SESSION STRUCTURE

• Interactive as much as possible
• Discuss in breakout groups
• Importance of Trends on Reinsurance Costing
• Public Entity Benchmark Study
• Auto Liability
• Cyber Liability
• Law Enforcement Liability
• School Board Liability/ Sexual Abuse and Molestation
• Public Officials
• Property Impacts (Wildfire)
• Summary Changing Nature of Risk
Impact of Trend on Funding Levels and Reinsurance Pricing

- Trend influences future funding rates
  - Example: Your pool has had two large losses $1.0M and $750K in 2015
- What would those losses be in 2020?
- Your Reinsurance attaches at $500,000
- Primary Funding Effects Potentially

<table>
<thead>
<tr>
<th>What is Annual Trend</th>
<th>Cost Increase 15-20</th>
<th>Projected 2020 Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>3%</td>
<td>(1.03)^5</td>
<td>115.9%</td>
</tr>
<tr>
<td>5%</td>
<td>(1.05)^5</td>
<td>127.6%</td>
</tr>
</tbody>
</table>
Impact of Trend on Funding Levels and Reinsurance Pricing

• Since all Losses exceed your Reinsurance attachment point of $500,000, there is no effect on funding levels below $500,000

• What about Reinsurance impacts? @ 3% Annual Trend

<table>
<thead>
<tr>
<th>Year 2015 Cost</th>
<th>RI Recovery</th>
<th>Year 2020 AsIf</th>
<th>RI Asif Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000,000</td>
<td>500,000</td>
<td>1,159,000</td>
<td>659,000</td>
</tr>
<tr>
<td>750,000</td>
<td>250,000</td>
<td>869,000</td>
<td>369,000</td>
</tr>
<tr>
<td>Total</td>
<td>750,000</td>
<td></td>
<td>1,078,000</td>
</tr>
</tbody>
</table>

*From a Reinsurance perspective, losses to the layer have been increasing by roughly 6.5% per year*

\[ ((1,078,000)/(750,000))^{(1/5)} \]
Impact of Trend on Funding Levels and Reinsurance Pricing

- What about Reinsurance impacts? @ 5% Annual Trend

<table>
<thead>
<tr>
<th>Year 2015 Cost</th>
<th>RI Recovery</th>
<th>Year 2020 AsIf</th>
<th>RI Asif Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000,000</td>
<td>500,000</td>
<td>1,276,000</td>
<td>776,000</td>
</tr>
<tr>
<td>750,000</td>
<td>250,000</td>
<td>957,000</td>
<td>457,000</td>
</tr>
<tr>
<td>Total</td>
<td>750,000</td>
<td>1,233,000</td>
<td></td>
</tr>
</tbody>
</table>

From a Reinsurance perspective, losses to the layer have been increasing by roughly 10.5% per year

\[
\frac{(1,233,000)/(750,000)}^{(1/5)}
\]

Commonly referred to as the LEVERAGED EFFECT of TREND
Guy Carpenter maintains an extensive database of pricing information for public entity pools, from which we estimate trend, loss development (primary and excess) and increased limits.

We have the ability to analyze liability lines of business including:

- AL – Schools
- AL – Munis
- GL – Schools ex SAM claims
- GL – Munis, Law Enforcement Public Officials
- GL – Sexual Abuse and Molestation (SAM)
- School Board Liability

Study frequency:
Every 2 years

Total losses considered
284,000 losses >$100

Number of pools contributing loss data
118

Combined loss dollars for last diagonal from all loss triangles
$16.9 billion

Number of pools contributing at least one set of loss triangles
71

~4x 2016 study, and 2x largest 2014 study

Number of states represented
39

Largest database of its kind

California Specific pricing parameters

Given the heavy reliance reinsurance pricing methodologies have on factors estimated by our pricing database, PEBS plays a key role in negotiating appropriate prices for our clients.
Auto Liability Issues

• Distracted Driving
  – Cellphones
  – Texting
• Non-Owned Autos
• School Pools – How many left hand turns
• Seat Belts, Special Ed Considerations
• Other vehicles? Golf Carts etc.

General Observation

Public Entity Auto Liability less severe than Commercial Auto for Insurance Industry but trending upwards

https://www.iihs.org/topics/distracted-driving
Reviewed years 2007-2015, what percent of total claims exceed 250,000 (up 11-13 and decreasing thereafter), 500k, 1M, and 5M. Fairly stable xs 500 and declining a bit above that.
Cyber Liability Considerations

- Cyber is Unpredictable. Doesn’t respect geographical boundaries
- Difficult to predict who will be impacted or when you will be impacted
- Actuarial conundrum, past experience is no guide as to future exposures/pricing indications
- Opportunity for technology experts to provide solutions in the insurance space
- There isn’t sufficient claims data yet exposures and potential aggregations are huge causing issues for insurers and reinsurers

Question:
On average how much time does an average CEO spend on dealing with Cyber security Issues?

Answer:
Generally, less than one day a year
Law Enforcement Liability: Common Causes of Loss

**Excessive Force**

11% of incidents

**False Arrest**

18% of incidents
Law Enforcement Liability Common Causes of Loss on Large Losses

- Excessive Force
- False Arrest
- Fatal Shooting
- Jail Suicides
- Civil Rights Violations/Preference for Federal Jurisdictions
- Alleged Assault by Officer

• Malicious Prosecution – coordination among Public Officials and Police to Harass
• Taser/Pepper Spray
• Inadequate Medical Care while in Care, Custody, Control of Law Enforcement
• Wrongful Termination
• Sexual Harassment

Question:
What Risk Management techniques can be employed to address the potential claim severity issues?
Law Enforcement Liability from Guy Carpenter 2018 Public Entity Study

Law Enforcement % of Claims Exceeding Amount

Real decline in percent of claims xs 250K. Claims are untrended and undeveloped but most are 24-36 months mature. Flat at higher levels. No mass surge of larger claims despite increased scrutiny.
School Board Liability Common Causes of Loss
SAM Claims discussed in its own category

Discrimination

27% of descriptions
14% of loss dollars

Wrongful Termination

13% of descriptions
10% of loss dollars
School Board Liability Common Causes of Loss on Large Losses

- Most Losses Excluding SAM are under $1M, many claims are expense only
- Discrimination (Age, Gender, Race, etc.)
- Breach of Contract
- Wrongful Termination
- Civil Rights Violations
- Libel/Slander
- ADA – Failure to Accommodate
- GL or School Board Liability – have not seen TBI, Traumatic Brain Injury claims yet but there is significant concern from a few reinsurers on this exposure

Questions:

- How do you deal with troublesome employees, Mental Health issues, may carry a gun, corrective behavior?
- How do you deal with marijuana where it may be legal but employees on the job?
School Board Liability from Guy Carpenter 2018 Public Entity Study

School Board % of Claims Exceeding Amount

- CC>250
- CC>500
- CC>1M
- CC>5M

Years: 2007 to 2015
Sexual Molestation Claims – New Laws

Recent Legislative Activity – Statues of Limitations for Child Sex Abuse Cases

Notes: Governor of New Mexico vetoed bill that had passed legislature. Colors represent status of legislative activity; laws vary widely by state. Source: A.M. Best.
Sexual Molestation Claims – New Laws

• New York State (2019) Child Victims Act (CVA)
• Extends time to bring Felony Charges against perpetrators by five years until victim turns 28
• Victims can seek Civil relief until they turn 55 (previously a five year statute of limitations)
• One year window, regardless of abuse date, to seek compensation
• Removes 90 day notice of claim requirement for child sexual abuse claims against Municipalities and School Districts
• Other states taking up similar type statutes
• Some type of reform legislation has been passed by 80% of US states this year
• One year and two year look back provisions or “Reviver” clauses create potential issues with respect to
  – Uncertain number and amount of claims
  – Potential False Claims
  – Alleged perpetrator may no longer be alive (how to defend?)
Industry Reaction to the Child Molestation Legislation

• Travelers increased reserves in 2nd Quarter 2019 due to passage of New York CVA

• AM Best’s warned “may lead to an onslaught of civil lawsuits against academic institutions, religious institutions, municipal entities, and other employers in New York State”

• Rockefeller University sued Travelers and Chubb for hundreds of claims that go back decades

• Arch is suing for a declaratory judgment that its excess policies do not cover sexual abuse for hundreds of students at USC (University of Southern California) by a gynecologist at its campus clinics

• Archdiocese of New York sued 32 insurers, including Chubb for alleged incidents occurring in 1972-1974.

• More to follow, watch 3rd Quarter Earnings Reports
Sexual Molestation Claims – Potential reactions

- Clear need to manage Latency Risk
- Modify Coverage in the Memorandum of Coverage
- Exclude Coverage or Sublimit Coverage
- Risk management at the Insured/Member Level
- Risk Control at the Pool level
- Reinsurer Appetite will be critical from a risk management perspective

**Breakout**

What ideas, actions have various pools, members taken to manage the issue?
GL – Schools SM % of Claims Exceeding Amount

- CC>250
- CC>500
- CC>1M
- CC>5M
GL Schools (noSAM) Claims Guy Carpenter 2018 Public Entity Study

GL – Schools AO % of Claims Exceeding Amount

- CC>250
- CC>500
- CC>1M
- CC>5M


Percentage: 0.00%, 0.50%, 1.00%, 1.50%, 2.00%, 2.50%, 3.00%, 3.50%, 4.00%, 4.50%
GL Municipalities Claims from Guy Carpenter 2018 Public Entity Study

GL – Munis % of Claims Exceeding Amount

- CC>250
- CC>500
- CC>1M
- CC>5M

Public Officials Liability Common Causes of Loss

Tree Roots

7% of claims

Discrimination

5% of claims
Public Officials Liability Common Causes of Loss on Large Losses

- Most emanate from some kind of Employment Practices Liability
- Discrimination (Age, Gender, Race, etc.)
- Retaliation, Hostile Work Environment
- Wrongful Termination (Whistleblower cases)
- EEOC Violations
- Land Use/Zoning Disputes
- Inverse Condemnation
- Violation of Free Speech Rights
- Negligent Road Design

**Questions:**

- How do we deal with social inflation and link impact of adverse verdicts to impacts on Municipalities?
Exhibit 7: Claims Development for Costly North Atlantic Hurricanes – 2000 to 2017

Days from landfall

- Hurricane Katrina
- Hurricane Wilma
- Hurricane Ike
- Hurricane Irma
- Hurricane Maria
- Hurricane Harvey
- Superstorm Sandy
The Changing Nature of Risk – Guy Carpenter Study 2019
Property Impacts – NonPeak Perils becoming more significant

Exhibit 8: Global Wildfire Insured Losses – 1970 to 2018

- Insured loss value (inflation-adjusted)
- Number of events to trigger insured losses > $100m (RHS)
The Changing Nature of Risk
Guy Carpenter Study 2019 Reinsurer Reactions

1. The years 2017-2018 have been the most costly two year period ever for Catastrophe Losses

2. Peak Peril Florida Hurricane, reinsurers rethinking risk due to social inflation (Irma), loss adjustment expense creep and assignment of benefits (AOB)

3. Reinsurance is an international business so worldwide events affect capacity offered in the United States.

4. Typhoon Jebi was the strongest typhoon to hit Japan in the last 25 years

5. Hurricane Michael which hit the Florida Panhandle in October 2018 has already exceeded initial estimates by more than 45%

6. Non peak Perils are becoming more impactful to Insurer financial results.

7. Reinsurance and Excess Insurance Carriers rethinking underlying assumptions the contribution from “attritional” or “NonPeak” perils to overall expected losses (e.g. Wildfire, Severe Convective Storms, Winter Freeze, Flood, etc.)
The Changing Nature of Risk
Guy Carpenter Study 2019 Key Takeaways

1. Accumulation of Natural Cat Losses in 2017-18 have led to a hardening in the insurance and reinsurance property marketplace

2. Non-peak perils made a significant contribution to Industry Losses, California Wildfires, Floods from Hurricane Harvey, etc.

3. Future would seem to indicate extreme weather events will become more frequent and more severe

4. Many of the risk models used to evaluate these property perils will need to be recalibrated

5. Digital Technology/Cyber Security will change the business landscape at an ever quickening pace, will insurance be able to keep up with the new exposures?

6. Some long tail lines have seen increased frequency putting more pressure on reserve adequacy and financial results

7. Many new exposures lack data or robust modeling solutions. It may lead to belief that some risks are just uninsurable

8. Reinsurance exists to protect against unexpected events. It can assist insurers/pools to minimize earnings volatility, provide capital protection, improve solvency ratios, and ultimately help insurers/pools to innovate and grow
Thank You!

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