The Changing Auto Safety Landscape

NAIC CIPR
August 28, 2016
San Diego, CA

www.pciaa.net

1,000 member companies
48 Member groups that write more than $1 billion annually
35 Percentage of U.S. premiums written by PCI members
50 States in which a PCI member is domiciled
50 States in which PCI has retained lobbyist
The End of Auto Insurance?

“The reports of my death have been greatly exaggerated.”

Mark Twain

Auto Deaths/Injuries Increasing – The Public Safety Challenge

• National Highway Traffic Safety Administration (NHTSA)
  + 7.7% auto deaths in 2015
    - vs. 22% decrease from 2000-2014
  + 35,200 fatalities
  + 3.7% increased death rate per 100 million miles traveled

• National Safety Council (NSC)
  + 9% increase auto deaths in 2016 (6 mo)
  + 2015 = Largest annual increase in last 50 years
  + 18% higher auto deaths vs. 2014 midterm
    - 2 year increase in fatalities/vehicle miles
Auto Deaths Increasing More Rapidly
Annual Percent Change

![Graph showing annual percent change in auto deaths from 2006 to 2015 with a peak increase of 7.7% in 2015. Source: PCI using NHTSA data.]

Auto Injuries Rising
% Change Indexed from 2009

![Graph showing % change in auto injuries from 2009 to 2015 with an increase of 26% since 2009. Source: PCI using National Safety Council data, Medically consulted auto injuries, indexed by PCI.]

Source: PCI using NHTSA data

Source: PCI using National Safety Council data, Medically consulted auto injuries, indexed by PCI
A Mismatch of Perception & Reality

• Perception
  – “Technology is making cars safer, so why isn’t my premium going down?”

• Reality
  – More accidents = More claims
  – Claim costs are rising

Industry vs Auto Trends

• Mixed p/c operating results/trends
• Auto insurance losses are the outlier
  – Significant increases in auto accident frequency, severity and deaths
• Regulator concerns:
  – Public expectations mismatched with trends (if cars are getting safer why are costs increasing?)
  – Biggest impact on affordability is increasing costs
  – Regulators can be leaders helping the public
Insurance Small Part of Vehicle Ownership Costs

5% 7% 17% 28% 43%

Liability insurance License, registration, taxes Maintenance, gas, oil, tires
Auto repair cost avg. Used car avg. payment

Sources: PCI using data from WARD’S Facts & Figures; NAIC – Liability Insurance; Audatex - Repair Cost; Experian Automotive - Used Car Payment

Annual Rate of Return
P-C Low Return Standout

20 18 16 14 12 10 8 6 4 2 0


P-C Comm Banks Electric & Gas Utilities Fortune 500 All-Industry

10-Yr Avg. Return: P-C 6.7% vs. 13.8% Fortune 500

Source: PCI via Insurance Information Institute, GAAP ROE except 2015 P-C is statutory and annualized from Q3; P-C excl. WC state funds and residual market; Fortune 500 median ROE combined industrial and service businesses
**P/C: Deteriorating Trends**

Q1 2015 to Q1 2016

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td>-47%</td>
<td>-13%</td>
<td>-2%</td>
<td>DWP +6%</td>
<td>+1%</td>
</tr>
<tr>
<td></td>
<td>NWP -16%</td>
<td></td>
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</table>

Source: Financial Operating Results, PCI and ISO

**Investment Results**

Net Investment Income Inflation-Adjusted ($Billion)

Source: Financial Operating Results, PCI and ISO; 2015 CPI inflation adjustment by PCI
Commercial Lines - Index
Inflation-Adjusted Premium and Loss Trends

Source: PCI using SNL Financial; 2015 inflation adjustment by PCI using CPI; indexed by PCI; commercial lines exclude private passenger auto and homeowners

Commercial Lines
Q4 2014 – Q4 2015

<table>
<thead>
<tr>
<th>Major Commercial Lines</th>
<th>DPW % Change</th>
<th>Incurred Loss % Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial &amp; Mortgage Grnty</td>
<td>4.2</td>
<td>-94.7</td>
</tr>
<tr>
<td>Fire &amp; Allied Combined</td>
<td>-3.2</td>
<td>-25.1</td>
</tr>
<tr>
<td>Total CMP</td>
<td>-0.5</td>
<td>-4.9</td>
</tr>
<tr>
<td>Workers Compensation</td>
<td>0.9</td>
<td>-4.8</td>
</tr>
<tr>
<td>Fidelity &amp; Surety</td>
<td>0.4</td>
<td>-0.6</td>
</tr>
<tr>
<td>Commercial Auto</td>
<td>6.0</td>
<td>16.9</td>
</tr>
<tr>
<td>Acc &amp; Health</td>
<td>25.7</td>
<td>22.7</td>
</tr>
<tr>
<td>Medical Professional Liab</td>
<td>-3.1</td>
<td>24.5</td>
</tr>
<tr>
<td>Marine Lines Combined</td>
<td>6.8</td>
<td>26.2</td>
</tr>
<tr>
<td>Other Liability</td>
<td>2.8</td>
<td>46.2</td>
</tr>
<tr>
<td>Total Commercial</td>
<td>2.1</td>
<td>9.7</td>
</tr>
</tbody>
</table>

Source: PCI using SNL Financial
Commercial Auto Liability - Index
Loss Growth Exceeds Premiums

Source: PCI using SNL Financial
Notes: Represents 4 quarter rolling change from year-end 2013.

Personal Lines - Index
Consistent Loss Growth over Premiums

Source: PCI using SNL Financial
Notes: Represents 4 quarter rolling change from year-end 2013;
Quarterly personal lines include commercial auto physical damage.
**Personal Lines Deterioration**

Percentage Change 2015 Q1 – 2016 Q1

Source: PCI using SNL Financial

**Personal Auto - Index**

Auto Losses Driving Personal Lines

Personal auto makes up 70% of the personal lines market and 76% of YE1Q 2016 personal lines losses.

Source: PCI using SNL Financial
Notes: Represents 4 quarter rolling change from year-end 2013; quarterly personal auto data include commercial auto physical damage; YE1Q 2016 reflects rolling four quarters.
### Personal Auto - Index

**Inflation-Adjusted Premium and Loss Trends**

[Graph showing inflation-adjusted premium and loss trends from 1996 to 2016.]

- **2015 inflation adjustment** by PCI using CPI; indexed by PCI

### Auto Trends: Flat LT Frequency

**BI Collision Frequency 4 Qtr. Rolling 2004-2014**

(Claims per 100 vehicles)

[Graph showing BI collision frequency from 2004 to 2014.]

**Source:** PCI using PPA Fast Track Monitoring System, ISS, NISS and ISO
Countrywide VEHICLE DAMAGE Claim Frequency and Severity Causing Significant Loss Cost Deterioration

% Change since 2013

Since 2013:
- Claim Frequency: 14.9% increase
- Claim Severity: 10.0% increase
- Loss Cost: 4.4% increase

Vehicle Damage = PD Liability + Collision coverages
Data points reflect year-end, and combined rolling four quarters for 2016(1Q).

Source: PCI using PPA Fast Track Monitoring System, ISS, NISS and ISO

Countrywide INJURY Claim Frequency Has Been Rising Since End of 2014, Contributing to Higher Growth in Loss Cost

% Change since 2014

Since 2014:
- Claim Frequency: 9.7% increase
- Claim Severity: 4.5% increase
- Loss Cost: 5.0% increase

All data points reflect combined rolling four quarters.

Source: PCI using PPA Fast Track Monitoring System, ISS, NISS and ISO
States with Highest and Lowest Vehicle Damage Frequency Changes

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.

Severity Trends are Similar Between Highest & Lowest Groups:
The Rising Frequency in States with Highest Freq. Changes is Helping to Drive their Large Growth in Loss Cost

Data points reflect year-end, rolling 4 quarters, vehicle damage coverages.

Source: PCI using PPA Fast Track Monitoring System, ISS, ISSS and ISO
Frequency/Severity Trend Factors

• Strong correlations
  – Traffic congestion (+distracted driving?)
  – Miles driven/employment
• Additional trend factors
  – Demographics – more older/younger drivers
  – Weather (unusual events)
  – Road conditions
  – Drugs (Marijuana, Opioids)
• **Top long-term factors:** Alcohol, speeding and distracted driving
• **Severity factors**
  – Vehicle technology and materials
  – Increasing medical costs
  – Speed Limits

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
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

Recent Correlation among Lower Gasoline Prices, More Miles Driven and Accident Claim Frequency

<table>
<thead>
<tr>
<th>Year</th>
<th>Gasoline Price</th>
<th>Claim Freq.</th>
<th>Miles Driven</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>-13.8%</td>
<td>2.9%</td>
<td>4.1%</td>
</tr>
<tr>
<td>2007</td>
<td>-4.1%</td>
<td>-2.9%</td>
<td>-1.3%</td>
</tr>
<tr>
<td>2008</td>
<td>-1.3%</td>
<td>-35%</td>
<td>-25%</td>
</tr>
<tr>
<td>2009</td>
<td>-25%</td>
<td>-15%</td>
<td>-15%</td>
</tr>
<tr>
<td>2010</td>
<td>-15%</td>
<td>-5%</td>
<td>-5%</td>
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<tr>
<td>2011</td>
<td>-5%</td>
<td>5%</td>
<td>15%</td>
</tr>
<tr>
<td>2012</td>
<td>5%</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>2013</td>
<td>25%</td>
<td>35%</td>
<td>35%</td>
</tr>
</tbody>
</table>


* 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
More Miles Traveled in States with Higher Claim Frequency Growth

Note: Percent changes represent increases from YE Dec. 2014 to YE Dec. 2015.
Source: PCI using Federal Highway Association (FHWA) data

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
Impact of Marijuana in Colorado

Source: Colorado State Highway Patrol, March 2015; 2016 marijuana dispensaries: Colorado Dept. of Revenue

Key Findings

Data: Washington Traffic Safety Commission, 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.
Colorado Traffic Deaths Related to Marijuana

*Number of Fatalities Involving Operators Testing Positive for Marijuana


Opioid Prescriptions Quadrupled Since 1999 -- Significant (3x) Differences in State Prescription Rate

Speed Limit Increase Impact on Accident Frequency: Unclear/Mixed

Vehicle Damage Claim Frequency 2013-2015

<table>
<thead>
<tr>
<th>States w/Same Limits</th>
<th>States that Raised Speed Limits</th>
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<tr>
<td>[VALUE] %</td>
<td>[VALUE] %</td>
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Injury Claim Frequency 2013-2015

<table>
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<th>States w/Same Limits</th>
<th>States that Raised Speed Limits</th>
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</thead>
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<tr>
<td>[VALUE] %</td>
<td>[VALUE] %</td>
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Note: States that raised their speed limits since 2013 are AK, GA, ID, IL, KY, ME, NH, NC, OH, PA, SD, UT and WY. Those that changed in 2015 are not included since their new limits have been in effect for only a short time. States with same limits did not make any changes during 2011-2015.

Speed Limit Impact on Severity: Slight Increase

Vehicle Damage Claim Severity 2013-2015

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Speed Limit Impact on Traffic Deaths: Significant

No. of Speed-Related Deaths

<table>
<thead>
<tr>
<th>Year</th>
<th>UTAH</th>
<th>WYOMING</th>
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<tbody>
<tr>
<td>'10</td>
<td>[VALUE]</td>
<td>[VALUE]</td>
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<tr>
<td>'11</td>
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<td>'12</td>
<td>[VALUE]</td>
<td>[VALUE]</td>
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<tr>
<td>'13</td>
<td>[VALUE]</td>
<td>[VALUE]</td>
</tr>
<tr>
<td>'14</td>
<td>[VALUE]</td>
<td>[VALUE]</td>
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</table>

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

<table>
<thead>
<tr>
<th>Year</th>
<th>UM(BI/PD) Frequency</th>
<th>UM(BI/PD) Severity</th>
<th>UM(BI/PD) Loss Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2013</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2014</td>
<td>2</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

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

Commercial Auto Best/Worst 10 States by Loss Ratio

Source: PCI via NAIC and SNL Financial
Commercial Auto: Average Loss Ratios

Sources: PCI via NAIC and SNL Financial

Trucking Congestion vs. Top 10 Best/Worst Loss Ratio States

Sources: PCI and American Trucking Research Institute
Commercial Auto Litigation Environment Ranking

Worst loss ratio states average rank is more than double the best loss ratio states.

Best 10 L/R States: Avg. State Rank = 14
Worst 10 L/R States: Avg. State Rank = 33

Sources: PCI and Institute for Legal Reform

Commercial Auto vs. Personal Auto Financial Responsibility

Coverage Limit Required:
- Motor Carrier: $750,000 (15X Higher)
- Personal Auto: $50,000

Sources: USDOT and PCI
Medical Cost Inflation

Source: Bureau of Labor Statistics

PCI Raises Awareness

Insurance official: Ways to keep your family safe on the roads

Let’s stop distracted walking – a habit that could be fatal

State viewpoint: What are the reasons behind rising auto insurance rates in Florida?
Congressional/Legislative Activity

PCI Supporting Passage/Implementation of the FAST Act
• House and Senate letters to the Department of Transportation
• Congressional hearings and PCI Hill briefings
• Appropriations progress

PCI Study of Distracted Driving Laws/Gaps
• Identify and update state laws where distracted driving is not a primary offense or where the laws do not clearly encompass smart ("dumb") phones

State Auto Safety Legislation
• Working with auto safety advocates and insurers to improve state laws and prevent rollbacks of existing laws.

We Need Your Leadership!

• Be vocal policy leaders in your state
  – Laws/enforcement against distracted driving
  – Robust drunk/drugged driving limits
  – Licensing renewals/vision testing
  – Help identify and highlight causal factors
We Need Your Leadership!

- Support risk based pricing / actuarially sound rates
  - Sends accurate price signals
  - Ensures availability
- Education:
  - Help policymakers understand trends
  - Encourage better broadcast warnings
    - Distracted driving/walking (Pokémon Go)
    - Bad weather caution/closings