How Fast is TOO FAST?

A discussion on the

Need for Speed

Det. Arnold Anderson (Ret.)
Community Traffic Safety Program Coordinator
New Jersey Bike & Walk Coalition
Leader - Teen Safe Driving Coalition
Love/Hate Relationship
9 you’re fine – 10 you’re Mine!
Did you know?

Most Speed Related Crashes occur on roads with Speed Limits under 50MPH.
If you double your speed, your minimum stopping distance also doubles.

True or False?
Kinetic Energy Formula

- \( \text{Ke} = \frac{1}{2} m v^2 \)
It’s Speed not Speeding

If you speed:

1. You have less time to avoid crashes
2. You have less control over the vehicle
3. It lengthens your stopping distance
4. It increases the likelihood of crashing and
5. increases the severity of the crash
GHSA Report
Speeding Away from Zero

Progress on reducing speeding fatalities is at a standstill. From 2001-2017, speeding has contributed to between 26% and 32% of traffic fatalities each year.

The average risk of death for a pedestrian rises dramatically as speeds increase.

Source: NHTSA Fatality Analysis Reporting System

Source: AAA Foundation for Traffic Safety
But Not Me?

If everybody speeds, how come you’re passing them?

MNE COMMUNITY ROAD SAFETY COUNCIL

Wipe off 5. TAC

RoadSafe
Have you ever ....

• Have you ever run a yellow light?
• Have you ever weaved between lanes to be at the head of traffic?
• Have you ever driven 5 MPH or more over the speed limit?
• Have you ever been angry or upset thinking traffic was moving too slow for your liking?
• Have you ever tried to beat your arrival time on your GPS?
From the movie Starman, 1984
How do you convert MPH to FPS?
Think in **fps** not **mph**

- Miles per Hour
- Speed
- Scalar quantities possess magnitude only

- Feet per Second
- Velocity
- Vector quantity, incorporating direction with speed
  - \( V = S \times 1.466 \)
  - 35mph = 51.31fps/s
How Fast is TOO Fast

CAN REDUCING YOUR SPEED BY JUST 3 MPH MAKE A DIFFERENCE?
Yes!

6 meters = 20 feet
Hit at 32 kph = 20 mph
p/r 65 kph = 40 mph
60 kph = 37 mph
5 kph = 3 mph

20 is plenty!
How Fast is TOO Fast

WHAT IS THE MOST COMMON TYPE OF CAR COLLISION?
Wipe Off 5!

p/r 65 kph = 40 mph
60 kph = 37 mph
20 Meters = 65 feet
5 Meters = 16 feet less
44 Meters = 144 feet at 65 kph or 40 mph
Stopping Distance

RELATIVE STOPPING DISTANCES
for passenger cars, buses, and large trucks

<table>
<thead>
<tr>
<th>Vehicle Speed (mph)</th>
<th>Braking Distance (in feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>50</td>
</tr>
<tr>
<td>30</td>
<td>100</td>
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<tr>
<td>40</td>
<td>150</td>
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<td>50</td>
<td>200</td>
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<tr>
<td>60</td>
<td>250</td>
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</tbody>
</table>

0 50 100 150 200 250 300 350 400
Are You a Safe Driver?
How much time do you **Really** Save?
30-Mile Trip at different speeds

- 55 miles per hour
  - 32.7 minutes
</r>
- 65 miles per hour
  - 27.7 minutes (5 minutes saved)
- 75 miles per hour
  - 24 minutes (8.7 minutes saved)
Do the Math

- Formula: Distance/mph x 60 (minutes)
- Example: $30/75 = 0.4 \times 60 = 24$ minutes
- This math assumes you can maintain a constant speed without slowing down for traffic, signals or curves in roads.
Reality is ...

In reality, you’d probably save only 4 minutes, at best. And keep in mind, most trips are short. The average time saved on a 5-mile trip, driving 65 mph on a 45 mph posted road, is only 1.9 minutes.
We are literally killing ourselves with

**MAXIMUM EFFORT – LITTLE REWARD**
What is **PERCEPTION-REACTION TIME?**
Remember Braking Distance

Typical stopping distances for an average family car

- **20 mph**: 12m (40 feet)
- **30 mph**: 23m (75 feet)
- **40 mph**: 36m (118 feet)
- **50 mph**: 53m (174 feet)
- **60 mph**: 73m (240 feet)
- **70 mph**: 96m (315 feet)

**Formula**

\[
\text{Stopping distance} = \text{Thinking distance} + \text{Braking distance}
\]

**Key**

- Thinking distance
- Braking distance

*Source: RAC © 2017*
Question?

DOES WEAVING BETWEEN LANES GET YOU TO YOUR DESTINATION SOONER? WHICH IS SAFER?
YES & NO
Mythbusters
What is the

PHANTOM TRAFFIC JAM?
The Phantom Traffic Jam
Cascading Failure
What it looks like in Real Life
One Solution to the Traffic Wave Problem
Variable Speed Limits
What is a ZIPPER MERGE?
The Merge

Typical Merge

Zipper Method
Drivers know speeding is dangerous, yet don’t believe they will:

- Get a ticket
- Cause a crash
- Violate social norms

Source: NHTSA Fatality Analysis Reporting System
“Yes, Mr Police Officer. I did see the speed limit. I just didn’t see you.”

Kerb - making parking in your city easier.
Download the app today...
www.kerb.works
When it comes to Speed – Drivers Worry More About Getting Caught than Getting Hurt

The Best Safety Device is a Rear View Mirror with a Cop in it.

Dudley Moore
Tortoise or the Hare?
Slow and Steady Wins the Race
Your Speed Does Not Matter - Forward is Forward

Please Drive Safely

Thank You