



# AVODING ADVERSE SELECTION

75 to 80% of the Industry is currently using  
**Vehicle Background Checks**



Tuesday November 13, 2018

# 75 to 80% of Insurance Carriers using Vehicle History as a Rating/Underwriting Variable

AVOIDING ADVERSE SELECTION



- >> A new concept 10 to 15 years ago
- >> A majority of the industry now understands the benefit of this new rating variable
  - >> Obtain more rate without raising rates
  - >> Accepted by most state departments of insurance
  - >> Prevents Fraud
- >> Can reduce losses and combined ratio by 2 or 3 points
  - >> Equal to P&C carriers underwriting profit
- >> Ability to lower rates on good insureds.
  - >> Attract more good clients

# Background Checks on Vehicles Almost as Common as Background Checks as Individuals

AVOIDING ADVERSE SELECTION

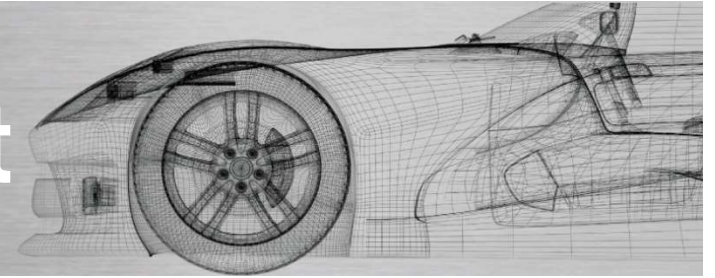


- >> Every company runs a background check on individuals
- >> Imagine if someone had been driving for 12 years & company did not run a background check
- >> Average age of vehicles on the road is 12 years old or older
  - >> Isn't it better to understand where the vehicle has been and if there has been any accidents
- >> Approximately 5 to 7% of used vehicles are “previously damaged” vehicles
  - >> Direct & Non-Standard writers show higher percentages

Confidential - For 2020 CAS Annual Show Only

# California Market

BRINGING SOLUTIONS TO MARKET



## >> **Country's Largest Insurance Market**

- >> Many taking rate increases
- >> Others taking rates down

## >> **Take Action – Not Rate**

- >> 5 of 6 largest carriers protects their book of business with vehicle history
- >> Adverse selection occurring
- >> Can't see unless test CA book of business
- >> **Additional rate increases won't help**

# Top 5 – California – Non-Standard Actual DMV Filing

VEHICLE VERIFICATION

Severe							Selected	
Damage	EP	% EP	ECY's	Ult Losses	LR	LR Rel	Rel	
<b>BI</b>	<b>\$ 48,777,547</b>	<b>26.57%</b>	<b>218,724</b>	<b>25,895,442</b>	<b>53.09%</b>			
N	\$ 47,817,826	26.05%	213,655	22,846,744	47.78%	<b>1.00</b>	1.00	
Y	\$ 959,721	0.52%	5,068	3,048,698	317.67%	<b>6.65</b>	1.30	
<b>CL</b>	<b>\$ 51,602,504</b>	<b>28.11%</b>	<b>115,077</b>	<b>29,861,629</b>	<b>57.87%</b>			
N	\$ 51,063,744	27.82%	113,829	25,548,190	50.03%	<b>1.00</b>	1.00	
Y	\$ 538,761	0.29%	1,248	4,313,439	800.62%	<b>16.00</b>	1.30	
<b>CP</b>	<b>\$ 20,819,305</b>	<b>11.34%</b>	<b>115,218</b>	<b>9,866,086</b>	<b>47.39%</b>			
N	\$ 20,553,373	11.20%	113,967	8,720,700	42.43%	<b>1.00</b>	1.00	
Y	\$ 265,932	0.14%	1,251	1,145,387	430.71%	<b>10.15</b>	1.30	
<b>MP</b>	<b>\$ 2,125,133</b>	<b>1.16%</b>	<b>29,560</b>	<b>1,045,493</b>	<b>49.20%</b>			
N	\$ 2,085,148	1.14%	29,070	925,022	44.36%	<b>1.00</b>	1.00	
Y	\$ 39,985	0.02%	489	120,471	301.29%	<b>6.79</b>	1.30	
<b>PD</b>	<b>\$ 50,909,394</b>	<b>27.73%</b>	<b>218,779</b>	<b>31,576,878</b>	<b>62.03%</b>			
N	\$ 49,797,852	27.13%	213,710	28,810,149	57.85%	<b>1.00</b>	1.00	
Y	\$ 1,111,542	0.61%	5,070	2,766,730	248.91%	<b>4.30</b>	1.30	
<b>UM</b>	<b>\$ 8,477,748</b>	<b>4.62%</b>	<b>132,399</b>	<b>2,873,674</b>	<b>33.90%</b>			
N	\$ 8,366,187	4.56%	129,647	2,479,582	29.64%	<b>1.00</b>	1.00	
Y	\$ 111,562	0.06%	2,752	394,091	353.25%	<b>11.92</b>	1.30	
<b>UP</b>	<b>\$ 856,040</b>	<b>0.47%</b>	<b>44,367</b>	<b>495,353</b>	<b>57.87%</b>			
N	\$ 821,706	0.45%	42,714	453,628	55.21%	<b>1.00</b>	1.00	
Y	\$ 34,334	0.02%	1,653	41,725	121.53%	<b>2.20</b>	1.30	
<b>TOTAL</b>	<b>\$ 183,567,671</b>	<b>100%</b>	<b>874,124</b>	<b>101,614,555</b>	<b>55.36%</b>			

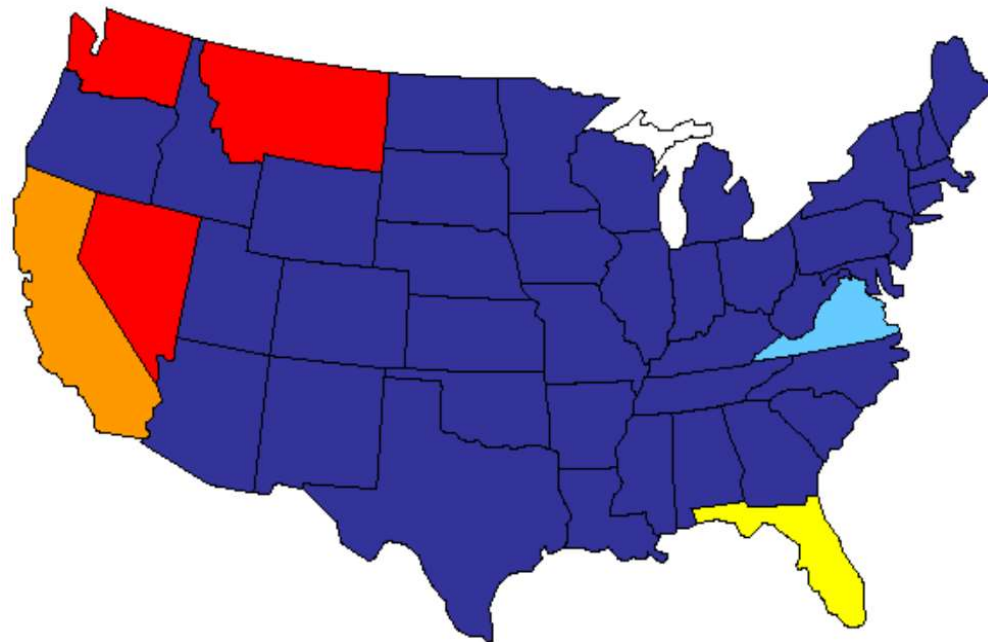
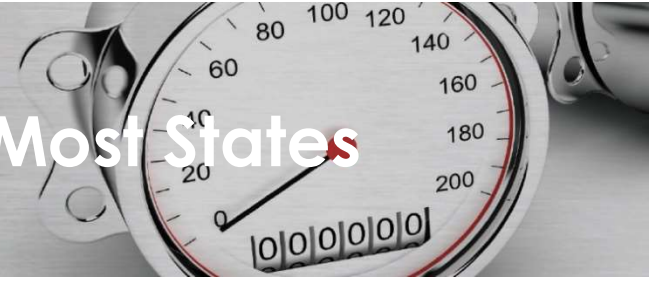
Confidential – For CAS Annual Meeting Only





# Vehicle History Reports Analogous to other U/W Reports



- >> Analogous to an individual's background check
- >> Average Age of Vehicle today is 11.7 years old
- >> No FCRA rating implications
- >> 800 Number customer service available

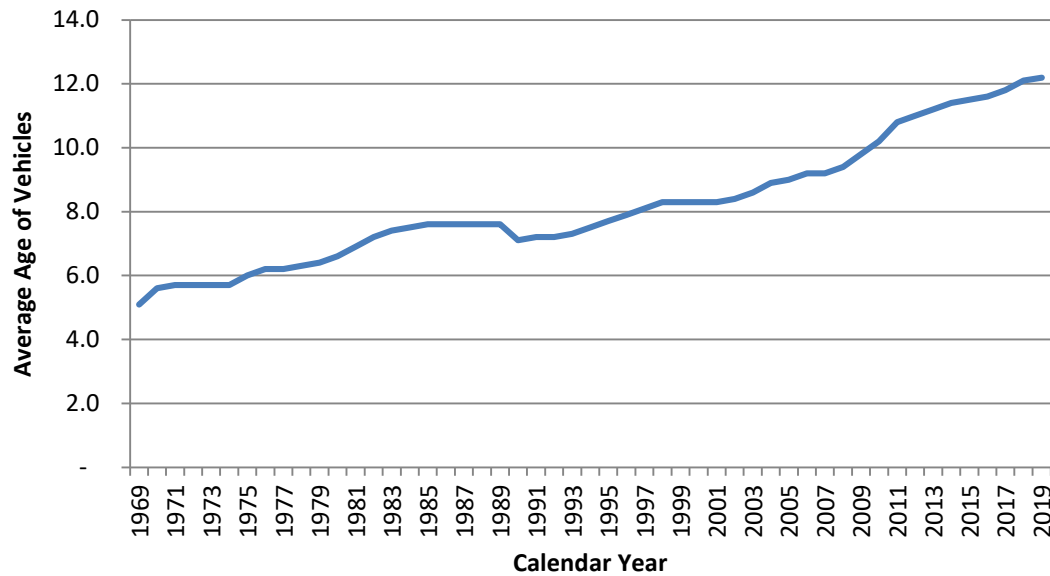
# Vehicle History Allowed for Rating in Most States



-  Pricing and Underwriting
-  Underwriting Only
-  Pricing and Underwriting – Salvage and Severe Damage Vehicles Only
-  Pricing and Underwriting – Salvage Vehicles Only

# >> US Fleet Becoming Older

## Average Age of US Cars 1970-2019



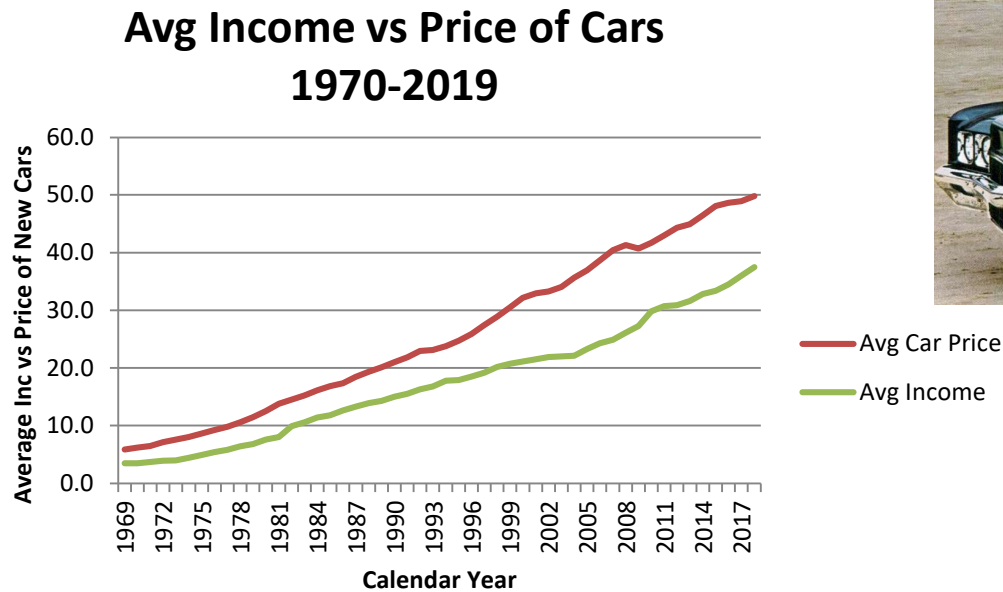


**>> Survey Slide**

**>> What model year is the car you're currently driving..**

# >> New Vehicles More Expensive each Year

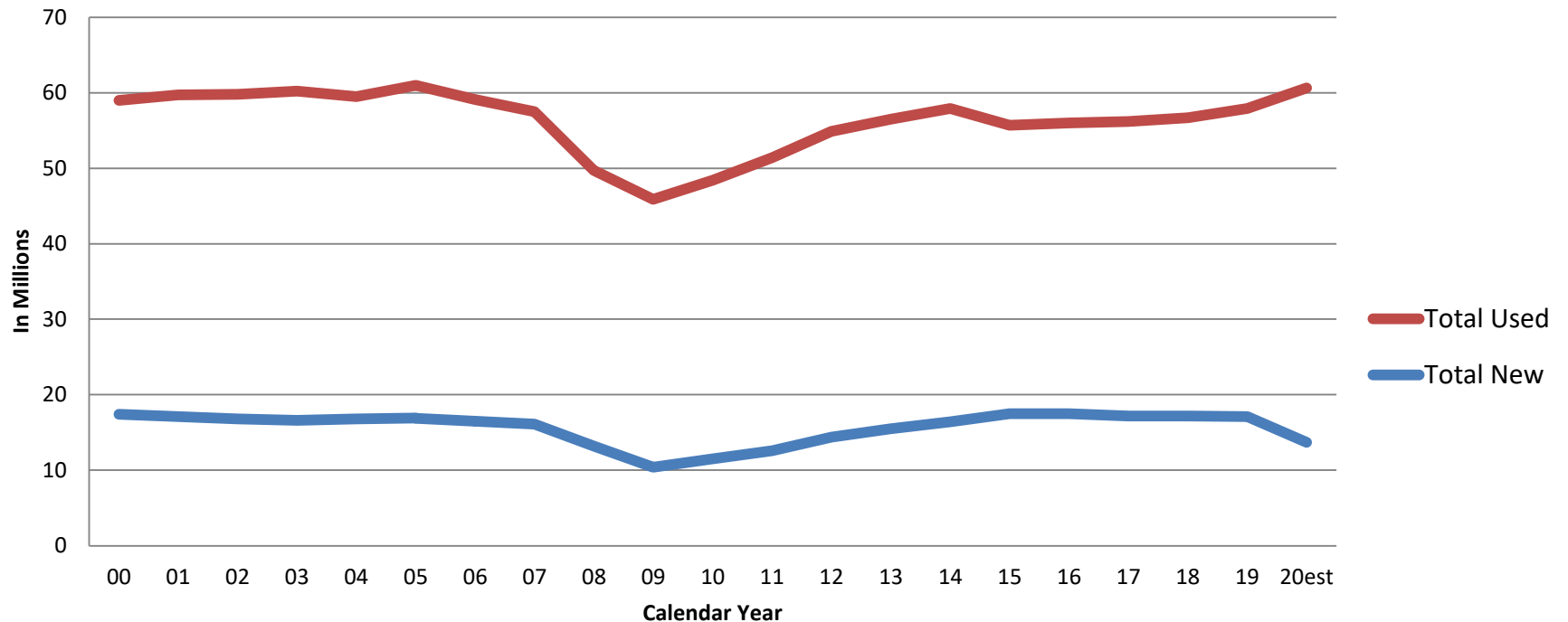
USED VEHICLE MARKET



**Price of new cars are out of reach for many**  
**Average Price of new vehicle in 2019 - \$52,000**

# NUMBER OF USED VS. NEW SALES

BRINGING SOLUTIONS TO MARKET

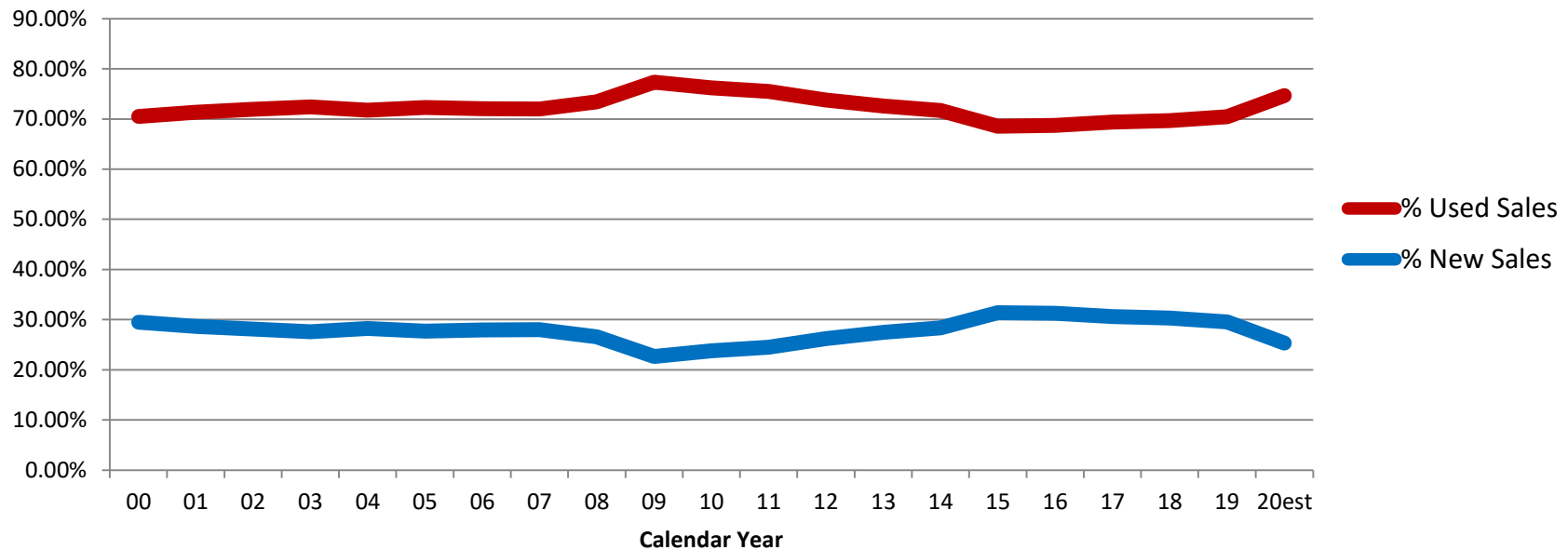


## >> First Time in last 20 years

- >> New and Used vehicles sales not moving in tandem
- >> What makes 2020 different?
- >> What should car buyers do?.....

# PERCENTAGE USED VS NEW SALES

BRINGING SOLUTIONS TO MARKET



- >> During Economic Downturns
  - >> Percentage of Used Vehicle Sales Increase
  - >> Also true in 2020
  - >> Absolute numbers tell different story

# USED VEHICLE MARKET HAS CHANGED

BRINGING SOLUTIONS TO MARKET

- >> More individuals buying used vehicles
  
- >> Vehicles lasting longer
  
- >> Not all used vehicles are in good condition
  - >> 5 to 7% of used vehicles have Previous Damage
  - >> Direct & Non-Standard writers have higher percentages
  
- >> “Previously Damaged Vehicles”
  - >> Have higher Loss Ratios and Pure Premiums
  - >> Impact a carrier’s bottom line by 2 or 3 points

# What Makes up the Used Vehicle Market

AVOIDING ADVERSE SELECTION



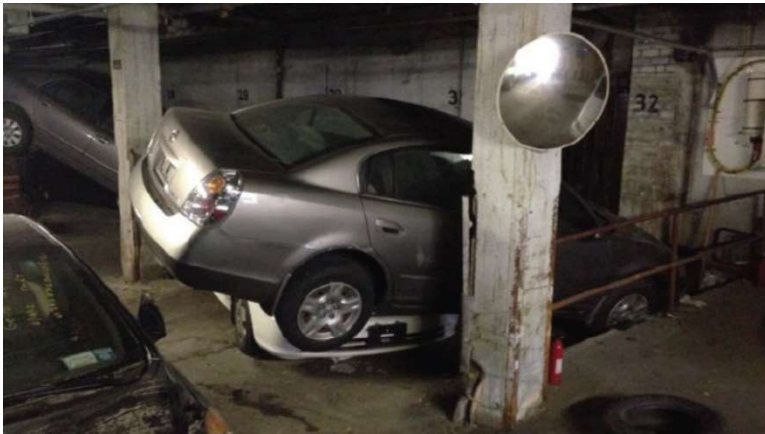
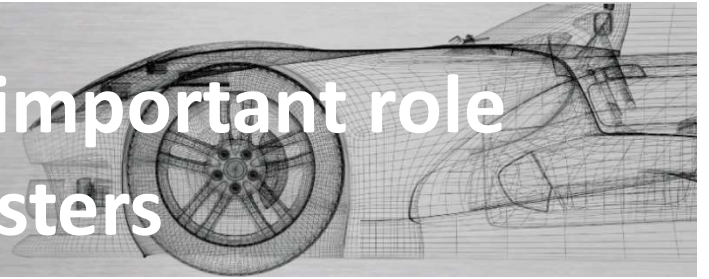
- >> Trade ins
- >> Personal Selling
  - >> eBay largest seller of used vehicles in the country
  - >> CarMax largest physical seller of used vehicles
- >> Automobile Auctions
  - >> Consistently makes up over 40% of the used vehicles sold

## Where do the auction vehicles come from

- >> Dealer Consignment - 44.3%
- >> Fleet/Lease Consignment - 43.7%
- >> Factory Consignment - 8.9%
- >> Other Sources - 3.1%

# Automobile Auctions play an important role during Natural Disasters

BRINGING SOLUTIONS TO MARKET

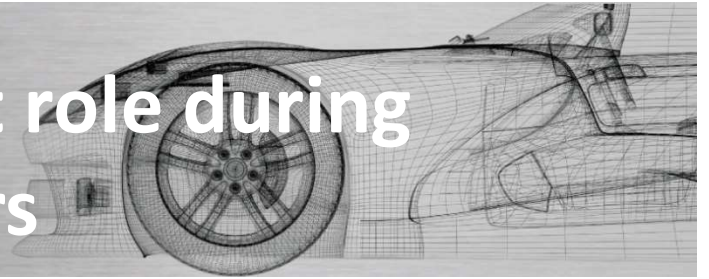


**Hurricane Sandy – New York**



# Auctions play an important role during Natural Disasters

BRINGING SOLUTIONS TO MARKET



**LESSON LEARNED:  
PRE-IDENTIFIED LAND**

**500+** Acres of Land

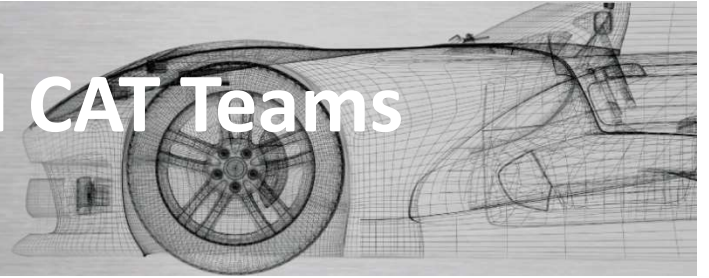
**22** Locations

Confidential - For CAS Annual Meeting Only



# Auctions have also Created CAT Teams

BRINGING SOLUTIONS TO MARKET



- >> Tow Truck Drivers
  - >> On Call across the country
  - >> Single and multiple vehicle Tow Truck needed
- >> Vehicle Title Services
  - >> Show legally towing vehicles and not stealing them
- >> Lessons learned after Hurricanes Katrina and Sandy
- >> Employed on every hurricane since
- >> Scan and report every vehicle towed to hurricane clearing areas

# What are “Compromised Vehicles”

BRINGING SOLUTIONS TO MARKET

>> Any Vehicle which has had a previous severe accident

>> Any Salvage vehicle which has been rebuilt



>> **Why do Salvage Vehicles have higher loss ratios?**

>> Higher percentage of rear end collisions in first 30 to 40 days of policy inception

>> Rear end accidents are the most common type of staged accidents

# Compromised Vehicles = Higher Loss Costs

AVOIDING ADVERSE SELECTION

## >> Salvage and Scrapped Vehicles

- >> Vehicles unable to be rebuilt and sold as scrap

## >> Rebuilt Vehicles

- >> Vehicles which have had extensive repairs and replacement of parts

## >> Frame Damage and Unibody Damage

- >> High percent of this damage not shown on state DMV records
- >> Unknown damage that impacts safety and value of a vehicle

## >> Repossessions

## >> Impacts all Coverages

- >> Crumple Zones aren't as strong
- >> Coke aluminum can example



Confidential - For 2020 CAS Annual Show Only

# Minor Damage Records



- >> Minor Damage Records have higher than expected relatives
  - >> Companies using 20 to 30% higher rates
  - >> Model Indicates at least 30% higher rate
- >> Companies find individuals still purchasing policies at higher rates.
  - >> Writing same risk at 20 to 30% higher rate
  - >> Win for carriers
- >> Minor damaged vehicles may be used for future fraudulent claims

# What are “Compromised Vehicles”?



<https://www.vehiclesafetyfirm.com/wp-content/uploads/2018/03/Anatomy-of-A-Crisis-Getting-Vehicle-Safety-Professionals-RFocused-On-Fighting-The-Insurance-Industry-by-Vehicle-Safety-Lawyer-Todd-Tracy.pdf>

# DC-15-09782 Seebachan v John Eagle Collision Center



<https://www.vehiclesafetyfirm.com/wp-content/uploads/2018/03/Anatomy-of-A-Crisis-Getting-Vehicle-Safety-Professionals-RFocused-On-Fighting-The-Insurance-Industry-by-Vehicle-Safety-Lawyer-Todd-Tracy.pdf>

# Repair Attributes & Future Subsequent Damage



**HONDA** Technical Challenge

Create 360° Safety Cage  
By optimizing Materials and Design

The Safety Cage Provides Occupant Protection In All Accidents

PLAINTIFF'S EXHIBIT 24-A 19

Safety Systems Are Tied Together and Must Work In Harmony With Other Safety Systems

Roof Adhesive      Aftermarket Parts

Frame # -49      Time -0.049      Frame # -49      Time -0.049

OEM

Frame # -49      Time -0.049

<https://www.vehiclesafetyfirm.com/wp-content/uploads/2018/03/Anatomy-of-A-Crisis-Getting-Vehicle-Safety-Professionals-RFocused-On-Fighting-The-Insurance-Industry-by-Vehicle-Safety-Lawyer-Todd-Tracy.pdf>

# Profitable Incentives for Rebuilding Salvage Vehicles

AVOIDING ADVERSE SELECTION



## >> Salvage Vehicles

- >> Average price of Salvage Vehicles
- >> 6 to 7 thousand dollars

## >> Good condition used vehicles

- >> Average price of good used vehicle
- >> 21 to 22 thousands of dollars



## >> Average Cost to Rebuilt Salvage Vehicle

- >> Hard to estimate
  - >> Minimum - \$3 or \$4 thousand
  - >> More accurate - \$7 to \$10 thousand

## >> Net Profit

- >> Anywhere between \$6 and \$20 thousand
- >> Higher profit on more expensive vehicles.



# Rating vs. Underwriting

AVOIDING ADVERSE SELECTION



## >> Automobiles vs. Commercial Vehicles

### >> Commercial Vehicles

- >> Higher Limits and Losses
- >> More likely to Underwrite away

### >> Personal Automobile

- >> More likely to Rate higher
- >> Based on Severity of previous damage
- >> Many will purchase policy even at higher rates



## >> Preferred vs Non-Standard Writers

### >> Non-Standard

- >> Rate Higher

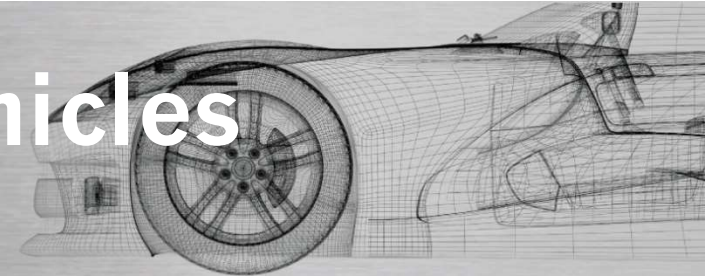
### >> Preferred

- >> Underwrite away
- >> Exception – multi-car policies



# Cut and Shut Vehicles

BRINGING SOLUTIONS TO MARKET



>> Some are easy to identify

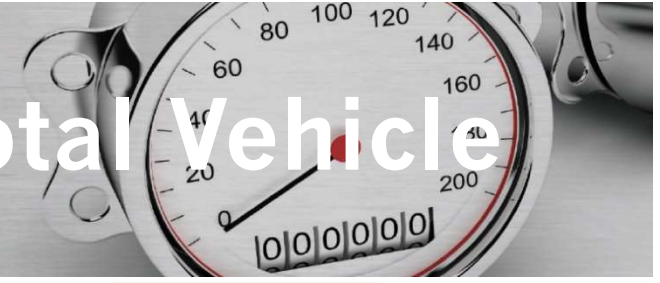


>> Others are not



# Buyer' Concerns – Total Vehicle

AVOIDING ADVERSE SELECTION



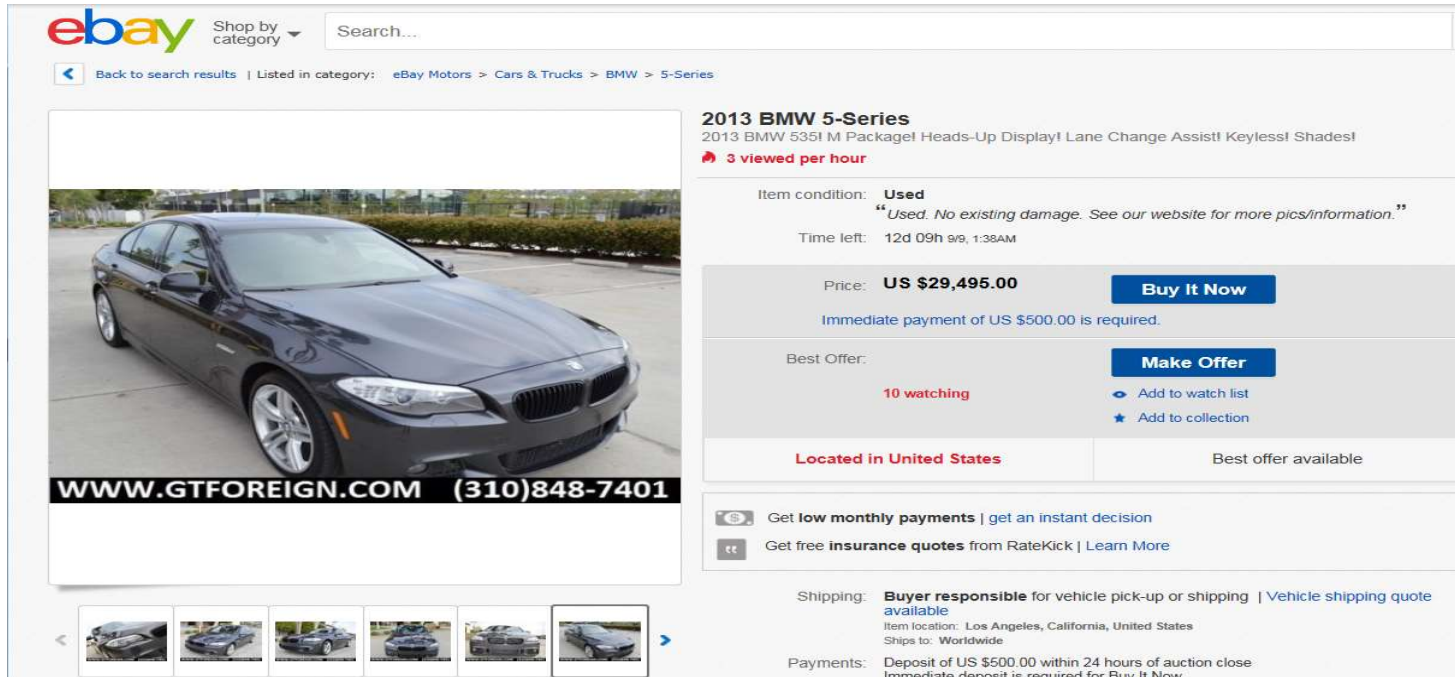
- » **Totaled Vehicle**
- » **Totaled by insurance carrier**



# Buyer' Concerns – Total Vehicle

AVOIDING ADVERSE SELECTION

>> Same Vehicle as previous slide



**ebay** Shop by category Search...

Back to search results | Listed in category: eBay Motors > Cars & Trucks > BMW > 5-Series

**2013 BMW 5-Series**  
2013 BMW 535i M Package! Heads-Up Display! Lane Change Assist! Keyless! Shades!  
3 viewed per hour

Item condition: **Used**  
"Used. No existing damage. See our website for more pics/information."  
Time left: 12d 09h 9/9, 1:38AM

Price: **US \$29,495.00** **Buy It Now**  
Immediate payment of US \$500.00 is required.

Best Offer: **Make Offer**  
10 watching  
Add to watch list  
Add to collection

Located in United States Best offer available

Get low monthly payments | get an instant decision  
Get free insurance quotes from RateKick | Learn More

Shipping: **Buyer responsible** for vehicle pick-up or shipping | Vehicle shipping quote available  
Item location: Los Angeles, California, United States  
Ships to: Worldwide

Payments: Deposit of US \$500.00 within 24 hours of auction close  
Immediate deposit is required for Buy It Now

WWW.GTFOREIGN.COM (310)848-7401

# Repair Costs Continue to Rise

AVOIDING ADVERSE SELECTION



## Average Repair Costs on the Rise

Average Repair Cost Repairable Vehicles CCC National Industry CY09-CY16



Source: CCC Information Services Inc.

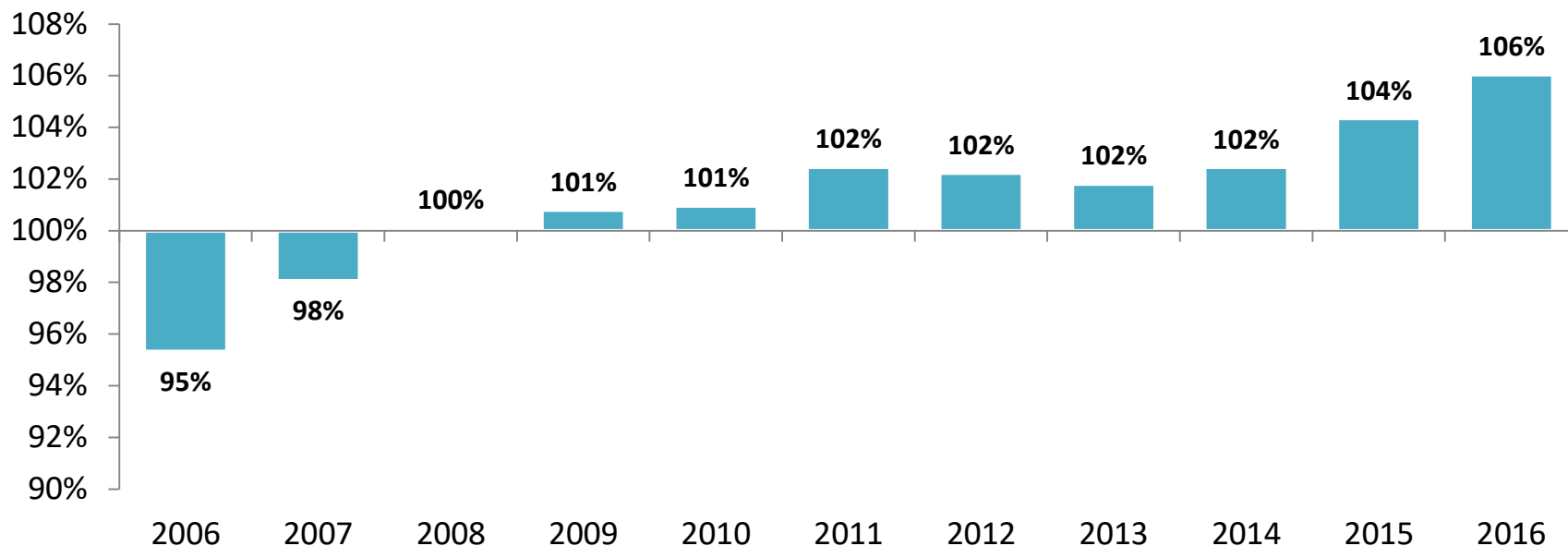
Spring CEO Conference | Kara Raiguel | May 2017

## Why Are Costs Rising?

- >> More Expensive Safety Devices
- >> Back up cameras
- >> Electric rear view mirrors
- >> Distracted Driving Rising
- >> Legalized Marijuana
- >> Faster Driving

# Personal Auto Combined Ratio

BRINGING SOLUTIONS TO MARKET

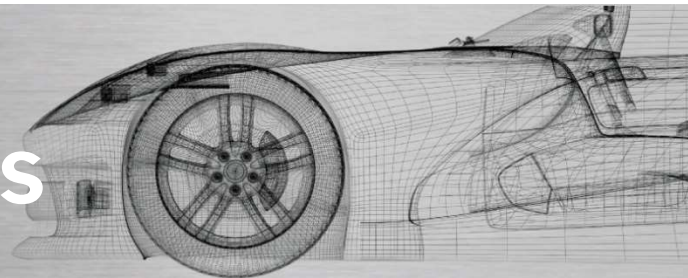


**Loss Ratios Have Been Rising for a Decade**

- Source: National Association of Insurance Commissioners data, sourced from S&P Global Market Intelligence; Insurance Information Institute.

# Model Insights

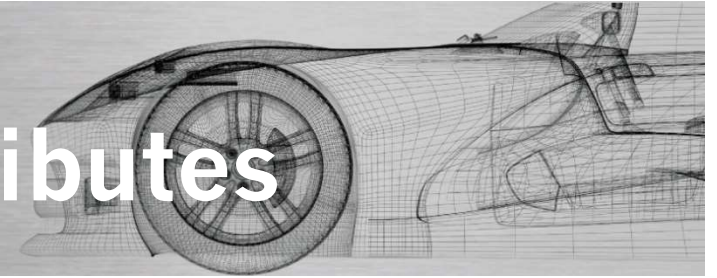
BRINGING SOLUTIONS TO MARKET



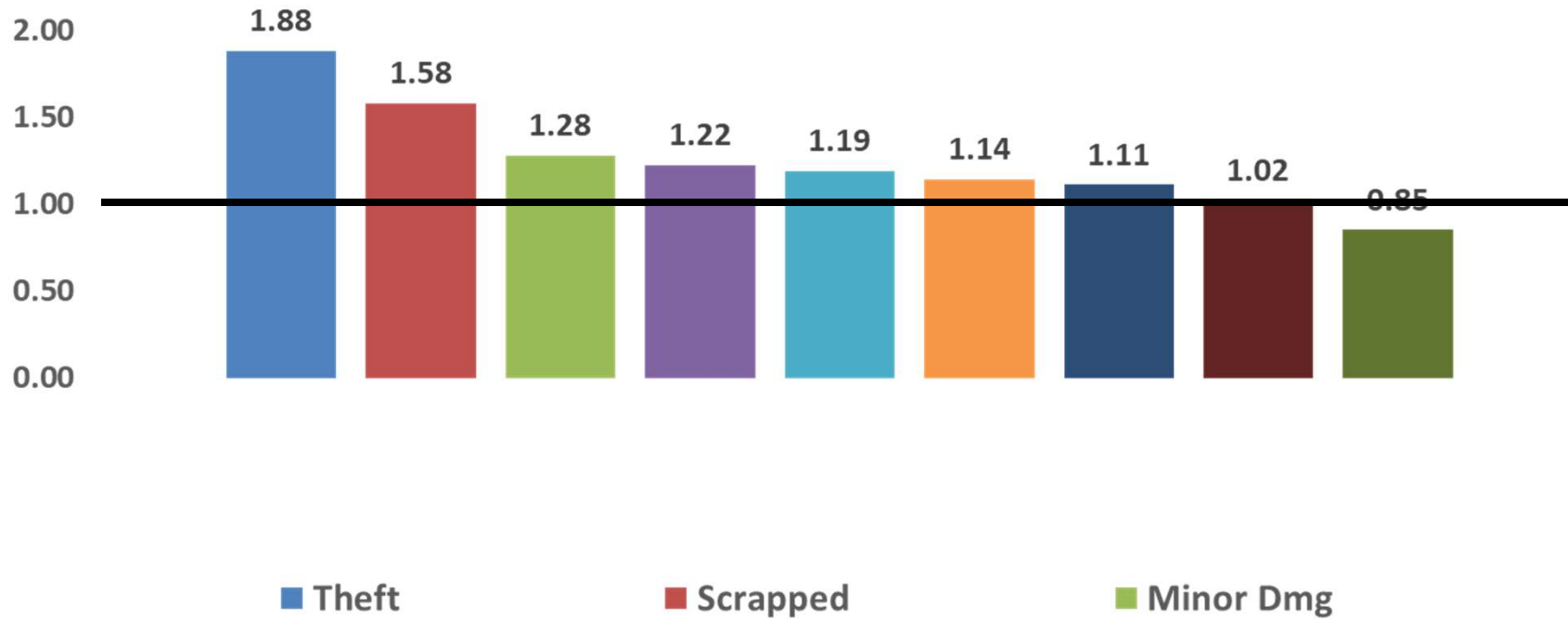
- >> Model developed specifically for Personal Automobile Insurance:
  - >> Comprised of 12 unique modeling variables from AutoCheck data
  - >> Model developed using the latest generalized linear modeling techniques
  - >> Modeled within a sophisticated rating plan utilizing credit and other modern variables
  
- >> Model incorporates complete data set:
  - >> Data spans spectrum of auto insurance risk (i.e. nonstandard, ultra preferred, agency, direct, national footprint, etc.)
  - >> Positive model validations performed.

# Key Condition Attributes

BRINGING SOLUTIONS TO MARKET



## Pure Premium Relativities

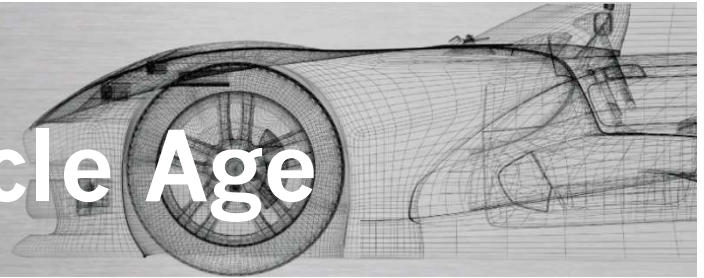


Confidential - For CAS Annual Meeting Only

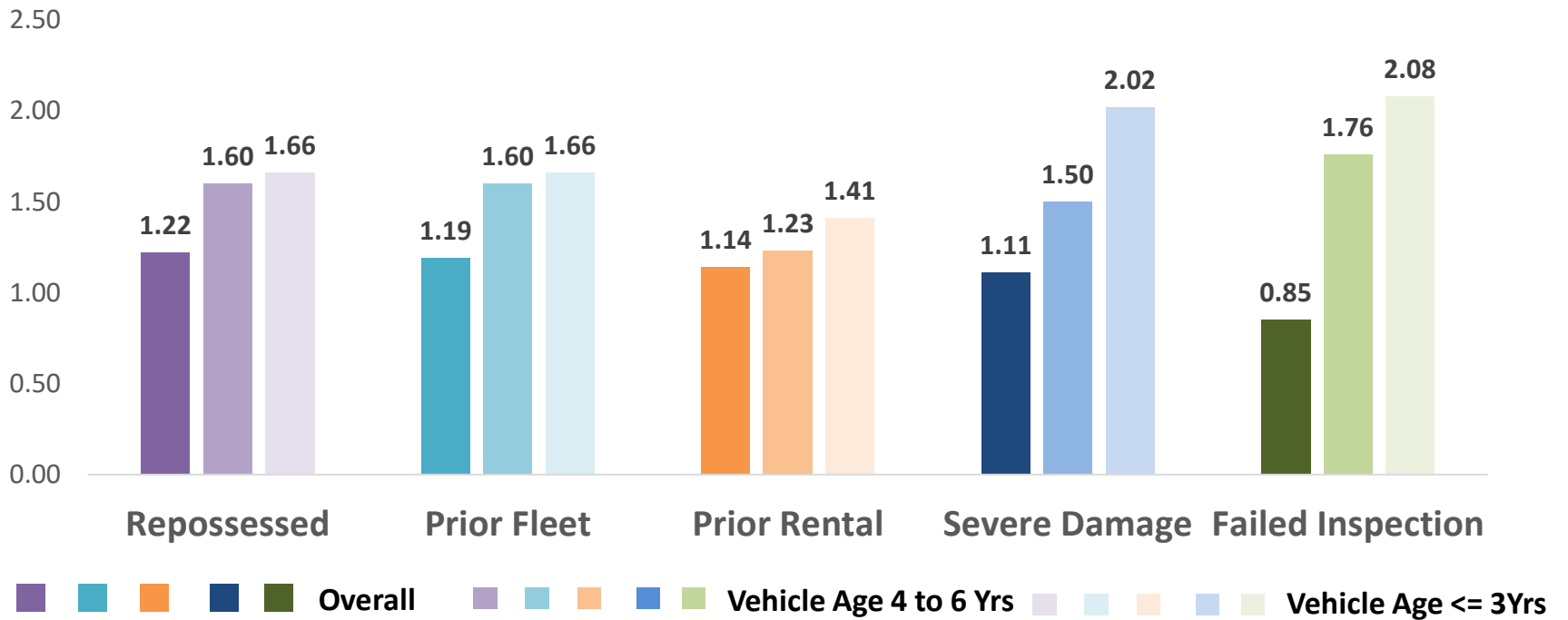


# Importance of Vehicle Age

BRINGING SOLUTIONS TO MARKET



## Pure Premium Relativities

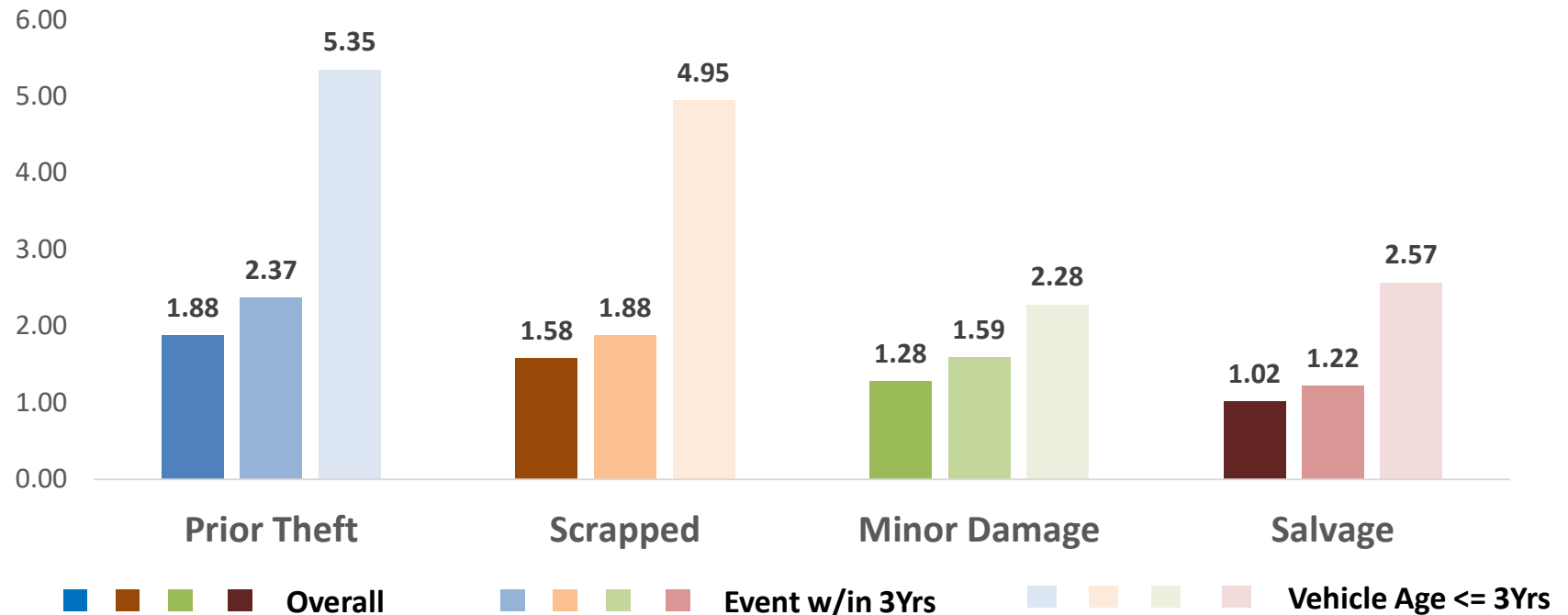


Confidential - For CAS Annual Meeting Only

# Importance of Time Since Event

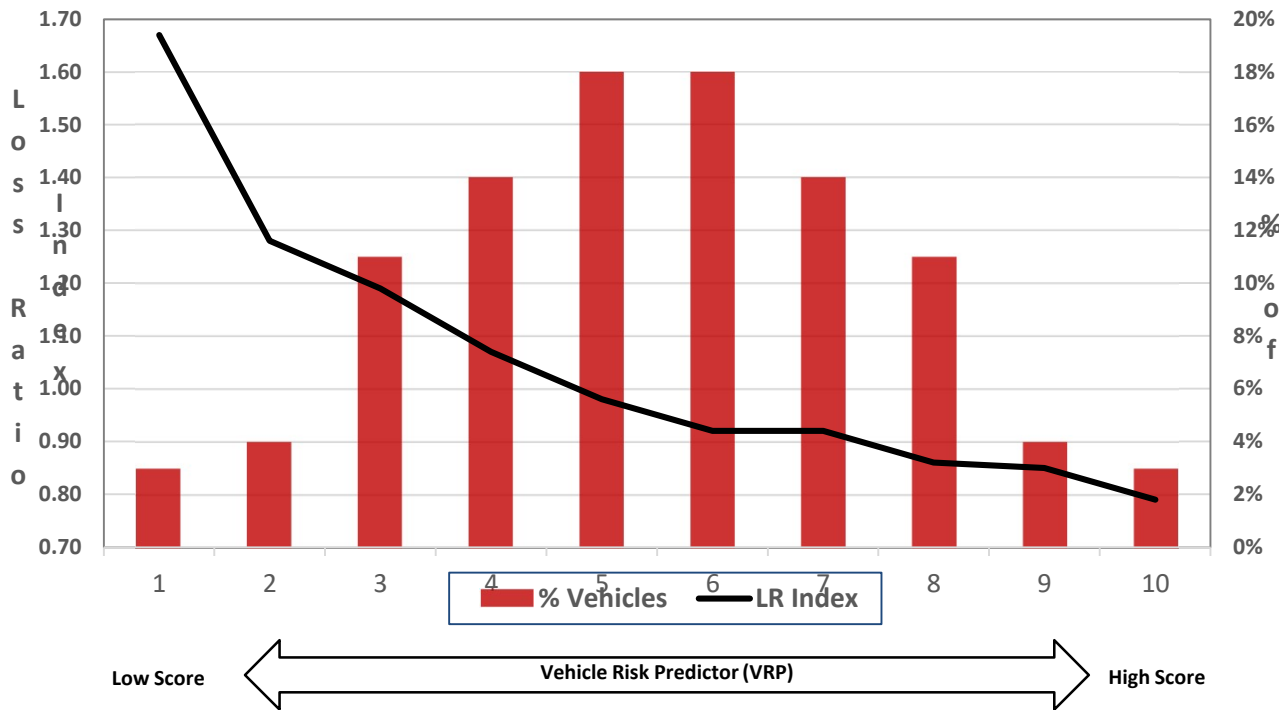
BRINGING SOLUTIONS TO MARKET

## Pure Premium Relativities



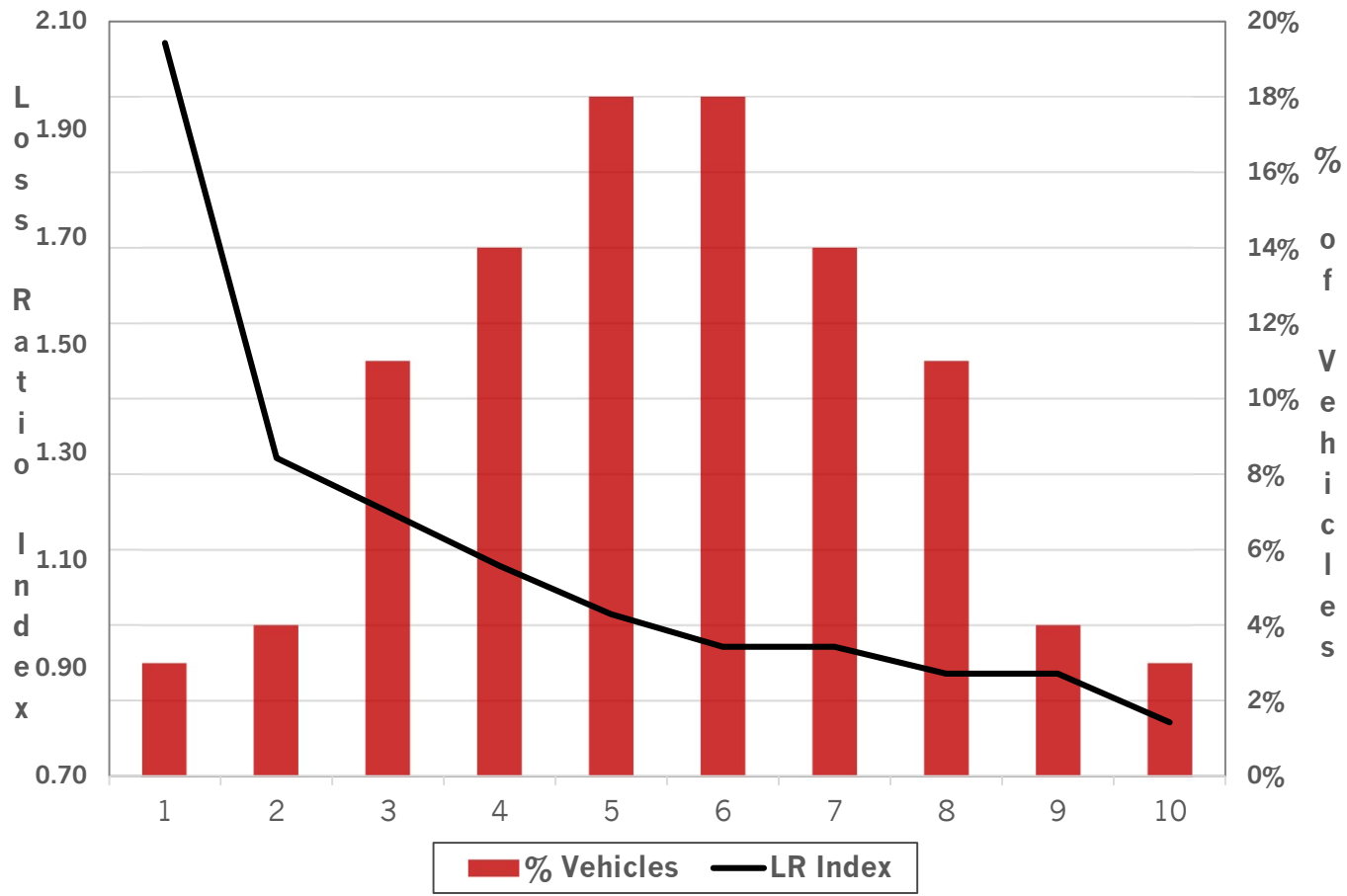
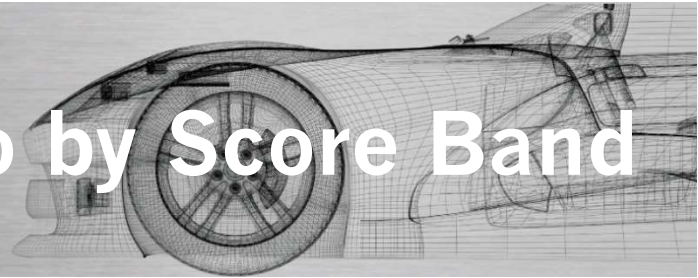
Confidential - For CAS Annual Meeting Only

# All Coverages Loss Ratio Index by Score Band



10 Bands	% Vehicles VRP Model	All Coverages LR Index
1	3%	1.67
2	4%	1.28
3	11%	1.19
4	14%	1.07
5	18%	0.98
6	18%	0.92
7	14%	0.92
8	11%	0.86
9	4%	0.85
10	3%	0.79
<b>ALL</b>	<b>100%</b>	<b>Lift: 2.11</b>

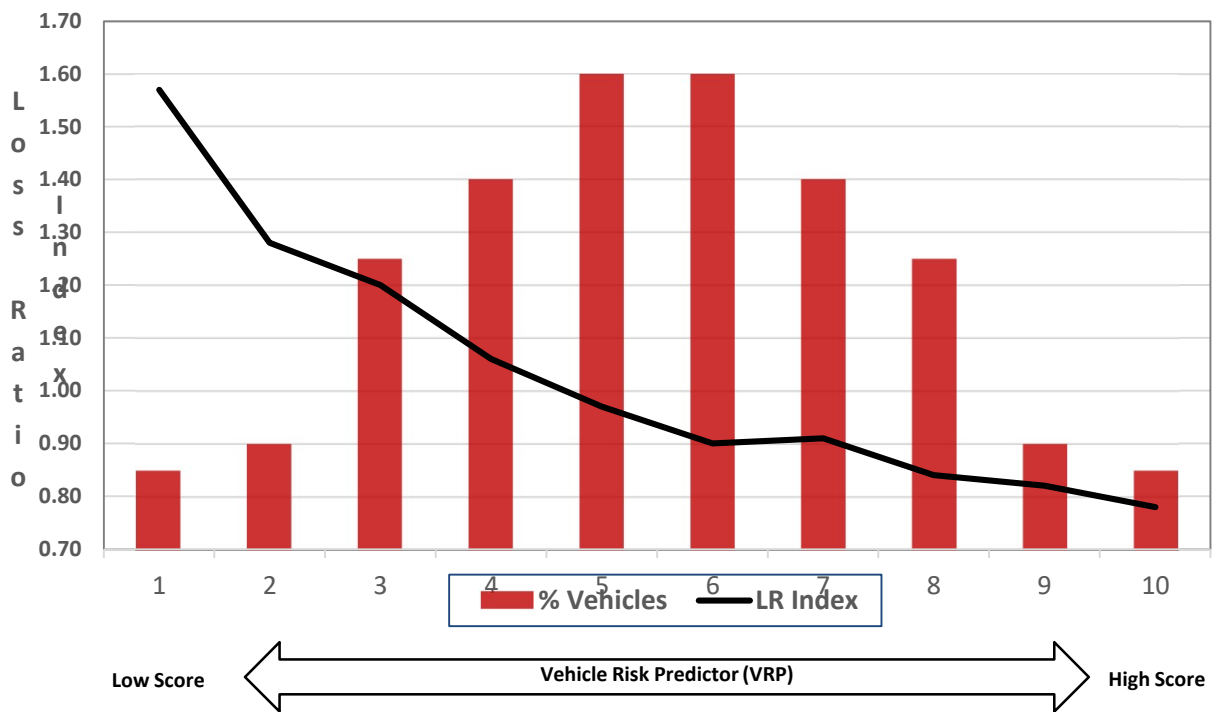
# Physical Damage Loss Ratio by Score Band



10 Bands	% Vehicles VRP Model	All Coverages LR Index
1	3%	2.06
2	4%	1.29
3	11%	1.19
4	14%	1.09
5	18%	1.00
6	18%	0.94
7	14%	0.94
8	11%	0.89
9	4%	0.89
10	3%	0.80
<b>ALL</b>	<b>100%</b>	<b>Lift: 2.01</b>

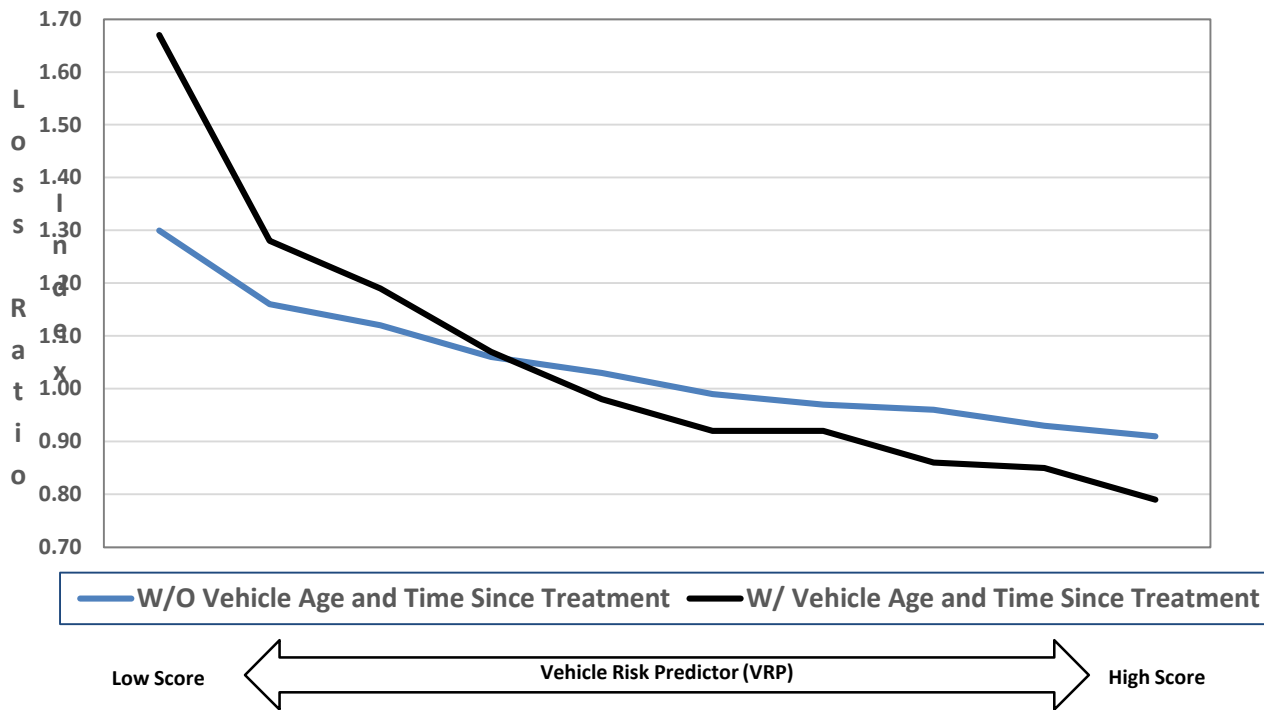


# Liability Coverages Loss Ratio Index by Score Band



10 Bands	% Vehicles VRP Model	All Coverages LR Index
1	3%	1.57
2	4%	1.28
3	11%	1.20
4	14%	1.06
5	18%	0.97
6	18%	0.90
7	14%	0.91
8	11%	0.84
9	4%	0.82
10	3%	0.78
<b>ALL</b>	<b>100%</b>	<b>Lift: 2.01</b>

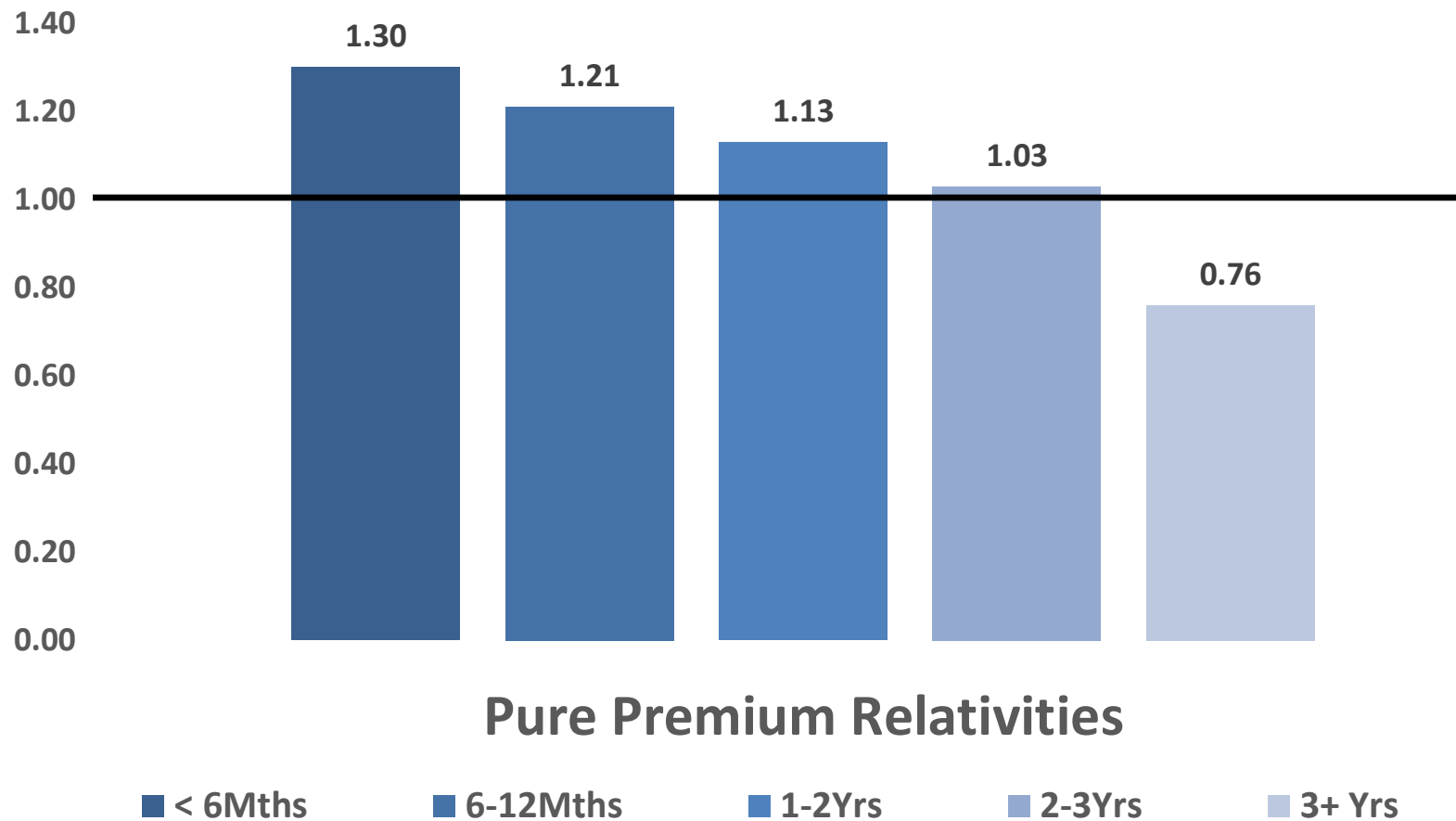
# VEHICLE AGE AND TIME SINCE EVENT IMPORTANT ASPECTS OF MODEL LIFT



10 Bands	W/O Age and Time	W/ Age and Time
1	1.30	1.67
2	1.16	1.28
3	1.12	1.19
4	1.06	1.07
5	1.03	0.98
6	0.99	0.92
7	0.97	0.92
8	0.96	0.86
9	0.93	0.85
10	0.91	0.79
ALL	1.43	Lift: 2.11

# Vehicle History Does Length of Ownership Matter?

AVOIDING ADVERSE SELECTION

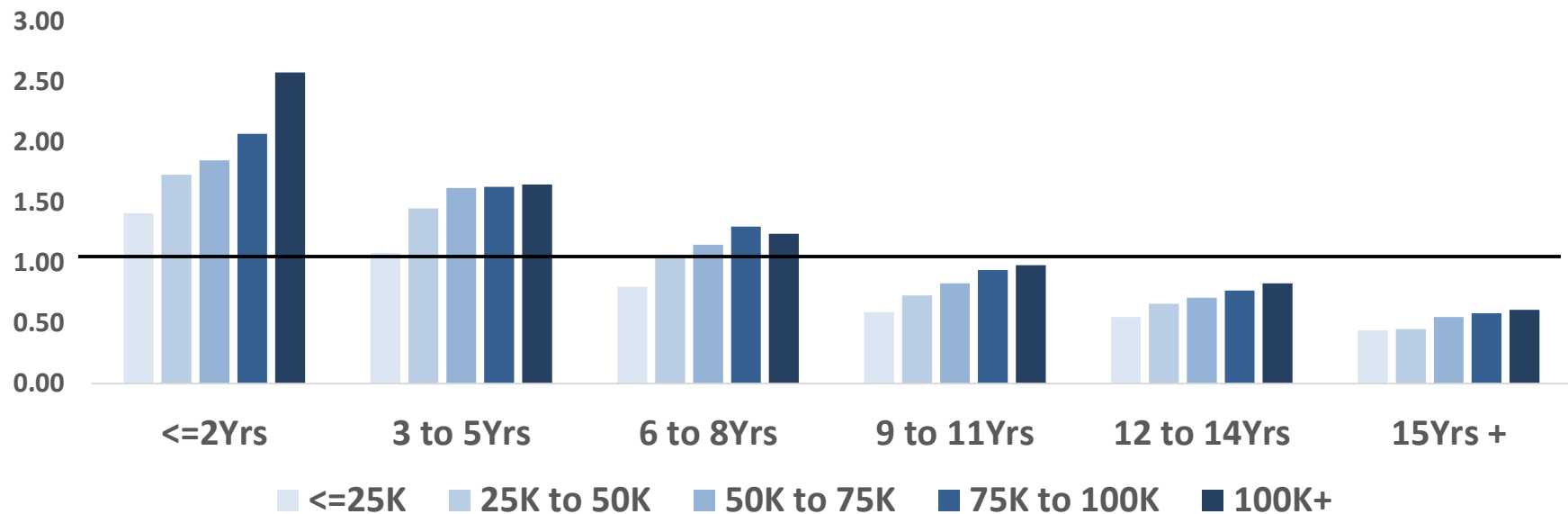


# Sourcing Mileage Information

AVOIDING ADVERSE SELECTION

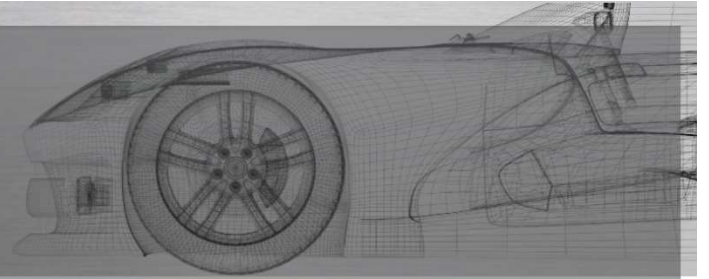


## Pure Premium by Vehicle Age



Confidential - For 2020 CAS Annual Show Only





# Data Test Summary



## Insurance Data Test

### Test Results Summary

#### Data Test Summary

Key Data Elements	Data Test Vin Count	Test Results %	Total Industry
Total VINs Requested	467,898		
Invalid VINs	16,634		
Total Valid VINs	431,244		
Total Vehicles Compromised	338,031	74.91%	33%-52%*
Vin Rollback	5,348	1.19%	1.00%
Vin Rollover	11,199	2.48%	1.00%

\*25th to 75th Percentile

#### Distribution Statistics By Key VRP Model Variables

VRP Model Variable	Distn	Industry	Lowest	25th Percentile	Median	75th Percentile	Largest	Loss Cost Relativity**	
								Low	High
Failed Inspection	2.00%	3.98%	0.16%	1.28%	3.26%	5.13%	26.27%	0.773	1.774
Fleet	3.17%	7.55%	3.17%	7.00%	7.75%	8.84%	27.68%	0.669	1.696
Minor Incident - ALL	13.83%	32.70%	10.72%	27.05%	34.63%	40.93%	55.01%	1.000	2.108
Rental Vehicle	0.51%	0.89%	0.21%	0.63%	0.99%	1.55%	11.18%	1.140	1.140
Repossessed Vehicle	0.75%	1.75%	0.21%	0.78%	1.17%	1.77%	8.88%	1.223	1.223
Salvage Vehicle	8.21%	4.78%	0.12%	3.06%	4.33%	3.76%	10.29%	0.961	2.598
Scrapped Vehicle	1.37%	2.03%	0.00%	0.44%	1.24%	2.25%	9.61%	1.096	7.533
Severe Damage - ALL	8.99%	7.76%	1.36%	5.28%	6.76%	8.30%	14.12%	1.108	1.108
Theft Vehicle	0.21%	0.36%	0.06%	0.24%	0.36%	0.47%	1.94%	1.475	4.815
Title Activity	60.96%	38.19%	16.86%	30.81%	36.46%	40.46%	60.96%	0.404	1.607

\*\*Loss cost relativities based on either a yes/no indicator or will vary by age of vehicle and time since incident (a patented approach in RMT's VRP model).





**Thank You For Your Attention**

**Questions or Suggestions?**



## **Contact Information**

**Christopher C. Whipple**

Sr. National Manager - RMT

[CWhipple@RedMountainTech.com](mailto:CWhipple@RedMountainTech.com)

**Brandon Wockenfuss**

National Manager - RMT

[BWockenfuss@RedMountainTech.com](mailto:BWockenfuss@RedMountainTech.com)

**David McDonald**

Principal – Triad Analytics

[damcdonald2@gmail.com](mailto:damcdonald2@gmail.com)



2200 WOODCREST PLACE  
SUITE 300  
BIRMINGHAM, AL 35209  
800.332.2608

[WWW.REDMOUNTAINTECH.COM](http://WWW.REDMOUNTAINTECH.COM)  
[INFO@REDMOUNTAINTECH.COM](mailto:INFO@REDMOUNTAINTECH.COM)



**End of  
presentation**

**Other possible  
slides below**