design" how you want to act.

Practice when A happens, I will do B, but what if A is extreme and B is dangerous?

Get a clear idea in your head: *When A happens, I will do B* . Next, visualize the initiating condition and practice the response until it is automatic. I know this can be done, because

I have done it. However what if A is extreme and B is dangerous? How can you practice then?

Look after your habits and they will look after you

Take a simple example. If something happens on the road ahead, do you swing left or right? It makes a difference! One way takes you into oncoming traffic and likely death, the other into the hedge on the side of the road. How do you know you wont go the wrong way under pressure? The initiating situation is that a crash happens ahead. This is an extreme case. The desired response is to swerve away from oncoming traffic onto the road side - this is a dangerous response. How can one "practice" in this case? You practice going the right way in your mind. Visualize some situation, and "imagine" you will swerve to the road side, not the traffic side. Practice this in your mind, until it becomes a natural response. Then when something happens, that is the way you will go. In the same way, you can work on any good practices and turn them into habits. Look after your habits and they will look after you!

ARCS create accidents:

1. If I am in a hurry, my attitude is bad.
2. If I have no helmet, my readiness is poor.
3. If it is raining, conditions are bad.
4. Finally, if someone pulls out suddenly, that is a danger situation.

In general, ARCS create accidents.

Most accident causes occur before the accident actually happens. For example, to hurry, to not wear protection, to ignore conditions and to not drive defensively.

This is the ARC that brings us to the accident. Each person in an accident has his or her own ARC. The driver of the left turning car might feel the accident cause was a speeding motorcycle rider, who appeared out of nowhere. Accidents occur when ARCS intersect. When accidents present themselves, it is often too late to do anything about them. We have all seen drivers pushing hard through traffic, all acceleration and brakes, pushing their risk "envelope". They are indeed "An accident on its way to happen". Riding safely is not about pushing the risk envelope, but about creating a safety envelope.

Motorcycles are Safer than Cars

Everyone knows that in a crash motorcycle riders usually come off worse than car drivers. Riders avoid some problems, like being trapped in a burning or sinking car, but in general an accident that dents a car can put a motorcyclist in hospital. However motorcycle fear is often based on rumor or reports, not actual experience. It is guilt by association.

But safety also depends on how likely you are to have an accident in the first place. I find motorcycles safer because one can better avoid accidents on them. In a car, I feel safe because I have protection, but on a motorcycle I feel safer because I have more options. A motorcycle is safer than a car if it is less likely to have an accident in the first place. That the careless can kill themselves more easily on a motorcycle is not denied. However what about competent riders? Competent riders are less likely to have accidents because they:

1. **See more**
2. **Evade better**
3. **Attend more**
4. **Assume less**

Do motorcycles cause deaths?

The death rate for riders is higher than for drivers, but perhaps that is because so many motorcycle riders are young men, who are still developing risk awareness. It seems a hard thing to say, but were they not on motor-cycles, perhaps they just would kill themselves in some other activity, as young men and risk go together. But here is a puzzle. If the risk of riding is so high, how can some people ride motorcycles every day for decades? Even with a tiny risk, sooner or later, their number should come up. Yet such people exist, and I know, because I am one. If the risk of riding is so high, how can some people ride for thirty years and live? Safe riders prove that safety is no accident, and that motorcycle riding is not inevitably dangerous.

See more

A rider's field of vision is further and wider than a car's

A rider is usually higher than a car driver, and so has a better view. A better view means you see danger earlier, and can avoid it better. Riders have no car body around them to create vision blind spots. Just turning their head gives a clear all round view. A bike can also move left or right in the lane for a better view, if a truck blocks your vision. A car

driver in contrast must remain on the steering wheel side. A motorcycle rider's field of vision is further and wider than that of a car. When I drive a car, I feel I have a much more constricted field of view.

The ability to see more lets you avoid more. If a person in a car three cars ahead stops suddenly, as a rider, I see it earlier, and have more time to make adjustments, to avoid a crash. If seeing danger first means avoiding it better, a motorcycle is safer.

Evade better

A motor-cycle has evasion options not available to a car

A motorcycle is smaller than a car, and so less of a target to be hit. Being smaller, it also has more places to go safely. If the car ahead stops suddenly, the car behind must hit it. Highway pile-ups occur because cars in a lane have nowhere to go in sudden stop. However a bike can swerve to the side, or fit between two cars on a many lane highway. It can pull onto the safety shoulder if necessary. A motor-cycle has evasion options not available to a car. It can accelerate better out of a trouble situation. In nearly every situation, a motorcycle has more evasive choices, because it is smaller and more mobile. In terms of accident evasion, bikes are safer.

Attend more

When the body is right there, the brain tends to be right there with it

There is something about traveling at high speed a few feet above hard ground that gets your attention. When the body is right there, the brain tends to be right there with it. By comparison, a driver is separated from the world by the car body, air-conditioning and comfort. Drivers are distracted from the road by:

- Coffee and food
- Talking on cell-phones
- Listening to the radio
- Talking to passengers
- Adjusting seats or windows
- Disciplining children
- Adjusting make-up
- Shaving

Inattention is the main cause of road accidents

Perhaps shaving is uncommon, but the others happen all the time. Studies show that inattention is the main cause of road accidents. You only have so much attention. Attending to one thing degrades your attention to another. Distractions reduce your attention to the road, which leads to accidents. Cars have many distractions, but on a motorcycle, it is just you and the road. Motorcycles are safer because they increase attention and reduce distractions.

Driven to distraction

One has visions of some driver talking on a cell-phone, while listening to and adjusting the radio, turning to look back at a child, with a cup of coffee in the other hand. My personal dislike is soccer Mums in big SUVs trying ineffectively to discipline rowdy children in the back seat while driving. Kids are the most effective distraction machines every invented. Its much better to stop the car and deal with them.

Assume less

Life insurance should be called what it really is - death insurance

People driving large vehicles with life insurance think they are "safe". Life insurance should be called what it really is - death insurance. Then people would understand it better. Money cant replace life. You don't really have insurance (in the sense of replacing what you had).

Car safety features cannot avoid the "nut behind the wheel" problem. Safer cars are no use if people are more careless. If drivers with anti-skid brakes just drive faster in the rain, what is the safety benefit? The accident rate depends as much on attitude as on mechanical safety features. Motorcycles create a better attitude, because on a motorcycle, you know you are vulnerable. No matter how big the motorcycle, what happens is likely to happen to you, personally. Motorcycle riders assume less, which makes a motorcycle safer than a car.

Riding safely means managing risk, but what is risk? Risk has two parts. The most obvious is the *degree of damage*, but risk also depends on *the chance the damage will happen*.

For example, planes are risky because plane crashes are so horrible. Yet your chances of being in a plane crash are far less than your chances of being a car crash. So this makes planes less risky, and indeed people are much more likely to die on the road than in the air. Riding a bicycle is risky for a different reason. People riding bicycles, especially young people, quite often fall off, though usually they are not hurt badly. Here the risk comes from the likelihood of hurt, not the degree of hurt.

If risk depends on both the degree of damage, and the chance of damage, there are two ways to reduce it:

1. Reduce the degree of damage, e.g. with protective gear.
2. Reduce the chance of damage, e.g. by safe riding skills.

This book advocates both ways.

Risk sense

A good risk sense is critical for riders

Naive people just see what is, but with experience, one “sees” what might happen. This "sense of risk" is your ability to know the likelihood of accident. This sense is not like vision or hearing, as it comes from the mind, not your eyes and ears, but a good risk sense is critical for riders. Experienced riders re-assess the current risk every moment they are riding along. It is like a value their mind calculates, that goes up and down as they ride. It is like a snake sensing the heat of its prey with its tongue, or like a Geiger counter that clicks when radio-activity is near. Your risk sense picks up when there is danger. Without it, you are like a sheep among wolves.

When you start riding, it is important to listen to your risk sense, as this is the key to learning to ride safely. If you ride without a helmet, your risk sense should tell you your risk is up, as your possible damage is up. If it starts raining, your risk sense should tell you your risk is up, because the chance of an accident just increased. Now what you do next is another thing, and a lot of this book covers that. However to respond to risk, you have to first "sense" it. From moment to moment, your risk sense guides you, but you have to listen to it.

Male intuition

I believe in male intuition. Everyone knows about female intuition, when a woman has a bad "feeling" about someone or some situation, but few talk about male intuition. Perhaps women have a better publicity department. Women's intuitions about people can seem like mind reading, but male intuition is just as powerful, and can seem like precognition. It is when in a physical situation you know what will happen. In both cases one knows intuitively what one should not. The trick however is to trust it. Suppose you were riding and suddenly, for no apparent reason, got a feeling to slow down - would you? I would. Political correctionists note that both men and women have male and female aspects in them, e.g. all men and all women have both male and female hormones running around in their bodies. So both men and women can have female and male intuitions.

Handling risk

People tend to flip-flop on risk. One approach is to shut your eyes and charge blindly ahead like a bull. The other is to open your eyes, see the danger, and be paralyzed like a deer in headlights, or run away like a frightened rabbit. Both approaches, fight and flight, have their problems.

Tempt fate

Taking risks proves you are not afraid. It also shows that you are stupid

The brave deal with risk by confronting it. They do wheelies, and other risky things, to “prove” danger has no power over them. They are not scared. It is a macho thing to take risks to prove you are not afraid. It also shows that you are stupid. It is stupid to act as if you are above life. The Greeks called this stupidity “hubris” (or pride), and said ‘Pride comes before a fall’. They argued that because we are not "gods", to act like we are is to invite their revenge. It is to "tempt fate". My view is that there is a law of life that “accidents happen”, and this applies especially to motorcycle riders. To tempt fate is to

arrogantly think one is above this law of unexpected events. There is enough risk in the world already without asking for more.

Daedalus, an ancient Greek, once designed some wings so he and his son Icarus could escape from a prison. Despite his father's warnings, Icarus tried to fly up towards the Sun. The heat of the Sun melted the wax holding on his wings, and he fell into the sea and was drowned. This ancient story shows how pride comes before a fall. In riding, it is equally important to know your limits.

Ignore the risk

Ignoring a risk makes you feel better, but doesn't alter the risk

The opposite of tempting fate, of choosing to be risky, is to ignore risk entirely. While some unwisely tempt fate, others deal with risk by shutting it out, like an ostrich with its head in the sand. They tend to only ride slowly on sunny Sunday afternoons, so can ignore the risks of everyday riding. Pretending there is no risk might make you feel better, but it doesn't alter the risk. In fact it increases it, because not knowing of a threat makes it harder to handle. You can better deal with what is out there if you know about it. Risk is like a menacing dog – the more you avoid it, the more it will chase you. The best way deal with risk is to face it, but not invite it in, the “eyes wide open” approach.

Eyes wide open

Risk seekers are as obsessed by risk as those that run from it

Ignorance is not bliss when it comes to riding a motorcycle. Nor is bravado. On a motorcycle, risk is the enemy. Deal with it neither by seeking it nor by ignoring it. Deal with it by knowing it. If you know your enemy, then forewarned is forearmed, and you know how to deal with it. Risk seekers are just as obsessed by risk as those that avoid it. The opposite of both is to not to be hypnotized by risk. You see the risk, but neither move towards it nor away from it. This "eyes wide open" approach has three parts:

- **Face risk** (as a reality of life).
- **Deal with it** (as best you can).
- **Accept the outcome** (whatever it is).

Facing risk means accepting it as part of life. Dealing with risk means managing your degrees of freedom, as this book explains. Accepting the outcome means understanding that we propose but the world disposes, so we never know what will happen. The value of acceptance is it lets you think about the unthinkable - like a crash. If you can't accept that crashes happen, you can't think about them, and if you can't think about them, you can't avoid them.

