Statistics on Traffic Accidents

- 43% of all drivers are involved in a crash each year.
- 40% of fatalities are in a crash each year.
- 47% of drivers cause a crash each year.
- 43% of crashes are driver error.
- 17% of crashes are alcohol-related.
- 15% of crashes are speed-related.
- 13% of crashes are distraction-related.

Common Causes of Traffic Accidents

1. Reckless Driving
2. Speeding
3. Alcohol
4. Distraction
5. Inexperience
6. Fatigue
7. Weather Conditions
8. Road Conditions
9. Mechanical Failure
10. Driver Error

Types of Collisions

- Impact: Bumper to bumper or hood to hood
- Rolling: Sliding or spinning
- Side impact: Colliding with a vehicle on the side
- Head-on: Colliding with another car head-on
- Rollover: Vehicle turns over
- Undershoot: Vehicle goes over an embankment
- Overrun: Vehicle runs off the road

In terms of physics there are only two:

1. Elastic
2. Inelastic

 Newton's Second Law of Motion

\[ F = m \cdot a \]

Where:
- \( F \) is the force applied to an object.
- \( m \) is the mass of the object.
- \( a \) is the acceleration of the object.

Newton's Third Law of Motion

\[ F_1 = -F_2 \]

Where:
- \( F_1 \) is the force applied to object 1.
- \( F_2 \) is the force applied to object 2.

Vehicle Features That Help in Crashes

- Crumple zones: Absorb energy and decrease the force applied to the vehicle occupants.
- Airbags: Protect occupants at speeds above 20 MPH.
- Seat belts: Reduce the force applied to the occupants.
- Restraint systems: Prevent the head from hitting glass.

CONCLUSION

Driving while sober, following the rules, and being alert are the best ways to avoid a crash.