



# **Auto Frequency: Decreasing, Increasing, Or Leveling Off?**

*Discussion Document*

**2008 CAS Annual Meeting**

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# ***Disclaimer***

**The views expressed in this presentation are solely those of the author, and do not necessarily reflect the views of Allstate Insurance Company or any of its affiliates, subsidiaries, or employees.**

# *Pre-Work*

What is your position on the following...

- Is auto frequency about to:
  - ▶ Increase?
  - ▶ Level off?
  - ▶ Decrease?
  
- Why?

# *The Importance Of Context*

- What's this?



# *The Importance Of Context*

- What's this?  
And, how much are you looking at?





# *The Importance Of Context*

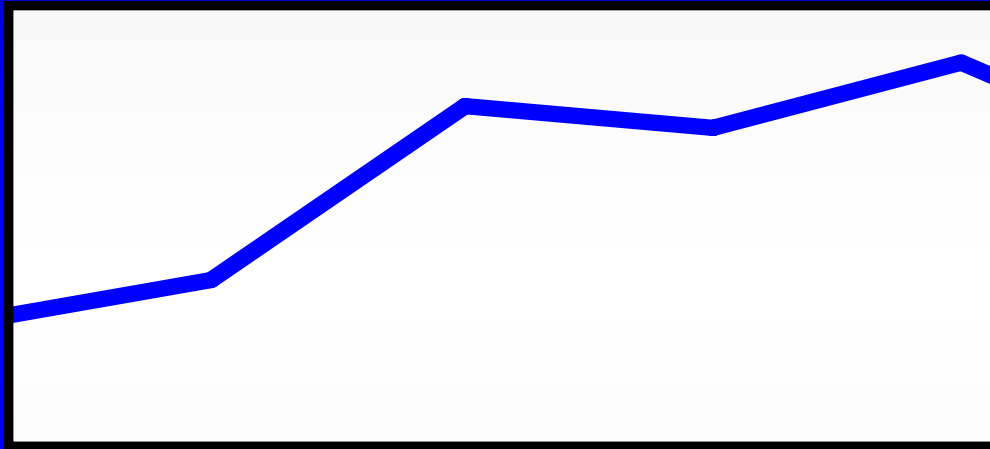
- What's this?  
And, how much are you looking at?



***We can't tell unless we "zoom out"...***  
***Context provides a better answer***

# *The Importance Of Context*

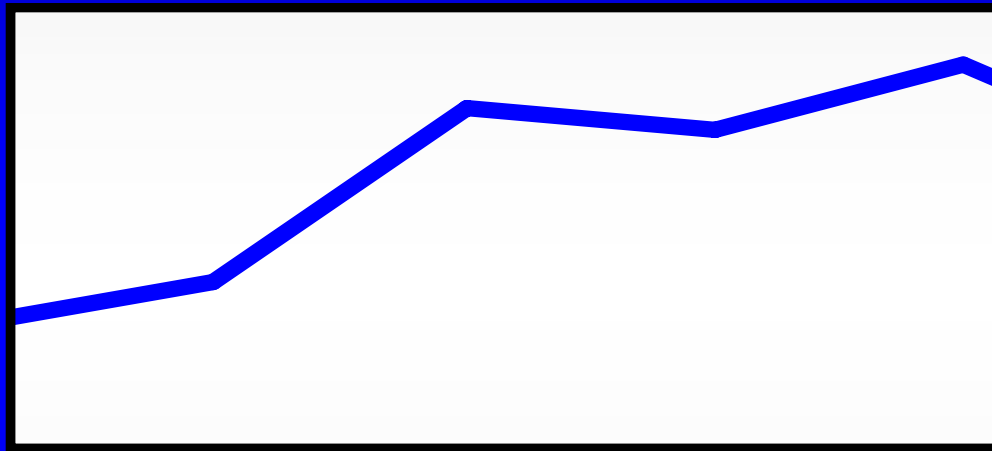
- What trend do you see?



- How do you know?

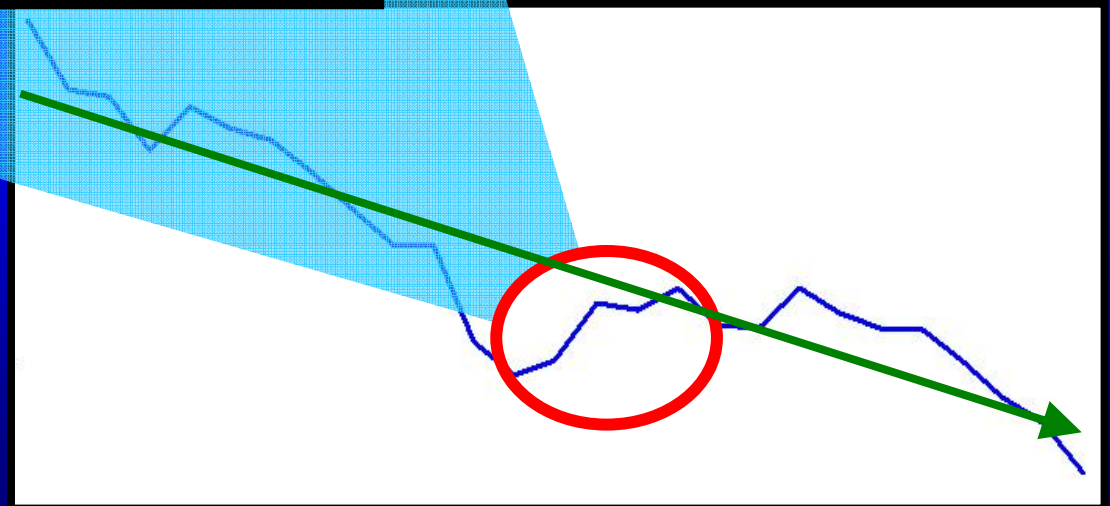
# *The Importance Of Context*

- What if we “zoom out” and provide more context?



*Increasing trend?...*

*...Or, variability  
around a generally  
declining trend?*





# ***Past Influences On Frequency***

**Context: Consider drivers of claim frequency that create variability over time**

- ▶ **External vs. Internal**
- ▶ **Short-term vs. Long-term**
- ▶ **Positive vs. Negative**

# Past Influences On Frequency (Sample)

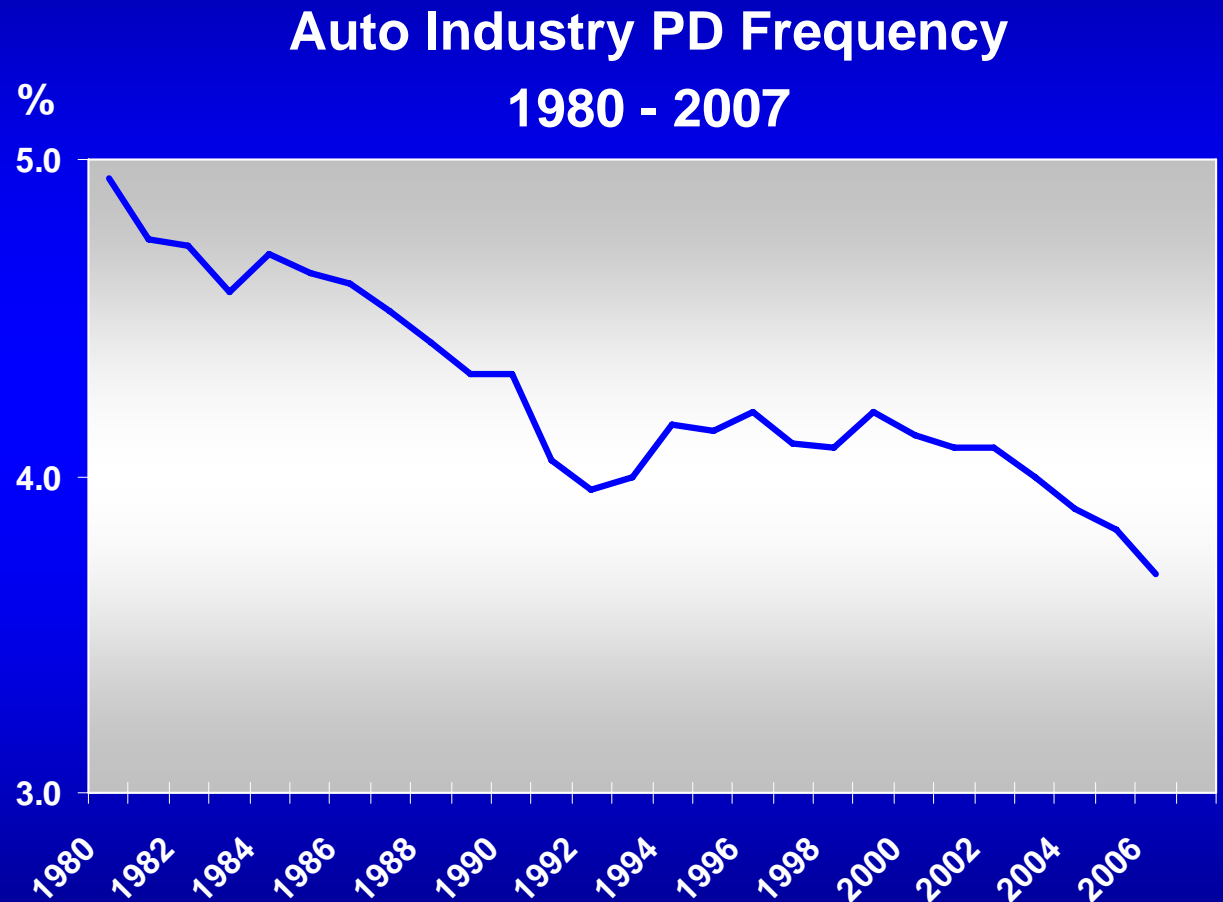
1970's	1980's	1990's	2000's
<p><u>Recession</u></p> <ul style="list-style-type: none"><li>• ~8%-10% drop in PD and Collision Frequency</li></ul>	<p><u>Anti-Lock Brakes</u></p> <ul style="list-style-type: none"><li>• NHTSA study stated ABS "appears to be beneficial in preventing pedestrian crashes, rollovers, run-off-road crashes and frontal crashes with another moving vehicle."</li></ul>	<p><u>National Speed Limit</u></p> <ul style="list-style-type: none"><li>• Repealed 1974 national speed limit</li></ul>	<ul style="list-style-type: none"><li>• Cell Phone Laws</li><li>• Automated Enforcement Laws</li><li>• Graduated Drivers License Laws</li><li>• Electronic Stability Control</li><li>• Event Data Recorders (Black Box)</li></ul>
<p><u>Energy Crisis</u></p> <ul style="list-style-type: none"><li>• PD &amp; Collision frequency drops sharply, then rebounds after embargo ended</li></ul>			
<p><u>National Speed Limit</u></p> <ul style="list-style-type: none"><li>• 1974 - Congress passed speed limit @ 55mph</li></ul>			

Source: Time- The profits of recession, IIHS- Insurance Institute for Highway Safety, Anti-Lock Brakes MSN Auto, Fox News

# Past Influences On Frequency

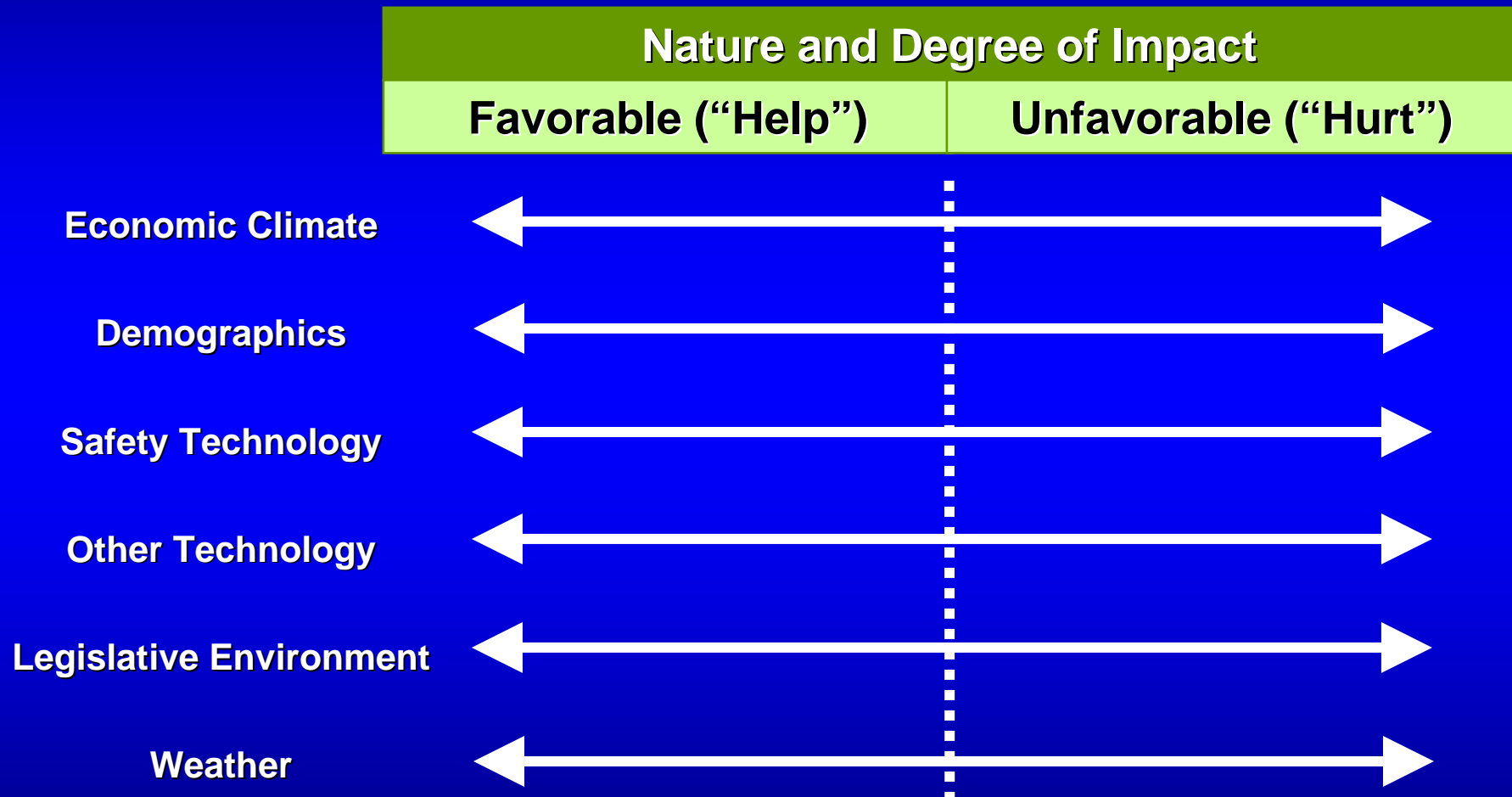
*External factors contributing to overall frequency decline over time:*

- Economy
- Demographics
- Legislation
- Technology
- Driving behavior
- Weather
- Other



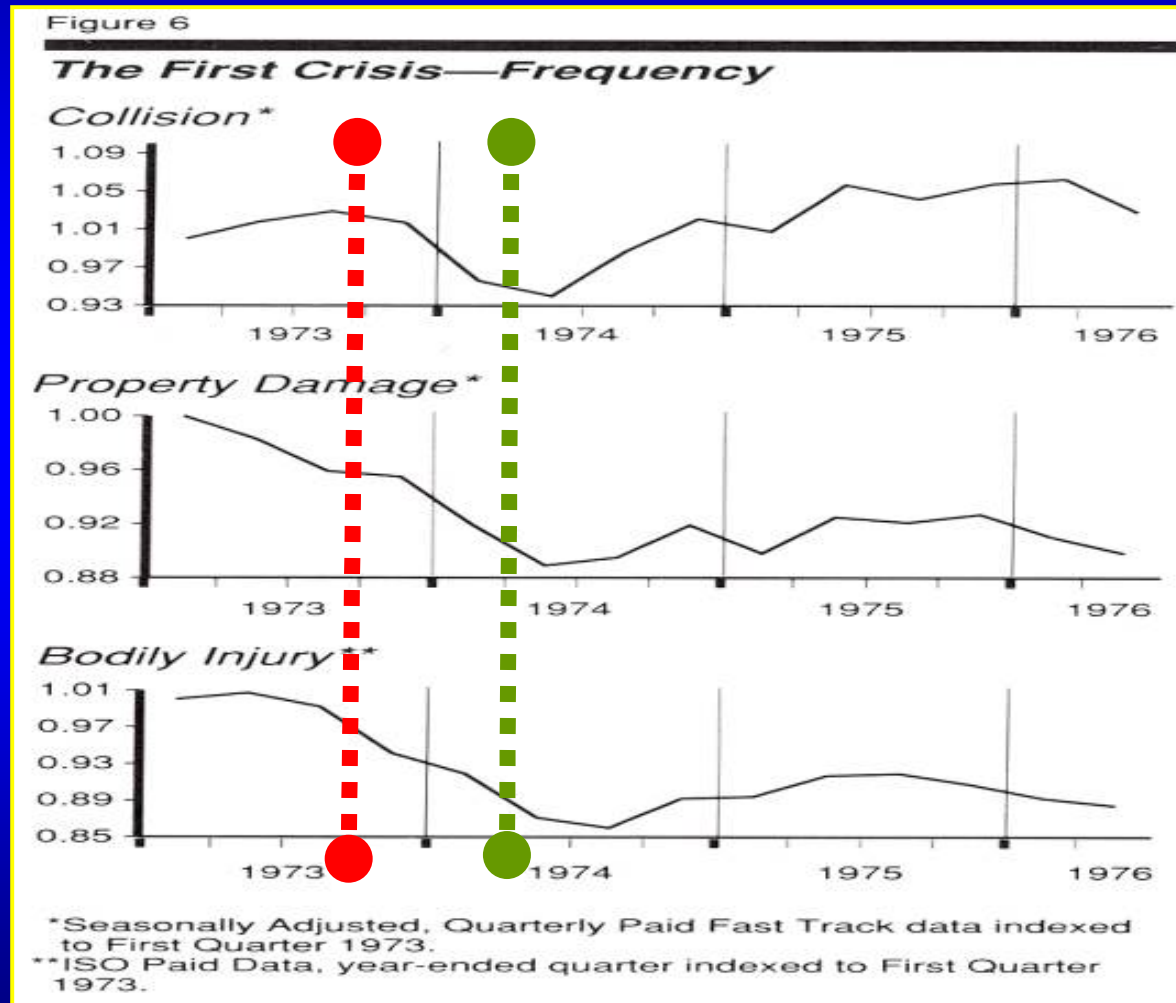
Source: IRC

# *Example: External Frequency Drivers*



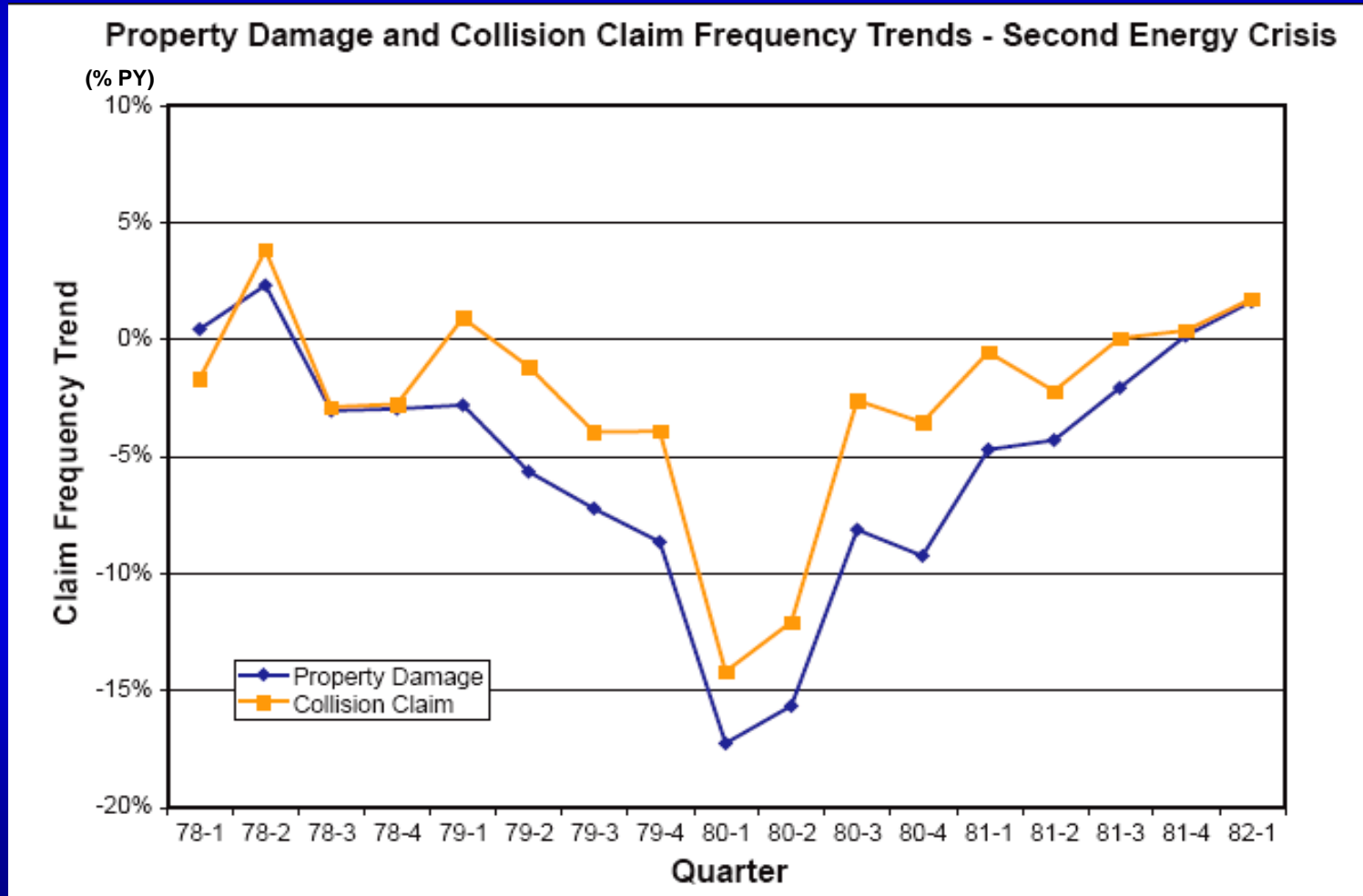
# Economic Climate: Help or Hurt?

- We can learn from history...



# Economic Climate: Help or Hurt?

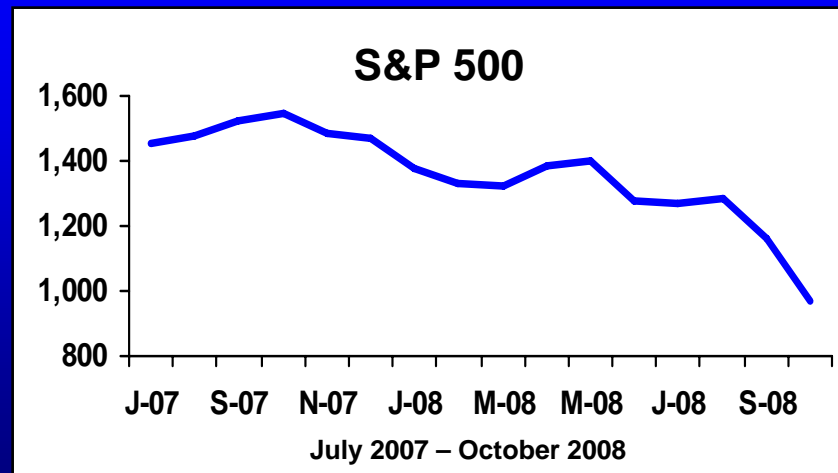
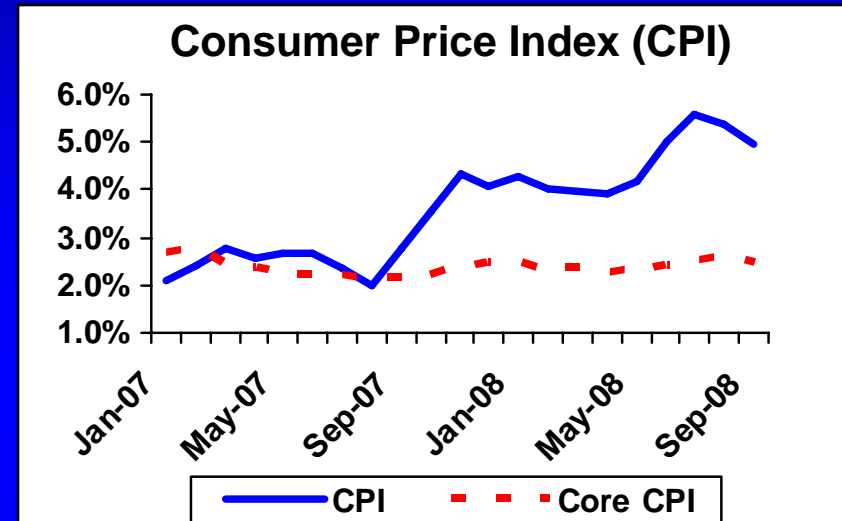
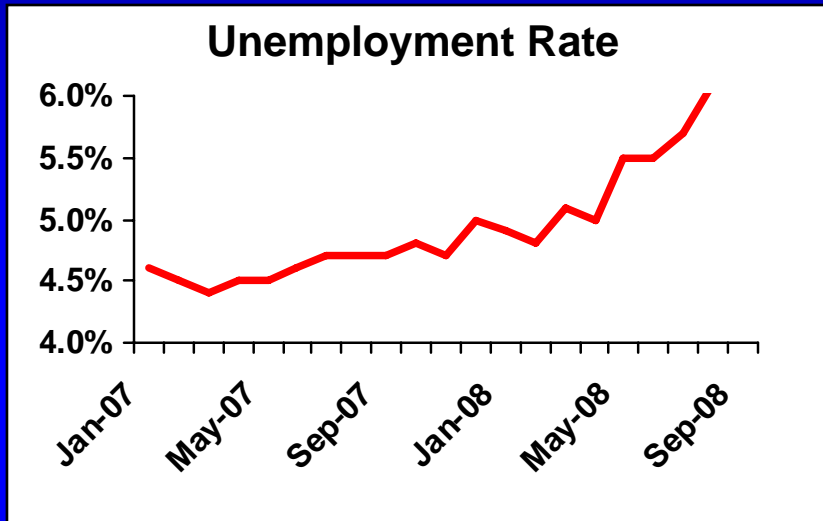
- But, does history repeat itself?



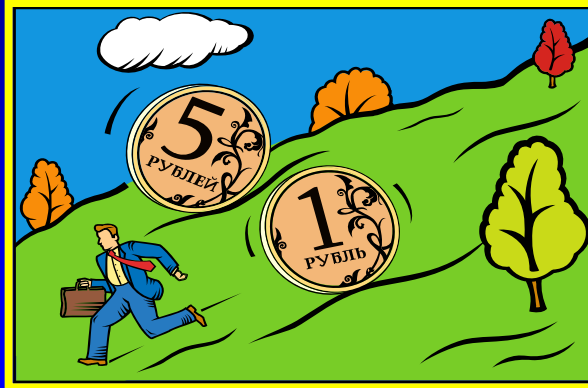


# Economic Climate: Help or Hurt?

- What might result from today's economic situation?

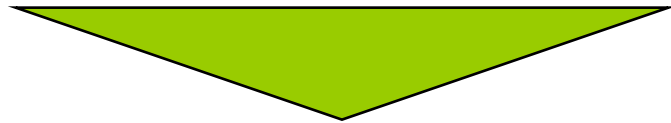


# *Economic Climate: Help or Hurt?*



## **Favorable (“Help”)**

- Increasing unemployment
- Generally increasing CPI, PPI
- Fewer new car sales



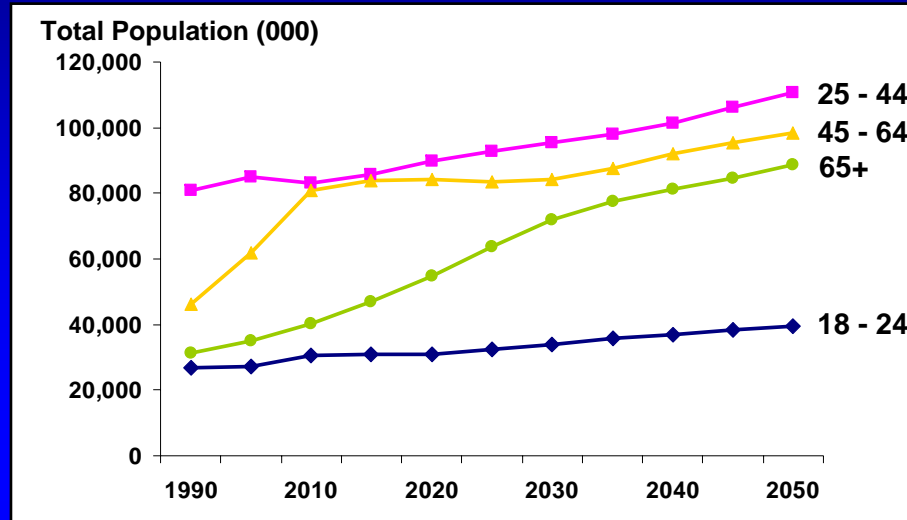
- Fewer miles driven (short-term)
- Potential change in claiming behavior (collision)
- Greater familiarity with existing vehicles

## **Unfavorable (“Hurt”)**

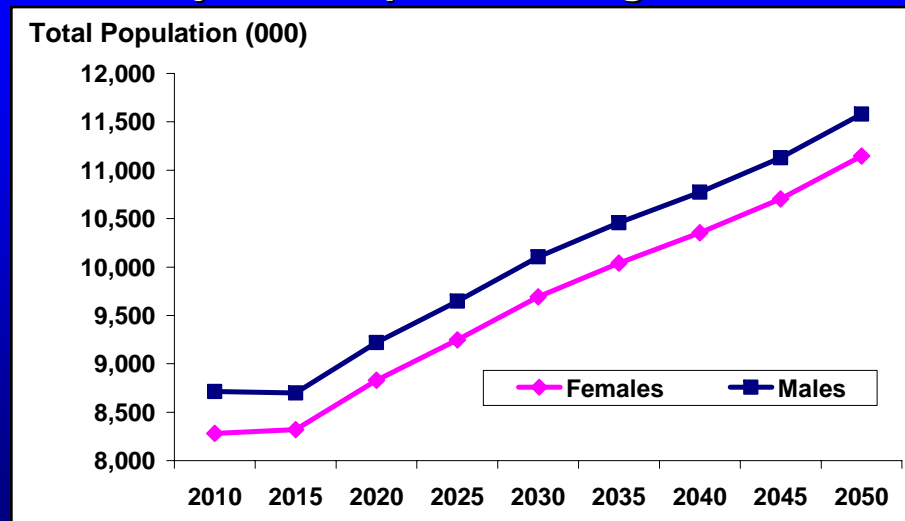
- Increased speeds (fewer cars, less congestion)
- Increased incidence of theft
- Less spend on auto maintenance
- More stranded vehicles
- Less expensive vehicles = fewer safety features
- Bounce-back effect
- Smaller cars = higher BI
- Severity increases as petroleum costs increase
- Potential change in claiming behavior (fraud, medical)

# Demographics: Help or Hurt?

## Projected Population



## Projected Population - Ages 14-17



Source: US Census Bureau, U.S. Department of Homeland Security

CAS Annual Meeting, November 17, 2008

# *Demographics: Help or Hurt?*



## **Favorable (“Help”)**

- Boomers as high % of driving population (safest driving years)
- Boomers more restrictive of teen drivers

## **Unfavorable (“Hurt”)**

- Future aging of population
- Shift in mix of safest drivers as % of total
- Urbanization

# Safety Technology: Help or Hurt?

## Auto Safety Innovations, Driver Assistance Technologies

Today's vehicles have more safety features than ever. ▼

**Side Airbags and Curtains**  
help protect occupants  
in side crashes

**Dynamic Head Restraints**  
help reduce potential  
head/neck injuries

**Forward Looking Radar**  
detects vehicles ahead

**Brake Assist**  
enhances  
braking ability



**Safety Belt Load Limiter**  
reduces possibility of belts  
causing injury

**Electronic Stability Control**  
helps drivers maintain vehicle  
control

**Traction Control**  
can automatically stop  
a spinning wheel

**Anti-Lock Brakes**  
allow drivers to steer and brake  
simultaneously

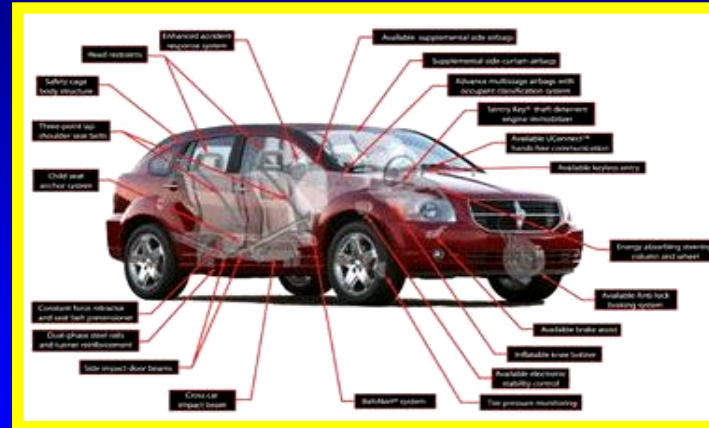
## Greater Visibility



## Smart Intersections



# Safety Technology: Help or Hurt?



## Favorable (“Help”)

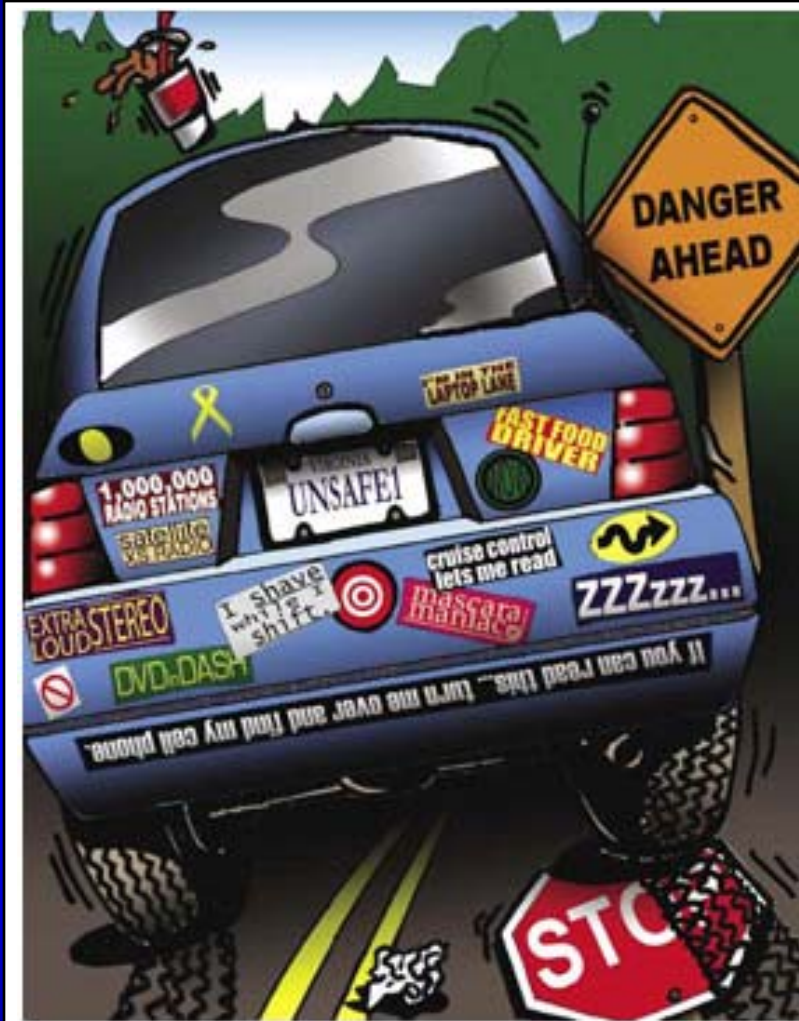
- Increased Protection:
  - Airbags/Curtains
  - Head restraints
  - Seatbelts
- Increased Prevention:
  - Anti-lock brakes
  - Blind spot reducers
  - Electronic stability control
  - Eye scan (Sleep alert)
  - Forward looking radar
  - Traction control
  - Vehicle Infrastructure Integration (VII)

## Unfavorable (“Hurt”)

- May give “permission” to drive less carefully
- Increased cost to repair

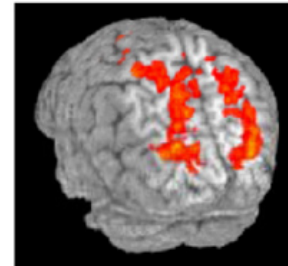


# Other Technology: Help or Hurt?



80 percent of all crashes and 65 percent of all near-crashes involved the driver looking away from the forward roadway, researchers found.

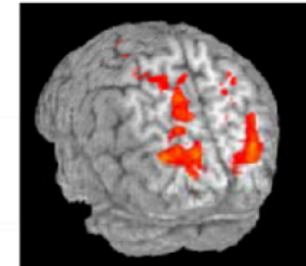
Driving Without Distractions



L

R

Driving While Gabbing



# *Other Technology: Help or Hurt?*



## **Favorable (“Help”)**

- **Increased Prevention:**
  - Alcohol detection linked to ignition
  - Brain training - Insight
  - Driving feedback - Telematics
  - Global Positioning Systems

## **Unfavorable (“Hurt”)**

- **Increased distractions, even from “helpful” technology**
- **Multitasking**

# ***Legislative Environment: Help or Hurt?***

## **Cell Phone Laws**

- Driving ban for hand-held cellular phones (6 states)
- Cell phone restrictions for novice drivers (17 states)
- Text messaging banned for all drivers (7 states)

## **Maximum Posted Speed Limits**

- Since 1995 repeal of National Maximum Speed Limit, 32 states have raised limits to 70mph+ on some roads

## **Automated Enforcement Laws**

- Use of technology to enforce traffic safety laws
- 40%-50% reduction in running red lights
  - ▶ Reduce injury crashes by 25%-30%
  - ▶ Reduce front-to-side impact crashes up to 68%
- 14% decline in average speed within 6 months of implementation
  - ▶ 82% decrease in vehicles exceeding speed limit by 10mph+

## **Licensing Restriction/Provisions**

- Graduated drivers licensing
  - ▶ Some or all elements enacted in most states
- Renewal provisions for older drivers (26 states & D.C.)

# ***Legislative Environment: Help or Hurt?***



## **Favorable (“Help”)**

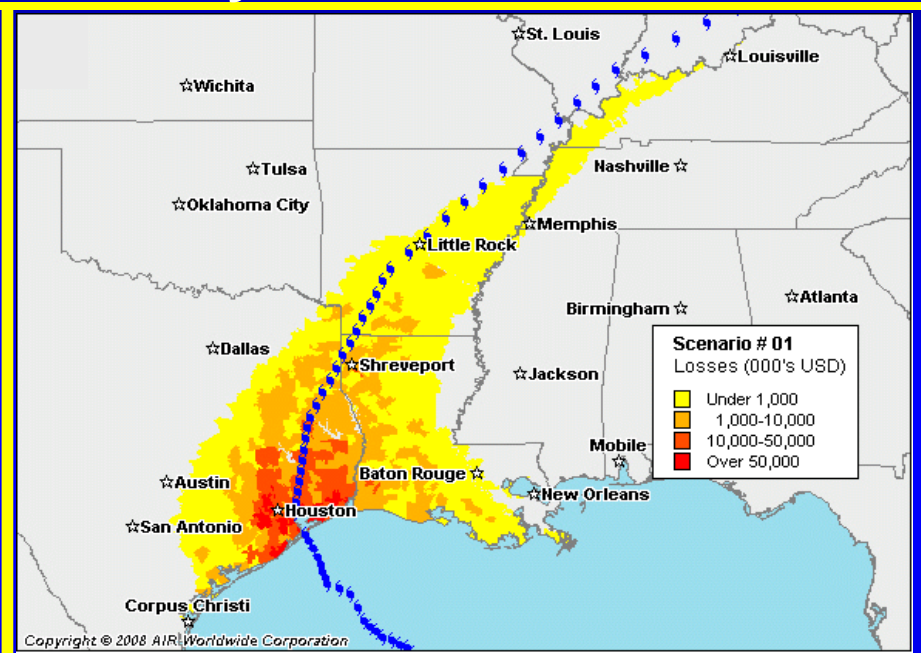
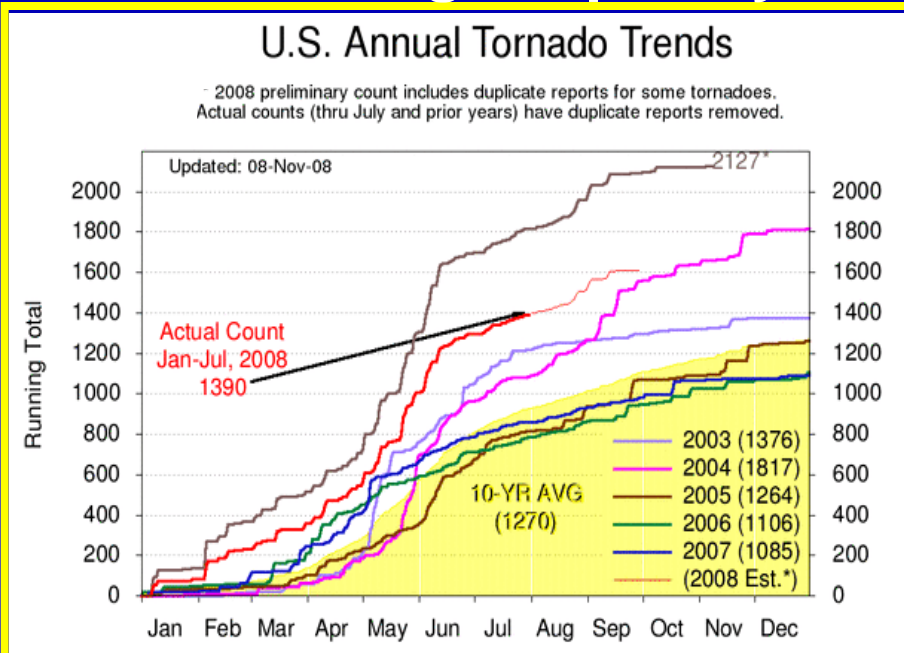
- **Increased Protection:**
  - Bumper safety
  - Mandatory seatbelt use
- **Increased Prevention:**
  - Graduated drivers licensing
  - Minimum drinking age
  - Automated enforcement laws
  - Licensing renewal provisions for older drivers
  - Cell phone/texting laws

## **Unfavorable (“Hurt”)**

- Length of time to pass laws
- Hands Free laws inadequate
- 55mph national speed limit repealed
- Automated enforcement is passive, not active, in stopping dangerous driving behavior

# Weather: Help or Hurt?

- Increasing frequency and severity of storms



- ▶ 36% more tornadoes through August than in all of 2007
- ▶ 28% more tornado activity vs. 3-year average

- ▶ “Ike showed no coastal favoritism when it trekked into Ohio...”
- ▶ “[Ohio] Vehicle owners filed... 9,200 claims, totaling \$22.7 million in damages.”

- Seven out of the top 20 most costly insurance losses of 2006 were hail related
- In 2007 alone, there were over 12,000 hail storms in the United States



# *Weather: Help or Hurt?*



## **Favorable (“Help”)**

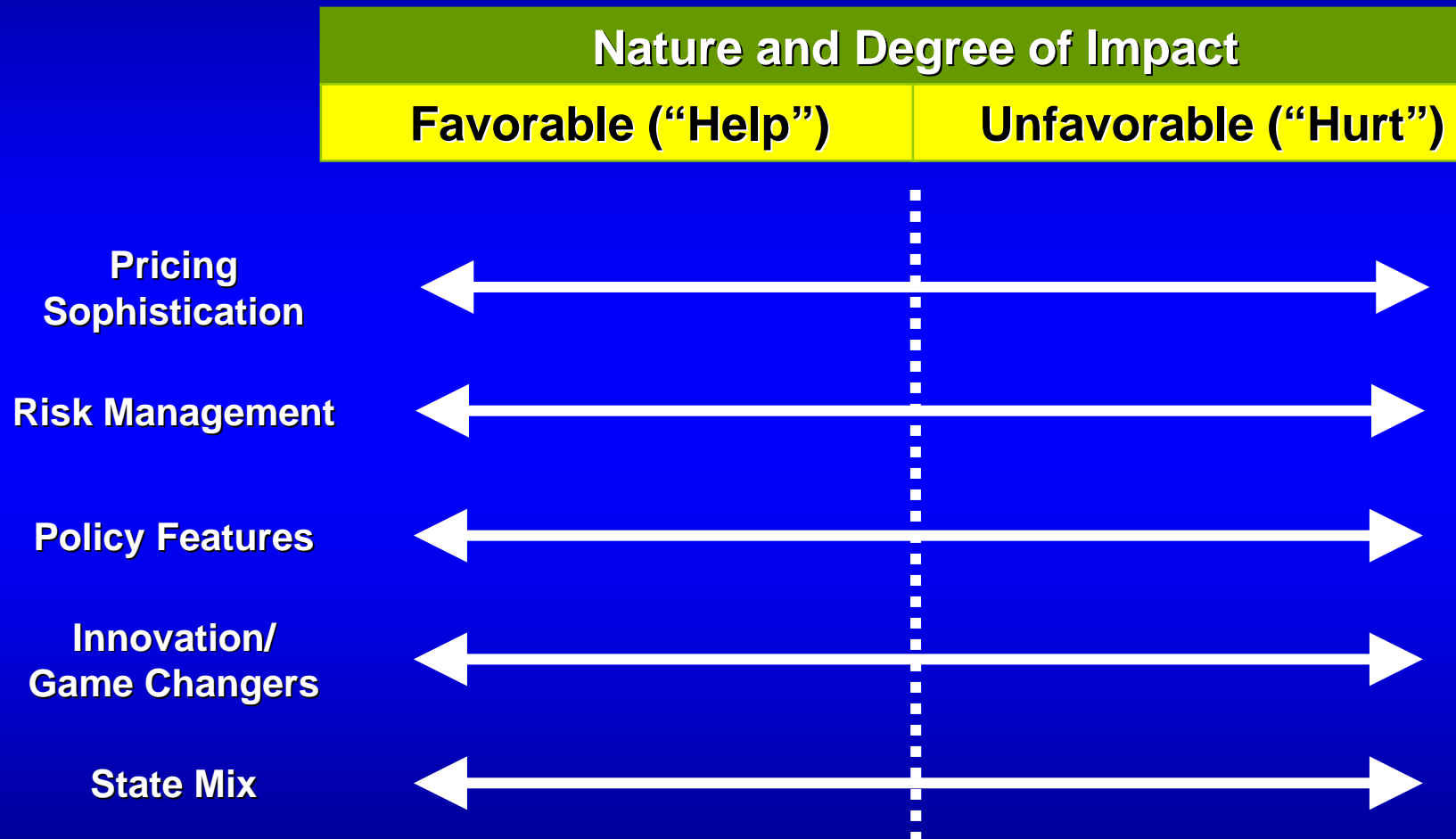
- **Increased Prevention:**
  - Advanced warning systems
  - People may be more likely to stay indoors/off roads

## **Unfavorable (“Hurt”)**

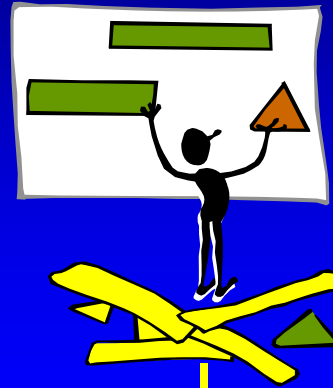
- **More Prevalent:**
  - Warmer Ocean Temperatures
  - Stronger storms moving farther inland
  - Increased tornado activity



# *Another Example: Internal Frequency Drivers*



# *Internal Drivers: Help or Hurt?*



## **Favorable (“Help”)**

- Pricing segmentation/  
sophistication
- Underwriting guides
- Innovation:
  - Policy features
  - Claims processing

## **Unfavorable (“Hurt”)**

- Pricing segmentation/  
sophistication
- Underwriting guides
- Innovation:
  - Policy features
  - Claims processing

***Internal drivers that help us the most  
can also hurt us the most***

## Context: Bringing It All Together

- What's the net impact of internal, external, short-term, long-term, favorable and unfavorable frequency drivers?

Drivers	Help	Hurt
Economy	<ul style="list-style-type: none"> <li>Miles driven</li> <li>Familiarity w/ car</li> </ul>	<ul style="list-style-type: none"> <li>Increased speeds</li> <li>Less maintenance</li> </ul>
Demographics	% middle-age driving population	Aging of population
Safety Technology	<ul style="list-style-type: none"> <li>Protection</li> <li>Prevention</li> </ul>	Permission to drive less carefully
Other Technology	<ul style="list-style-type: none"> <li>Driving skills</li> <li>Prevention</li> </ul>	<ul style="list-style-type: none"> <li>Multi-tasking</li> <li>Distractions</li> </ul>
Legislative Environment	<ul style="list-style-type: none"> <li>Protection</li> <li>Prevention</li> </ul>	<ul style="list-style-type: none"> <li>Time to pass laws</li> <li>Passive vs. active</li> </ul>
Weather	Discourages road travel	Storm frequency and severity
Internal	<ul style="list-style-type: none"> <li>Pricing</li> <li>Underwriting</li> <li>Policy features</li> </ul>	<ul style="list-style-type: none"> <li>Pricing</li> <li>Underwriting</li> <li>Policy features</li> </ul>



# ***So What?***

- **How might we apply contextual thinking to:**
  - ▶ **Improve product pricing?**
  - ▶ **Improve rate filings?**
  - ▶ **Improve interaction with key stakeholders?**
  - ▶ **Improve planning, analysis, and understanding of frequency trends?**
  - ▶ **Other?**

# ***Pulse Survey***

What is your position on the following...

- Is auto frequency about to:
  - ▶ Increase?
  - ▶ Level off?
  - ▶ Decrease?
  
- Why?
  
- Did anyone change their answer?

***Thank You!***