

# The dangers of speeding and how to prevent it.

Bus Industry Safety Council Meeting - January 11, 2022



*Confidential & Proprietary*



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Building safe work habits for life®



## Gary Catapano

Gary's career spans over thirty years as a transportation safety professional, senior business leader, safety thought leader and presenter. Gary currently serves as MAGTEC's Chief Strategy and Safety Advisor. Gary has been a volunteer for National Safety Council and National School Transportation Association for over 30 years. He is a Distinguished Service award recipient for both organizations along with being a Golden Merit Award Winner. He has helped both organizations with many of their safety initiative's over the years. Prior to joining MAGTEC Gary served as FGA's Senior VP of safety for 14 years helping to guide all of its operating companies including: First Student, Greyhound, First Vehicle Services, and First Transit. These companies transported more than 2.5 billion passengers a year and over 6.5 million passengers a day.



## Dr. Judy Agnew

Judy Agnew is senior vice president at Aubrey Daniels International; a consulting firm that helps clients improve safety and business performance using behavioral science. With 30 years in the business, she is a recognized workplace safety expert and author of four safety books, including *Safe by Accident?, A Supervisor's Guide to Safety Leadership*, and her most recent book *Safe by Design: A Behavioral Systems Approach to Human Performance Improvement*.



# We have become a speed tolerant culture.

- 100,000 speeding related fatalities over the last 10 years
- Over 50 NTSB reports with speed as a causal factor
- Staggering figures for pain, suffering and economic toll
- Not just a problem at speeds above 55MPH
- Setting speed limits, a flawed methodology
- Safe Systems Approach needed
- Change the focus to help eliminate speeding

The final data for 2020 confirmed the pandemic brought a new norm to our highways.

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- Vehicle miles traveled was down 13%. Motorist took hundreds of millions less trips. Traffic was much lighter .....
  - *Fatalities increased 8%, to 42060 deaths*
  - *Injuries were a staggering 4.8 million*
  - *The death rate per VMT increased 24%*
  - ***“Of the reckless behaviors the early data from NHTSA shows speed to be the top factor”***
  - *Source : National Safety Council March 4<sup>th</sup> 2021 “Motor Vehicle Deaths”*
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The **2021 National Safety Council** Preliminary Estimates: Motor Vehicle Deaths Continue to Skyrocket As More Vehicles Return to the Roads

Following a deadly year on the roads in 2020, the first half of 2021 is shaping up similarly



- 16% Increase in motor vehicle deaths in 2021 over 2020
- 21,400 people lost their lives in just 6 months
- After setting an all-time record increase of 24% in 2020 the death rate for the first half of 2021 when normalized by mileage shows a further increase of an additional 3%



## USDOT Traffic Safety Facts October 28, 2021

### “Traffic Safety During the Pandemic January to June 2021”

Road fatalities spiked for first half of 2021

- Largest Increase in fatalities since 2006
- Fatality rate increased from 1.28 to 1.34
- Ejections increased

Risky Driving Behaviors Worsened

- Speeding
- Not wearing seatbelts
- Impaired driving (Including distraction, fatigue and drug and alcohol use)



## Final State Roadway Fatality Data for 2021 Starting to Come into Focus

- Missouri reports over 1000 roadway fatalities the worst year since 2006 – 41% of the crashes involved speeding or unsafe operating speed. Not wearing seatbelts and impaired driving including cell phone use were also cited as factors in some of these crashes.



# Speeding's impact on crash risk and injury outcomes

Chattanooga Tn. - 2015

- Speeding limits, a driver's ability to detect and avoid collisions
- Speed worsens crash forces, impact and severity



# Why is speeding so dangerous?

## Baltimore City - 2016

- Impact force increases as a square of the speed
- Reduced effectiveness of occupant protection features
- Compact cars and vulnerable road users



## Why is speeding so dangerous?

### Bronx, NY - 2011

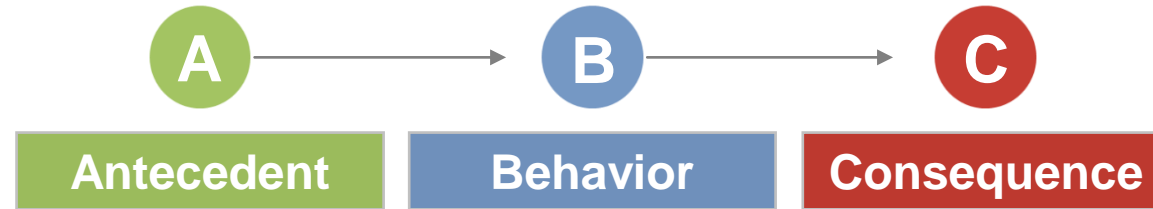
- Fatigue
- Excessive speed,
- Other factors








# The top five reasons drivers' speed

- #5** Lack of experience
- #4** Sensory data and modern vehicle design and comfort
- #3** Risk perception
- #2** Risk compensation
- #1** The number one reason drivers speed is rooted in behavioral psychology and consequence history

# Understanding the behavior of speeding



-  Antecedents: *necessary but not sufficient*. Behavior is a function of its consequences
-  Immediate & Certain consequences are the strongest
-  Positive consequences are most efficient & effective
-  Negative consequences are the default and undermine safety
-  Organizational systems are a source of consequences, and they can inadvertently encourage at-risk behavior



## Antecedents: necessary but not sufficient.

- Telling employees there is no business objective so important they need to speed
- Training in the dangers of speeding
- Signs and slogans

*Antecedent solutions have short-term  
impact at best*



# Immediate and certain are most powerful

## Behaviour: Driving over the speed limit

<b>Antecedents</b>	<b>Consequences</b>	<b>P/N</b>	<b>I/F</b>	<b>C/U</b>
Behind schedule	Have a collision	N	I	U
Traffic is light	Get a ticket	N	I	U
Other vehicles are speeding	Less time on the road	P	I	C
Tired; want to get off the road	Make up lost time if behind schedule	P	I	C
	Can keep up with other traffic	P	I	C
	Customers are happy arriving on-time	P	F	C
	Get to go home sooner	P	F	C



## Negative consequences are the default and undermine safety

- Common strategies such as tickets, reprimands, and discipline have short-lived impact, undermine reporting, and damage culture
- E.g., GPS data sends alerts to managers when drivers speed,
  - leads to negative feedback, reprimands or worse
  - drivers complain the focus is on exceptions
  - GPS devices get tampered with
  - open, honest conversations are discouraged
- In extreme cases: people will quit and leave, or quit and stay



## Positive consequences are most efficient & effective

- Positive reinforcement is the only way to capture Discretionary Effort
- Unfortunately, natural consequences encourage speeding
  - Get there faster
  - Less time on the road
  - Keep pace with other drivers
- Driving the speed limit is rarely (if ever) positively reinforced
- More Safety Coach and less Safety Cop results in improved behavior and improved culture
- In a competitive environment, a strong, positive, inclusive safety culture will attract and retain drivers



# Organizational Systems are a source of consequences

- Consequences come from people (leaders, customers, regulatory agents)
- Consequences also come from systems such as:
  - Measurement systems: telematics
  - Pay systems
  - Incentive systems



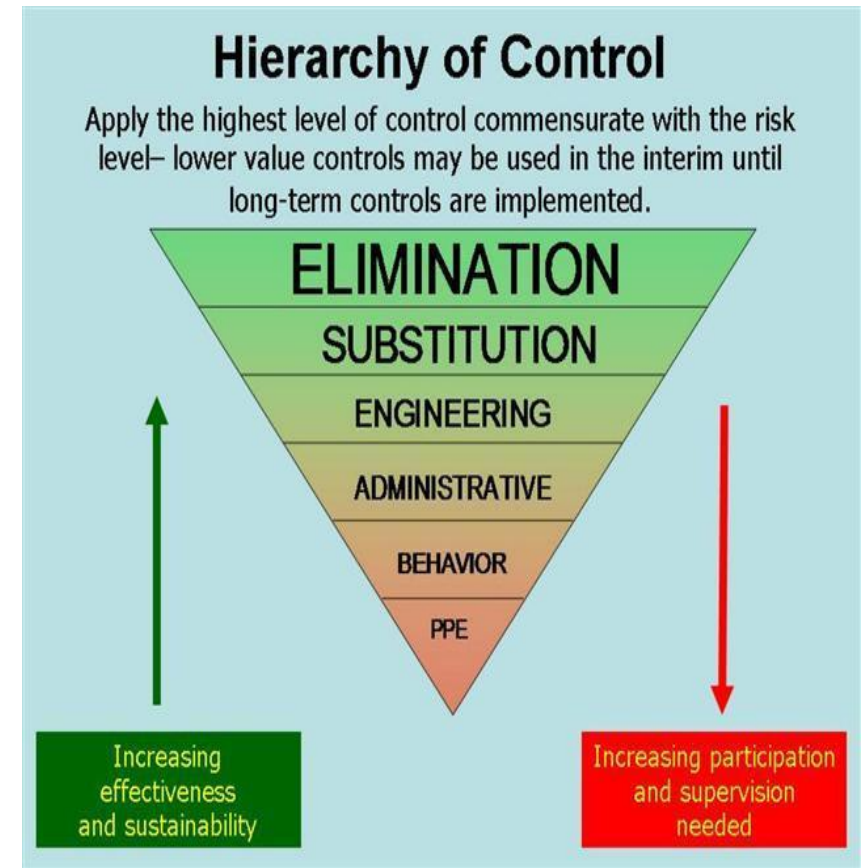
## How to help prevent speeding and change your safety culture

- Organizational systems changes
- Senior leadership commitment and actions
- Safety leadership observations and coaching
- Technology

# How Intelligent Speed Limiters are different than GPS, Telematics and onboard standalone cameras

- GPS, Telematic Devices and onboard cameras can document a fleets speeding behaviors but can do nothing to prevent them !
- Each speeding event is recorded and creates an obligation for management to deliver retraining and coaching or the operating risk is unmanaged and the liability potential increased.
- An Intelligent Speed Limiter prevents the behavior from occurring thereby applying the highest form of safety control as depicted on the chart to the right.
- An ISL can enforce either the speed limit or a companies operating speed management policies with no management intervention or action required.

Here's why ! (Active Enforcement)



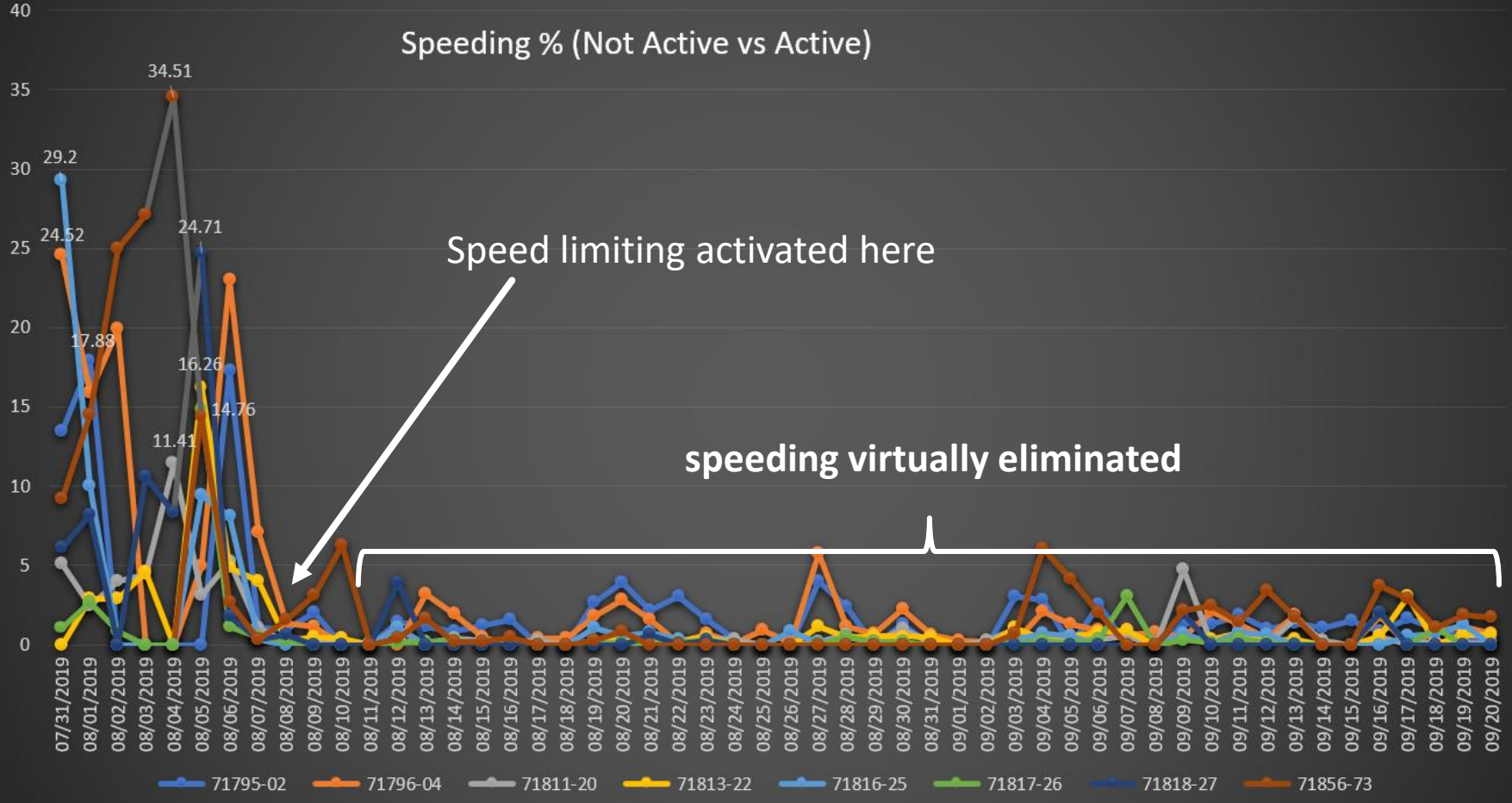


# What does an Intelligent Speed Limiter (ISL) do?

1. Satellite GPS and Cellular GPS tracks vehicle speed and speed limit for the roadway.
2. The ISL dynamically limits or manages vehicle speed by removing or reducing the throttle signal to the engine slowing down the vehicle.
3. Once the speed limit setting is reached and there is no overspeed the throttle function is restored to normal.
4. Driver can override settings should conditions warrant.
5. Allows Fleets to set the top operating speed of the bus.
6. Security Features: Panic Button and Remote Vehicle Disabling.

# Intelligent Speed Limiters (ISL) Typical Results

Baseline:  
data collection only.  
ISL is not actively  
limiting





The Safe Operating Speed Alliance is a non-profit founded by the Institute for Safer Trucking, Aubrey Daniels International and MAGTEC Products Inc. three safety focused entities working together to address the unsafe behavior of speeding and the crashes stemming from it.

# Our Vision

**Save lives and prevent injuries by facilitating the adoption of technology, policies, regulations and behavioral strategies that can eliminate speeding.**

- Include Insurance Industry in a Roadway Safety Summit on Speeding
- Form an industry workgroup to develop criteria for possible usage by insurance companies to provide financial incentive for a company investing in active safety technology.
- Work with FMCSA, regulated motor carriers and large non-regulated fleets to create a program for recognizing those who invest in active safety technology to help ensure the base line for their safety efforts goes Beyond Compliance and reaches for discretionary effort.

**Please visit our website: [Safeoperatingspeed.org](https://Safeoperatingspeed.org)**



# 5 STEPS to Save Lives by Addressing the Speeding Epidemic

Begin with USDOT conducting a Safety Summit to discuss strategies to prevent speeding. This initial event would focus on CMV/Fleets.



Modify laws and regulations to help prevent speeding and to guide the setting and adjusting of speed limits where appropriate to better factor safety. Begin these changes by requiring the usage of top end speed limiting in class 7&8 trucks.



Integrate technology into vehicle and infrastructure design to factor in safety, traffic flow and safe operating speeds.



Work with FMCSA and Insurance Industry to create incentives to encourage the adoption of active safety technology such as Automatic Emergency Braking and Intelligent Speed Limiters.



Pair behavioral science with technology to help organizations create metrics and incentives to measure, reward and recognize those drivers operating at the speed limit. Work with CVSA, GHSA and other associations to reimagine and realign traffic safety enforcement strategies with behavioral science to improve effectiveness.



<https://alliance.safeoperatingspeed.org>

## Our Roadmap to Saving Lives and Eliminating Speeding

- Step 1 USDOT speeding summit
- Step 2 FMCSA create incentives
- Step 3 Modify Laws & Regulations
- Step 4 Apply Behavioral Science
- Step 5 Adopt Technology & Infrastructure Changes

# Our request to USDOT to Convene a Roadway Safety Summit

“Eliminate Speeding & improve safety in CMV’s and Large Fleets”

NHTSA, FMCSA, NTSB, Industry and Experts – use prior successful efforts in Distracted Driving, Motorcoach Safety, Impaired Driving as reference.

Work groups examine practice areas to recommend actionable items ;

1. Changes to laws and regulations
2. Beyond compliance FMCSA and insurance companies underwriting
3. Address behavioral factors and improve traffic enforcement
4. Consider available Speed Management and Limiting Technology now.
5. Improve infrastructure safety features .

# Any Questions?

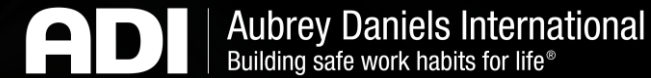
# Contact Us



To learn more about how SafeSpeed can help prevent speeding in your fleet contact MAGTEC Products, Inc.

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To learn more about safety leadership, coaching and culture change contact Aubrey Daniels International

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