REACHING ZERO CRASHES
A DIALOGUE ON THE ROLE OF ADVANCED DRIVER ASSISTANCE SYSTEMS
OCTOBER 27 2016
The Changing Auto Safety Landscape

NTSB / NSC Event
October 2016
Washington, DC
1,000 member companies

48 Member groups that write more than $1 billion annually

50 States in which a PCI member is domiciled

42 Percentage of U.S. auto insurance premiums written by PCI members

50 States in which PCI has retained lobbyist
Auto Insurers Support ADAS

- PCI = long history of support/funding for auto safety
  - Air bags, seat belts, AEB
  - Urged NHTSA to include crash avoidance technologies in NCAP
  - Insurance Institute for Highway Safety and numerous other auto safety partners
- PCI = Political clout ($3.6m) weighing in for auto safety
  - Congress/state legislatures; state/federal agencies
  - Amplify auto safety partners
  - Public safety campaign
- Insurers = significant market incentives ($B) for safer cars
Auto Insurer ADAS Concerns

• Uncertain rules of the road
  – Questions about liability
  – Questions re safety technology effectiveness
  – Consumers often disable/ignore safety features
  – Messy transition
  – Consumer overconfidence

• Insurers base rates on data
Auto Insurer ADAS Concerns

• History of problems with mandatory insurance discounts
  – Advocating safety technology = mandatory discount penalty
  – Discounts may become permanent even after technology is standardized (and deducted from allowable cost-based pricing)
  – Base pricing before discounts is often suppressed
  – Other loss factors may overwhelm safety savings
  – Insurers rely on loss history/cost-based pricing NOT hope & hype
Hope & Hype

PCI poll: 70% of Americans think motor vehicle accidents are decreasing

Forbes: “No Need For Insurance: How Self-Driving Cars Will Disrupt A $200 Billion Industry”
ADAS = The End of Auto Insurance?

“THE REPORTS OF MY DEATH HAVE BEEN GREATLY EXAGGERATED.”

MARK TWAIN

© Lifehack Quotes
Reality: Auto Deaths Rapidly Increasing

Source: PCI using NHTSA data
Reality: Auto Injuries Rising
% Change Indexed from 2009

Auto injuries up 26% since 2009

Source: PCI using National Safety Council data, Medically consulted auto injuries, indexed by PCI
Reality

Auto accident insurance losses increasing at nearly twice rate increases

Source: PCI using SNL Financial
Vehicle Damage = PD Liability + Collision coverages.
Data points reflect year-end, and combined rolling four quarters for 2016(2Q).
Source: PCI using PPA Fast Track Monitoring System, ISS, NISS and ISO
Commercial Auto Liability - Spiking Loss Growth Exceeds Premium Increases

Source: PCI using SNL Financial
Notes: Represents 4 quarter rolling change from year-end 2013.
The above two groups of 10 states each have the highest and lowest PD Liability + Collision frequency changes from combined rolling 4 quarters 2014(1) to combined rolling 4 quarters 2016(1).

Source: PCI via Society of Actuaries using PPA Fast Track Monitoring System data

Highest Change states are mostly along the Atlantic; Lowest Change states are mostly in the Upper Midwest and Mountain regions.
Frequency/Severity Trend Factors

• **Strong trend correlations**
  – Traffic congestion/Distracted driving
  – Miles driven/employment

• **Additional trend factors**
  – Demographics – more older/younger drivers
  – Weather (unusual events) ; Road conditions;
  – Drugs (Marijuana, compound drugs)

• **Top long-term factors:** Alcohol, speeding and distracted driving

• **Severity factors**
  – Vehicle technology and materials
  – Increasing medical costs
  – Speed limits
  – Tort law
Traffic Congestion: Urban Travel Growing Faster in High Frequency Growth States

Growth in Urban Miles Traveled per Urban Lane Miles

Source: PCI using Federal Highway Association (FHWA) data
Recent Correlation among Lower Gasoline Prices, More Miles Driven and Accident Claim Frequency


* Last data point: Changes in claim frequency and miles driven reflect first 3 qtrs. of 2014 to first 3 qtrs. of 2015. Change in gasoline prices reflects 2014 to 2015 (entire years).

Source: FHWA and PCI
Wet Weather in the South Drives Frequency In 2015

States include FL, GA, IN, MS, SC and TX; all are in the group with the highest claim frequency growth in 2015(2) [compared to 2013(2)] and have above avg. precipitation during this quarter.

Source: PCI using NOAA data
Key Findings

Figure 1. Quarterly average proportion of drivers involved in fatal crashes who were positive for THC and modeled seasonally-adjusted linear trend before and after Washington Initiative 502 took effect on 6 December 2012 legalizing recreational use of marijuana for adults aged 21 years and older, Washington, 2010 – 2014

Drivers positive for THC based on results of blood toxicological tests. Results imputed 10 times when driver was not tested or test results were unknown; results reflect averages from 10 imputed values for each driver. Model-based predictions are from binomial regression model with identity link function, indicator variables for seasons, and a two-part linear spline with change in slope on 5 September 2013 (39 weeks after effective date of Initiative 502)
Findings and graphs from AAA Traffic Safety Foundation.
Increasing Speed Limits = Increasing Traffic Deaths

No. of Speed-Related Deaths

<table>
<thead>
<tr>
<th>Year</th>
<th>UTAH</th>
<th>WYOMING</th>
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<tr>
<td>‘10</td>
<td>97</td>
<td>57</td>
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<tr>
<td>‘11</td>
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<td>75</td>
<td>40</td>
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<tr>
<td>‘14</td>
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<td>48</td>
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UT changes, eff. 2013 and 2014

WY change, eff. 2014
Uninsured Motorist Bodily Injury/Property Damage Loss Experience Has Grown Since 2012

% Change since 2012

- UM(BI/PD) Frequency
- UM(BI/PD) Severity
- UM(BI/PD) Loss Cost

Source: PCI using projected Independent Statistical Service claims data
Auto Medical Increasing + Worse than Medical CPI

Auto Injury Severity and Medical Cost CPI Indices

% Change since 2013

Source: PCI using
1. Auto: PPA Fast Track Monitoring System, ISS, NISS and ISO
Distracted Walking Visits to ER

Rising Risk

U.S. injuries per year involving distracted pedestrians using cellphones, based on the Consumer Product Safety Commission’s sampling of emergency room visits

Emergency room visits

Source: Consumer Product Safety Commission / WSJ Research | WSJ.com
Difference in what we say and what we do…

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<thead>
<tr>
<th></th>
<th>Reported</th>
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<tbody>
<tr>
<td>Crashes</td>
<td>6.3 M</td>
<td>17-29 M</td>
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<tr>
<td>AAA</td>
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<td>92%</td>
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<tr>
<td>True Motion</td>
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<tr>
<td>Phones</td>
<td>41%</td>
<td>71%</td>
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<tr>
<td>Text</td>
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</table>
True Motion:  
Top 10 Distracted Driving Apps

1. GOOGLE MAPS
2. POKEMON GO
3. ANDROID MESSAGING
4. FACEBOOK
5. YOUTUBE
6. WAZE
7. AMAZON MUSIC
8. CHROME
9. PANDORA
10. NETFLIX

Source: True Motion
Self-Driving Cars Still Need Insurance
Commercial Auto vs. Personal Auto
Minimum Financial Responsibility

Coverage Limit Required

$0
$250,000
$500,000
$750,000
$1,000,000

Com. Auto Motor Carrier

Personal Auto

$50,000

$750,000

$5M proposed by DOT

100X higher

15X

Sources: USDOT and PCI
PCI Raises Awareness

State viewpoint: What are the reasons behind rising auto insurance rates in Florida?

Orlando Sentinel

Let's stop distracted walking — a habit that could be fatal

INSURANCE OFFICIAL: Ways to keep your family safe on the roads

Awareness

PCI Raises

INDIANA BUDGET

A State that Works