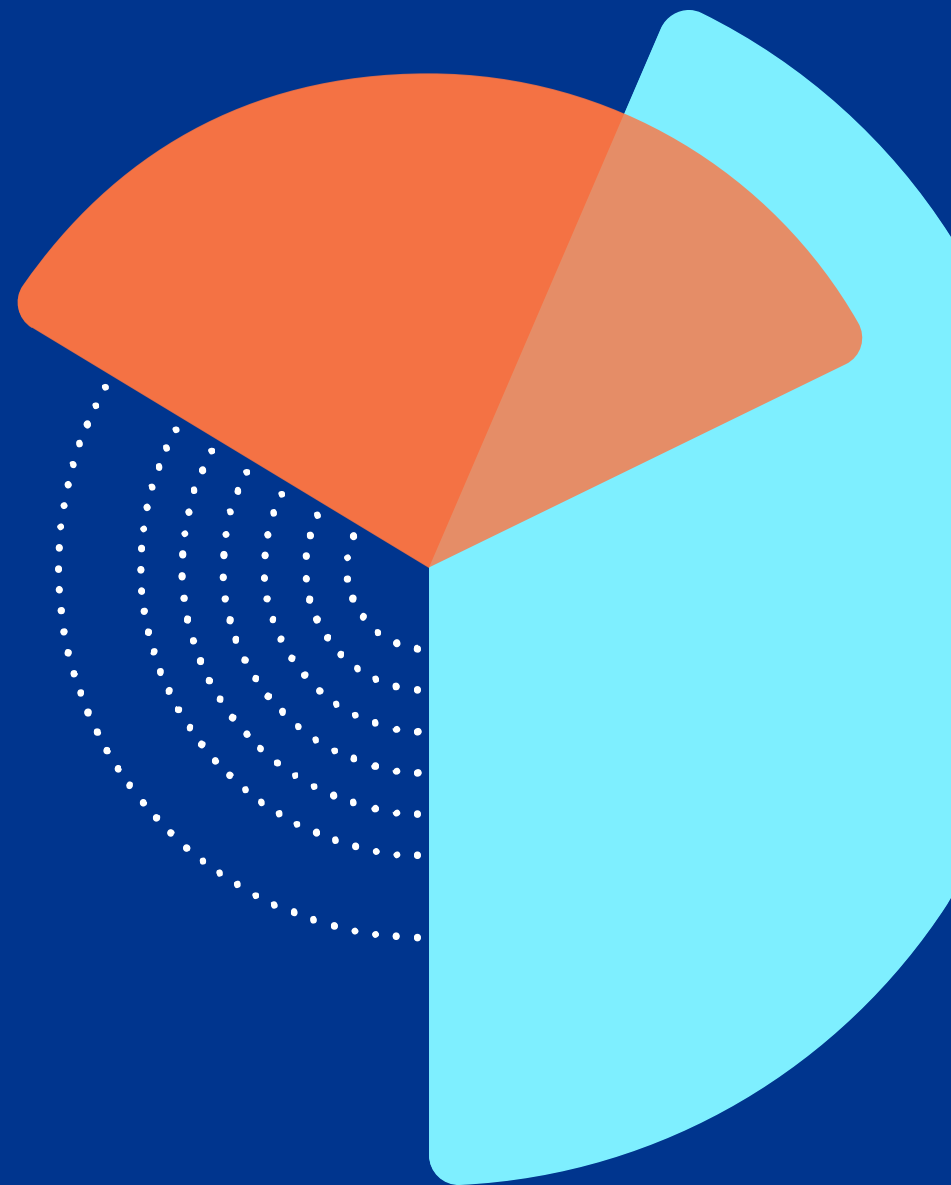
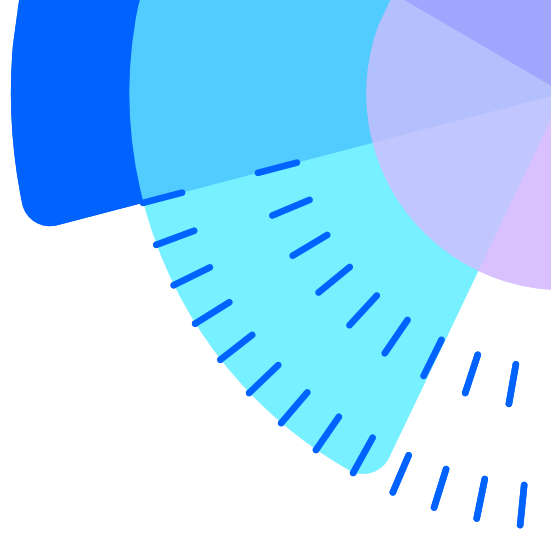




# Commercial Auto Profitability Playbook: Analytic Approaches and Strategic Tools





# Today's presenters



**Jimmy Engström**

Director  
Underwriting Solutions  
Verisk



**Jane Shaughnessy**

Product Manager  
Underwriting Solutions  
Verisk

# Policy Statement

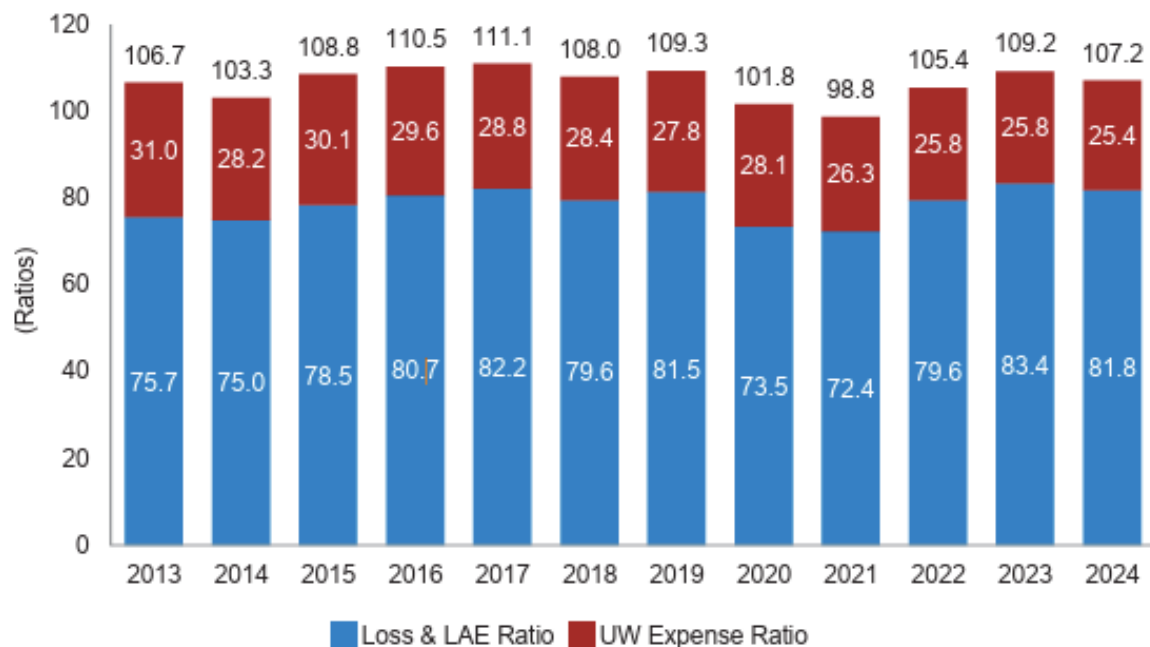
The policy of Verisk Analytics and subsidiary companies is to comply in all respects with federal and state antitrust laws. With this in mind, we want to mention that during all seminars held under our auspices, this policy prohibits discussion of certain topics. Because we want to avoid even the appearance of an antitrust violation, we go beyond the letter of the law, and we will not discuss any matter that violates the spirit of the antitrust laws or could be perceived as doing so.

A copy of our Policy Statement on Discussion at Meetings can be found at <https://www.verisk.com/495f8a/siteassets/media/downloads/chairpersons-statement.pdf>

# Profitability: An Ongoing Challenge

Industry consistently loses money, but some carriers write auto profitably

### US Commercial Auto – Net Underwriting Ratios



Source: BESTLINK

### US Commercial Automobile – Top 20 Insurers' Net Combined Ratios



Ranked by 2024 Commercial Auto Net Premiums Written

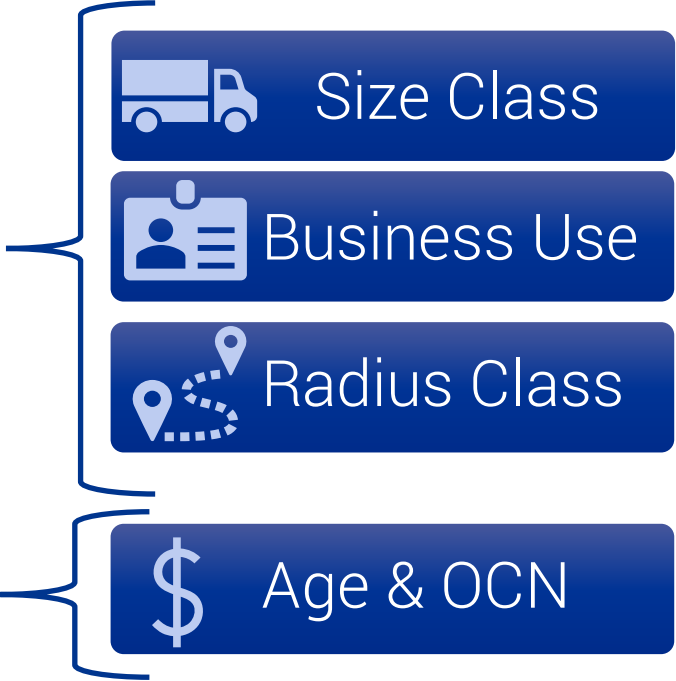
Company Name	2024 NPW (\$ millions)	YoY % Change	Net Combined Ratios				
			2020	2021	2022	2023	2024
Progressive Insurance Group	10,468	9.0	84.9	87.6	90.4	98.5	88.2
Travelers Group	3,805	12.9	105.0	93.4	101.3	110.2	104.4
Berkshire Hathaway Insurance Group	2,774	31.4	108.1	99.3	100.4	110.5	116.2
Liberty Mutual Insurance Companies	2,182	-4.5	106.6	104.7	135.2	114.2	108.4
Auto-Owners Insurance Group	2,112	15.8	102.4	94.8	113.9	125.3	90.3
Old Republic Insurance Group	1,977	24.3	102.9	94.2	90.2	93.6	94.9
State Farm Group	1,883	20.5	117.4	118.3	152.0	136.3	123.6
W. R. Berkley Insurance Group	1,449	9.5	100.8	85.1	100.3	109.8	105.9
Chubb INA Group	1,316	30.0	99.8	95.5	116.7	127.4	126.2
Hartford Insurance Group	1,275	19.0	107.8	102.2	105.0	104.1	107.4
Fairfax Financial (USA) Group	1,166	13.8	109.7	109.5	106.8	113.1	117.4
Selective Insurance Group	1,148	14.6	99.8	103.7	106.5	102.7	99.3
CNA Insurance Companies	1,062	25.8	114.3	118.6	115.8	116.0	120.3
Erie Insurance Group	1,035	16.0	86.9	95.0	114.3	116.7	119.7
Tokio Marine US PC Group	1,007	10.4	95.0	99.6	95.5	100.4	110.2
Sentry Insurance Group	963	7.3	100.1	99.6	98.4	107.6	130.0
The Cincinnati Insurance Companies	955	8.5	94.1	89.2	103.8	98.3	96.4
Acuity, A Mutual Insurance Company	929	15.0	85.6	96.6	107.6	96.5	94.3
American International Group	908	19.3	91.5	100.7	95.9	94.9	103.5
CSAA Insurance Group	897	46.5	218.1	150.2	107.5	115.8	101.4

Source: BESTLINK

# Major Rating Components Widely Used in the Industry

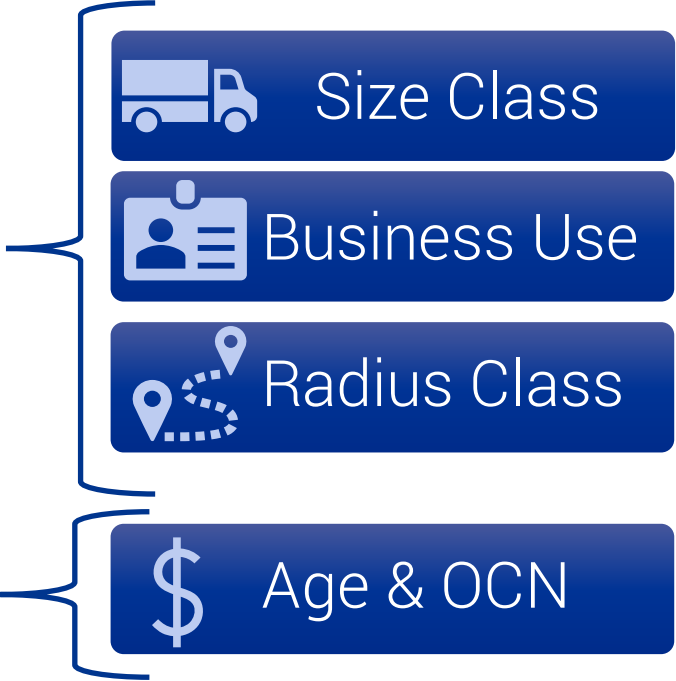
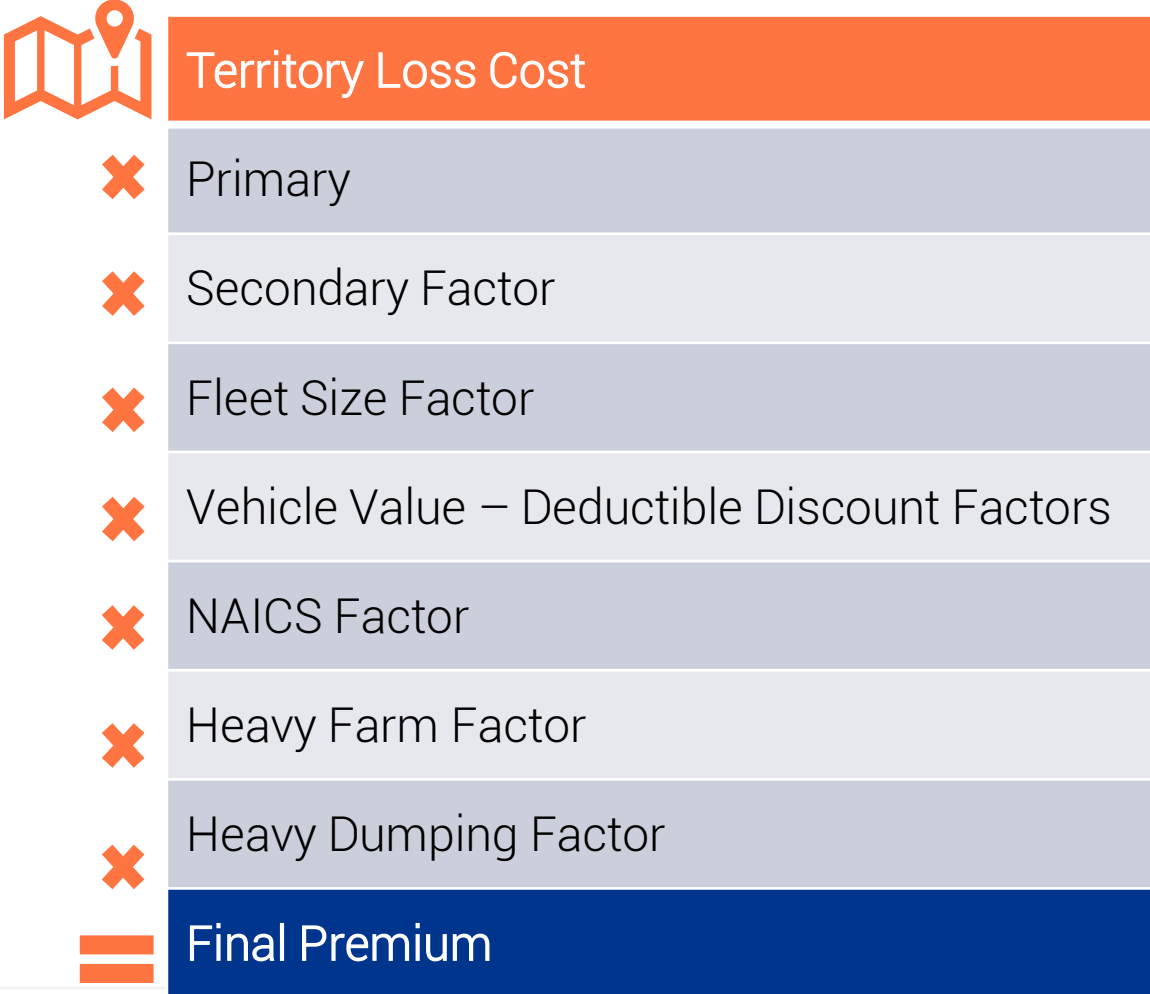
Ex: Truck Collision Rating Formula

	Territory Loss Cost
✗	Primary
✗	Secondary Factor
✗	Fleet Size Factor
✗	Vehicle Value – Deductible Discount Factors
✗	NAICS Factor
✗	Heavy Farm Factor
✗	Heavy Dumping Factor
	Final Premium



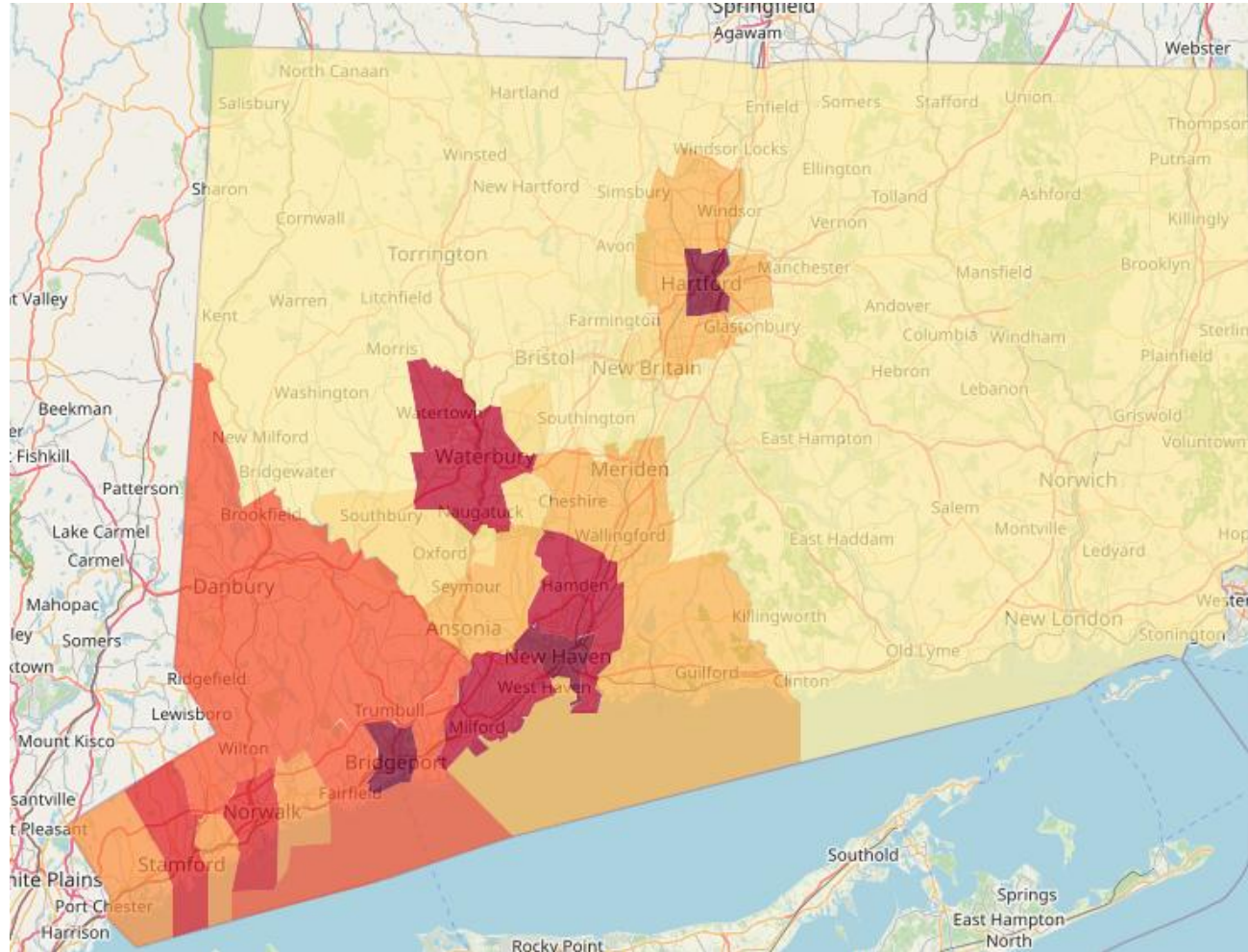
# Major Rating Components Widely Used in the Industry

Ex: Truck Collision Rating Formula



# Strictly Using Experience Typically Creates Larger Geographic Territories

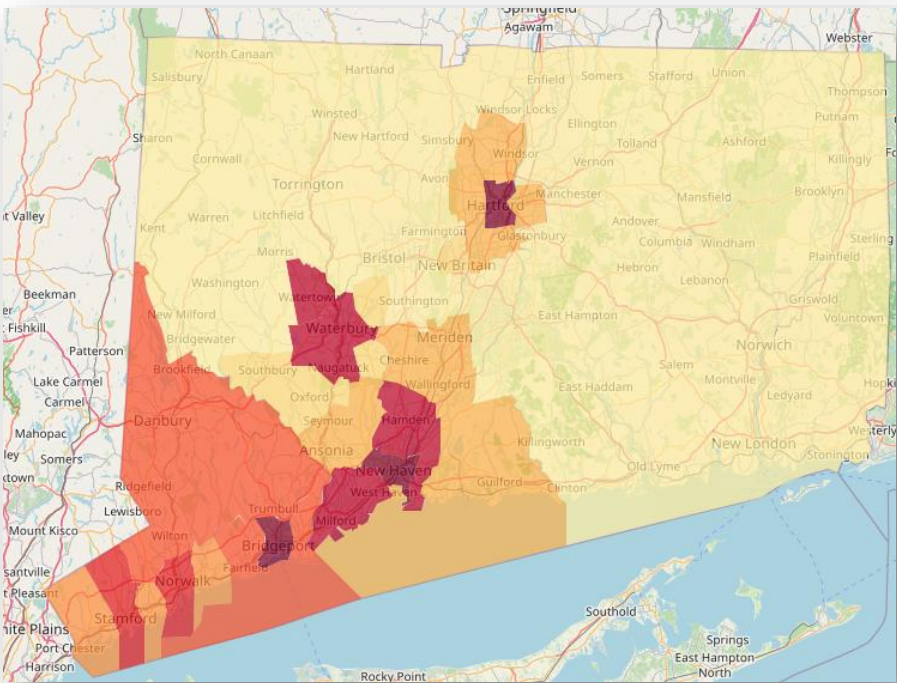
ISO PPT Collision advisory territory loss cost = 18 unique territories



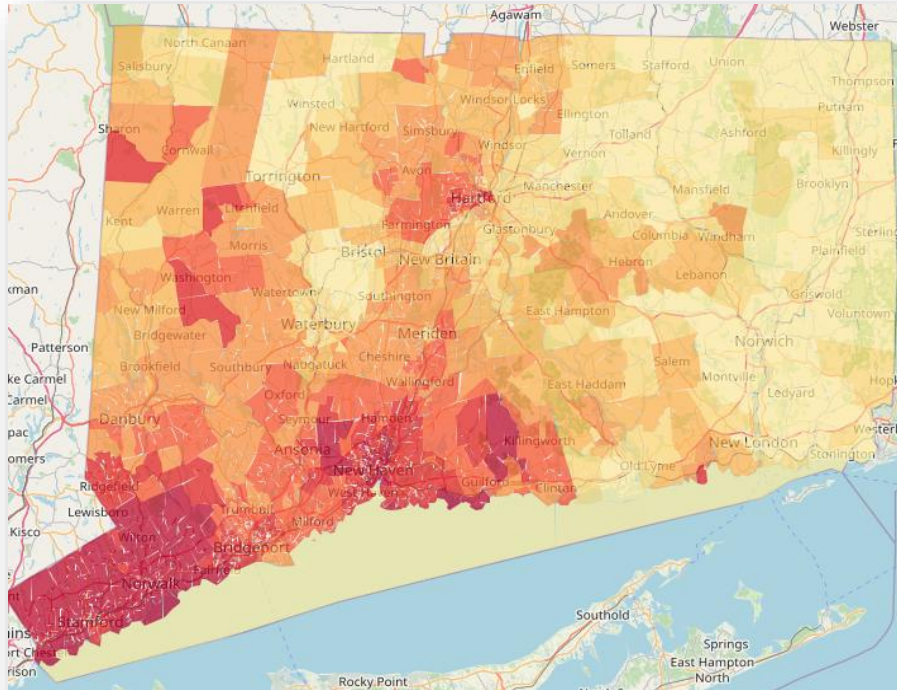
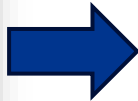
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# Predictive Models can help increase Rating Segmentation

Replacing broad averages with risk-specific pricing



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**More segmentation → better alignment to loss → improved pricing and underwriting outcomes**

# ISO Risk Analyzer Commercial Auto Environmental Module

## Address-level territory rating

Evaluate risks at the specific location using predictive models that analyze hundreds of local environmental indicator to determine expected loss cost by coverage (separately for PPT & TTT)

- ✓ Bodily Injury
- ✓ Property Damage
- ✓ Combined Single Limit
- ✓ Collision
- ✓ Comprehensive (OTC)



### Traffic generators

Transportation hubs, shopping centers, businesses, and medical centers



### Traffic composition

Vehicles per household, average age of drivers, and typical vehicle uses



### Traffic density and driving patterns

Commuting, public transportation, speed limits, traffic loads, and road classifications



### Weather and terrain

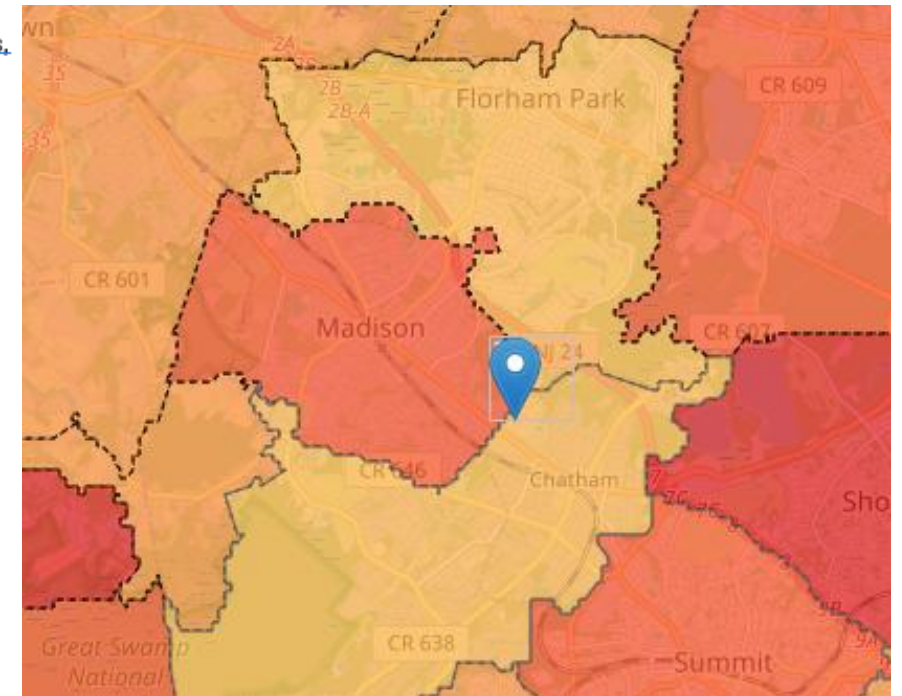
Precipitation, temperature, extreme weather, and elevation changes



### Experience and trend

Granular loss experience and state frequency and severity trends from ISO lost costs

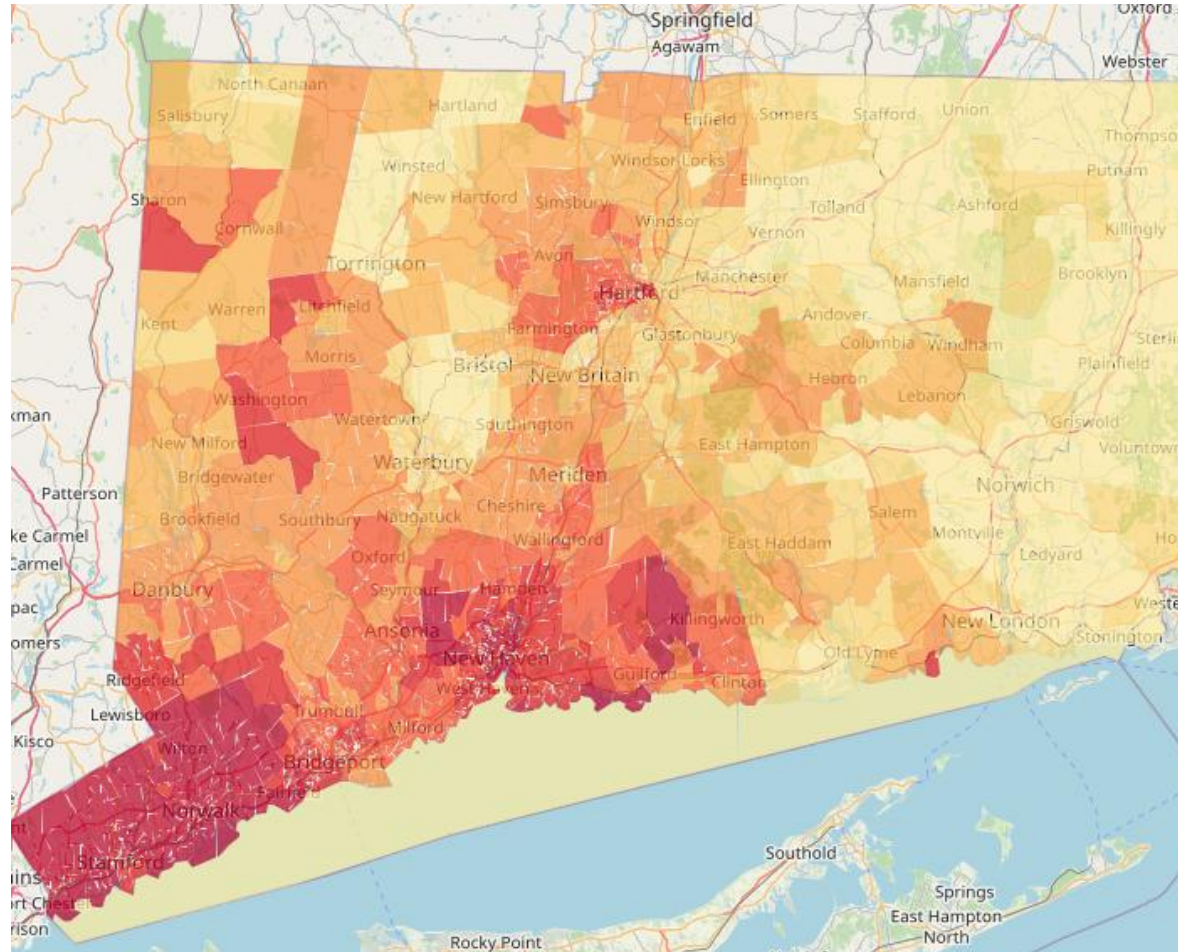
## Location-specific external data signals enhance risk segmentation



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# Example of Segmentation Achieved Using Non-insurance Data Within a Predictive Model

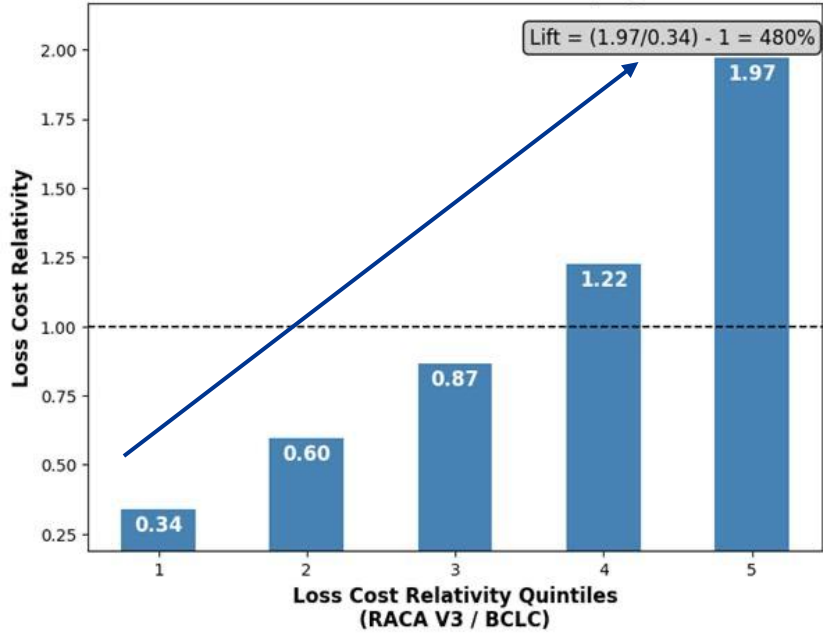
From 18 territories to modeled loss cost for 2,581 unique Census Block Groups (CBGs)



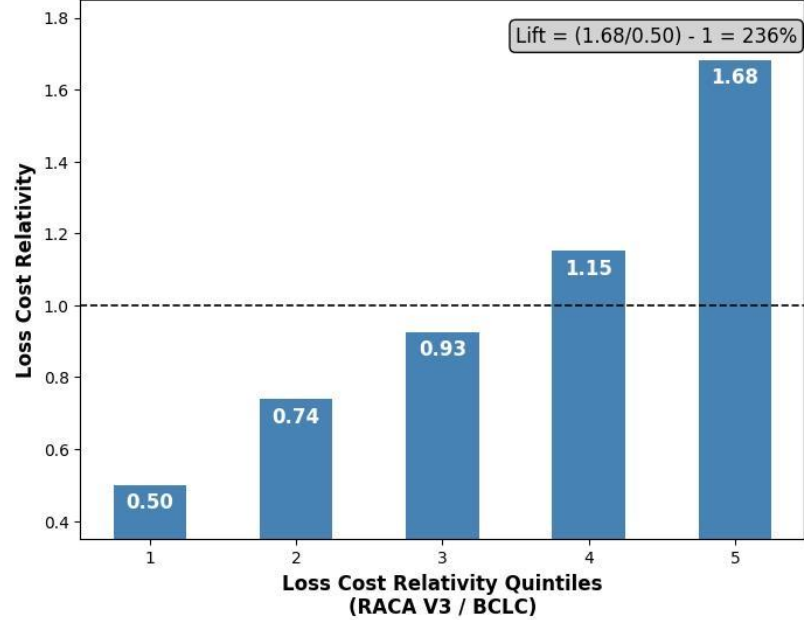
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# Model performance on industry data

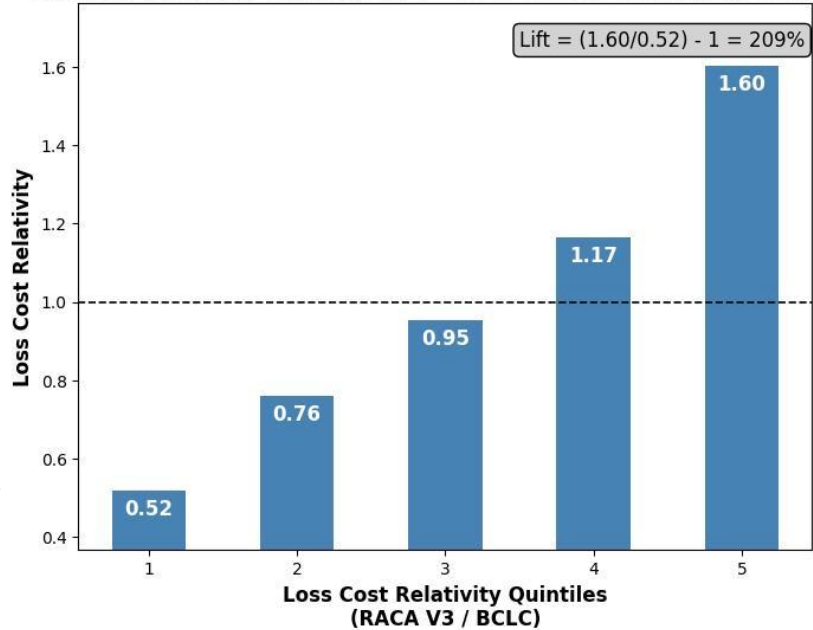
### Collision PPT - Loss Cost Relativity by Quintile



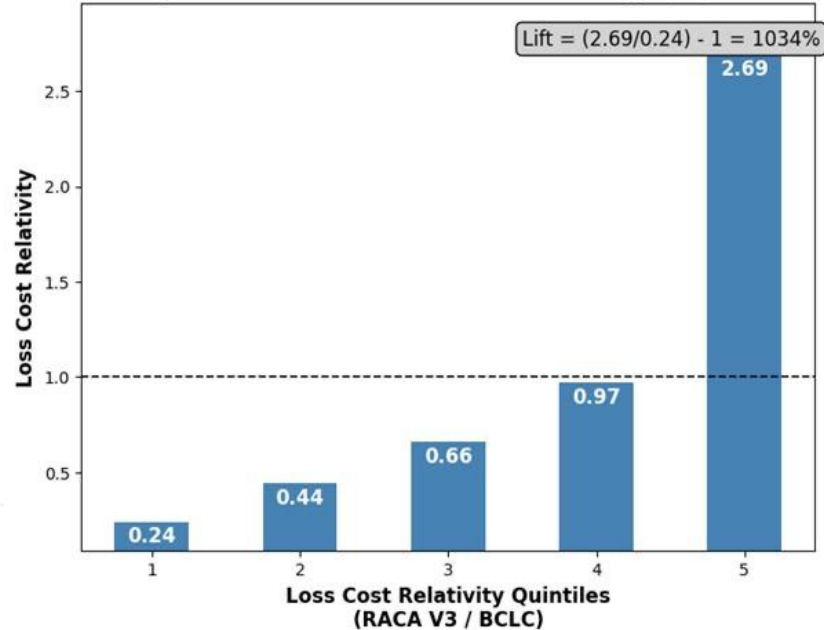
### Liability Bodily Injury PPT - Loss Cost Relativity by Quintile



### Liability Property Damage PPT - Loss Cost Relativity by Quintile

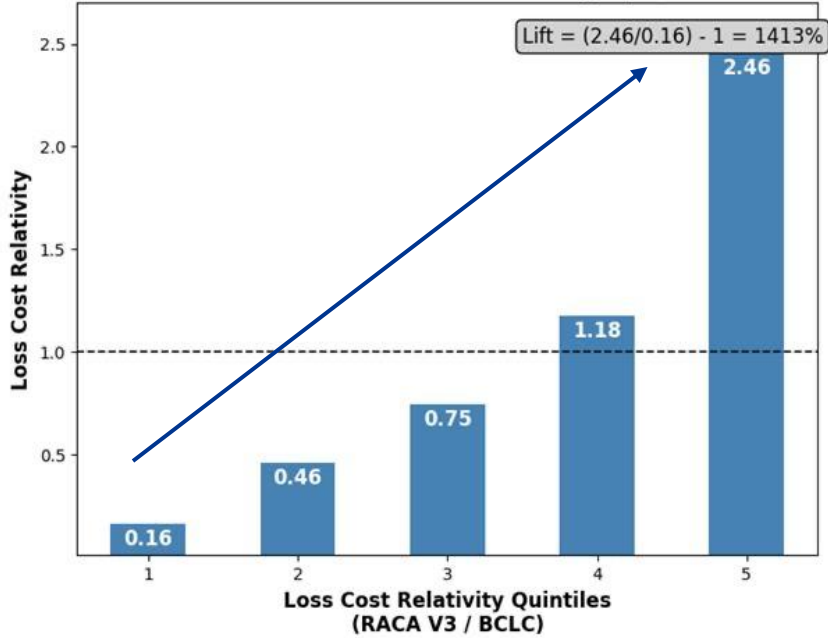


### Comprehensive PPT - Loss Cost Relativity by Quintile

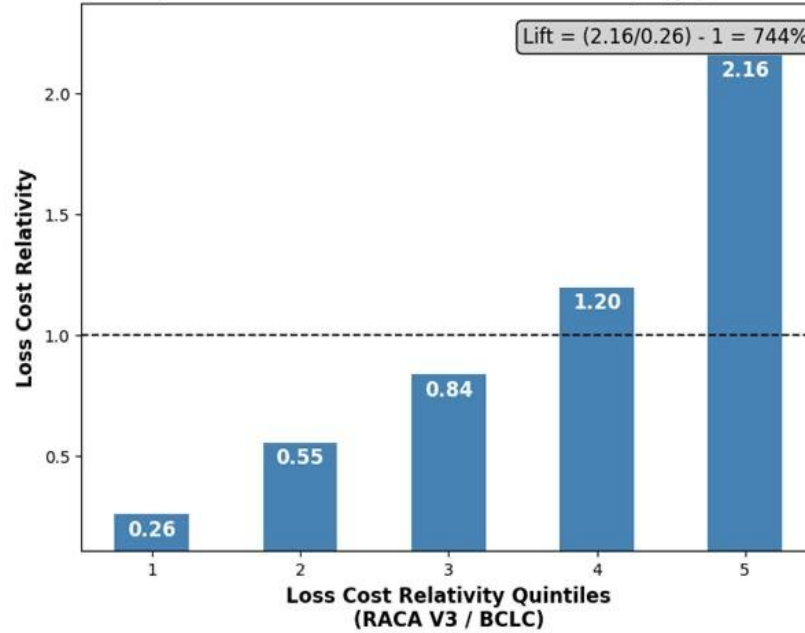


# Model performance on industry data

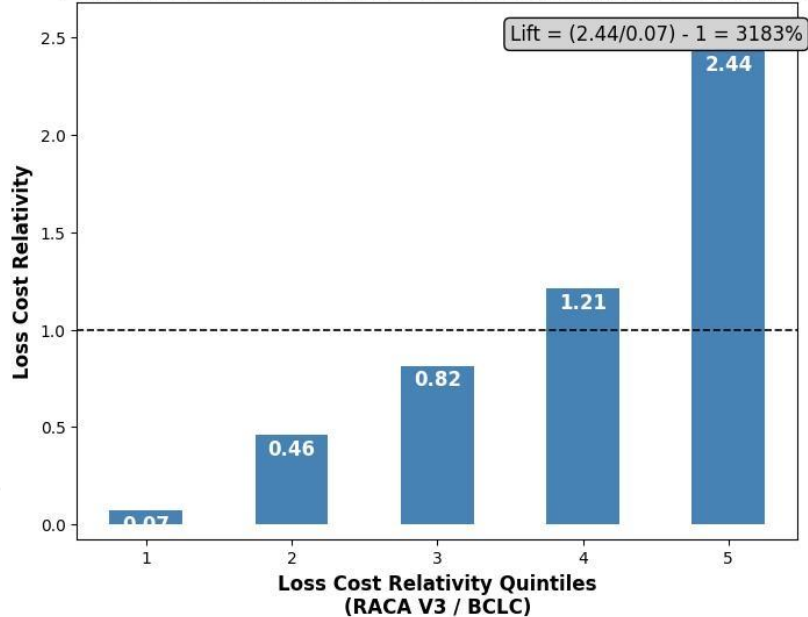
### Collision TTT - Loss Cost Relativity by Quintile



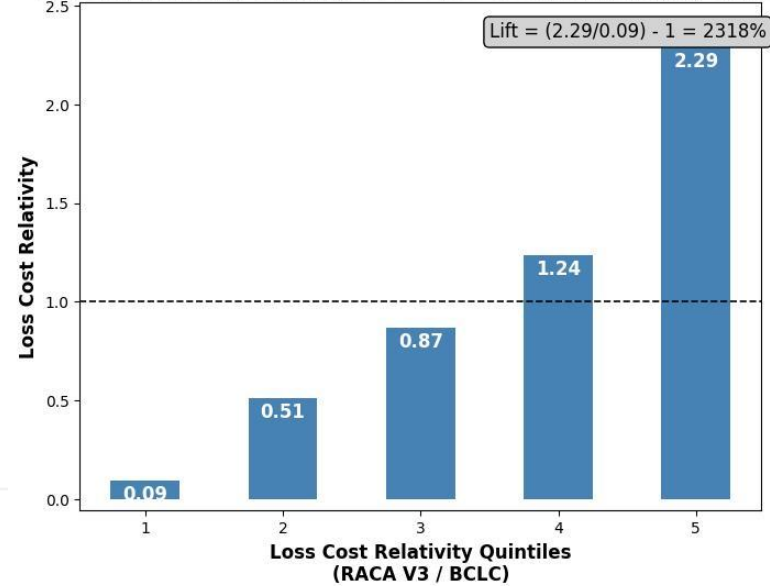
### Comprehensive TTT - Loss Cost Relativity by Quintile



### Liability Bodily Injury TTT - Loss Cost Relativity by Quintile

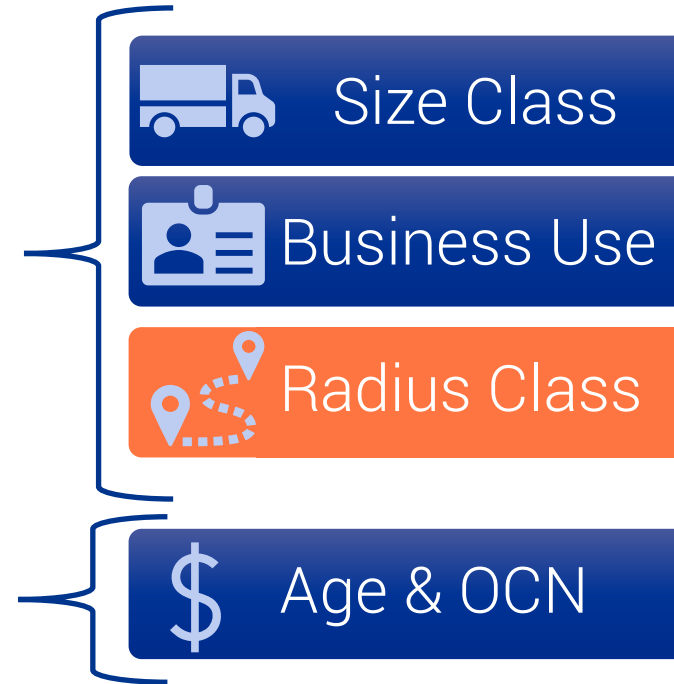
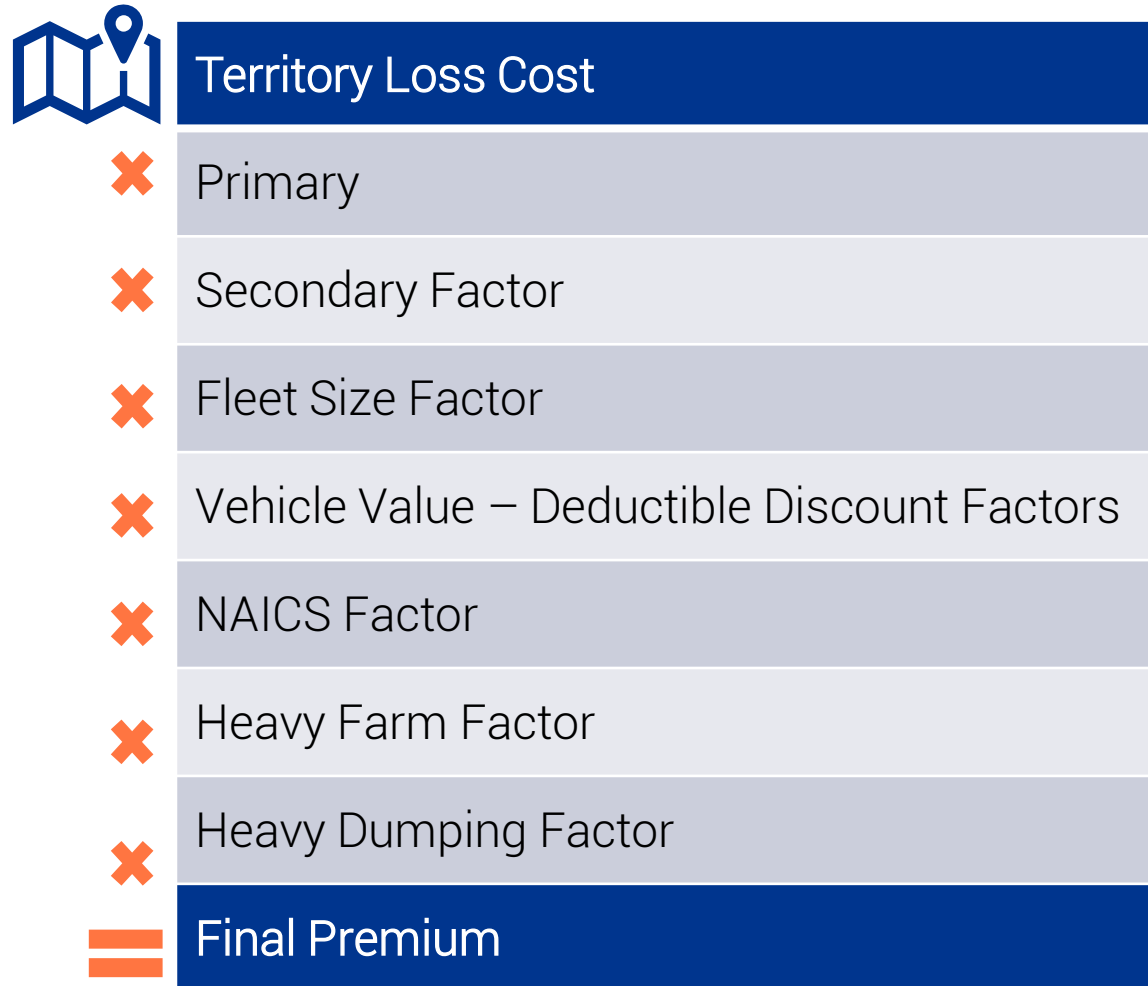


### Liability Property Damage TTT - Loss Cost Relativity by Quintile



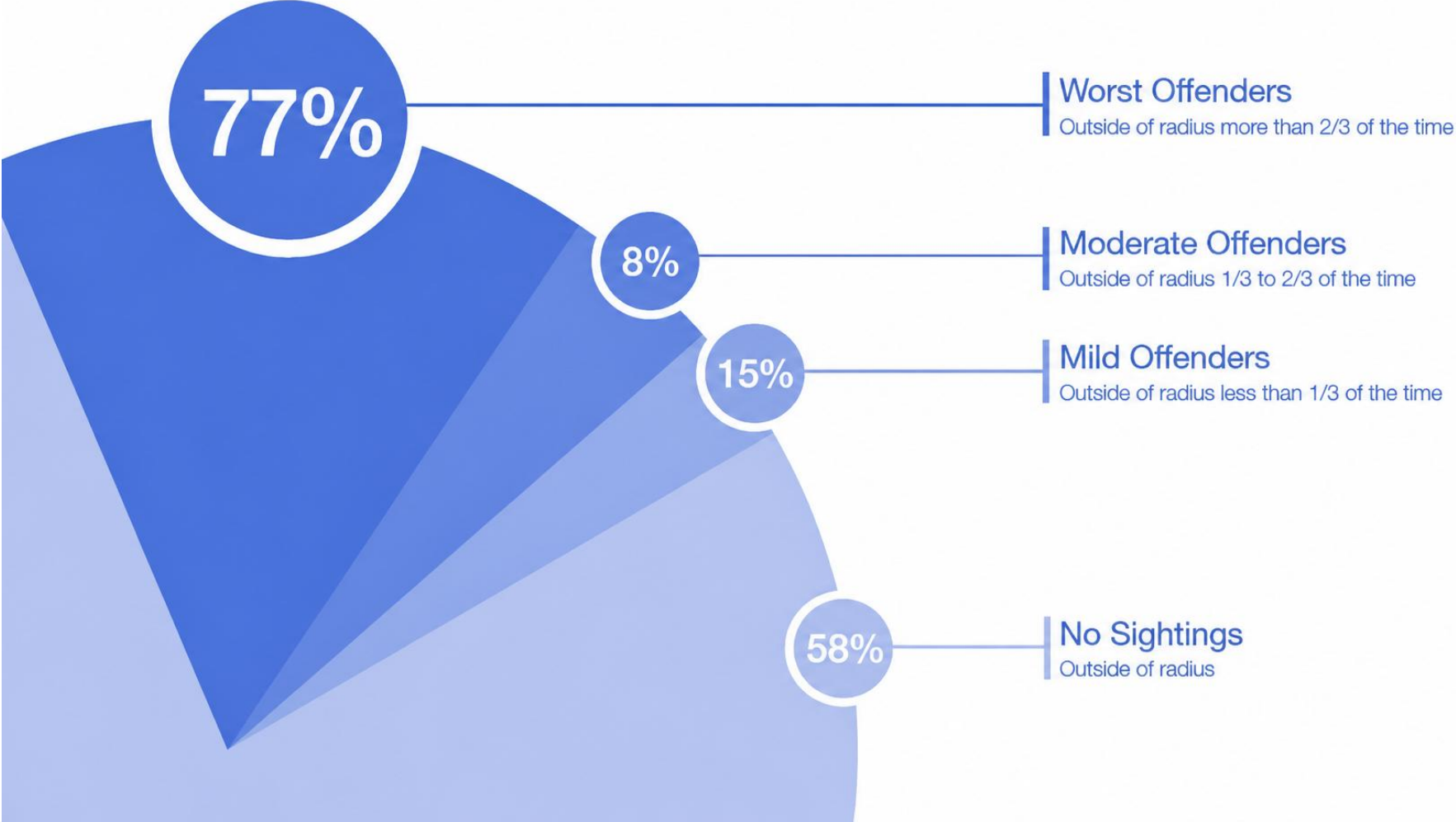
# Major Rating Components Widely Used in the Industry

Ex: Truck Collision Rating Formula



# What Radius is Used for Your Insured Vehicles?

Most vehicles are rated "Local," but a Verisk study reveals different results:



# What is RadiusCheck?

RadiusCheck is a tool that uses visual vehicle sighting information to report location

## How it Works

- All LPR sightings uploaded to database
- Tagged with date/time and location
- Query by VIN (converted to license plate)
- Summarized sighting information provided for underwriting

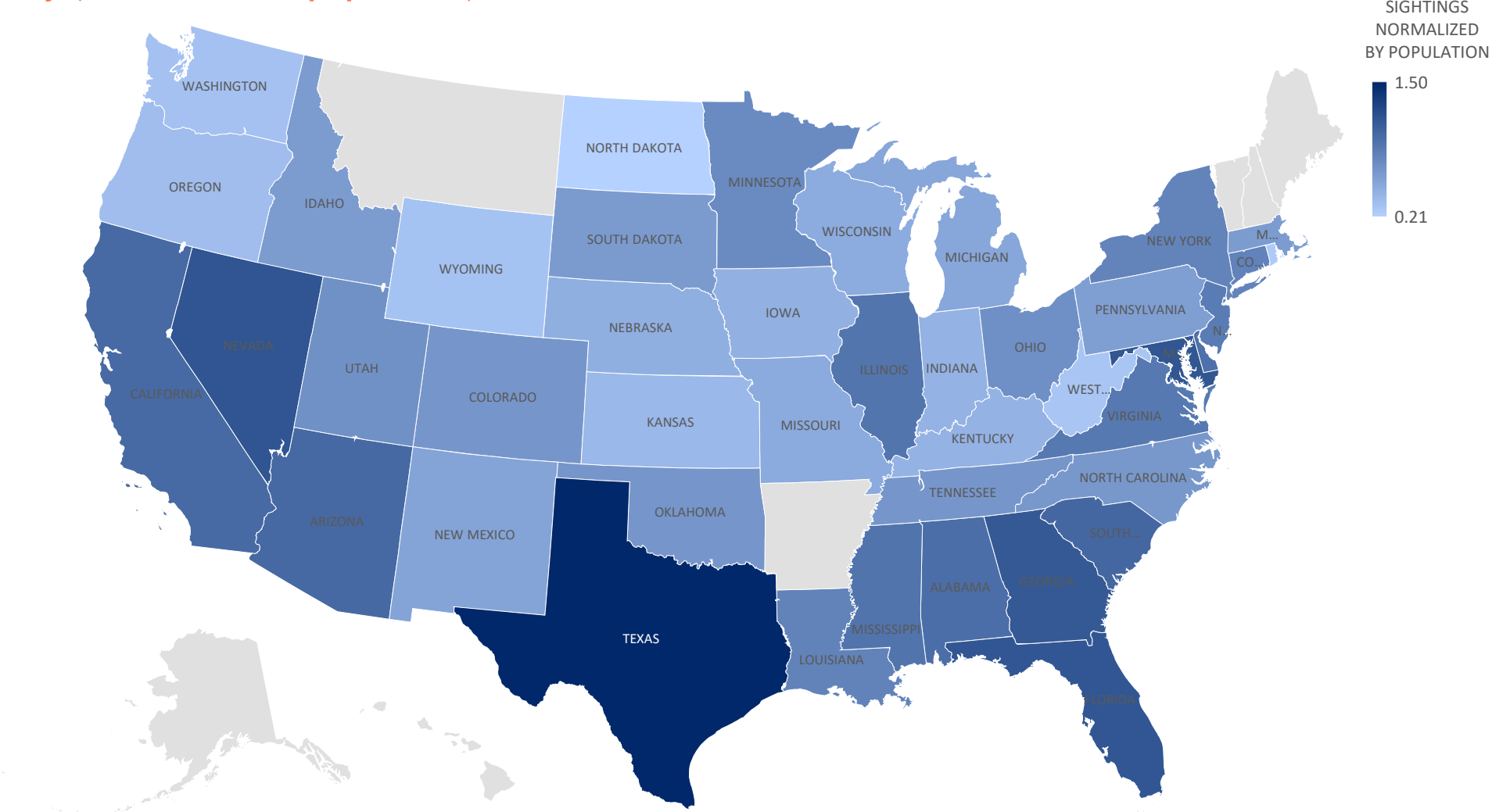


## Industry Need

- Radius Classification is extremely difficult to determine
- Radius misclassification can impact premiums – typically 30%+ per vehicle coverage
- Garaging misclassification can often impact loss cost relativity
- Visual data can be utilized in the underwriting process for vehicle class changes

# Where Are Vehicles Sighted?

Scan availability (normalized for population)



# Radius Violation Example

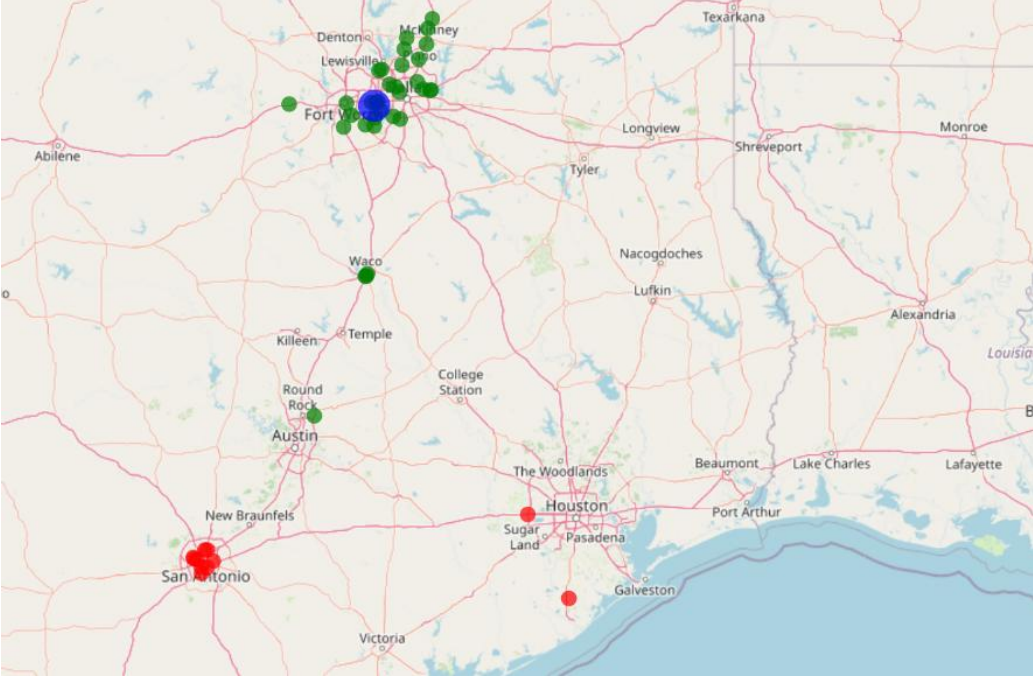
**VIN:** 1FTYE1Y81LKSERIAL

**Vehicle:** 2020 Ford Transit

**Plate:** PFP [REDACTED], TX

**Garaging:** Arlington, TX

**Sightings:** 44 Total Sightings, 25% Outside



Car Image	Plate Image	Distance (Miles)	Sighting Lat	Sighting Lon	Sighting Address	Date Time (GMT)
		265.00	29.16440813	-95.4344812	[REDACTED] Street, Angleton, TX 77515	2024-02-28 01:45:38
		249.10	29.34859082	-98.5340998	[REDACTED] Street, San Antonio, TX 78224	2023-12-06 15:52:07
		246.30	29.39331771	-98.5367944	[REDACTED] Road, San Antonio, TX 78226	2024-02-14 14:16:36
		245.40	29.39146119	-98.4864561	[REDACTED], San Antonio, TX 78210	2024-01-17 20:56:33
		243.60	29.45419442	-98.596432	[REDACTED] Street, San Antonio, TX 78228	2024-01-26 10:44:36
		243.40	29.44985428	-98.5727186	[REDACTED] Road, San Antonio, TX 78228	2024-02-07 22:36:47

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# Radius Violation Example

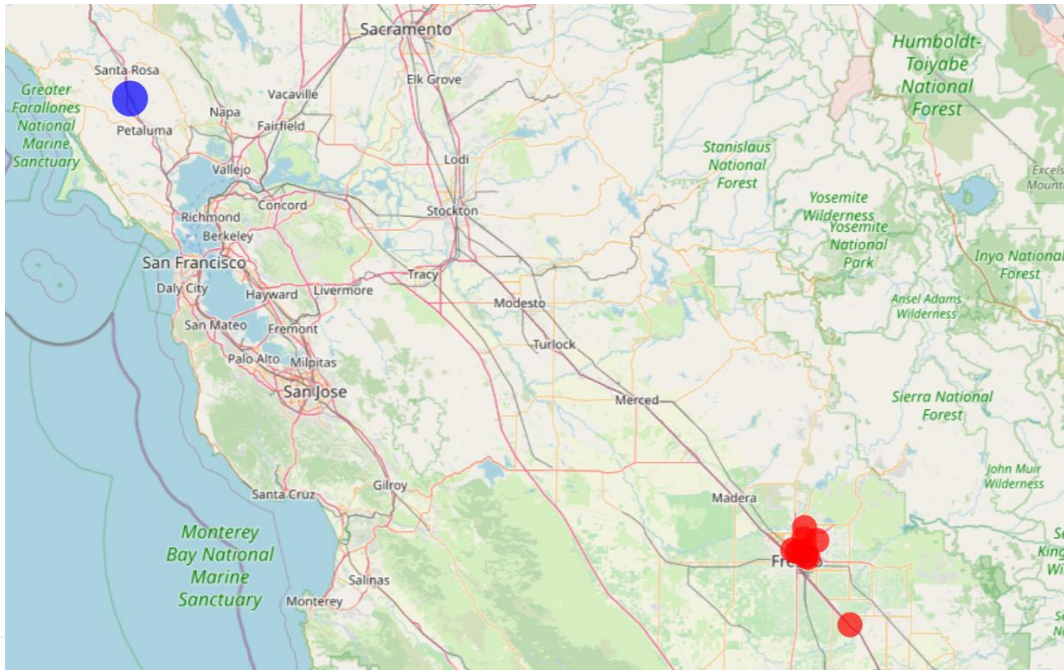
**VIN:** 1GCNCNEH1JZSERIAL

**Vehicle:** 2018 Chevrolet Silverado

**Plate:** 603 [REDACTED], CA

**Garaging:** Rohnert Park, CA

**Sightings:** 10 Total Sightings, 100% Outside



Car Image	Plate Image	Distance (Miles)	Sighting Lat	Sighting Lon	Sighting Address	Date Time (GMT)
		191.40	36.85492871	-119.7518447	[REDACTED] Avenue, Fresno, CA 93720	2024-03-07 16:58:42
		192.10	36.77693243	-119.8040527	[REDACTED] Boulevard, Fresno, CA 93704	2023-09-06 16:25:15
		192.80	36.815722	-119.754168	[REDACTED] Avenue, Fresno, CA 93710	2023-09-15 17:10:42
		193.30	36.76997687	-119.7837990	[REDACTED] Avenue, Fresno, CA 93703	2024-02-05 16:01:39
		193.70	36.77223937	-119.7717239	[REDACTED] Avenue, Fresno, CA 93703	2023-09-25 14:43:58
		194.80	36.77232314	-119.7492550	[REDACTED] Avenue, Fresno, CA 93703	2023-11-03 16:38:05



# Vehicle-Related Rating Enhancements



# Major Rating Components Widely Used in the Industry

Ex: Truck Collision Rating Formula



Territory Loss Cost



Primary



Secondary Factor



Fleet Size Factor



Vehicle Value – Deductible Discount Factors



NAICS Factor



Heavy Farm Factor



Heavy Dumping Factor



Final Premium



Size Class



Business Use



Radius Class



Age & OCN



# VINs are Key to Understanding Detailed Vehicle Information

3C6UR5GLXP SERIAL



3  
C  
6  
U  
R  
5  
G  
L  
P  
G

## Make Details

- Make: **RAM**
- Type: **Truck**
- Country: **Mexico**
- Complete Build: **Y**

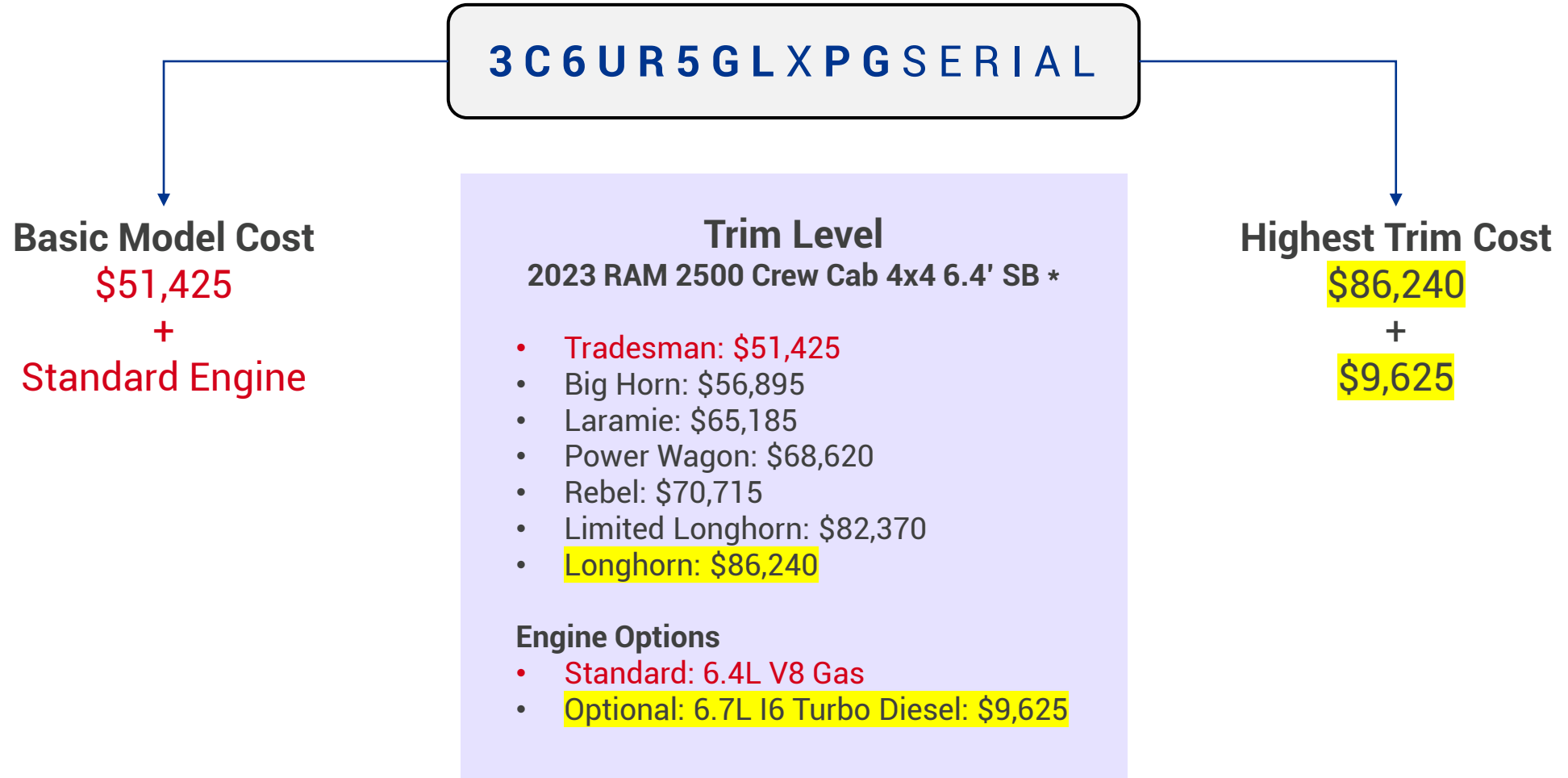
## Vehicle Details

- Model: **2500**
- Trim Level: **Longhorn**
- Engine: **6.7L I6 Turbo Diesel**
- Drive Type: **4x4**
- Body Type: **Crew Cab/4dr**
- Capacity: **5 to 6**
- GVWR Class: **2 – Light Duty (6000-10000lbs)**
- Size Class: **Light Trucks (0-10000lbs)**

Year: **2023**

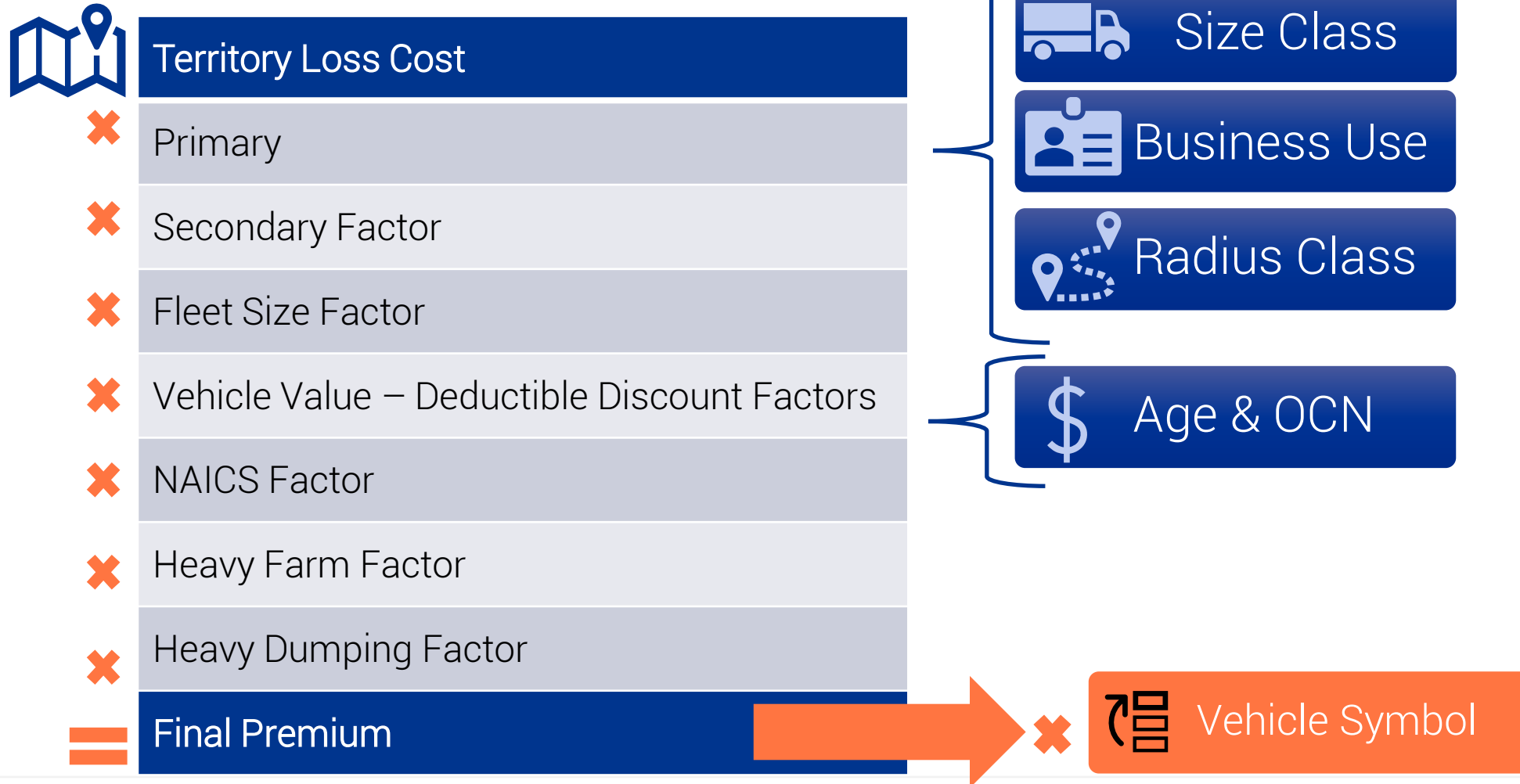
Plant: **Saltillo, Mexico**

# Access to Granular Vehicle Data Could be a ~\$45k Difference



# Major Rating Components Widely Used in the Industry

Ex: Truck Collision Rating Formula

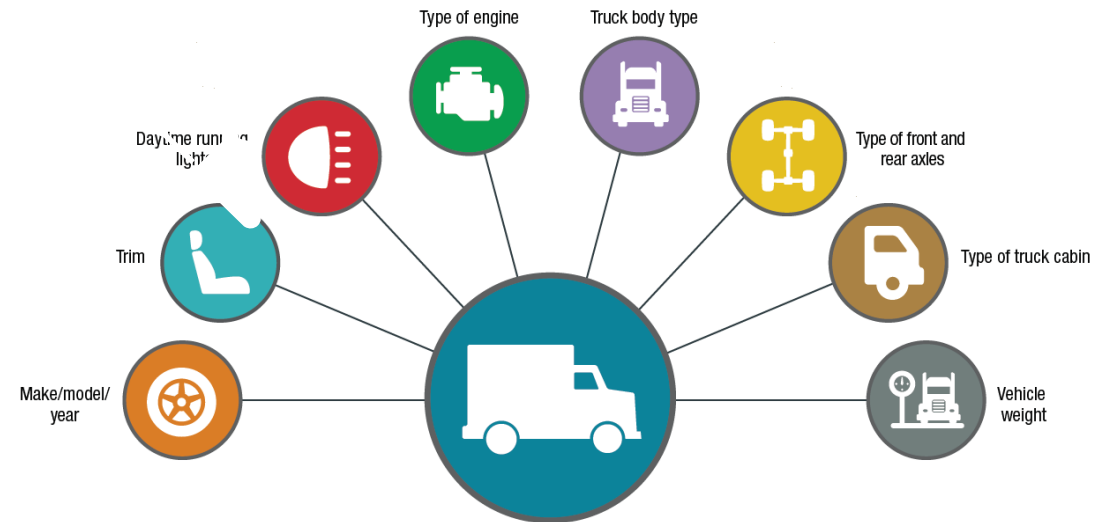
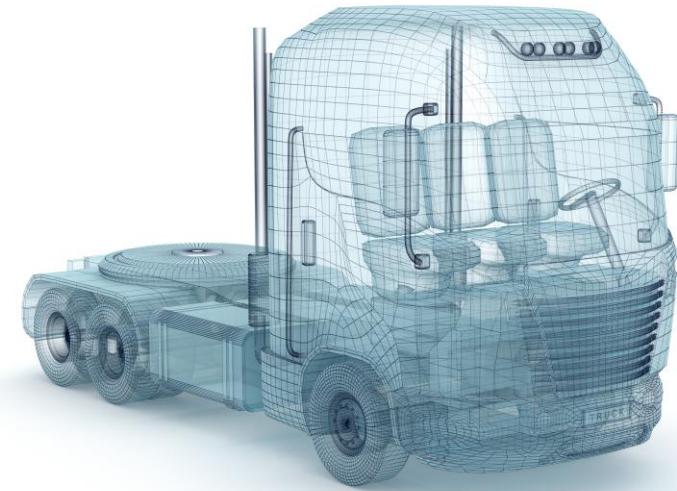


# ISO Risk Analyzer Commercial Auto

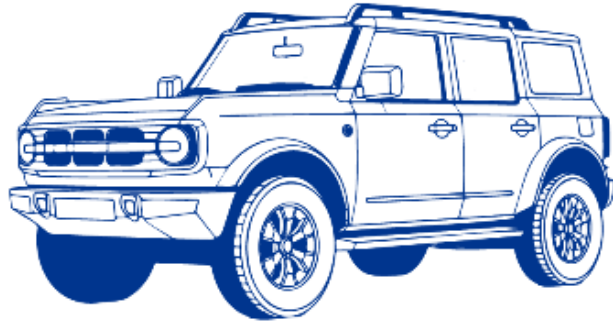
## Commercial Auto Vehicle Symbols

Increase rating accuracy by pricing each vehicle by coverage by the risk it represents based on vehicle characteristics

- ✓ VIN level modeling: PPT and TTT vehicles
- ✓ Rating factors for Collision, Comprehensive & Liability coverages



# These vehicles that would be treated the same without Symbols



**2022 Ford Bronco**

Type: SUV

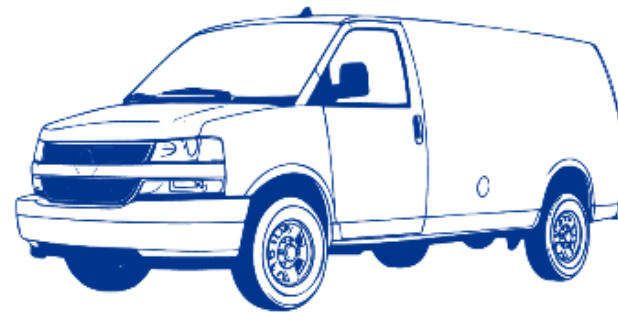
Weight Rating Class: 6,001-10,000

Price New Bracket: \$35,000-\$39,000

Collision Symbol Relativity: **.82**

Comprehensive Symbol Relativity: **1.07**

Liability symbol: **.90**



**2022 Chevrolet Express G2500**

Type: Van

Weight Rating Class: 6,001-10,000

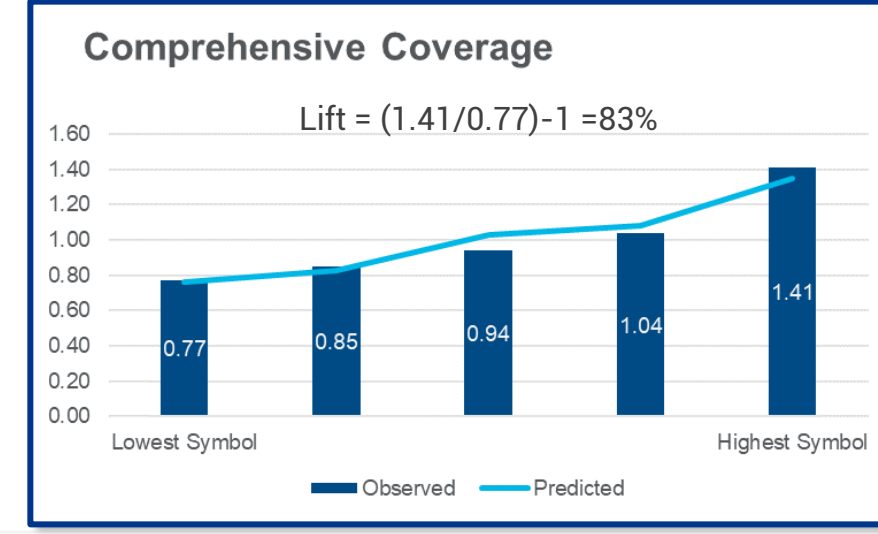
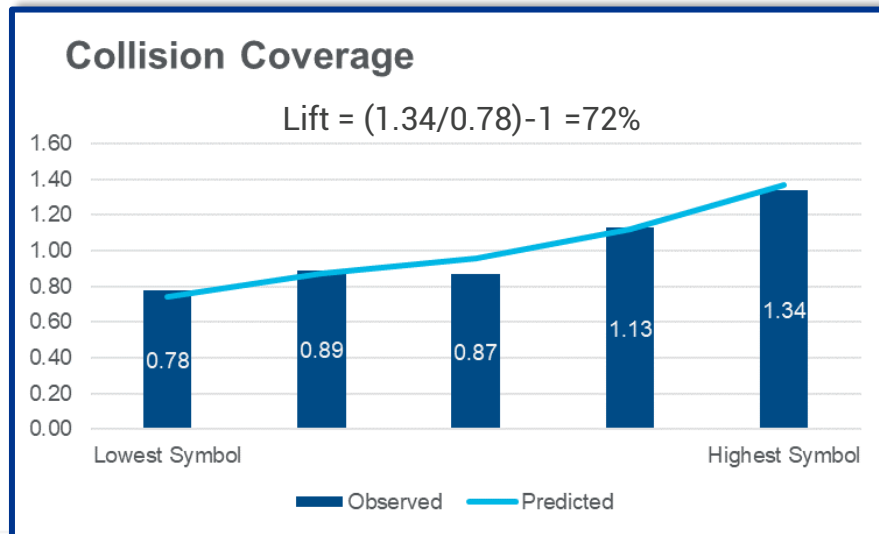
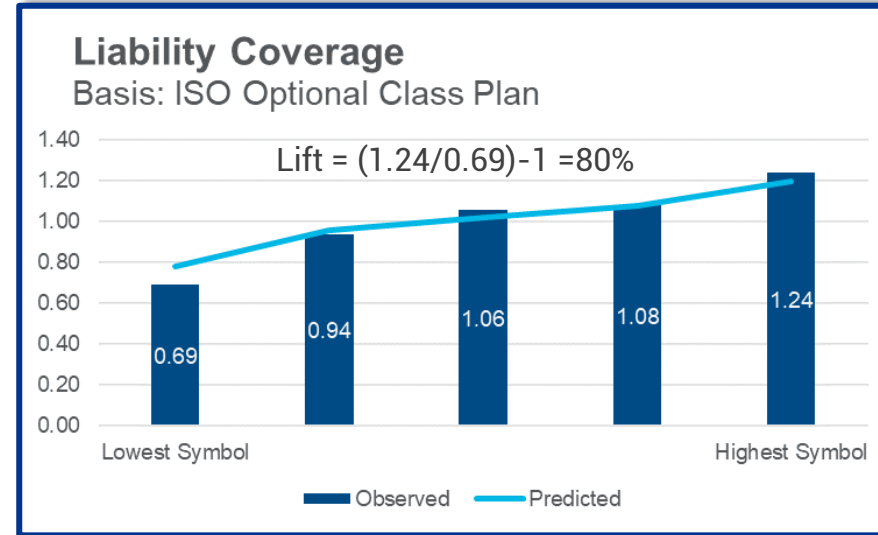
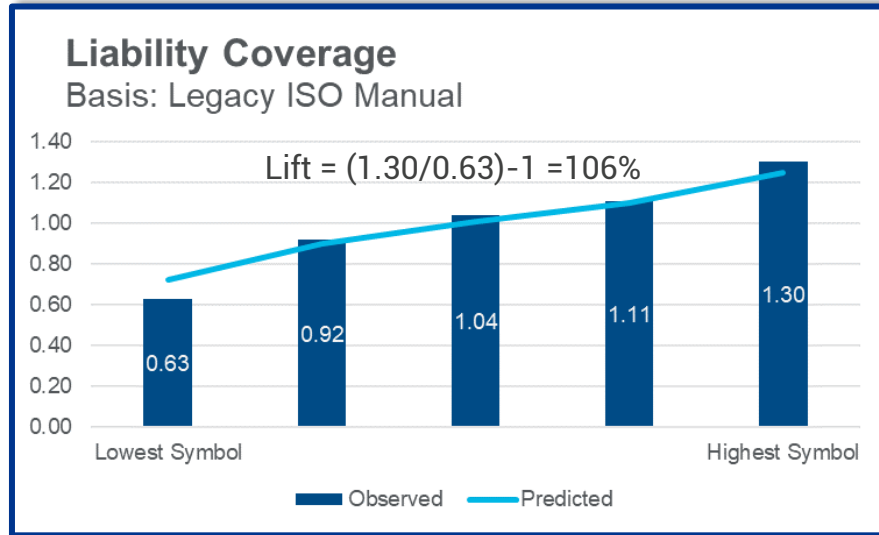
Price New Bracket: \$35,000-\$39,000

Collision Symbol Relativity: **.71**

Comprehensive Symbol Relativity: **.79**

Liability symbol: **1.07**

# Model performance on industry data



# Thank you! Questions?

**Email us:**

[underwriting@verisk.com](mailto:underwriting@verisk.com)

**Learn more about:**

[verisk.com/commercialauto](https://verisk.com/commercialauto)

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