



AGGRESSIVE DRIVING

WHAT IS...

What is aggressive driving?

Although many people think of 'road rage' when they hear the words aggressive driving, the term includes a wide range of driving behaviours. According to the Traffic Injury Research Foundation (TIRF), aggressive driving includes: running red lights, and speeding up to get through the light; street racing; excessive speeding, and driving well over the speed limit; swearing, and making rude signs at other drivers; using the horn when being annoyed; and, taking risks, just for fun.¹ Excessive speeding is often cited as the most common aggressive driving behaviour.² Aggressive driving behaviours are deliberate, intentional, and are not due to driver error.

What is road rage?

Road rage is defined as a situation in which a driver or passenger attempts to kill, injure, or intimidate a pedestrian/ driver/ passenger, or damage another person's vehicle.³ The difference between aggressive driving and road rage is that physical harm is intended during road rage by the offending driver, whereas aggressive drivers intentionally disregard safety but do not intend to harm others.

What causes aggressive driving?

There are many factors that can contribute to aggression in drivers and which are dependent on individual and environmental conditions.

Some factors that can contribute to aggressive driving include:

- > increases in traffic volume on roads and highways;
- > increases in construction and roadwork;
- > busy lives of drivers with little time; and,
- > stress stemming from work or personal lives.⁴

Aggressive driving is sometimes a result of displaced aggression, which occurs when a person is provoked in one instance but does not or cannot respond. Aggression is

then directed toward a different person or situation.⁵ This can cause a waterfall effect where other drivers become increasingly aggressive because of other aggressive drivers.

How many people drive aggressively?

In the 2006 Road Safety Monitor (RSM) completed by the Traffic Injury Research Foundation (TIRF), respondents admitted to:

- > swearing under their breath (20%);
- > driving well over the speed limit (12%);
- > speeding up to get through a light (9%);
- > using their horn when annoyed (6%);
- > making rude signs at other drivers (4%); and,
- > taking risks for fun (3%).

The same study reported that the majority of Canadians (88%) believe that there is actually more aggressive driving today compared to five years ago.⁶

Estimates of the number of aggressive driving episodes in the United States (U.S.) reach as high as 1.8 billion per year. There was an estimated 28,000 deaths involving aggressive driving behaviours between 1990 and 1996. About one-quarter of drivers admit they drive aggressively at some time.⁷

The number of reported aggressive drivers varies according to the behaviours that are included in the definition. For instance it is estimated that there are as many as two red light runners per hour at urban intersections.⁸ A similar study revealed that 1 in 5 respondents reported running one or more red lights when entering the last ten signalized intersections.⁹

Among teens:

- > Just over 6% of Ontario students in grades 7 through 12 experienced attempted or actual damage to their vehicle or personal injury as a result of aggressive drivers.¹⁰
- > A U.S. survey found that 50% of boys and 40% of girls had raced or passed a vehicle in a no passing zone at least once in the last year. An even larger percentage

1 Vanlaar et al. 2007

2 AAAFTS 2009

3 Agerwala et al. 2008

4 Smooth Operator Program 2013

5 Agerwala et al. 2008

6 Vanlaar et al. 2007

7 Miles and Johnson 2003

8 Porter and England 2000

9 Retting et al. 2008

10 Smart et al. 2007

reported driving 30 km/h over the speed limit; 80% of boys and 70% of girls had done so in the past year.¹¹

How many crashes result from aggressive driving behaviour?

Crash data involving aggressive driving incidents varies depending on the different behaviours and definitions of aggressive driving that are taken into account. Since the definition of aggressive driving and its behaviours are interpreted differently in some cases, calculating resulting injuries or fatalities is difficult. It is also hard to measure the level of intent of aggressive drivers without asking them directly, a factor that is not usually included in most databases. For instance, a drowsy driver may swerve into another lane and appear to be taking aggressive action when in fact they did not mean to swerve at all. These factors, among many others, may or may not be taken into account when measuring the prevalence of aggressive driving.

The American Automobile Association Foundation for Traffic Safety (AAAFTS 2013) estimates that aggressive driving behaviours account for over half of all fatal crashes. That is a significant amount that demonstrates the severity of the problem.

What are the costs associated with aggressive driving?

Aggressive driving has a huge economic cost. The National Highway Traffic Safety Association (NHTSA) attributes \$40.4 billion to speeding-related crashes each year in the U.S., and this accounts for only one of the many aggressive driving behaviours (2008).

Where does aggressive driving primarily occur?

Different aggressive driving behaviours tend to occur at varying times and places. However, one of the primary locations for aggressive driving is at traffic intersections. An Ontario study revealed that disobeying the traffic signal was observed in 42% of fatal crashes and 29% of injury crashes occurring at intersections.¹² A Quebec study also found a high prevalence of road crashes, just over one-quarter, occurring at traffic intersections due to aggressive driving.¹³

While it might be assumed that speeding, one of the most common forms of aggressive driving, would mostly occur on open roads and highways this is not always the case. According to Transport Canada (2011), among young adult drivers, the primary location for fatal crashes involving speeding, as well as alcohol, is urban roads at night. This is due to the fact that urban centers have a greater number of establishments (e.g., restaurants and bars) that serve alcohol.

BEHAVIOURS

What factors contribute to road rage?

- > **Situational and environmental conditions.** In these instances, driving conditions can cause annoyance and

stress (e.g., high congestion conditions which lead to road rage). Since drivers are less visible to other drivers it is easier to express rage under anonymity.

- > **Personality and dispositional factors.** If a driver has an aggressive personality they are more likely to drive aggressively. If they are already stressed or become stressed from the act of driving, this may be acted out as road rage. Being aggressive and stressed may lead drivers to misperceive other drivers' behaviours as personal attacks (e.g., cutting someone off to be rude versus making an honest mistake).
- > **Demographic variables.** These variables can include age, sex, and socio-economic background. Certain demographic variables are associated with an increase in aggressive driving behaviours. In a 2006 RSM survey conducted by TIRF, it was found that young drivers (ages 16-24) were more likely to use their horn when annoyed (12%) compared with older drivers (5%). Further differences are outlined in the following section.

Who is more likely to drive aggressively?

Sex differences among aggressive drivers have been widely reported in research. For example, men tend to engage in risky driving, react more aggressively to congestion, and become revengeful and physically aggressive more often than women.¹⁴ Furthermore, femininity in women is positively correlated with lower driving aggression. "Macho" males, on the other hand, score higher on the driving aggression scale.¹⁵ To illustrate, the 2006 RSM found that there were more than double the percent of male aggressive drivers than there were female aggressive drivers (16% versus 6%).

Age factors have also been shown to correlate to aggressive driving indicators. In the 2006 RSM, drivers ages 16-44 were more likely to drive aggressively compared to drivers ages 45 and older (15% versus 6%).¹⁶

Other factors related to aggressive driving include:

- > having previous traffic transgressions;
- > young drivers, especially novice drivers between 16 and 17, and those with young passengers;
- > drivers not wearing a seatbelt;
- > drivers who are under the influence of alcohol;
- > drivers who do not hold a valid licence;
- > drivers who drive a pick-up truck or SUV;
- > driving during the morning rush hour;
- > driving on high-speed roads; and,
- > parental influences (i.e., those who observed their parents driving aggressively).¹⁷

14 Sharkin 2003

15 Agerwala et al. 2008

16 Vanlaar et al. 2007

17 Agerwala et al. 2008; Paletti et al. 2010; and Vanlaar et al. 2007

11 Arnett et al. 1997

12 Ministry of Transportation Ontario 1998

13 Brault, Auger, and Montegiani 2007

Why are teens more likely to drive aggressively?

As mentioned above, young drivers are more likely to drive aggressively and are more prone to road rage compared to older drivers. Young drivers report more irritation and annoyance in traffic jams and display more aggressive behaviour when faced with traffic and congestion. Young drivers may experience more stress while driving due to inexperience, emotional and maturity levels.¹⁸

Adolescents take more risks while driving because they are prone to sensation seeking and aggressiveness. Sensation seeking has been found to be related to crash involvement among adolescents in grades 9 to 12.¹⁹ Other studies have also linked both sensation seeking and aggressiveness to reckless driving.²⁰

ATTITUDES, CONCERNS AND PERCEPTIONS

What do Canadian drivers think about aggressive driving?

Overall, the public is very concerned about aggressive driving. About 76% of Canadians think drivers who run red lights are a very or extremely serious problem; 73% have the same opinion about street racing, and 66% are concerned about excessive speeding.²¹

Canadians are also supportive of measures that can be used to address the issue of aggressive driving: 63% agree that aggressive driving should be a higher priority for police enforcement efforts; 51% believe that the penalties for aggressive driving should be equal to those for drinking and driving; and, 43% agree with the idea of equipping vehicles with devices to prevent excessive speeding.²²

A report by AAAFTS (2009) discusses the concern among Americans regarding the problem of aggressive driving. However, the report goes on to explain that drivers are overly confident in their own driving, and abide by the saying, 'do as I say and not as I do'. This means that many drivers believe it is safe for them to drive aggressively but that it is unsafe for others to do so.

What do young drivers think about aggressive driving?

In a focus group conducted in the U.S. young and new drivers discussed their thoughts on aggressive driving. Male respondents expressed that they hated tailgaters and would slow down to 'punish' them. The same males admitted to frequently tailgating others when they were 'going too slow'. They did not see it as dangerous because they were confident they could stop in time if necessary. Young males expressed annoyance with drivers who did not signal lane changes or drove in the left lane because it prevented them from swerving from lane to lane at high speeds. They did not see

18 Sharkin 2004

19 Beirness and Simpson 1988

20 Arnett et al. 1997

21 Vanlaar et al. 2007

22 Vanlaar et al. 2007

this as dangerous because they felt they could anticipate the action of other drivers and did not consider themselves to be aggressive, but 'highly skilled'.²³

LEGISLATION

Are there federal laws against aggressive driving?

Yes. Under the Criminal Code of Canada, it is an offence to operate a vehicle in a manner that is dangerous to the public (Criminal Code, s. 249(1)(a)). The punishment for such offences is imprisonment for up to five years; there is a longer term if the offence results in bodily harm or death. The same offences and punishments are applicable to those who are convicted of street racing.

Are there provincial laws against aggressive driving?

Yes. Provincial Highway Traffic Acts address issues of aggressive driving through demerit points and fines for infractions. For instance, the highest number of demerit points that can be accumulated in Alberta and Ontario is six – which is given for the offence of 'careless driving'. In Quebec, 12 demerit points are issued for street racing. Points can also be accumulated for following too closely, accelerating while being passed, and failing to obey traffic controls.

In 2007, Ontario passed Bill 203 that increased the penalty for aggressive driving and racing to up to \$10,000 for driving 50km/h or more over the speed limit. This is the largest fine for aggressive driving in Canada.²⁴ This increase suggests that Ontario believes that this is an important safety issue that must be addressed to protect all road users.

SOLUTIONS

What strategies are available to reduce aggressive driving?

In Canada, treatment for aggressive driving can be ordered for offenders exhibiting particularly high levels of driving aggression or road rage, as well as those who were seen to meet the criteria for certain conditions such as: Intermittent Explosive Disorder or Antisocial and Borderline Personality Disorders.²⁵ Treatment can include psychotherapeutic interventions to help offenders gain insight and understanding into their anger and recognize the consequences of aggressive driving. Treatment also includes educating patients about coping strategies and relaxation techniques to reduce stress and ways to avoid aggression-inducing situations.

In his article, Sharkin (2004) outlines several strategies to reduce aggressive driving behaviours. Avoiding and reducing situations that induce aggressive behaviours before an incident occurs is ideal. Possible treatment strategies include:

- > minimizing aggression arousing stimuli like loud music, talk radio, and arguments with passengers;
- > time management education so that individuals are not

23 NHTSA 2006

24 Ontario Ministry of Transportation Ontario 2009

25 Weisenthal et al. 2013

rushing to get somewhere;

- > promoting public transportation or carpooling to alleviate pressure; and,
- > counseling to help individuals manage road rage, e.g., relaxation techniques while stuck in slow traffic or before getting into the vehicle, breathing or stretching exercises, and prerecorded audio tapes.

How can infrastructure and enforcement change in order to reduce aggressive driving?

The problem of aggressive driving is difficult to tackle due to the magnitude of behaviours that it encompasses. Many countries have adopted new practices and policies in an attempt to reduce the number of offenders and create safer roadways.

Installing photo radar cameras at intersections and along roadways has been a popular tactic to target excessive speeders. In Canada, there are only a few municipal speed camera programs in cities such as Edmonton, Calgary, Winnipeg, and in various cities in British Columbia. Promising pilot studies are being conducted in Quebec, resulting in a 44% reduction in speeding.²⁶ A 2011 report by TIRF evaluated the Winnipeg Photo Enforcement program and concluded that there was a 24% decrease in injury crashes at camera intersections, a 13% decrease in property damage only crashes at camera intersections and a 2% increase in property damage only crashes at other intersections without cameras.²⁷

Despite positive results, there continues to be a sense of wariness surrounding photo radar systems from the public. This was a major issue in a 1995 Ontario election and consequently led to the abandonment of photo radar programs in the province.²⁸ Although studies have shown positive results from the utilization of speed cameras, there is a need for an increase in the number of programs in Canada to have the greatest effect.

Implementing changes to traffic lights at intersections may also help to reduce aggressive driving. Longer yellow signal time can actually reduce the amount of red light running. A one second increase in yellow light duration can lead to a 50% reduction in red light running. Red light cameras can automatically photograph a driver who runs a red light and mail a ticket to their house which can reduce red light violations by 40%-50%. Combining both would be an ideal and effective solution.²⁹ European countries have had success in reducing the number of fatalities and collisions at intersections and roadways with speed cameras. For instance, fatalities and serious injury crashes were reduced by 42% at camera sites in the United Kingdom between 2000 and 2004.³⁰

Some countries have tested programs which reward drivers for good driving practices, as opposed to the traditional method of handing out fines, suspensions, and vehicle impoundment for aggressive driving behaviours. Countries like Sweden and the Netherlands have piloted programs which promote remaining within posted speed limits and refraining from tailgating. In return, drivers receive rewards such as gift cards or entrance into a lottery for money.³¹ While these programs have shown encouraging results, it should be noted that maintaining a rewards system is both costly and its long-term effects have not yet been studied.

Some other proposed solutions that municipalities could use to reduce aggressive driving include: promoting public transit to reduce road congestion and traffic; implementing technologies in cars such as adaptive cruise control or speed governors (which limit the maximum speed of a vehicle); increasing media campaigns against aggressive driving; and, increasing enforcement.³²

What anti-aggressive driving programs are available?

Alberta Motor Association Aggressive Driver Course

This one hour, two-part, online program is designed to help drivers recognize the dangers of aggressive driving. Participants learn about the causes of aggressive driving as well as how to manage aggression-related behaviours. The cost of this program is \$30.

Road Watch Canada – This is an Ontario provincial citizen's reporting organization which promotes safe and respectful driving. Citizens can report aggressive driving behaviours to local authorities who will in turn send a notice to the offender in the mail. Although no penalties are issued from Road Watch, the objective is to raise awareness and reduce collisions, injuries and fatalities resulting from aggressive driving.³³

NHTSA-Smooth Operator Program - This public safety initiative, which began in Washington D.C., aims to provide education, information and solutions for the problem of aggressive driving. The efforts of the program involve coordinating enforcement to stop aggressive driving by increasing the number of citations issued.

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26 Transport Canada 2011

27 Vanlaar et al. 2011

28 Weisenthal et al. 2013

29 Retting et al. 2008

30 Transport Canada 2011

31 Weisenthal et al. 2013

32 Weisenthal et al. 2013

33 Road Watch Canada 2010

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