

## *Part 1: Background Info*

# Chapter 1 The Young Driver Accident Crisis

### Statistics

Data reported by the U.S. Department of Transportation's National Highway Traffic Safety Administration on young drivers states:<sup>1</sup>

- Motor vehicle accidents are the leading cause of death for drivers age 15 to 20.
- Traffic accidents overall account for approximately 2 percent of all deaths. But for drivers age 15 to 20, they are responsible for over 35 percent of deaths.
- Newly licensed drivers who are 16 years of age have a crash rate three times as high as that for 18- to 19-year-old drivers and are twenty times more likely to be involved in an accident than all other drivers.

A big misconception is that the “younger driver” is a teen just starting to drive on a learner permit or is a 16-year-old newly licensed person. However, a large amount of supporting data confirms that many deadly motor vehicle crashes involve young drivers in the 16- to 20-year-old age range. This stems from multiple reasons. The most common are:

1. **Inexperience.** Relatively speaking, learning how to physically control and manipulate a vehicle from one place to another does not take that long to figure out and manage. However, driving a vehicle in conditions with multiple occurring events requires a higher level of competence and experience in making split-second driving decisions. Young drivers lack experience with previous driving situations upon which to base decisions. They also

lack experience in making fast and accurate decisions while under pressure from external forces that are outside of their control. This lack of previous experience, knowledge, and decision-making capabilities leads to driving errors.

2. **Immaturity.** Some drivers of all ages exhibit signs of driving immaturity and irresponsibility. There are some adult drivers who drive more recklessly than young drivers. Overall, however, people in the teenage driver population are still maturing and wrestling with how to balance the increased demand for more responsible behavior with the desire to enjoy their freedom and expand their boundaries. They are learning how to act in a more mature and responsible manner. A by-product of this learning process is making mistakes, including errors in judgment. Immaturity in this sense boils down to irresponsibility. Speeding, driving while impaired, and engaging in reckless behavior are just a few examples of serious errors in judgment that are all too common. Ironically, whether or not to commit any of these three irresponsible acts is directly under the control of the driver.
3. **Peer pressure.** Many young drivers are susceptible to peer pressure—probably more susceptible than many parents realize. Taunting friends and idolized individuals usually have the clout to pressure a young driver into acting in a manner that they would otherwise consider dangerous and inappropriate. Peer pressure spawns risky behavior, which in turn leads to driving errors.
4. **Testing boundaries.** Many young drivers take driving seriously and approach driving with a strong sense of maturity and responsibility. They do, in fact, recognize that responsibility goes hand-in-hand with driving a vehicle. Young drivers quickly become comfortable in handling a vehicle under ideal and normal driving conditions without having to deal with external threats from a drunk driver or tailgating maniac. With a quick comfort level established, it is normal behavior for young drivers to expand their boundaries and try new experiences. Pushing limits is, after all, how one gains further experience, and from new experience comes knowledge. However, trying a new driving skill or reacting to an unfamiliar situation may lead to a mistake.

Your parenting instincts and responsibilities encourage you to take ample time to educate and discuss in depth with your young driver how to handle a car and traffic rules as well as to go to painstaking lengths

to emphasize the impact that inexperience, immaturity, peer pressure, and testing boundaries can have in making poor decisions. You also emphasize that these poor decisions, in turn, lead to driver errors, which in turn can result in accidents or death.

Many young drivers take their responsibilities seriously and truly do make an attempt to do everything within their power to drive safely. For this diligent and noble effort to work, safe driving practices must be followed 100 percent of the time with no exceptions. However, the chances of keeping this behavior up full time is extremely unlikely. Assume for a moment that your teen is a safe driving teen: Does she remain relentless and 100 percent focused on her safety as well as the safety of her passengers and bystanders? Is she truly safe?

Any driver, regardless of his responsibility and maturity level, is very much at risk of injury or death due to the actions of other irresponsible drivers. Assuming we can get our children on board with responsible driving, we, as parents, still have a demanding job to educate them on all of the other things that might happen to jeopardize their well-being. It is not a fair world and it is not a safe driving environment; everyone is at risk.

How many times have you seen a news report on a young driver who was operating her vehicle safely and doing everything right yet was killed by another driver? The fact needs to be burned into permanent memory that despite your best efforts to instill safety and responsibility and despite your young driver's best attempts to execute this knowledge, every person on the road, regardless of whether they are a driver or a passenger, remains in constant danger due to the reckless and stupid acts of other drivers.

I have talked with many parents on the subject of younger driver responsibility and the conversation usually ends with a stunned look of panic and realization that no matter how safe a driver is or attempts to be, they still remain at constant risk of being hit by another driver, experiencing a tire blowout or brake failure, or any one of an infinite number of unexpected situations.

We will discuss strategies later on how to help young drivers avoid making irresponsible decisions as well as strategies for helping the responsible driver avoid a dangerous encounter with an irresponsible driver. It is essential to understand and manage variables that are within a driver's control and to recognize and react to those variables that are not in a driver's direct control. Airplane pilots do this constantly without even thinking about it since a fast moving airplane requires fast and

accurate decisions. It is second nature to pilots since dealing with other aircraft, weather, air traffic control, and a mixture of other dynamic variables constantly forces a pilot to make precautionary and reactionary decisions. My goal is to educate parents and young drivers to constantly think with the same mindset that pilots use. I want to empower you with the knowledge and tools that pilots have at their disposal. I want to better educate your young driver on how to increase his or her odds of staying safe by thinking like a pilot. I want to empower parents by increasing your knowledge and in turn transforming your young driver's thinking process. By transplanting relevant pilot skills into the thinking process of your young driver, together we can transform him or her into a PilotDriver.

Groups like Mothers Against Drunk Driving (MADD) and Students Against Drunk Driving (SADD) as well as the government's participation in public awareness and crash study research have done a good job in starting to address the particular issue of alcohol-related driver accidents. A tremendous focus has been put on the prevention of driving while impaired by alcohol and/or drugs. These and other organizations have done a great job of playing a role in lowering the percentage of youth alcohol-related motor vehicle fatalities from 63.2 percent in 1982 to 36.6 percent in 2000.<sup>2</sup>

Although this trend is moving in the right direction, the percentage of deaths is still unacceptably high. In my mind, it is still 36.6 percent too high. But what about educating young drivers on the other causes of the remaining 63.4 percent of fatal vehicle accidents involving youth? Data relating to these causes is disparate and not quite as clear-cut as alcohol-related accident data, which has been compiled now for some time. In some cases, there is a lack of crash data or lack of accurate reporting; in many cases, several causes may have acted together to cause an accident while only one cause is officially recognized.

We are going to look at the thirteen leading causes of younger driver death and injury. We will categorize youth driving accidents and discuss strategies on how to prevent them as well as how to deal with the variables you can control while avoiding those variables you cannot control. I strongly emphasize the interrelationships of all these causes and variables because they usually happen in clusters. Statistical data usually tries to segregate accidents into a single cause when, in fact, there are often multiple factors leading to an accident.

One of the lessons I have learned as a parent is that as much as we love and try to protect our children, they make their own decisions when

it comes to driving and other activities. We can tell our kids that it is dangerous to drink and drive and support that statement with ample facts and figures. We can continue adding to our safety stew by stirring in other accident stories, supporting data, and even some threat of punishment for good measure but each child will make his own decision on how to act. Things happen so fast while driving a car that there is usually insufficient time to recover from a single serious error, let alone a series of errors. The day a young driver sets out driving in the car alone is the day that marks her dependence on using good judgment. It all boils down to her ability to process data and make good judgments to yield the best and safest outcomes.

## **Driver Error**

The opposite of good judgment is, of course, poor judgment. The underlying theme of this book is that poor judgment creates errors and errors create accidents. Making poor decisions that lead to errors is significant for drivers. In fact, 80 percent of all fatal driving accidents are attributed to driver error.<sup>3</sup> This is not surprising to me since licensing requirements are heavily concentrated on driving rules and basic vehicle operation. This curriculum is fine for the uneventful trip from home to school or from school to work but it lacks depth when it comes to anticipating, recognizing, and managing the numerous external factors that will interact, forcing a driver to make a fast and accurate decision while under pressure.

## **Pilot Error**

The aviation community has known for some time that error in judgment leading to an error in flight is also responsible for a significant percentage of general aviation accidents. What is interesting is that the percentage of general aviation crashes attributed to pilot error is also reported to be 80 percent.<sup>4</sup>

The Federal Aviation Administration (FAA) mandates that pilots be educated in, among other topics, aeronautical decision making and the effects of alcohol on the human body. In addition, flight instructors and flight examiners grill pilots on emergency procedures. They often create several distractions to help teach pilots how to cope with making accurate decisions and flying an airplane while under pressure. Flight

simulators are invaluable training tools for teaching pilots how to react to dangerous situations while allowing them to push their personal limits of training in a safe environment. Pilots are highly trained with hundreds or thousands of hours of flight time. They receive professional education and attend required refresher training on a regular basis. Yet, with all of this professional training and preparedness, pilot error is still the catalyst for a staggering 80 percent of general aviation accidents.

### *Flight phases and pilot error*

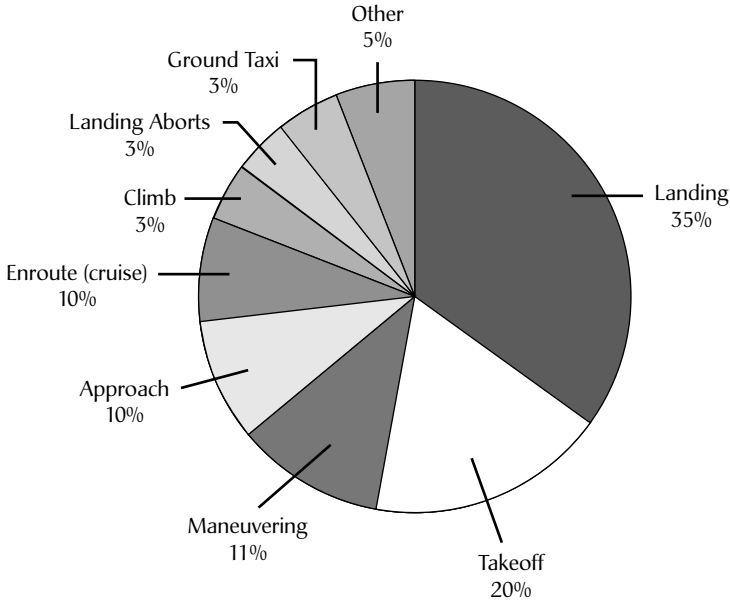
Typical phases of a flight, in sequence, are:

1. Gather flight and weather information and then plan the flight
2. Follow preflight procedures and inspect the aircraft
3. Program in navigation information and prepare instruments and communication equipment
4. Taxi to the runway
5. Engine run-up, final instrumentation verification, and control checks
6. Take off
7. Climb to the cruising altitude
8. Cruise in flight
9. Descend
10. Establish approach to runway
11. Land the plane
12. Taxi to the ramp, park, and shut down the plane

Typically, the longest phase of flight is the enroute or cruise phase. The summation of the takeoff, climb, descent, and landing phases represent a relatively short amount of a flight's time. This is significant because a closer look at the pilot error data reveals that about 71 percent of general aviation accidents attributed to pilot error occur during these phases of flight that together add up to only about 10 percent of a flight's total duration.<sup>5</sup>

### *Crunch time and pilot error*

It is no coincidence that taking off, climbing then descending, approaching, and landing are extremely demanding on a flight crew, let alone an airplane being flown by one pilot. During these periods, crews have a high task load requiring intense concentration, quick thinking,



General Aviation Accidents  
Sheehan, John. "Alarming Findings: Task Force Report Yields Insights into What Causes Accidents," *AOPA Pilot* (May 2003): 105–110.

and the ability to rapidly adjust to an ever-changing set of circumstances—all while flying several tons of metal through the air at both fast and critically slow airspeeds. When airplanes are taking off or landing, pilots are commanding significant speed changes which, aerodynamically speaking, require the fine touch of juggling multiple and sometimes simultaneous changes to the aircraft's configuration. Constant adjustments are made to engine settings, landing gear, flaps, trim surfaces, and so forth. To further compound a pilot's workload and make matters even more hectic, taking off and landing also typically bring an increase in traffic congestion with air traffic controllers continually making advisories and flight alterations to ensure everyone's safety. In summary, a lot of things are happening at once with an airplane moving at critically slow airspeeds, airspeeds at which there is no room for error.

In the pilot world, this high workload during critical phases of flight and emergency situations is known as crunch time. Crunch time illustrates all the decision-making variables that confront a pilot and the associated pressure to make fast and accurate decisions in rapid succession.

## **A Common Problem**

Studies have shown that both pilots and drivers are involved in accidents because of a poor decision 80 percent of the time. Remember also that 71 percent of aviation accidents occur during just 10 percent of a flight's total duration. In an airplane, high workloads leading to task saturation contribute to stress and a deteriorating decision-making process. While automobile drivers do not have flight-oriented crunch time task saturation, they are still making mistakes and incorrect decisions at a rate equal to that of professionally trained and highly experienced pilots. My experience as both a driver and pilot is that despite the large difference between operating an aircraft and an automobile, there are some common factors and overlaps.

Pilots have numerous variables to process and decisions to make during a flight with exceptionally high peaks during the takeoff and landing phases of a flight and also during emergency situations. In addition, their workload increases during times when several situations come together such as bad weather, congested air traffic, and possibly mechanical problems.

Similarly, drivers experience a high workload when several events occur together. For example, a driver entering an intersection on a yellow light with a tailgating driver behind her on a slippery road in bad weather will likely be forced to process several variables simultaneously and select the best reaction.

Like the enroute phase of an airplane's flight, the mundane and routine enroute phase of a drive does not see the majority of driving accidents. Driving accidents usually happen during the smaller percentage of a driving trip where multiple external variables come together and interact quickly. An example of this would be driving through an intersection. Thus, similar to aviation, where a significant percentage of pilot errors occur during a relatively short but extremely critical phase of flight, many driver decision errors also take place during short but critical phases of a driving trip.

The following discussion on PilotDriver concepts will set the foundation for the conclusion of how many accidents that occur to drivers, especially young drivers, can be avoided using some basic concepts and practices that pilots have been trained in and have been using for years. I want to be clear and state that pilots are not superior to drivers when it comes to driving safety. Pilots just have different training and decision

tools at their disposal when compared to the average driver with standard driver training.

I can say with confidence that there are times when every pilot struggles to stay alert and focused while juggling the many distractions and variables associated with flight. Drivers and pilots share the risk of getting caught up in a dangerous situation requiring a fast and accurate decision. As we move forward and I discuss how certain pilot strategies can assist a driver in increasing their odds of making a safer decision, keep in mind that we share this decision error risk element and are in this together.