

LOSS COSTS – IMPLEMENTATION

JUNE 14, 2021

COMMERCIAL AUTOMOBILE

LI-CA-2021-207

## TENNESSEE REVISED LOSS COSTS FOR ZONE-RATED COVERAGES TO BE IMPLEMENTED

---

### KEY MESSAGE

This circular announces the implementation of revised commercial auto zone-rated loss costs in Tennessee.

---

### UPGRADE TO WORD AND EXCEL DOCUMENTS

As previously noted, ISO is implementing changes to our authoring and delivery systems so that **newly created** documents will be delivered in Office 365 .docx/.xlsx format to be phased in by product/service tentatively beginning in second quarter 2021. We are pleased to announce that you will soon be receiving **form** documents in .docx format delivered/accessed via Circulars, CLM, EFD, ERC, Filings, FIRST, Forms Library, PRM and Suite +. Changes continue for other document types to be phased in by product/service. Products impacted include, but are not limited to, documents delivered/accessed via Circulars, CLM, EFD, ERC, Filings, FIRST, Forms Library (including PolicyWriting Support Forms Instructional Supplement), PRM, Statistical Plans and Suite +.

---

### BACKGROUND

Periodically we review the latest available experience data underlying the commercial auto loss costs for zone-rated trucks, tractors and trailers. We also examine the related rating procedures for clarity, consistency, and ease of use.

---

### ISO ACTION

We have made changes to the zone-rating table(s) in Rule **25**. Premium Development – Zone-rated Autos to revise the advisory prospective loss costs for zone-rated automobiles.

Refer to the attached explanatory material for complete details about the filing.

---

### EFFECTIVE DATE

The ISO revision is subject to the following rule of application:

These changes are applicable to all policies written on or after April 1, 2022.

This effective date applies only to those insurers who have filed their Commercial Auto loss cost adjustments to be automatically applicable to future ISO loss cost revisions.

---

### IMPACT ON THE STATISTICAL REPORTING OF LOSS COST MULTIPLIER

For the purpose of reporting your company Loss Cost Multiplier under the CSP, as of April 1, 2022, the multiplier must be based on the relationship between your gross rates and the ISO advisory prospective loss costs contained in this circular.

---

## ISO RISK ANALYZER®

The loss cost analysis in this circular is reflected in ISO Risk Analyzer®, a suite of predictive models that help with granular pricing of insurance risks. Risk Analyzer can provide loss costs for refined territories and classes, as well as feed custom modeling efforts. For more information, please visit [www.verisk.com/riskanalyzer](http://www.verisk.com/riskanalyzer).

---

## COMPANY ACTION

You must independently determine the final rates you will use. The action, if any, you must take in response to this filing is dependent upon how you filed to have your loss cost adjustments apply to subsequent revisions of ISO loss costs. Any submission you make with respect to this revision must comply with applicable regulatory filing requirements.

For guidance on submission requirements, consult the ISO State Filing Handbook.

WE WILL SUBMIT OUR REFERENCE FILING TO THE INSURANCE DEPARTMENT ON MARCH 1, 2022. ANY SUBMISSION YOU MAY MAKE WITH THE INSURANCE DEPARTMENT WITH RESPECT TO THIS FILING SHOULD NOT BE SUBMITTED PRIOR TO THIS DATE.

In all correspondence with the Insurance Department on this revision, you should refer to ISO Filing Number CA-2021-RZRLC, NOT this circular number.

CAUTION: This reference filing revises only certain advisory prospective loss costs for Commercial Auto in this state. In determining whether or not to revise your rates, you should consider the application of your loss cost adjustments to any loss costs not included in this revision.

---

## RATING SOFTWARE IMPACT

No new attributes are being introduced with this revision.

---

## POLICYHOLDER NOTIFICATION

If you decide to implement this revision, you should check all applicable laws for the state(s) to which this revision applies, to determine whether or not a specific policyholder notice requirement may apply. Please note that circular [LI-CL-2021-004](#) contains the ISO Guide To Renewals With Changed Conditions For Commercial Lines, which is available only as a guide to assist participating companies in complying with various conditional renewal statutes or regulations, for the major commercial lines of insurance serviced by ISO. The information in the Guide does not necessarily reflect all requirements or exceptions that may apply, and it is not intended as a substitute for your review of all applicable statutes and regulations concerning policyholder notification.

---

## REVISION DISTRIBUTION

We will issue a Notice to Manualholders with an edition date of 4-22 (or the earliest possible subsequent date), along with any new and/or revised manual pages.

---

## RELATED RULES REVISION

We are announcing in a separate circular the implementation of a corresponding rules revision. Please refer to the Reference(s) block for identification of that circular.

---

## REFERENCE(S)

- [LI-CA-2021-208](#) (06/14/2021) Tennessee Revised Manual Rules For Zone-rated Coverages To Be Implemented
- [LI-CL-2021-004](#) (02/17/2021) Revised Lead Time Requirements Listing

---

## ATTACHMENT(S)

Filing [CA-2021-RZRLC](#)

---

## FILES AVAILABLE FOR DOWNLOAD

To download all files associated with this circular, including attachments in the full circular PDF and/or any additional files not included in the PDF, search for the circular number on [ISOnet Circulars](#). Then click the Word/Excel link under the Full Circular column on the Search Results screen.

Please note that in some instances, not all files listed in the Attachment(s) block (if applicable) are included in the PDF.

---

## COPYRIGHT EXPLANATION

The material distributed by Insurance Services Office, Inc. is copyrighted. All rights reserved. Possession of these pages does not confer the right to print, reprint, publish, copy, sell, file, or use same in any manner without the written permission of the copyright owner. Permission is hereby granted to members, subscribers, and service purchasers to reprint, copy, or otherwise use the enclosed material for purposes of their own business use relating to that territory or line or kind of insurance, or subdivision thereof, for which they participate, provided that:

- (A) Where ISO copyrighted material is reprinted, copied, or otherwise used **as a whole**, it must reflect the copyright notice actually shown on such material.
- (B) Where ISO copyrighted material is reprinted, copied, or otherwise used **in part**, the following credit legend must appear at the bottom of each page so used:  
Includes copyrighted material of Insurance Services Office, Inc., with its permission.

---

## DATA QUALITY

Statistical plan data reported to ISO is first processed through a system of rigorous automated data verification procedures so that only valid data would be used for ratemaking. Subsequent to this initial data submission review, additional analyses on the statistical plan data involving an even more customized data review for this line were performed by staff. During these processes, various data records were excluded from the review. The ISO staff responsible for this circular also reviewed the data for reasonableness.

---

## ACKNOWLEDGMENT OF ACTUARIAL QUALIFICATIONS

The American Academy of Actuaries' "Qualifications Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" requires that an actuary issuing a Statement of Actuarial Opinion should include an acknowledgment with the opinion that he/she has met the qualification standards of the AAA. ISO considers this loss cost review a Statement of Actuarial Opinion; therefore, we are including the following acknowledgment:

I, Rebecca Gordon, am an Actuarial Associate for ISO, and I, Kevin Hughes, am an Actuarial Director for Commercial Auto for ISO. We are jointly responsible for the content of this Statement of Actuarial Opinion. We are both members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

---

## CONTACT INFORMATION

If you have any questions concerning:

- The actuarial content of this circular, please contact:  
Rebecca Gordon  
Actuarial Operations  
201-469-2623  
[Rebecca.Gordon@verisk.com](mailto:Rebecca.Gordon@verisk.com)  
[autoactuarial@verisk.com](mailto:autoactuarial@verisk.com)
- The non-actuarial content of this circular, please contact:  
Alexander Esau  
Production Operations, Compliance and Product Services  
201-469-2717  
[prodops@verisk.com](mailto:prodops@verisk.com)
- Other issues for this circular, please contact Customer Support:  
E-mail: [info@verisk.com](mailto:info@verisk.com)  
Phone: 800-888-4476

Callers outside the United States, Canada, and the Caribbean may contact us using our global toll-free number (International Access Code + 800 48977489). For information on all ISO products, visit us at [www.verisk.com/iso](http://www.verisk.com/iso). To keep abreast of the latest Insurance Lines Services updates, view [www.verisk.com/ils](http://www.verisk.com/ils).

TENNESSEE  
ZONE-RATED RISKS - COMMERCIAL AUTOMOBILE  
FILING CA-2021-RZRLC

EXECUTIVE SUMMARY

---

PURPOSE	<p>This document:</p> <ul style="list-style-type: none"><li>• revises advisory prospective loss costs for Zone-Rated Automobiles. These loss costs represent a 42.2% change from the loss costs currently in effect.</li><li>• provides the analysis used to derive these advisory loss costs.</li></ul>
DEFINITION OF THE ISO ADVISORY PROSPECTIVE LOSS COST	<p>Advisory prospective loss costs in this document are that portion of a rate that does not include provisions for expenses (other than loss adjustment expenses) or profit. They are based on historical aggregate losses and loss adjustment expenses adjusted through development to their ultimate value and projected through trending to a future point in time. Throughout this document the words 'loss cost' are synonymous with the words 'prospective loss cost'.</p>
COMPANION REVISION	<p>These changes will be introduced on a state-by-state basis in conjunction with companion zone-rated risks rules filing CA-2021-RZR1.</p>
FORMAT	<p>In this document, all explanatory material appears first, followed by all exhibits, and then the revised prospective loss costs. Explanatory pages are numbered A-1 through C-16, the exhibits are labeled EXHIBIT A1 through EXHIBIT C10, and the revised prospective loss cost pages are numbered D-1 through D-3.</p>
CLASSIFICATION PLAN REVISION: OFF-BALANCE FACTORS	<p>The advisory prospective loss costs presented in this document were generated using revised primary, fleet, metro and zone combination class plan relativities presented in companion filing CA-2021-RZR1. The Physical Damage original cost new, age and deductible relativities are not being revised. In conjunction with the introduction of the revised classification plan factors, the application of off-balance factors results in no overall loss cost level change, on average, due to the classification plan revision.</p> <p>A summary of the classification plan revisions can be found in Section A of this filing. The calculation of the off-balance factors, to offset the class plan revisions, is in Exhibit A1.</p>

---

REVISED  
FULL  
STANDARDS OF  
CREDIBILITY

Historically, the full standards of credibility for the Trucks, Tractors and Trailers classes have been used for the Zone Rated review. Since the last Zone Rated filing, these standards as well as the algorithm that determines the number of years of experience and the corresponding weights underlying the calculation of the overall multistate indications have been updated. Refer to Section C of this filing for details.

A comparison of the prior and revised full standards of credibility is provided as follows:

Liability		OTC		Collision	
Prior	Revised	Prior	Revised	Prior	Revised
10,000	11,500	13,000	11,000	4,000	4,500

LOSS COST  
CHANGES

The advisory loss cost changes are displayed below. These changes are derived from the changes for the specific zone combinations and current loss cost distribution in Tennessee.

	Aggregate Loss Cost at Current Level	Filed
Zone-Rated Liability	\$ 509,932	48.7%
Zone-Rated Physical Damage		
Other than Collision	81,629	23.9%
Collision	224,216	34.2%
Grand Total	815,777	42.2%

The multistate advisory loss cost level changes are displayed below. These changes are relative to the current multistate loss costs for the total of all zone combinations.

	Aggregate Loss Cost at Current Level	Indicated	Filed
Zone-Rated Liability	\$ 18,827,766	48.8%	48.8%
Zone-Rated Physical Damage			
Other than Collision	2,336,948	25.0%	25.0%
Collision	7,114,444	30.5%	30.5%
Grand Total	28,279,158	42.2%	42.2%

INDICATED  
VS. FILED

Indicated changes are based on standard ISO methodology, utilizing a 04/01/2022 trend effective date. The filed loss cost level changes are the same as the indicated. However, loss costs will be revised to reflect off-balance factors calculated as a result of the class plan revisions.

## HISTORICAL SOURCE DATA

The data used in this document is:

- ISO companies reporting voluntary automobile experience under the Commercial Automobile modules of ISO's statistical plans.
- Accident year data through year ended 12/31/2019, evaluated as of 03/31/2020.

## COMPANY DECISION

We encourage each insurer to decide independently whether the judgments made and the procedures or data used by ISO in developing the loss costs contained herein are appropriate for its use. We have included within this document the information upon which ISO relied in order to make such independent judgments.

The data underlying the enclosed material comes from companies reporting to Insurance Services Office, Inc. Therefore, the ISO experience permits the establishment of a much broader statistical ratemaking base than could be employed by using any individual company's data. A broader base enhances the validity of ratemaking analysis derived therefrom. At the same time, however, an individual company may benefit from a comparison of its own experience to the aggregate ISO experience, and may reach valid conclusions with respect to the manner in which its own costs can be expected to differ from ISO's projections based on the aggregate data.

Some calculations included in this document involve areas of ISO staff judgment. Each company should carefully review and evaluate its own experience in order to determine whether the ISO selected loss costs are appropriate for its use.

The material has been developed exclusively by the staff of Insurance Services Office, Inc.

## COPYRIGHT EXPLANATION

The material distributed by Insurance Services Office, Inc. is copyrighted. All rights reserved. Possession of these pages does not confer the right to print, reprint, publish, copy, sell, file or use same in any manner without the written permission of the copyright owner.

TENNESSEE  
COMMERCIAL AUTOMOBILE  
Table of Contents

	<u>Explanatory Pages</u>	<u>Corresponding Exhibits</u>
<b>SECTION A – SUMMARY OF REVISION</b>		
Determination of Revised Base Loss Costs	A-1	
Calculation of Off-balance Factors		Exhibit A1
Summary of Changes Explanatory Remarks	A-2	
Summary of Primary, Fleet, and Metro Factor Revisions		Exhibit A2
Zone Definitions	A-3	
Summary of Zone Combination Factor Revisions		Exhibit A3
<b>SECTION B – CALCULATION OF CHANGES</b>		
Overview of ISO Actuarial Procedures	B-1	
Determination of Multistate Advisory Loss Cost Level Change	B-2-4	
Zone-Rated Liability Multistate Changes		Exhibit B1
Zone-Rated Physical Damage Multistate Changes		Exhibit B2
<b>SECTION C – SUPPORTING MATERIAL</b>		
Loss Adjustment Expense	C-1	Exhibit C1
Loss Trend	C-2-7	Exhibits C2-C7
Physical Damage OCN Trend	C-8	Exhibit C8
Loss Development for Liability	C-9	Exhibit C9
Loss Development for Physical Damage	C-10	Exhibit C10
Credibility Procedures and Tables	C-11-16	
<b>SECTION D – MANUAL RULE CHANGES</b>		
Rule 25. Premium Development - Zone-Rated Autos	D-1-3	



# DETERMINATION OF REVISED BASE LOSS COSTS

Revised loss costs in this state are developed by multiplying the revised multistate base loss cost, for each coverage, by various zone-combination factors.

The multistate loss costs appearing in this section are calculated by multiplying the current multistate base loss cost by the filed change (from Section B) and by an off-balance factor. The Classification Plan changes in this filing will be introduced on a "revenue neutral" basis. That is, an off-balance factor (OBF) will be applied to the base loss costs so that, on average, there is no change to the aggregate loss costs. The off-balance factors are calculated on Exhibit A1. For a full presentation of the revised class plan, please refer to the companion filing CA-2021-RZR1

LIABILITY						
Current Multi-State Average Base Loss Cost	X	Experience Review Loss Cost Level Change	X	Off- Balance Factor	=	Revised Multi-State Base Loss Cost
\$1,002	X	1.488	X	0.944	=	\$1,407

PHYSICAL DAMAGE OTHER THAN COLLISION						
Current Multi-State Average Base Loss Cost*	X	Experience Review Loss Cost Level Change	X	Off- Balance Factor	=	Revised Multi-State Base Loss Cost*
\$167	X	1.250	X	1.071	=	\$224

COLLISION						
Current Multi-State Average Base Loss Cost*	X	Experience Review Loss Cost Level Change	X	Off- Balance Factor	=	Revised Multi-State Base Loss Cost*
\$234	X	1.305	X	0.949	=	\$290

\* Base Loss Cost for Other than Collision is for a \$15,001-20,000 OCN, Ages 1, 2 and 3, with a \$500 Deductible. For Collision, the Base Loss Cost is for a \$15,001-20,000 OCN, Ages 1, 2 and 3, with a \$500 Deductible.

## SUMMARY OF CHANGES EXPLANATORY REMARKS

The factors on the following pages are the current and revised multi-state relativities. Revisions to the factors are presented in companion filing CA-2021-RZR1.

The Primary factors are displayed in Rule 23 of the manual. They are calculated in Sections A and B of the companion filing (CA-2021-RZR1). See Section C of the companion filing for revised manual rules pages. Collision and Other than Collision factors are identical, and are displayed in the 'Physical Damage' column of the table.

The Fleet Discount factors are displayed in Rule 25 of the manual. They are calculated in Sections A and B of the companion filing (CA-2021-RZR1). See Section C of the companion filing for revised manual rules pages.

The OCN, Age and Deductible factors are not being revised.

Zone Combination factors are used to develop the loss costs in the Zone-Rating Table. These Zone Combination factors, along with the Metro factors, are calculated in Sections A and B of the companion filing. The Zone Combination factors are the factors for all of the possible zone combinations. Each state only uses a subset of these factors. For example, a state in the Mountain Region (41) will only have zone combinations that either end or begin in the Mountain Region. If at least one of the regions contained in the zone combination is also a metropolitan zone, the factor for the zone combination is used, and is multiplied by the appropriate Metro factor. The Metro factors are only used once per zone combination. This result is then multiplied by the Base Loss Cost, to provide the loss costs listed in Rule 25. (See Section D of this filing for the loss cost pages.)

ZONE-RATED RISKS  
METROPOLITAN ZONES

01	Atlanta	21	Miami
02	Baltimore - Washington	22	Milwaukee
03	Boston	23	Minneapolis - St. Paul
04	Buffalo	24	Nashville
05	Charlotte	25	New Orleans
06	Chicago	26	New York City
07	Cincinnati	27	Oklahoma City
08	Cleveland	28	Omaha
09	Dallas - Fort Worth	29	Phoenix
10	Denver	30	Philadelphia
11	Detroit	31	Pittsburgh
12	Hartford	32	Portland
13	Houston	33	Richmond
14	Indianapolis	34	St. Louis
15	Jacksonville	35	Salt Lake City
16	Kansas City	36	San Francisco
17	Little Rock	37	Tulsa
18	Los Angeles		
19	Louisville		
20	Memphis		

REGIONAL ZONES

40	Pacific Coast	46	Gulf
41	Mountain	47	Southeast
42	Midwest	48	Eastern
43	Southwest	49	New England
44	North Central	50	Alaska
45	Mideast		

## OVERVIEW OF ISO ACTUARIAL PROCEDURES ZONE-RATED RISKS

---

INTRODUCTION	Advisory prospective loss costs for Zone-Rated Risks are determined by evaluating the adequacy of the current ISO loss costs to pay for our best estimate of losses and all loss adjustment expenses that will be incurred in the prospective (or future) period. This evaluation is done separately by coverage.
DETERMINATION OF MULTISTATE LOSS COST INDICATION	The first step in this process is the determination of the multistate loss cost indication by coverage. In other words, what percentage changes on average must be made to the current ISO loss costs in order to achieve adequacy for the prospective conditions? The percentage changes are presented on the exhibits labeled "Determination of Advisory Loss Cost Level Change."
CALCULATION OF OFF-BALANCE FACTORS	The revision of the classification plan rating factors would, in the absence of an adjustment, change the total loss cost volume. In order to balance the changes, and allow the class plan revision to be introduced with no change in loss cost volume, an 'off-balance' factor is needed. The off-balance factors are calculated in Section A of this filing.
APPLICATION OF PERCENT CHANGES	The next step is the calculation of the ISO advisory prospective multistate loss costs. This is achieved by applying the indicated changes and off-balance factors to the current ISO multistate base loss cost (these calculations are carried out in Section A of this filing). The loss costs are then displayed in Rule 25, provided in Section D of this filing.

---

## DETERMINATION OF MULTISTATE ADVISORY LOSS COST LEVEL CHANGE

---

OBJECTIVE	<p>The objective of this procedure is to determine the indicated multistate advisory loss cost level change. This procedure answers the question: what percentage changes must be made, on average, to the current ISO multistate loss costs in order for them to be adequate to cover indemnity losses and all loss adjustment expenses incurred in the prospective period in which the revised loss costs are assumed to be in effect?</p>
DESCRIPTION	<p>This procedure compares the developed and trended incurred losses and loss adjustment expenses with the aggregate loss costs at current ISO loss cost level, which is the aggregate amount that would have been collected if the current ISO loss costs were used during the experience period. For purposes of this analysis, the loss costs from the last multistate revision were used as the current ISO loss costs. This experience ratio (losses and all loss adjustment expenses divided by aggregate loss costs) is calculated for several years and a weighted average is calculated. The weights are determined as a function of the credibility, or volume, of claim experience. The average experience ratio is then credibility weighted with the expected experience ratio in order to minimize the impact of random variation in the observed losses. This credibility weighted experience ratio is the indicated multistate advisory loss cost level change in decimal form.</p>
EXPERIENCE BASE	<p>The experience used in this review is the latest available as reported under the ISO Commercial Statistical Plan. For liability and physical damage, the data is aggregated on an accident year basis. For liability, the review is conducted on a \$100,000 basic limits basis - indemnity losses are limited to \$100,000 per occurrence.</p>
AGGREGATE LOSS COSTS	<p>The aggregate loss costs at current ISO multistate loss cost level are the loss-related revenue that would have been collected if the current ISO multistate loss costs were used during the experience period. It is calculated by extending the exposures at the current ISO loss costs. For liability, the \$100,000 basic limit loss costs are used. For physical damage, loss costs are on an all deductibles combined basis.</p> <p>Physical damage aggregate loss costs are placed on the prospective OCN relativity level by the application of OCN trend factors.</p>

---

## INCURRED LOSSES & LAE

---

The incurred losses and loss adjustment expenses are our best estimate of the ultimate payment for indemnity losses and loss adjustment expenses using the claim frequency and severity levels ISO expects to occur during the prospective period for which the revised loss costs will be used.

---

For the liability coverages, the reported incurred (accident year) losses and allocated loss adjustment expenses are subject to the following adjustments:

- Incurred indemnity losses are capped at the basic limit;
- Developed to an ultimate settlement basis by the application of loss development factors;
- Loaded for unallocated loss adjustment expenses;
- Placed on the prospective cost/frequency levels by the application of trend factors.

For the physical damage coverages, the reported paid (accident year) losses are subject to the following adjustments:

- Developed to an ultimate settlement basis by the application of loss development factors;
- Loaded for all loss adjustment expenses;
- Placed on the prospective cost/frequency levels by the application of trend factors.

Refer to Section C for the support for these loss related adjustments.

---

## EXPERIENCE RATIO

The experience ratio is the ratio of the incurred losses and loss adjustment expenses to the aggregate loss costs at current ISO multistate loss cost level. It measures the adequacy of the current ISO multistate loss costs for the prospective period.

---

## YEAR WEIGHTS

The number of years of experience used and year weights are determined by the total number of claims in the experience period. To the extent there is adequate credibility, ISO uses fewer years and gives greater weight to the most recent years. Refer to Section C for the methodology used to arrive at both the number of years used and the year weights.

---

---

EXPECTED  
EXPERIENCE  
RATIO

The expected experience ratio is our best prediction of the experience ratio if the most recent data was not available. For this review we have assumed that the current multistate loss costs were adequate when implemented and will be inadequate for the prospective period to the extent of the net trend. It is calculated as the combined trend factor projected for the number of years between the last revision (or review) and this revision.

---

CREDIBILITY

Credibility is based upon the number of claims for all years in the experience period. The procedure for assigning credibility is outlined in Section C.

---

CREDIBILITY  
WEIGHTED  
EXPERIENCE  
RATIO

The average experience ratio is credibility weighted with the expected experience ratio. The resulting credibility weighted experience ratio, converted to a percentage, is the indicated change to the current ISO multistate loss costs.

---

## LOSS ADJUSTMENT EXPENSE FACTORS

---

OBJECTIVE	The reported indemnity losses must be loaded for any loss adjustment expenses (LAE) that are not reported in statistical detail to ISO. See the calculations in <b>Exhibit C1</b> .
LIABILITY COVERAGES	For the liability coverages, allocated loss adjustment expenses are reported in detail to ISO under the Commercial Statistical Plan. Unallocated loss adjustment expenses must be loaded into the losses. A factor representing the ratio of the sum of the incurred indemnity losses plus all LAE to the sum of the incurred indemnity losses plus allocated LAE was selected based on multistate financial data from a Special Call Submission for available writers.
PHYSICAL DAMAGE COVERAGES	For the physical damage coverages, accident year paid indemnity losses are reported. All loss adjustment expenses must be loaded into the reported losses. A factor representing the ratio of incurred losses plus all LAE to incurred losses was selected based on multistate financial data from the Insurance Expense Exhibits for agency and direct writers.

---



## AVERAGE ANNUAL CHANGE IN LOSSES (LOSS TREND)

---

OBJECTIVE	The application of the average annual change in losses to historical data recognizes that advisory loss costs are being made for use in a future period based on historical experience. Due to economic and social factors, claim cost and frequency levels continue to change from those underlying the historical data.
DETERMINATION OF HISTORICAL AVERAGE CLAIM COST TREND	To determine the historical average claim cost trend, ISO makes use of the Least Squares Method fitted to the reported time series data; specifically, an exponential curve represented by the equation $Y=A(B^X)$ is fitted to the paid claim cost data. The parameters A and B are calculated by regressing Y, which is the applicable claim cost on X, which is the unit of time. The resulting fitted curve allows the determination of a historical average trend for the data under review. See the calculations in <b>Exhibits C2-C3</b> .
LIABILITY LOSS TREND	The historical average annual change in claim costs for both Bodily Injury and Property Damage coverages are measured in this document using a credibility-weighted mix of multistate and statewide data. Prospective average annual changes for claim frequency have been selected based on the historical multistate data, as well as other relevant factors. Combining the state credibility-weighted claim cost trends with the selected claim frequency trends results in the selected Bodily Injury and Property Damage pure premium trend used to adjust the losses to a prospective level.
TREND CREDIBILITY FOR LIABILITY CLAIM SEVERITY	<p>Trend credibility is based on a full credibility standard of 975,000 claims for BI and 390,000 claims for PD. These standards were developed using a Bayesian analysis. Partial credibility is determined by the following formula:</p> $A = C/(C+K)$ <p>where C equals the number of claims for the latest year ended point and K equals 25,000 for bodily injury and 10,000 for property damage. The resulting table of partial credibilities is shown in this section.</p>

---

LIABILITY:  
FREQUENCY  
TREND

---

The data underlying the claim frequency trend selections is shown on the attached claim frequency exhibits. See the calculations in **Exhibits C4-C5**. The exhibits include quarterly points for Multistate incurred frequency trend for Trucks, Tractors, and Trailers. As can be seen from these exhibits (and corresponding graphs), frequency for both bodily injury and property damage has generally changed from year to year in an unpredictable manner.

Historically, frequency trends for Commercial Auto liability have been quite variable and have often displayed cyclical patterns. As a result, an exponential curve of the form  $Y=A(B^X)$  does not fit the data well over the long term. To reflect these characteristics and the difficulty in predicting turning points and rates of change, frequency trend is being selected to be 0% for both the Bodily Injury and Property Damage coverages.

---

PHYSICAL  
DAMAGE:  
LOSS TREND

Data Selections

- In our Physical Damage Trend review, we try to include as much data as possible for each deductible level that we analyze. With this goal in mind, for a given deductible level, we include all losses written at or below that deductible level. For example, consider an event causing \$1,500 of damage on a policy written with a \$250 deductible. This would be reported as a \$1,250 loss. In order to include as much data as possible in our review, we would generate 3 different records for this loss, one at each deductible that we analyze:

At \$250 deductible: \$1,250 loss  
At \$500 deductible: \$1,000 loss  
At \$1,000 deductible: \$500 loss

Each of these deductible levels is analyzed independently of the other levels, so that there are no instances of double-counting loss records.

- Wind and Water losses are removed from our Other Than Collision trend reviews due to the high variability of these types of losses from year to year.

Data Adjustments

In our Physical Damage trend review, we employ two adjustments to the data with the objective of diminishing distortions in the trend that we do not wish to measure. Our goal is to only measure inflationary effects.

1) All losses are divided by the appropriate class plan and age factors that correspond to that record in order to diminish the effect that variations in these factors from one year to the next have on the trend calculation.

PHYSICAL  
DAMAGE:  
LOSS TREND  
(CONT'D)

For example, consider 12 Truck exposures reported with Age Code 1 (current model year, age factor of 1.00). Each exposure experiences a loss of \$500. The average severity of the losses for these 12 exposures is \$500.

Now consider these 12 exposures 5 years in the future. The exposures are now reported with Age Code A (6th preceding model year, age factor of 0.80). Assume that there is 10% inflation per year on all severities. Also assume that each of these 12 exposures experience the same amount of damage as they did 5 years ago. The average severity of the losses for these 12 exposures is now \$644 (taking into account both inflation and the older age of the vehicles).

If we analyze the severity trend without dividing each loss by its corresponding age factor, we get an annual trend of  $(\$644/\$500)^{1/5} - 1 = 5.2\%$

If we first divide each loss by its corresponding age factor, we get an annual trend of  $((\$644/0.80) / (\$500/1.00))^{1/5} - 1 = 10.0\%$

The first calculated severity is not equal to the assumed inflation because the calculation includes the decrease in average severity caused by aging of the vehicles. By dividing each loss record by its corresponding class plan and age factors, we remove distortions on the severity trend caused by the change in the distribution of classes and ages from one year to the next.

2) All Other Than Collision losses are adjusted to correct for the distortion on trend results created by a change in the distribution of types of loss from one year to the next. The Other Than Collision severity is a weighted-average of the severities for each type of loss (glass, fire, theft, etc.). Since each type of loss has a different severity (for example, glass losses have a much smaller severity than other types of loss), then variations in the distribution of types of loss may lead to changes in the severity that we do not want to measure (if one year 5% of losses are glass losses, and the next year 30% of losses are glass losses, we would expect the average severity of all Other Than Collision losses to decrease). To correct this, we calculate the proportion of losses for each type of loss averaged over all years in the experience period.

Consider the following example, where an adjustment is NOT made to the data. Assume 10% annual inflation for all losses:

	Year 1		Year 2	
Type of Loss	Glass	Fire	Glass	Fire
Claims	10	3	15	5
Severity of Each Loss	\$50	\$1,000	\$55	\$1,100
Total Losses	\$500	\$3,000	\$825	\$5,500

Average severity of losses in Year 1 is  $(\$500 + \$3,000) / 13 \text{ claims} = \$269$

Average severity of losses in Year 2 is  $(\$825 + \$5,500) / 20 \text{ claims} = \$316.25$

Average Severity trend =  $(\$316.25/\$269) - 1 = 17.6\%$

PHYSICAL  
DAMAGE:  
LOSS TREND  
(CONT'D)

Now consider the same scenario, where an adjustment IS made to the data:

	Year 1		Year 2	
Type of Loss	Glass	Fire	Glass	Fire
Claims	10	3	15	5
Percentage of Total Claims	10/13 = 77%	3/13 = 23%	15/20 = 75%	5/20 = 25%

Average Percentage of Claims for Glass losses:  $(77\% + 75\%) / 2 = 76\%$

Average Percentage of Claims for Fire losses:  $(23\% + 25\%) / 2 = 24\%$

The number of claims for each type of loss for each year is replaced by these averages:

	Year 1		Year 2	
Type of Loss	Glass	Fire	Glass	Fire
Claims	76% x 13 = 9.88	24% x 13 = 3.12	76% x 20 = 15.2	24% x 20 = 4.8
Severity of Each Loss	\$50	\$1,000	\$55	\$1,100
Total Losses	\$494	\$3,120	\$836	\$5,280

Average severity of losses in Year 1 is  $(\$494 + \$3,120) / 13 \text{ claims} = \$278$

Average severity of losses in Year 2 is  $(\$836 + \$5,280) / 20 \text{ claims} = \$305.80$

Average Severity trend =  $(\$305.80 / \$278) - 1 = 10.0\%$

Note that the total number of claims each year remains unchanged from the total before the adjustment is made.

Year 1 claims =  $9.88 + 3.12 = 13 \text{ claims}$

Year 2 claims =  $15.2 + 4.8 = 20 \text{ claims}$

Although new claims totals by type of loss are used in the calculation, the impact of the adjustment is to change only the loss totals, so frequency figures are not changed. The result is equivalent to a re-weighting of the severities so that each type of loss has a consistent weight from year to year.

By keeping each type of loss' proportion of total claims constant from year to year, we remove distortions in the trend caused by changes in the distribution of types of loss.

PHYSICAL  
DAMAGE:  
LOSS TREND  
(CONT'D)

For the OTC coverages, there is a change to how glass losses are handled when shifting from one deductible to another. ISO collects a coverage code indicating if the deductible is waived for glass losses or not ("full glass" and "non-full glass", respectively). However some insurers waive deductibles on glass losses even when the policy isn't a "full glass" coverage policy. Recently we began to also collect a Type of Loss code indicating if a deductible has been waived for the particular claim. In situations where a claim is reported with a coverage code and Type of Loss code that aren't consistent on how a glass loss was handled, we previously used the coverage code to determine how we interpreted the loss amount. Now this scenario is handled based on the information in the new Type of Loss code.

The trend selections for physical damage are based on the data in the attached exhibits. See the calculations in **Exhibits C6-C7**. Each exhibit includes the distribution of losses, by deductible, for the most recent year. We analyze frequency trend and severity trend separately, using data at the \$250, \$500, and \$1,000 deductibles for OTC, and at the \$500, \$1,000, and \$2,000 deductibles for Collision.

Historically, claim frequency (like liability claim frequency) had been variable from year to year, often cyclical. As a result, an exponential curve of the form  $Y=A(B^x)$  did not fit the frequency data well. In the interest of long-term stability, we have selected 0.0% trend factors for frequency.

Based on this multistate experience and on the continued positive trends in the Consumer Price Index for Bodywork, ISO has selected the following annual trends:

	<u>Pure Premium</u>
OTC:	+6.5%
COLL:	+4.5%

---

COMMERCIAL AUTOMOBILE PHYSICAL DAMAGE  
SUPPLEMENTARY EXHIBIT

Quarterly Values <u>Ending</u>	Consumer Price Index for Bodywork	
	<u>Actual</u>	<u>Exponential Fit</u>
12/31/2016	2.913	2.887
03/31/2017	2.925	2.910
06/30/2017	2.942	2.933
09/30/2017	2.945	2.956
12/31/2017	2.966	2.980
03/31/2018	2.999	3.003
06/30/2018	3.016	3.027
09/30/2018	3.033	3.051
12/31/2018	3.061	3.075
03/31/2019	3.074	3.100
06/30/2019	3.118	3.124
09/30/2019	3.158	3.149
12/31/2019	3.189	3.174
03/31/2020	3.194	3.199
06/30/2020	3.248	3.225
09/30/2020	3.263	3.250
		Average
		Annual
	<u>R-Squared</u>	<u>Change</u>
16 Point Fit	0.9814	3.2%
12 Point Fit	0.9886	3.6%

## PHYSICAL DAMAGE OCN TREND

---

### OBJECTIVE

In Physical Damage, as new, higher-valued commercial automobiles are introduced, there is an increase in revenue due to the original cost new component of the rating procedure. In order to reflect the revenue impact of the higher-valued vehicles during the prospective period, ISO uses an OCN trend procedure. The effect of this procedure is to reduce the indicated loss costs for physical damage coverages.

---

### DESCRIPTION OF ORIGINAL COST NEW DATA

The average original cost new (OCN) relativities for Comprehensive and Collision are displayed on the following exhibits. See the calculations in **Exhibit C8**. The data is displayed by coverage. To determine the historical average trend for OCN, ISO makes use of the Least Squares Method to fit a curve to the reported time series data. Specifically, an exponential curve represented by the equation

$$Y = A(B^X)$$

is fitted to the average OCN relativities. Based on the results of these curves, ISO has selected annual OCN trends of 0.9% and 1.5% for OTC and Collision coverages respectively. This trend is necessary to reflect the additional revenue generated by the shift in the OCN distribution as new, higher-priced automobiles are introduced.

---

## LOSS DEVELOPMENT FOR LIABILITY

OBJECTIVE	The application of loss development recognizes the important concept that some of the losses for a particular accident year have not been finally determined at the time the experience is compiled.
DESCRIPTION OF EXPERIENCE PERIOD DATA	<p>For Liability, the incurred losses and allocated loss adjustment expenses underlying the statewide loss cost level indications are on an accident year basis and were evaluated as of March 31, 2020. In other words, accident year ended December 31, 2019 includes all losses and allocated loss adjustment expenses paid through March 31, 2020 on accidents occurring from January 1, 2019 to December 31, 2019 and all losses and allocated loss adjustment expenses outstanding on these accidents as of March 31, 2020, 15 months after the inception of the accident year. Similarly, the incurred losses and allocated loss adjustment expenses for accident year ended December 31, 2018 include all loss and loss adjustment expenses paid through March 31, 2020 on accidents occurring from January 1, 2018 to December 31, 2018 and all losses and allocated loss adjustment expenses outstanding on these accidents as of March 31, 2020, 27 months after the inception of the accident year. The immature experience reported as of 15 or as of 27 months must be adjusted to a mature or ultimate settlement basis through the use of a loss development factor. See the calculations in <b>Exhibit C9</b>.</p>
DESCRIPTION OF LOSS DEVELOPMENT METHODOLOGY	<p>For Bodily Injury Coverage, losses are developed up to 123 months and are based on \$100,000 CSL data. For Property Damage Coverage, losses are developed up to 111 months and \$100,000 CSL data is used. Three-year averages are calculated for each link ratio based on a "best three of five" approach. Specifically, for the latest five years, the highest and lowest ratios were removed from the calculation and the three year average was calculated using the three remaining factors. Beyond 123 months the loss development is assumed to be unity for the BI coverage. Beyond 111 months the loss development is assumed to be unity for the PD coverage.</p> <p>The data used in this analysis is based on Zone-Rated experience.</p>



## LOSS DEVELOPMENT FOR PHYSICAL DAMAGE

---

OBJECTIVE	The application of loss development recognizes the important concept that some of the losses for a particular accident year have not been finally determined at the time the experience is compiled.
DESCRIPTION OF EXPERIENCE PERIOD DATA	For Physical Damage, paid losses underlying the statewide loss cost level indications are on an accident year basis and were evaluated as of March 31, 2020. In other words, accident year ended December 31, 2019 includes all losses paid through March 31, 2020 on accidents occurring from January 1, 2019 to December 31, 2019. Similarly, the paid losses for accident year ended December 31, 2018 include all losses paid through March 31, 2020 on accidents occurring from January 1, 2018 to December 31, 2018. The immature paid loss experience reported as of 15 or as of 27 months must be adjusted to a mature or ultimate settlement basis through the use of a loss development factor. See the calculations in <b>Exhibit C10</b> .
DESCRIPTION OF LOSS DEVELOPMENT METHODOLOGY	For Collision and Other Than Collision coverages, one multistate group is used. Losses are developed to an ultimate settlement basis. Three-year averages are calculated for each age-to-age link ratio. These link ratios are accumulated to develop losses to 123 months. Development beyond 123 months is assumed to be 1.000.

---

## CREDIBILITY PROCEDURE FOR EXPERIENCE LOSS RATIO

---

**OBJECTIVE** The extent to which the state experience is reflected in the development of the prospective loss costs is determined by the credibility of the data for that state. Specifically, ISO credibility procedures are based upon the volume of claims for each coverage separately.

---

**METHODOLOGY** The standards for full credibility were determined from a credibility study using various size of loss distributions for liability, other than collision and collision respectively. Separate standards by coverage/major class for full credibility were calculated using the Mayerson, Jones and Bowers expansion formula.

---

**CREDIBILITY FOR EXPERIENCE LOSS RATIO** The assignment of credibility to the experience loss ratio is based on the total number of claims for the years used. For liability, the claims are based on BI and PD claims combined. For physical damage, credibility is determined separately for OTC and Collision. Partial credibility ( $Z$ ), as used for the experience loss ratio, is determined using the square root rule as follows:

$$Z = \sqrt{\frac{\text{Claims}}{X}}$$

Where  $X$  equals the full credibility standard, by line and coverage, as shown on the following pages of this section.

---

**YEAR WEIGHTS** The weights assigned to the loss ratio by year are based on the credibility of the average number of claims for the years of experience used. A maximum of five years of experience may be used. This procedure is described in detail in the flow chart on the following page. The claim standard used to determine the year weights is based on the credibility standard for each coverage. The schedules of the number of claims required for the year weight assignments are shown on the following pages.

---

COMMERCIAL AUTOMOBILE LIABILITY  
FLOWCHART TO DETERMINE  
YEAR WEIGHTS AND  
EXPERIENCE PERIOD CREDIBILITY

Step 1: Determine Number of Years to be used and Year Weights

1. Add latest 2 years of claims and divide by 2 to determine the 2 year average.
2. If 2 year Avg. claims  $\geq$  11,500,  
Then use 2 years of experience and assign 70/30 weights.
3. Add latest 3 years of claims and divide by 3 to determine the 3 year average.
4. If 3 year Avg. claims  $\geq$  1,380,  
Then use 3 years of experience and assign 50/30/20 weights.
5. If 3 year Avg. claims  $<$  1,380,  
Then use 5 years of experience and assign 30/25/20/15/10 weights.

Step 2: Determine the Experience Period Credibility

Calculate partial credibility based on the total number of claims for the number of years used in the review as determined from Step 1.

COMMERCIAL AUTOMOBILE PHYSICAL DAMAGE  
FLOWCHART TO DETERMINE  
YEAR WEIGHTS AND  
EXPERIENCE PERIOD CREDIBILITY

Step 1: Determine Number of Years to be used and Year Weights

1. Add latest 2 years of claims and divide by 2 to determine the 2 year average.
2. If 2 year Avg. claims  $\geq$  Full Standard,  
Then use 2 years of experience and assign 70/30 weights.
3. Add latest 3 years of claims and divide by 3 to determine the 3 year average.
4. If 3 year Avg. claims  $\geq$  Intermediate Threshold,  
Then use 3 years of experience and assign 50/30/20 weights.
5. If 3 year Avg. claims  $<$  Intermediate Threshold,  
Then use 5 years of experience and assign 30/25/20/15/10 weights.

Step 2: Determine the Experience Period Credibility

Calculate partial credibility based on the total number of claims for the number of years used in the review as determined from Step 1.

<u>Coverage</u>	<u>Intermediate Threshold</u>	<u>Full Standard</u>
OTC	1,350	11,000
Collision	550	4,500

Tables For Use With Trend Data

Bodily Injury				Property Damage			
<u>Number of Claims</u>			<u>Cred.</u>	<u>Number of Claims</u>			<u>Cred.</u>
0	-	641	0.00	0	-	256	0.00
642	-	2027	0.05	257	-	810	0.05
2028	-	3571	0.10	811	-	1428	0.10
3572	-	5303	0.15	1429	-	2121	0.15
5304	-	7258	0.20	2122	-	2903	0.20
7259	-	9482	0.25	2904	-	3793	0.25
9483	-	12037	0.30	3794	-	4814	0.30
12038	-	14999	0.35	4815	-	5999	0.35
15000	-	18478	0.40	6000	-	7391	0.40
18479	-	22619	0.45	7392	-	9047	0.45
22620	-	27631	0.50	9048	-	11052	0.50
27632	-	33823	0.55	11053	-	13529	0.55
33824	-	41666	0.60	13530	-	16666	0.60
41667	-	51923	0.65	16667	-	20769	0.65
51924	-	65909	0.70	20770	-	26363	0.70
65910	-	86111	0.75	26364	-	34444	0.75
86112	-	117857	0.80	34445	-	47142	0.80
117858	-	174999	0.85	47143	-	69999	0.85
175000	-	308333	0.90	70000	-	123333	0.90
308334	-	974999	0.95	123334	-	389999	0.95
975000	-	and over	1.00	390000	-	and over	1.00

K = 25,000

K = 10,000

$$\text{CREDIBILITY FORMULA} = (\# \text{ CLAIMS}) / (\# \text{ CLAIMS} + K)$$

ALL LIABILITY COVERAGES  
CREDIBILITY TABLE  
NUMBER OF CLAIMS

<u>Credibility</u>			
0.00*	0	-	28
0.05	29	-	114
0.10	115	-	258
0.15	259	-	459
0.20	460	-	718
0.25	719	-	1,034
0.30	1035	-	1,408
0.35	1,409	-	1,839
0.40	1,840	-	2,328
0.45	2,329	-	2,874
0.50	2,875	-	3,478
0.55	3,479	-	4,139
0.60	4,140	-	4,858
0.65	4,859	-	5,634
0.70	5,635	-	6,468
0.75	6,469	-	7,359
0.80	7,360	-	8,308
0.85	8,309	-	9,314
0.90	9,315	-	10,378
0.95	10,379	-	11,499
1.00		>	11,499

The credibility for the loss cost level ratio is determined by the total number of claims for the total number of years of experience used in the review.

\*The credibility underlying the calculation of the statewide indication is subject to a minimum of 5% given that there is at least one claim in the experience period.

PHYSICAL DAMAGE  
CREDIBILITY TABLES  
NUMBER OF CLAIMS

OTHER THAN COLLISION

<u>Cred</u>			
0.00*	0	-	27
0.05	28	-	109
0.10	110	-	247
0.15	248	-	439
0.20	440	-	687
0.25	688	-	989
0.30	990	-	1,347
0.35	1,348	-	1,759
0.40	1,760	-	2,227
0.45	2,228	-	2,749
0.50	2,750	-	3,327
0.55	3,328	-	3,959
0.60	3,960	-	4,647
0.65	4,648	-	5,389
0.70	5,390	-	6,187
0.75	6,188	-	7,039
0.80	7,040	-	7,947
0.85	7,948	-	8,909
0.90	8,910	-	9,927
0.95	9,928	-	10,999
1.00		>	10,999

COLLISION

<u>Cred</u>	<u>Zone-Rated</u>		
0.00*	0	-	11
0.05	12	-	44
0.10	45	-	101
0.15	102	-	179
0.20	180	-	281
0.25	282	-	404
0.30	405	-	551
0.35	552	-	719
0.40	720	-	911
0.45	912	-	1,124
0.50	1,125	-	1,361
0.55	1,362	-	1,619
0.60	1,620	-	1,901
0.65	1,902	-	2,204
0.70	2,205	-	2,531
0.75	2,532	-	2,879
0.80	2,880	-	3,251
0.85	3,252	-	3,644
0.90	3,645	-	4,061
0.95	4,062	-	4,499
1.00		>	4,499

The credibility for loss cost level ratio is determined by the total number of claims for the total number of years of experience used in the review.

\*The credibility underlying the calculation of the statewide indication is subject to a minimum of 5% given that there is at least one claim in the experience period.

## INSURANCE SERVICES OFFICE, INC.

## CALCULATION OF OFF-BALANCE FACTORS

## LIABILITY

The base loss cost for Liability is for a \$100,000 Combined Single Limit. The off-balance factor to be applied to the current Zone-Rated Liability loss cost is 0.944.

$$0.944 \frac{\$ 18,827,766}{\$ 19,940,219}$$

where \$ 18,827,766 = Aggregate Loss Cost at Current  
Level under the current class plan.  
\$ 19,940,219 = Aggregate Loss Cost at Current  
Level under the revised class plan.

## PHYSICAL DAMAGE

## OTHER THAN COLLISION

The base loss cost for Other Than Collision is for a \$15,001-20,000 OCN for Ages 1, 2 and 3 with a \$500 deductible. The off-balance factor to be applied to the current Zone-Rated OTC base loss cost is 1.071.

$$1.071 \frac{\$ 2,336,948}{\$ 2,181,722}$$

where \$ 2,336,948 = Aggregate Loss Cost at Current  
Level under the current class plan.  
\$ 2,181,722 = Aggregate Loss Cost at Current  
Level under the revised class plan.

## COLLISION

The base loss cost for Collision is for a \$15,001-20,000 OCN for Ages 1, 2 and 3 with a \$500 deductible. The off-balance factor to be applied to the current Zone-Rated Collision base loss cost is 0.949.

$$0.949 \frac{\$ 7,114,444}{\$ 7,496,382}$$

where \$ 7,114,444 = Aggregate Loss Cost at Current  
Level under the current class plan.  
\$ 7,496,382 = Aggregate Loss Cost at Current  
Level under the revised class plan.



## INSURANCE SERVICES OFFICE, INC.

## SUMMARY OF CLASSIFICATION PLAN REVISIONS

PRIMARY FACTORS						
Class	Liability		Collision		Other than Collision	
	Current	Revised	Current	Revised	Current	Revised
Medium	0.85	0.82	1.00	1.00	1.00	1.00
Heavy	1.00	1.00	1.00	1.00	1.00	1.00
Extra-Heavy	1.45	1.50	1.15	1.16	1.15	1.16
Trailers	0.15	0.14	0.65	0.69	0.65	0.69

FLEET DISCOUNT FACTORS						
Class	Liability		Collision		Other than Collision	
	Current	Revised	Current	Revised	Current	Revised
Fleet	0.70	0.74	0.60	0.63	0.65	0.59
Non-Fleet	1.00	1.00	1.00	1.00	1.00	1.00

METRO FACTORS						
Class	Liability		Collision		Other than Collision	
	Current	Revised	Current	Revised	Current	Revised
Metro-Metro	0.950	0.937	0.900	0.880	0.950	0.950
Metro to/from Non-Metro	0.975	0.956	0.900	0.880	1.000	0.981
Non-Metro to Non-Metro	1.000	1.000	1.000	1.000	1.000	1.000

## INSURANCE SERVICES OFFICE, INC.

## SUMMARY OF CLASSIFICATION PLAN REVISIONS

ZONE COMBINATION FACTORS							
Route	Region #	Liability		Collision		Other than Collision	
		Current	Revised	Current	Revised	Current	Revised
01	40 to/from 40	1.775	1.690	1.667	1.644	1.386	1.350
02	40 to/from 41	1.875	1.839	1.958	1.981	1.294	1.257
03	40 to/from 42	1.225	1.243	1.015	1.007	1.271	1.252
04	40 to/from 43	1.844	1.798	1.649	1.645	1.302	1.271
05	40 to/from 44	1.435	1.445	1.639	1.600	1.256	1.232
06	40 to/from 45	1.369	1.369	1.538	1.611	1.407	1.358
07	40 to/from 46	1.641	1.720	1.613	1.766	1.281	1.473
08	40 to/from 47	1.751	1.700	1.983	1.893	1.407	1.343
09	40 to/from 48	2.106	2.102	2.173	2.113	1.129	1.108
10	40 to/from 49	1.399	1.375	1.192	1.249	1.101	1.160
11	41 to/from 41	0.994	1.000	1.225	1.272	1.033	1.051
12	41 to/from 42	1.390	1.357	1.518	1.564	1.326	1.309
13	41 to/from 43	1.404	1.384	1.414	1.356	1.027	1.044
14	41 to/from 44	1.610	1.608	1.896	1.938	1.016	1.018
15	41 to/from 45	1.571	1.535	1.643	1.663	1.105	1.106
16	41 to/from 46	1.857	1.842	1.540	1.605	1.140	1.178
17	41 to/from 47	1.942	2.039	1.951	2.019	1.073	1.044
18	41 to/from 48	1.763	1.728	1.600	1.616	1.065	1.063
19	41 to/from 49	1.364	1.339	1.380	1.385	1.205	1.196
20	42 to/from 42	0.973	0.934	1.062	1.148	0.941	0.984
21	42 to/from 43	1.086	1.090	1.280	1.247	0.880	0.870
22	42 to/from 44	1.302	1.211	1.278	1.261	0.900	0.877
23	42 to/from 45	1.316	1.284	1.531	1.649	1.186	1.165
24	42 to/from 46	1.550	1.548	1.639	1.589	1.098	1.119
25	42 to/from 47	1.616	1.634	1.487	1.461	0.988	0.953
26	42 to/from 48	1.462	1.500	1.445	1.432	0.880	0.862
27	42 to/from 49	1.719	1.690	1.804	1.795	1.012	1.008
28	43 to/from 43	1.156	1.176	1.385	1.375	0.976	0.975
29	43 to/from 44	1.506	1.467	1.538	1.529	0.940	0.924
30	43 to/from 45	1.307	1.302	1.379	1.444	0.980	0.982
31	43 to/from 46	1.692	1.719	1.389	1.381	0.951	0.932
32	43 to/from 47	1.570	1.608	1.756	1.734	1.051	1.047
33	43 to/from 48	2.004	2.076	2.299	2.202	0.850	0.833
34	43 to/from 49	1.185	1.154	1.315	1.295	0.902	0.896
35	44 to/from 44	1.163	1.186	1.220	1.235	0.899	0.886
36	44 to/from 45	1.411	1.377	1.468	1.541	0.974	0.966
37	44 to/from 46	1.502	1.461	1.406	1.507	0.938	0.939
38	44 to/from 47	1.359	1.374	1.208	1.274	1.011	0.996
39	44 to/from 48	1.433	1.367	1.498	1.520	0.780	0.774
40	44 to/from 49	1.501	1.516	1.303	1.377	0.830	0.821
41	45 to/from 45	1.578	1.564	1.513	1.555	1.127	1.104
42	45 to/from 46	1.424	1.487	1.424	1.452	1.080	1.057
43	45 to/from 47	1.514	1.555	1.477	1.443	1.152	1.111
44	45 to/from 48	1.469	1.495	1.499	1.503	1.211	1.201
45	45 to/from 49	1.342	1.319	1.366	1.334	1.007	0.991
46	46 to/from 46	1.715	1.823	1.602	1.559	1.120	1.148
47	46 to/from 47	1.588	1.677	1.512	1.507	0.932	0.907
48	46 to/from 48	1.802	1.806	1.851	1.816	0.913	0.898
49	46 to/from 49	1.613	1.582	1.492	1.491	0.925	0.918
50	47 to/from 47	1.568	1.559	1.446	1.362	0.992	1.023
51	47 to/from 48	1.546	1.602	1.689	1.660	0.849	0.984
52	47 to/from 49	1.652	1.657	1.630	1.586	0.973	0.956
53	48 to/from 48	1.507	1.534	1.645	1.600	0.903	0.893
54	48 to/from 49	1.463	1.425	1.455	1.457	0.850	0.829
55	49 to/from 49	1.399	1.427	1.711	1.670	0.787	0.768
56	50 to/from 50	1.319	1.316	1.423	1.422	1.054	1.046

## INSURANCE SERVICES OFFICE, INC.

MULTISTATE  
 AUTOMOBILE LIABILITY INSURANCE - ZONE-RATED RISKS (A)  
 DETERMINATION OF ADVISORY LOSS COST LEVEL CHANGES  
 SINGLE LIMIT LIABILITY COVERAGE

	(1) AGGREGATE	(2)	(3)	(4)	(5)
ACCIDENT YEAR ENDING	LOSS COST AT CURRENT LEVEL (B)	\$100,000 INCURRED LOSSES (C)	EXPERIENCE RATIO (2) / (1)	ACCIDENT YEAR WEIGHTS	NUMBER OF INCURRED CLAIMS
12/31/15	\$22,243,470	\$31,648,969	1.423	10%	1,370
12/31/16	\$22,802,690	\$40,966,337	1.797	15%	1,798
12/31/17	\$22,952,001	\$41,266,868	1.798	20%	1,671
12/31/18	\$20,605,406	\$33,575,670	1.629	25%	1,367
12/31/19	\$18,827,766	\$24,565,670	1.305	30%	1,013
(6)	AVERAGE EXPERIENCE RATIO (SUM OF (3)*(4)).				1.571
(7)	EXPECTED EXPERIENCE RATIO (D).				1.240
(8)	CREDIBILITY (E).				0.75
(9)	CREDIBILITY WEIGHTED EXPERIENCE RATIO: ( (6) * (8) ) + ( (7) * (1.000- (8)) ).				1.488
(10)	INDICATED PERCENTAGE CHANGE IN ADVISORY LOSS COST LEVEL ( (9) - 1.000 ).				48.8%
(11)	FILED CHANGE.				48.8%
(A)	ZONE-RATED EXPERIENCE IS FOR VEHICLES WRITTEN IN ACCORDANCE WITH RULE 25 OF THE COMMERCIAL LINES MANUAL, DIVISION 1, AUTOMOBILE.				
(B)	THE AGGREGATE LOSS COST AT CURRENT LEVEL IS CALCULATED BY EXTENDING EXPOSURES BY THE CURRENT LOSS COSTS FROM THE LAST REVISION.				
(C)	LOSSES INCLUDE ALL LOSS ADJUSTMENT EXPENSES FOR BODILY INJURY AND PROPERTY DAMAGE LIABILITY. SEE FOLLOWING PAGE.				
(D)	EXPECTED EXPERIENCE RATIO IS EQUAL TO THE COMBINED TREND FACTOR SHOWN ON THE FOLLOWING PAGE, PROJECTED FOR M YEARS. THE PERIOD M IS EQUAL TO THE NUMBER OF YEARS FROM ONE YEAR BEYOND THE IMPLEMENTATION DATE OF THE LAST REVISION TO ONE YEAR BEYOND THE ANTICIPATED IMPLEMENTATION DATE OF 04/01/22 WHICH IS ASSUMED FOR THE PURPOSES OF TRENDING, SUBJECT TO A MAXIMUM OF THE N-VALUE CORRESPONDING TO THE LATEST YEAR SHOWN ON THE FOLLOWING PAGE, FOOTNOTE B. IN THIS REVISION, THE PERIOD M IS 3.75 YEAR(S).				
(E)	CREDIBILITY IS BASED ON A 5 YEAR TOTAL OF CLAIMS FOR B.I. AND P.D. SHOWN IN COLUMN (5). THE STANDARD FOR FULL CREDIBILITY IS 11,500 CLAIMS (SEE CREDIBILITY TABLES IN SECTION C).				

## INSURANCE SERVICES OFFICE, INC.

MULTISTATE  
ZONE-RATED RISKS  
AUTOMOBILE LIABILITY INSURANCE  
DETERMINATION OF SINGLE LIMIT LOSSES

	ACC. YEAR ENDING	BODILY INJURY	PROPERTY DAMAGE	COMBINED
(1) INCURRED LOSSES AND	12/31/15	\$11,935,708	\$6,612,754	
ALLOCATED LOSS	12/31/16	\$15,081,318	\$9,722,931	
ADJUSTMENT EXPENSES	12/31/17	\$15,776,987	\$8,914,468	
	12/31/18	\$11,559,861	\$6,682,867	
	12/31/19	\$6,697,434	\$4,844,218	
(2) DEVELOPED LOSSES AND	12/31/15	\$12,997,688	\$7,303,126	
ALL LOSS ADJUSTMENT	12/31/16	\$17,006,825	\$10,823,567	
EXPENSES (A)	12/31/17	\$19,656,943	\$10,031,451	
	12/31/18	\$17,720,689	\$7,851,032	
	12/31/19	\$13,816,304	\$5,994,720	
(3) SELECTED ANNUAL LOSS				
TREND (SEE TREND		5.9%	5.9%	5.9%
EXHIBIT IN SECTION C)				
(4) TRENDED LOSSES AND	12/31/15	\$20,263,396	\$11,385,573	\$31,648,969
ALL LOSS ADJUSTMENT	12/31/16	\$25,034,046	\$15,932,291	\$40,966,337
EXPENSES (B)	12/31/17	\$27,323,151	\$13,943,717	\$41,266,868
	12/31/18	\$23,267,265	\$10,308,405	\$33,575,670
	12/31/19	\$17,132,217	\$7,433,453	\$24,565,670

(A) INCURRED LOSSES AND ALLOCATED LOSS ADJUSTMENT EXPENSES ARE ADJUSTED  
BY THE FOLLOWING FACTORS:

- 1 - UNALLOCATED LOSS ADJUSTMENT FACTORS: B.I. 1.075 P.D. 1.100  
2 - LOSS DEVELOPMENT FACTORS:

YEAR ENDING	B.I.	P.D.
12/31/15	1.013	1.004
12/31/16	1.049	1.012
12/31/17	1.159	1.023
12/31/18	1.426	1.068
12/31/19	1.919	1.125

(B) TRENDED LOSSES ARE EQUAL TO (2) \* ( (1.0 + (3)) \*\* N), WHERE N IS EQUAL TO  
THE NUMBER OF YEARS PROJECTION FROM THE AVERAGE DATE OF ACCIDENT TO ONE  
YEAR BEYOND THE ANTICIPATED IMPLEMENTATION DATE OF 04/01/22  
WHICH IS ASSUMED FOR THE PURPOSE OF TRENDING.

YEAR ENDING	AVERAGE DATE OF ACCIDENT	PROJECTION PERIOD
12/31/15	7/1/15	7.750
12/31/16	7/1/16	6.750
12/31/17	7/1/17	5.750
12/31/18	7/1/18	4.750
12/31/19	7/1/19	3.750

INSURANCE SERVICES OFFICE, INC.

MULTISTATE  
AUTOMOBILE PHYSICAL DAMAGE INSURANCE - ZONE-RATED RISKS (A)  
DETERMINATION OF ADVISORY LOSS COST LEVEL CHANGES

COVERAGE	ACCIDENT YEAR	(1) AGGREGATE LOSS COST AT CURRENT LEVEL (B)	(2) INCURRED LOSSES (C)	(3) EXPERIENCE RATIO (2) / (1)	(4) ACCIDENT YEAR WEIGHTS	(5) NUMBER OF PAID CLAIMS
O.T.C.	ENDING					
	12/31/15	\$2,736,686	\$4,257,797	1.556	10%	235
	12/31/16	\$2,846,981	\$4,478,647	1.573	15%	283
	12/31/17	\$2,974,241	\$4,348,425	1.462	20%	265
	12/31/18	\$2,692,506	\$3,480,220	1.293	25%	253
	12/31/19	\$2,336,948	\$2,297,689	0.983	30%	162
COLL.	12/31/15	\$8,038,177	\$11,247,603	1.399	10%	487
	12/31/16	\$8,241,935	\$13,431,548	1.630	15%	505
	12/31/17	\$8,710,176	\$13,430,937	1.542	20%	470
	12/31/18	\$8,306,793	\$9,387,767	1.130	25%	409
	12/31/19	\$7,114,444	\$9,693,394	1.362	30%	338
					O.T.C.	COLLISION
(6)	AVERAGE EXPERIENCE RATIO (SUM OF (3)*(4)).				1.302	1.385
(7)	EXPECTED EXPERIENCE RATIO (D).				1.227	1.117
(8)	CREDIBILITY (E).				0.30	0.70
(9)	CREDIBILITY WEIGHTED EXPERIENCE RATIO: ( (6) * (8) ) + ( (7) * (1.000 - (8)) ).				1.250	1.305
(10)	INDICATED PERCENTAGE CHANGE IN ADVISORY LOSS COST LEVEL ( (9) - 1.000 ).				25.0%	30.5%
(11)	FILED CHANGE.				25.0%	30.5%
(A)	ZONE-RATED EXPERIENCE IS FOR VEHICLES WRITTEN IN ACCORDANCE WITH RULE 25 OF THE COMMERCIAL LINES MANUAL, DIVISION 1, AUTOMOBILE.					
(B)	THE AGGREGATE LOSS COST AT CURRENT LEVEL IS CALCULATED BY EXTENDING EXPOSURES BY THE CURRENT LOSS COSTS AND ADJUSTING TO A PROSPECTIVE OCN LEVEL BY THE APPLICATION OF OCN TREND FACTORS. (SEE SUBSEQUENT PAGE).					
(C)	LOSSES INCLUDE ALL LOSS ADJUSTMENT EXPENSES FOR O.T.C. AND COLL. SEE FOLLOWING PAGE.					
(D)	EXPECTED EXPERIENCE RATIO IS EQUAL TO THE LOSS TREND FACTOR DIVIDED BY THE OCN TREND FACTOR, PROJECTED FOR M YEARS. THE PERIOD M IS EQUAL TO THE NUMBER OF YEARS FROM ONE YEAR BEYOND THE IMPLEMENTATION DATE OF THE LAST REVISION TO ONE YEAR BEYOND THE ANTICIPATED IMPLEMENTATION DATE OF 04/01/22 WHICH IS ASSUMED FOR THE PURPOSES OF TRENDING, SUBJECT TO A MAXIMUM OF THE N-VALUE CORRESPONDING TO THE LATEST YEAR SHOWN ON THE FOLLOWING PAGE, FOOTNOTE B. IN THIS REVISION, THE PERIOD M IS 3.75 YEAR(S).					
(E)	CREDIBILITY IS BASED ON A 5 YEAR TOTAL OF CLAIMS FOR O.T.C. AND A 5 YEAR TOTAL OF CLAIMS FOR COLLISION SHOWN IN COLUMN (5). THE STANDARDS FOR FULL CREDIBILITY ARE 11,000 CLAIMS FOR O.T.C. AND 4,500 CLAIMS FOR COLLISION (SEE CREDIBILITY TABLES IN SECTION C).					

## INSURANCE SERVICES OFFICE, INC.

MULTISTATE  
ZONE-RATED RISKS  
AUTOMOBILE PHYSICAL DAMAGE INSURANCE  
DETERMINATION OF PHYSICAL DAMAGE LOSSES

	ACC. YEAR ENDING	O.T.C	COLLISION
(1) PAID LOSSES	12/31/15	\$2,315,368	\$7,074,365
	12/31/16	\$2,593,053	\$8,839,691
	12/31/17	\$2,682,462	\$9,274,466
	12/31/18	\$2,271,696	\$6,785,339
	12/31/19	\$1,491,294	\$7,364,218
(2) DEVELOPED LOSSES AND	12/31/15	\$2,613,749	\$7,994,032
ALL LOSS ADJUSTMENT	12/31/16	\$2,927,220	\$9,978,862
EXPENSES (A)	12/31/17	\$3,028,151	\$10,427,746
	12/31/18	\$2,579,852	\$7,613,761
	12/31/19	\$1,814,920	\$8,221,708
(3) SELECTED ANNUAL LOSS TREND (SEE TREND EXHIBIT IN SECTION C)		6.5%	4.5%
(4) TRENDED LOSSES AND	12/31/15	\$4,257,797	\$11,247,603
ALL LOSS ADJUSTMENT	12/31/16	\$4,478,647	\$13,431,548
EXPENSES (B)	12/31/17	\$4,348,425	\$13,430,937
	12/31/18	\$3,480,220	\$9,387,767
	12/31/19	\$2,297,689	\$9,693,394
(A) PAID LOSSES ARE ADJUSTED BY THE FOLLOWING:			
1 - LOSS ADJUSTMENT EXPENSE FACTORS:		O.T.C	COLL.
		1.130	1.130
2 - LOSS DEVELOPMENT FACTORS:			
	YEAR ENDING	O.T.C.	COLL.
	12/31/15	0.999	1.000
	12/31/16	0.999	0.999
	12/31/17	0.999	0.995
	12/31/18	1.005	0.993
	12/31/19	1.077	0.988

(B) TRENDED LOSSES ARE EQUAL TO (2) \* ((1.0 + (3)) \*\* N), WHERE N IS EQUAL TO THE NUMBER OF YEARS PROJECTION FROM THE AVERAGE DATE OF ACCIDENT TO ONE YEAR BEYOND THE ANTICIPATED IMPLEMENTATION DATE OF 04/01/22 WHICH IS ASSUMED FOR THE PURPOSE OF TRENDING BOTH OTC AND COLLISION.

YEAR ENDING	AVERAGE DATE OF ACCIDENT	PROJECTION PERIOD OTC	PROJECTION PERIOD COLL
12/31/15	7/1/15	7.750	7.750
12/31/16	7/1/16	6.750	6.750
12/31/17	7/1/17	5.750	5.750
12/31/18	7/1/18	4.750	4.750
12/31/19	7/1/19	3.750	3.750

INSURANCE SERVICES OFFICE, INC.

MULTISTATE  
TRUCKS, TRACTORS AND TRAILERS  
AUTOMOBILE PHYSICAL DAMAGE INSURANCE  
DETERMINATION OF PHYSICAL DAMAGE TRENDED  
AGGREGATE LOSS COSTS

	ACC. YEAR ENDING	O.T.C	COLLISION
(1) AGGREGATE LOSS COSTS	12/31/15	\$2,552,879	\$7,164,151
AT CURRENT LEVEL	12/31/16	\$2,680,773	\$7,452,021
	12/31/17	\$2,824,540	\$7,998,325
	12/31/18	\$2,581,501	\$7,741,652
	12/31/19	\$2,260,105	\$6,730,789
(2) SELECTED ANNUAL OCN TREND (SEE TREND EXHIBIT IN SECTION C)		0.9%	1.5%
(3) TRENDED AGGREGATE	12/31/15	\$2,736,686	\$8,038,177
LOSS COSTS AT	12/31/16	\$2,846,981	\$8,241,935
CURRENT LEVEL (A)	12/31/17	\$2,974,241	\$8,710,176
	12/31/18	\$2,692,506	\$8,306,793
	12/31/19	\$2,336,948	\$7,114,444
(A) TRENDED AGGREGATE LOSS COSTS ARE EQUAL TO (1) * ((1.0 + (2)) ** N), WHERE N IS EQUAL TO THE NUMBER OF YEARS PROJECTION FROM THE AVERAGE DATE OF WRITING TO SIX MONTHS BEYOND THE ANTICIPATED IMPLEMENTATION DATE OF 04/01/22 WHICH IS ASSUMED FOR THE PURPOSE OF TRENDING BOTH OTC AND COLLISION.			

YEAR ENDING	AVERAGE DATE OF WRITING	PROJECTION PERIOD OTC	PROJECTION PERIOD COLL
12/31/15	1/1/15	7.750	7.750
12/31/16	1/1/16	6.750	6.750
12/31/17	1/1/17	5.750	5.750
12/31/18	1/1/18	4.750	4.750
12/31/19	1/1/19	3.750	3.750

## INSURANCE SERVICES OFFICE, INC.

COMMERCIAL AUTOMOBILE LIABILITY INSURANCE  
MULTISTATE LOSS ADJUSTMENT EXPENSE EXPERIENCE

Calendar Year

Development of Unallocated Loss Adjustment Expense Factor

		<u>Bodily Injury</u> (000's)					3 YR. <u>AVG</u>	5 YR. <u>AVG</u>
	<u>ITEM</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>		
(1)	Direct Losses Incurred	4,534,035	5,191,223	5,663,590	6,258,279	6,443,423		
(2)	Allocated Loss Adjustment Expenses Incurred	480,175	580,765	638,270	676,653	650,817		
(3)	Unallocated Loss Adjustment Expense Incurred	449,751	472,235	480,388	510,398	519,189		
(4)	Unallocated LAE as a Ratio to Losses + Allocated LAE (3)/[(1)+(2)]	9.0%	8.2%	7.6%	7.4%	7.3%	7.4%	7.9%
(5)	Selected Factor							7.5%

		<u>Property Damage</u> (000's)					3 YR. <u>AVG</u>	5 YR. <u>AVG</u>
	<u>ITEM</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>		
(1)	Direct Losses Incurred	955,051	1,027,893	1,143,065	1,144,298	1,236,531		
(2)	Allocated Loss Adjustment Expenses Incurred	63,839	74,267	61,197	65,225	63,477		
(3)	Unallocated Loss Adjustment Expense Incurred	125,980	125,216	123,301	129,471	135,429		
(4)	Unallocated LAE as a Ratio to Losses + Allocated LAE (3)/[(1)+(2)]	12.4%	11.4%	10.2%	10.7%	10.4%	10.5%	11.0%
(5)	Selected Factor							10.0%

All items are from Special Call Submission for available writers.



## INSURANCE SERVICES OFFICE, INC.

COMMERCIAL AUTOMOBILE PHYSICAL DAMAGE INSURANCE  
MULTISTATE LOSS ADJUSTMENT EXPENSE EXPERIENCE

Calendar Year

Development of Factor to Include all Loss Adjustment Expenses

		(000's)					3 YR.	5 YR.
		2014	2015	2016	2017	2018	<u>AVG</u>	<u>AVG</u>
(1)	ITEM Direct Losses Incurred	4,018,641	4,299,932	4,813,793	5,446,118	5,531,658		
(2)	Loss Adjustment Expenses Incurred	658,105	579,036	622,719	702,553	716,345		
(3)	Losses + LAE Incurred as Ratio to Losses Incurred [(1)+(2)]/(1)	1.164	1.135	1.129	1.129	1.129	1.129	1.137
(4)	Selected							1.130

Items (1) and (2) are from the Insurance Expense Exhibits for agency and direct writers.

## INSURANCE SERVICES OFFICE,

## COMMERCIAL AUTO LIABILITY

## LOSS RATIOS FOR SUBSEQUENT CHANGES

## AVERAGE PAID CLAIM COST DATA

YEAR ENDED	MULTISTATE* BODILY INJURY (\$100000 LIMITS)		PROPERTY DAMAGE (\$100000 LIMITS)	
	(1)	(2)	(3)	(4)
	ACTUAL	EXPONENTIAL	ACTUAL	EXPONENTIAL
			ACTUAL	FIT
3/31/2017	22369.85	22253.66	4308.44	4252.34
6/30/2017	22646.73	22576.73	4331.26	4313.79
9/30/2017	22646.45	22904.48	4381.48	4376.12
12/31/2017	23021.33	23237.00	4411.53	4439.35
3/31/2018	23456.30	23574.34	4454.80	4503.50
6/30/2018	24019.77	23916.59	4530.24	4568.57
9/30/2018	24507.17	24263.80	4605.63	4634.58
12/31/2018	24826.90	24616.05	4695.90	4701.55
3/31/2019	25194.58	24973.41	4777.54	4769.49
6/30/2019	25257.58	25335.96	4857.59	4838.40
9/30/2019	25533.57	25703.78	4930.59	4908.31
12/31/2019	25959.37	26076.94	5001.74	4979.24
			BODILY INJURY	PROPERTY DAMAGE
(5) AVERAGE ANNUAL PERCENT CHANGE IN PAID CLAIM COST (12TH POINT / 8TH POINT)			5.9%	5.9%
(6) SELECTED ANNUAL PERCENT CHANGE IN CLAIM FREQUENCY			0.0%	0.0%
(7) AVERAGE ANNUAL PERCENT CHANGE IN LIABILITY LOSS RATIO			5.9%	5.9%

\* EXCLUDES MASSACHUSETTS

## INSURANCE SERVICES OFFICE, INC.

Commercial Automobile Liability  
Average Paid Claim Cost Experience  
Multistate\*



\*Excludes Massachusetts

## INSURANCE SERVICES OFFICE, INC.

COMMERCIAL AUTO LIABILITY  
INCURRED CLAIM FREQUENCY

MULTISTATE\*

TRUCKS, TRACTORS, AND TRAILERS

<u>YEAR</u>	<u>BODILY INJURY</u>	<u>BODILY INJURY</u>	<u>PROPERTY DAMAGE</u>	<u>PROPERTY DAMAGE</u>
<u>ENDING</u>	<u>ACTUAL</u>	<u>ACTUAL CHANGE@</u>	<u>ACTUAL</u>	<u>ACTUAL CHANGE@</u>
12/31/2013	0.7513		2.7493	
3/31/2014	0.7651		2.8383	
6/30/2014	0.7555		2.8377	
9/30/2014	0.7513		2.8414	
12/31/2014	0.7564	0.7% &	2.8427	3.4% &
3/31/2015	0.7477		2.8035	
6/30/2015	0.7536		2.8061	
9/30/2015	0.7623	1.5%	2.8283	-0.5%
12/31/2015	0.7753		2.8386	
3/31/2016	0.7901		2.8156	
6/30/2016	0.8023		2.8241	
9/30/2016	0.8120	6.5%	2.8268	-0.1%
12/31/2016	0.8167		2.8247	
3/31/2017	0.8193		2.8056	
6/30/2017	0.8252		2.7899	
9/30/2017	0.8178	0.7%	2.7532	-2.6%
12/31/2017	0.8121		2.7386	
3/31/2018	0.8117		2.7464	
6/30/2018	0.8064		2.7590	
9/30/2018	0.8026	-1.9%	2.7652	0.4%
12/31/2018	0.7988		2.7678	
3/31/2019	0.7909		2.7608	
6/30/2019	0.7753		2.7177	
9/30/2019	0.7741	-3.6%	2.6851	-2.9%

\* EXCLUDES MASSACHUSETTS

@ CHANGE BASED ON YEARS ENDING 9/30/XXXX

&amp; CHANGE BASED ON YEAR ENDING 12/31/2014 divided by 12/31/2013

## INSURANCE SERVICES OFFICE, INC.

Commercial Automobile Liability  
Incurred Claim Frequency Experience  
Trucks, Tractors, and Trailers  
Multistate\*



\*Excludes Massachusetts

## INSURANCE SERVICES OFFICE, INC.

Multistate\*  
Trucks, Tractors & Trailers Physical Damage  
Other Than Collision

Frequency (expressed as claims per 100 exposures)

	\$500 Deductible		\$1,000 Deductible		\$2,000 Deductible	
Year Ending:	Actual	Change**	Actual	Change**	Actual	Change**
6/30/2015	1.37		0.89		0.67	
12/31/2015	1.36		0.89		0.68	
6/30/2016	1.35		0.91		0.69	
12/31/2016	1.35	-0.7%	0.89	0.0%	0.67	-1.5%
6/30/2017	1.34		0.88		0.67	
12/31/2017	1.37	1.5%	0.90	1.1%	0.70	4.5%
6/30/2018	1.44		0.94		0.71	
12/31/2018	1.51	10.2%	0.96	6.7%	0.73	4.3%
6/30/2019	1.56		0.99		0.74	
12/31/2019	1.57	4.0%	0.98	2.1%	0.73	0.0%

Volume\*\*\* of losses for the most recent year by deductible:

Deductible:	Percent of Losses
Full	0.4%
\$50	0.5%
\$100	2.0%
\$200	0.1%
\$250	7.9%
\$500	30.4%
\$1,000	48.9%
\$2,000	6.0%
\$3,000	1.3%
\$5,000	2.5%

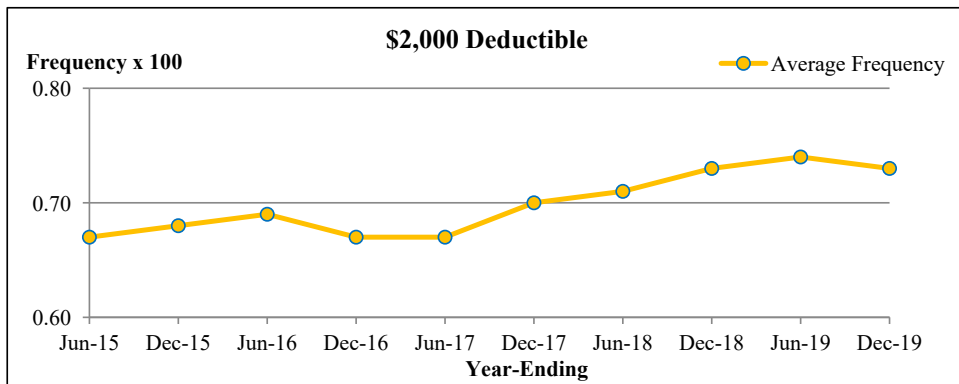
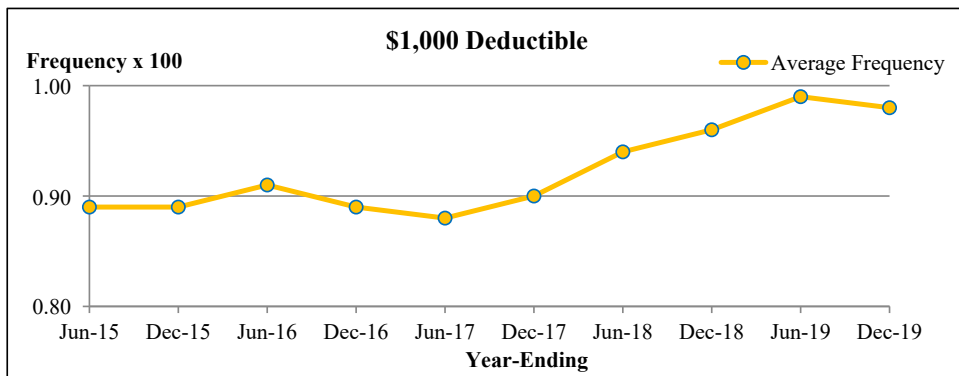
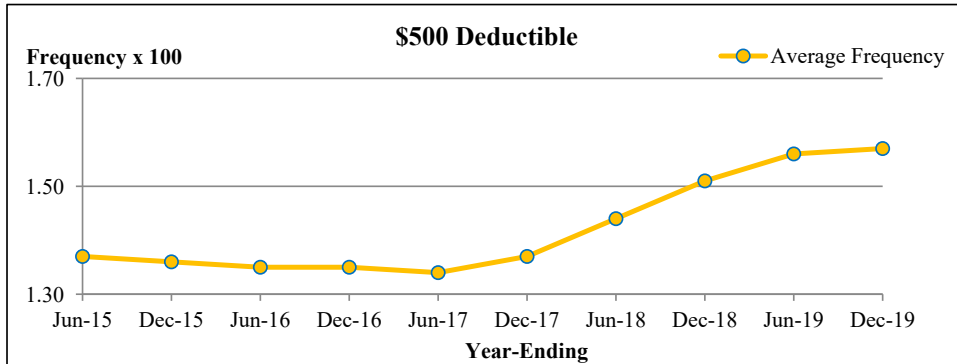
\* Multistate data excludes Massachusetts

\*\* Change based on years ending 12/31/xxxx

\*\*\* Deductibles above \$2,000, totaling 3.8% of losses, are excluded from the trend calculations.

## INSURANCE SERVICES OFFICE, INC.

Commercial Automobile  
Trucks, Tractors & Trailers Physical Damage  
Other Than Collision Frequency Trend  
Multistate\*



\*Excludes Massachusetts

Selected Other Than Collision Frequency Trend Factor: 0.0%

## INSURANCE SERVICES OFFICE, INC.

Multistate\*  
Trucks, Tractors & Trailers Physical Damage  
Other Than Collision

Severity Trend

Year Ending:	\$500 Deductible	\$1,000 Deductible	\$2,000 Deductible
6/30/2015	5,076.44	7,532.05	8,707.12
12/31/2015	5,272.49	7,709.49	8,947.30
6/30/2016	5,450.55	8,009.62	9,306.67
12/31/2016	5,483.80	8,268.04	9,605.98
6/30/2017	5,787.28	8,569.40	9,872.92
12/31/2017	6,235.36	8,995.37	10,248.73
6/30/2018	6,324.83	9,271.77	10,648.45
12/31/2018	6,359.33	9,412.12	10,973.58
6/30/2019	6,401.47	9,633.34	11,435.65
12/31/2019	6,538.78	10,155.97	12,095.88

Average Annual Change Using Exponential Fits:

10 point fit:	6.1%	6.8%	7.3%
8 point fit:	5.7%	6.7%	7.6%
6 point fit:	4.0%	6.3%	8.2%

Selected severity trend:	6.5%
Selected frequency trend:	0.0%
Selected pure premium trend:	6.5%

\* Multistate data excludes Massachusetts



## INSURANCE SERVICES OFFICE, INC.

Multistate\*  
Trucks, Tractors & Trailers Physical Damage  
Collision

Frequency (expressed as claims per 100 exposures)

	\$500 Deductible		\$1,000 Deductible		\$2,000 Deductible	
Year Ending:	Actual	Change**	Actual	Change**	Actual	Change**
6/30/2015	2.20		1.92		1.56	
12/31/2015	2.20		1.94		1.58	
6/30/2016	2.19		1.94		1.59	
12/31/2016	2.27	3.2%	2.01	3.6%	1.64	3.8%
6/30/2017	2.29		2.00		1.63	
12/31/2017	2.23	-1.8%	1.95	-3.0%	1.61	-1.8%
6/30/2018	2.25		2.00		1.65	
12/31/2018	2.27	1.8%	2.02	3.6%	1.67	3.7%
6/30/2019	2.27		2.02		1.66	
12/31/2019	2.24	-1.3%	2.00	-1.0%	1.66	-0.6%

Volume\*\*\* of losses for the most recent year by deductible:

Deductible:	Percent of Losses
\$100	0.2%
\$200	0.0%
\$250	1.1%
\$500	29.5%
\$1,000	56.5%
\$2,000	6.7%
\$3,000	1.6%
\$5,000	4.3%

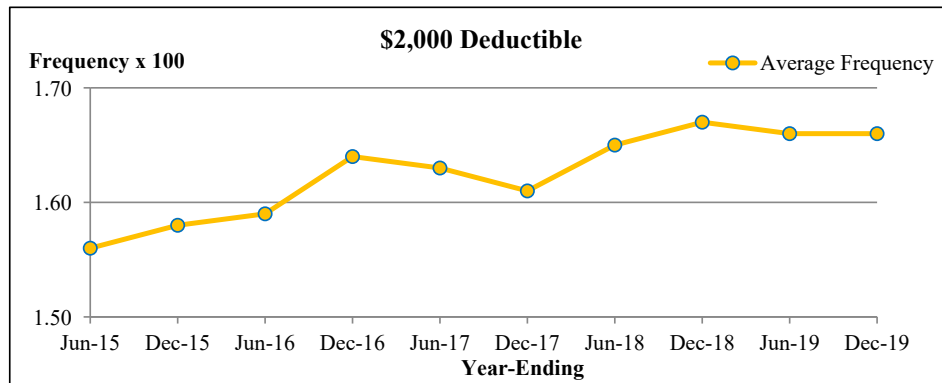
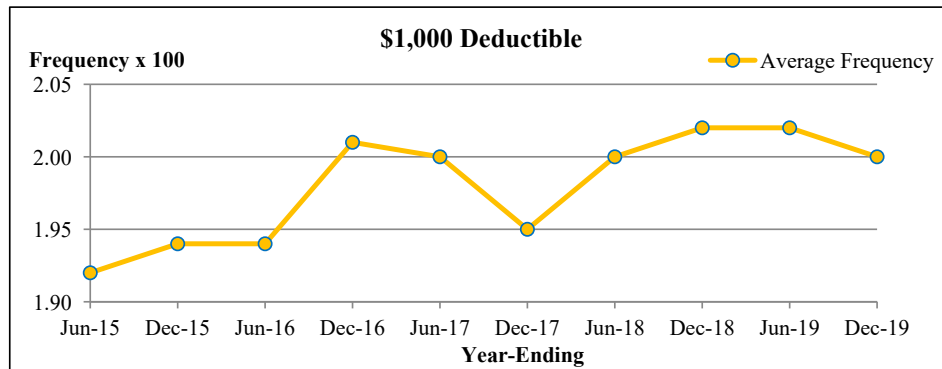
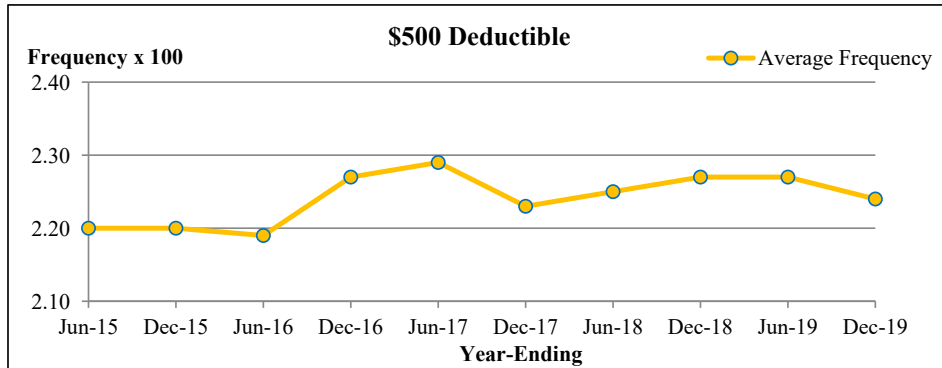
\* Multistate data excludes Massachusetts

\*\* Change based on years ending 12/31/xxxx

\*\*\* Deductibles above \$2,000, totaling 5.9% of losses, are excluded from trend calculations.

## INSURANCE SERVICES OFFICE, INC.

Commercial Automobile  
Trucks, Tractors & Trailers Physical Damage  
Collision Frequency Trend  
Multistate\*



\*Excludes Massachusetts

Selected Collision Frequency Trend Factor: 0.0%

## INSURANCE SERVICES OFFICE, INC.

Multistate\*  
Trucks, Tractors & Trailers Physical Damage  
Collision

## Severity Trend

Year Ending:	\$500 Deductible	\$1,000 Deductible	\$2,000 Deductible
6/30/2015	8,862.30	10,564.77	11,518.43
12/31/2015	9,057.50	10,765.23	11,717.35
6/30/2016	9,361.60	11,038.30	12,015.56
12/31/2016	9,478.76	11,244.83	12,263.51
6/30/2017	9,512.51	11,241.60	12,242.09
12/31/2017	9,772.52	11,363.42	12,369.71
6/30/2018	9,970.83	11,632.86	12,696.43
12/31/2018	10,215.67	11,882.15	12,917.15
6/30/2019	10,552.00	12,242.16	13,342.68
12/31/2019	10,786.27	12,498.53	13,579.19

## Average Annual Change Using Exponential Fits:

10 point fit:	4.3%	3.6%	3.5%
8 point fit:	4.3%	3.6%	3.6%
6 point fit:	5.2%	4.5%	4.5%

Selected severity trend:	4.5%
Selected frequency trend:	0.0%
Selected pure premium trend:	4.5%

\* Multistate data excludes Massachusetts

## INSURANCE SERVICES OFFICE, INC.

MULTISTATE  
TRUCKS, TRACTORS & TRAILERS  
PHYSICAL DAMAGE  
OCN TREND CALCULATION

AVERAGE OCN RELATIVITIES

YEAR ENDING	OTHER THAN COLLISION	COLLISION
6/30/2015	1.249	1.393
12/31/2015	1.255	1.403
6/30/2016	1.261	1.413
12/31/2016	1.266	1.423
6/30/2017	1.273	1.435
12/31/2017	1.279	1.446
6/30/2018	1.284	1.456
12/31/2018	1.289	1.466
6/30/2019	1.297	1.479
12/31/2019	1.303	1.488

EXPONENTIAL TREND (AVERAGE ANNUAL CHANGE)

9 POINTS	0.9%	1.5%
7 POINTS	0.9%	1.5%
5 POINTS	1.0%	1.5%

Selected Other Than Collision Physical Damage Annual OCN Trend: 0.9%

Selected Collision Physical Damage Annual OCN Trend: 1.5%

Data excludes the following state: Massachusetts

## INSURANCE SERVICES OFFICE, INC.

Basic Limits Loss Development  
 Zone-Rated - Bodily Injury  
 Multistate  
 Incurred Losses and Expenses

Accident Year Ending	\$100,000 Basic Limit				
	15 Months	27 Months	39 Months	51 Months	63 Months
12/31/2008	7,926,136	11,168,019	12,666,084	13,750,682	13,773,216
12/31/2009	6,293,937	10,271,080	12,720,180	13,660,805	14,247,036
12/31/2010	8,574,397	13,732,631	16,165,044	17,256,262	17,439,430
12/31/2011	12,432,820	18,457,551	21,834,212	23,519,212	25,831,024
12/31/2012	16,335,139	21,602,325	24,112,958	26,730,112	28,010,562
12/31/2013	8,594,842	11,523,116	14,994,199	16,607,595	17,131,906
12/31/2014	5,611,198	9,017,615	11,361,909	12,018,423	12,351,000
12/31/2015	6,299,103	9,297,457	10,606,199	11,837,496	12,048,592
12/31/2016	8,946,254	11,745,624	13,810,039	15,167,913	
12/31/2017	10,145,951	12,656,211	15,898,723		
12/31/2018	9,688,554	11,605,379			
12/31/2019	6,656,982				

## Ratios

Accident Year Ending	27:15	39:27	51:39	63:51
12/31/2008	1.409	1.134	1.086	1.002
12/31/2009	1.632	1.238	1.074	1.043
12/31/2010	1.602	1.177	1.068	1.011
12/31/2011	1.485	1.183	1.077	1.098
12/31/2012	1.322	1.116	1.109	1.048
12/31/2013	1.341	1.301	1.108	1.032
12/31/2014	1.607	1.260	1.058	1.028
12/31/2015	1.476	1.141	1.116	1.018
12/31/2016	1.313	1.176	1.098	
12/31/2017	1.247	1.256		
12/31/2018	1.198			
Average Factor: ( Best 3 of 5 )	1.345	1.231	1.105	1.036

## Summary of Factors

63 to Ult:	(75:63) (75:Ult) =	1.013
51 to Ult:	(63:51) (75:63) (75:Ult) =	1.049
39 to Ult:	(51:39) (63:51) (75:63) (75:Ult) =	1.159
27 to Ult:	(39:27) (51:39) (63:51) (75:63) (75:Ult) =	1.426
15 to Ult:	(27:15) (39:27) (51:39) (63:51) (75:63) (75:Ult) =	1.919

## INSURANCE SERVICES OFFICE, INC.

Basic Limits Loss Development  
 Zone-Rated - Bodily Injury  
 Multistate  
 Incurred Losses and Expenses

Accident Year <u>Ending</u>	\$100,000 Basic Limit <u>75 Months</u>	<u>87 Months</u>	<u>99 Months</u>	<u>111 Months</u>	<u>123 Months</u>
12/31/2008	13,964,717	14,028,211	14,055,466	14,236,539	14,272,060
12/31/2009	14,290,815	14,639,636	14,637,378	14,652,416	14,652,416
12/31/2010	17,521,616	17,535,234	17,657,834	17,706,560	17,682,598
12/31/2011	26,050,007	26,092,845	26,129,885	26,147,586	
12/31/2012	28,500,612	28,420,913	28,757,133		
12/31/2013	17,151,406	17,174,072			
12/31/2014	12,448,964				

## Ratios

Accident Year <u>Ending</u>	<u>75:63</u>	<u>87:75</u>	<u>99:87</u>	<u>111:99</u>	<u>123:111</u>
12/31/2008	1.014	1.005	1.002	1.013	1.002
12/31/2009	1.003	1.024	1.000	1.001	1.000
12/31/2010	1.005	1.001	1.007	1.003	0.999
12/31/2011	1.008	1.002	1.001	1.001	
12/31/2012	1.017	0.997	1.012		
12/31/2013	1.001	1.001			
12/31/2014	1.008				
Average Factor: ( Best 3 of 5 )	1.007	1.001	1.003	1.002	1.000

## Summary of Factors

123 to Ult:	(1.000)	=	1.000
111 to Ult:	(123:111) (123:Ult)	=	1.000
99 to Ult:	(111:99) (123:111) (123:Ult)	=	1.002
87 to Ult:	(99:87) (111:99) (123:111) (123:Ult)	=	1.005
75 to Ult:	(87:75) (99:87) (111:99) (123:111) (123:Ult)	=	1.006

## INSURANCE SERVICES OFFICE, INC.

Basic Limits Loss Development  
Zone-Rated - Property Damage  
Multistate  
Incurred Losses and Expenses

Accident Year Ending	\$100,000 Basic Limit				
	15 Months	27 Months	39 Months	51 Months	63 Months
12/31/2008	6,532,973	6,864,634	6,923,072	7,065,354	7,045,663
12/31/2009	6,281,929	6,897,639	6,986,719	6,923,013	7,062,806
12/31/2010	8,698,063	9,609,024	9,731,584	9,986,031	10,347,986
12/31/2011	11,496,560	12,208,468	12,680,365	13,962,791	13,854,199
12/31/2012	11,244,178	12,407,176	14,005,948	13,723,596	14,044,744
12/31/2013	9,696,525	12,723,543	13,951,550	15,439,612	15,486,808
12/31/2014	10,575,065	10,710,945	11,595,954	11,835,599	12,083,189
12/31/2015	6,268,141	6,720,582	6,681,785	6,723,870	6,713,471
12/31/2016	9,311,927	10,137,205	10,529,779	10,590,689	
12/31/2017	8,555,232	8,902,964	9,005,301		
12/31/2018	6,483,917	6,799,148			
12/31/2019	4,889,468				

## Ratios

Accident Year Ending	27:15	39:27	51:39	63:51
12/31/2008	1.051	1.009	1.021	0.997
12/31/2009	1.098	1.013	0.991	1.020
12/31/2010	1.105	1.013	1.026	1.036
12/31/2011	1.062	1.039	1.101	0.992
12/31/2012	1.103	1.129	0.980	1.023
12/31/2013	1.312	1.097	1.107	1.003
12/31/2014	1.013	1.083	1.021	1.021
12/31/2015	1.072	0.994	1.006	0.998
12/31/2016	1.089	1.039	1.006	
12/31/2017	1.041	1.011		
12/31/2018	1.049			
Average Factor: ( Best 3 of 5 )	1.054	1.044	1.011	1.007

## Summary of Factors

63 to Ult:	(75:63) (75:Ult) =	1.004
51 to Ult:	(63:51) (75:63) (75:Ult) =	1.012
39 to Ult:	(51:39) (63:51) (75:63) (75:Ult) =	1.023
27 to Ult:	(39:27) (51:39) (63:51) (75:63) (75:Ult) =	1.068
15 to Ult:	(27:15) (39:27) (51:39) (63:51) (75:63) (75:Ult) =	1.125

## INSURANCE SERVICES OFFICE, INC.

Basic Limits Loss Development  
 Zone-Rated - Property Damage  
 Multistate  
 Incurred Losses and Expenses

Accident Year <u>Ending</u>	\$100,000 Basic Limit <u>75 Months</u>	<u>87 Months</u>	<u>99 Months</u>	<u>111 Months</u>
12/31/2008	7,020,821	6,915,689	6,913,189	6,909,958
12/31/2009	7,247,384	7,251,522	7,251,522	7,251,523
12/31/2010	10,387,556	10,387,556	10,387,556	10,391,804
12/31/2011	13,950,729	13,957,737	13,964,018	13,964,018
12/31/2012	14,036,113	14,068,515	14,068,511	
12/31/2013	15,542,259	15,542,075		
12/31/2014	12,149,748			

## Ratios

Accident Year <u>Ending</u>	<u>75:63</u>	<u>87:75</u>	<u>99:87</u>	<u>111:99</u>
12/31/2008	0.996	0.985	1.000	1.000
12/31/2009	1.026	1.001	1.000	1.000
12/31/2010	1.004	1.000	1.000	1.000
12/31/2011	1.007	1.001	1.000	1.000
12/31/2012	0.999	1.002	1.000	
12/31/2013	1.004	1.000		
12/31/2014	1.006			
Average Factor: ( Best 3 of 5 )	1.004	1.000	1.000	1.000

## Summary of Factors

111 to Ult:	(1.000)	=	1.000
99 to Ult:	(111:99) (111:Ult)	=	1.000
87 to Ult:	(99:87) (111:99) (111:Ult)	=	1.000
75 to Ult:	(87:75) (99:87) (111:99) (111:Ult)	=	1.000



## INSURANCE SERVICES OFFICE, INC.

Physical Damage Loss Development  
 Zone-Rated - Other than Collision  
 Multistate  
 Paid Losses

Accident Year Ending	<u>15 Months</u>	<u>27 Months</u>	<u>39 Months</u>	<u>51 Months</u>	<u>63 Months</u>
12/31/2008	2,579,051	2,733,153	2,839,516	2,797,262	2,797,262
12/31/2009	4,175,021	4,292,461	4,279,783	4,280,934	4,278,895
12/31/2010	4,511,151	5,232,751	5,217,645	5,216,728	5,216,673
12/31/2011	3,880,737	3,873,917	3,883,204	3,892,246	3,895,846
12/31/2012	3,819,639	3,863,287	3,868,738	3,870,781	3,870,781
12/31/2013	1,863,478	2,162,007	2,162,797	2,162,863	2,162,935
12/31/2014	1,547,389	1,778,780	1,792,223	1,850,506	1,848,548
12/31/2015	2,221,852	2,370,054	2,379,152	2,379,152	2,379,152
12/31/2016	2,392,019	2,622,959	2,646,194	2,647,530	
12/31/2017	2,632,475	2,714,758	2,736,770		
12/31/2018	2,251,662	2,370,587			
12/31/2019	1,778,613				

## Ratios

Accident Year Ending	<u>27:15</u>	<u>39:27</u>	<u>51:39</u>	<u>63:51</u>
12/31/2008	1.060	1.039	0.985	1.000
12/31/2009	1.028	0.997	1.000	1.000
12/31/2010	1.160	0.997	1.000	1.000
12/31/2011	0.998	1.002	1.002	1.001
12/31/2012	1.011	1.001	1.001	1.000
12/31/2013	1.160	1.000	1.000	1.000
12/31/2014	1.150	1.008	1.033	0.999
12/31/2015	1.067	1.004	1.000	1.000
12/31/2016	1.097	1.009	1.001	
12/31/2017	1.031	1.008		
12/31/2018	1.053			
Average Factor: ( Best 3 of 5 )	1.072	1.007	1.000	1.000

## Summary of Factors

63 to Ult:	(75:63) (75:Ult) =	0.999
51 to Ult:	(63:51) (75:63) (75:Ult) =	0.999
39 to Ult:	(51:39) (63:51) (75:63) (75:Ult) =	0.999
27 to Ult:	(39:27) (51:39) (63:51) (75:63) (75:Ult) =	1.005
15 to Ult:	(27:15) (39:27) (51:39) (63:51) (75:63) (75:Ult) =	1.077

## INSURANCE SERVICES OFFICE, INC.

Physical Damage Loss Development  
 Zone-Rated - Other than Collision  
 Multistate  
 Paid Losses

Accident Year <u>Ending</u>	<u>75 Months</u>	<u>87 Months</u>	<u>99 Months</u>	<u>111 Months</u>	<u>123 Months</u>
12/31/2008	2,797,262	2,804,313	2,804,313	2,804,313	2,804,313
12/31/2009	4,275,848	4,275,848	4,277,557	4,277,557	4,277,557
12/31/2010	5,194,691	5,194,691	5,194,691	5,194,691	5,194,691
12/31/2011	3,866,517	3,866,517	3,889,090	3,889,090	
12/31/2012	3,870,781	3,870,781	3,872,524		
12/31/2013	2,162,935	2,162,935			
12/31/2014	1,848,657				

## Ratios

Accident Year <u>Ending</u>	<u>75:63</u>	<u>87:75</u>	<u>99:87</u>	<u>111:99</u>	<u>123:111</u>
12/31/2008	1.000	1.003	1.000	1.000	1.000
12/31/2009	0.999	1.000	1.000	1.000	1.000
12/31/2010	0.996	1.000	1.000	1.000	1.000
12/31/2011	0.992	1.000	1.006	1.000	
12/31/2012	1.000	1.000	1.000		
12/31/2013	1.000	1.000			
12/31/2014	1.000				
Average Factor: ( Best 3 of 5 )	0.999	1.000	1.000	1.000	1.000

## Summary of Factors

123 to Ult:	(1.000)	=	1.000
111 to Ult:	(123:111) (123:Ult)	=	1.000
99 to Ult:	(111:99) (123:111) (123:Ult)	=	1.000
87 to Ult:	(99:87) (111:99) (123:111) (123:Ult)	=	1.000
75 to Ult:	(87:75) (99:87) (111:99) (123:111) (123:Ult)	=	1.000

## INSURANCE SERVICES OFFICE, INC.

Physical Damage Loss Development  
 Zone-Rated - Collision  
 Multistate  
 Paid Losses

Accident Year Ending	<u>15 Months</u>	<u>27 Months</u>	<u>39 Months</u>	<u>51 Months</u>	<u>63 Months</u>
12/31/2008	7,440,284	7,453,298	7,188,063	7,272,320	7,272,320
12/31/2009	7,792,416	7,686,499	7,617,873	7,520,330	7,527,717
12/31/2010	11,995,811	11,965,268	11,852,859	11,806,866	11,845,519
12/31/2011	11,870,769	11,860,050	11,835,959	11,839,700	11,811,177
12/31/2012	13,750,113	13,723,162	14,086,159	14,043,794	14,400,312
12/31/2013	12,866,932	12,858,319	12,887,183	12,869,299	12,869,518
12/31/2014	11,453,590	11,292,119	11,243,674	11,247,000	11,250,419
12/31/2015	7,998,711	7,794,797	7,771,294	7,705,816	7,683,102
12/31/2016	8,893,221	9,427,504	9,413,889	9,273,944	
12/31/2017	9,361,157	9,589,387	9,564,804		
12/31/2018	7,345,261	7,013,676			
12/31/2019	8,138,726				

## Ratios

Accident Year Ending	<u>27:15</u>	<u>39:27</u>	<u>51:39</u>	<u>63:51</u>
12/31/2008	1.002	0.964	1.012	1.000
12/31/2009	0.986	0.991	0.987	1.001
12/31/2010	0.997	0.991	0.996	1.003
12/31/2011	0.999	0.998	1.000	0.998
12/31/2012	0.998	1.026	0.997	1.025
12/31/2013	0.999	1.002	0.999	1.000
12/31/2014	0.986	0.996	1.000	1.000
12/31/2015	0.975	0.997	0.992	0.997
12/31/2016	1.060	0.999	0.985	
12/31/2017	1.024	0.997		
12/31/2018	0.955			
Average Factor: ( Best 3 of 5 )	0.995	0.998	0.996	0.999

## Summary of Factors

63 to Ult:	(75:63) (75:Ult) =	1.000
51 to Ult:	(63:51) (75:63) (75:Ult) =	0.999
39 to Ult:	(51:39) (63:51) (75:63) (75:Ult) =	0.995
27 to Ult:	(39:27) (51:39) (63:51) (75:63) (75:Ult) =	0.993
15 to Ult:	(27:15) (39:27) (51:39) (63:51) (75:63) (75:Ult) =	0.988

## INSURANCE SERVICES OFFICE, INC.

Physical Damage Loss Development  
 Zone-Rated - Collision  
 Multistate  
 Paid Losses

Accident Year <u>Ending</u>	<u>75 Months</u>	<u>87 Months</u>	<u>99 Months</u>	<u>111 Months</u>	<u>123 Months</u>
12/31/2008	7,272,320	7,272,320	7,272,320	7,276,117	7,272,930
12/31/2009	7,460,263	7,460,263	7,460,263	7,460,263	7,460,263
12/31/2010	11,849,904	11,844,980	11,844,980	11,844,980	11,844,980
12/31/2011	11,804,004	11,800,155	11,798,650	11,797,880	
12/31/2012	14,400,312	14,400,312	14,400,312		
12/31/2013	12,880,478	12,880,478			
12/31/2014	11,325,401				

## Ratios

Accident Year <u>Ending</u>	<u>75:63</u>	<u>87:75</u>	<u>99:87</u>	<u>111:99</u>	<u>123:111</u>
12/31/2008	1.000	1.000	1.000	1.001	1.000
12/31/2009	0.991	1.000	1.000	1.000	1.000
12/31/2010	1.000	1.000	1.000	1.000	1.000
12/31/2011	0.999	1.000	1.000	1.000	
12/31/2012	1.000	1.000	1.000		
12/31/2013	1.001	1.000			
12/31/2014	1.007				
Average Factor: ( Best 3 of 5 )	1.000	1.000	1.000	1.000	1.000

## Summary of Factors

123 to Ult:	(1.000)	=	1.000
111 to Ult:	(123:111) (123:Ult)	=	1.000
99 to Ult:	(111:99) (123:111) (123:Ult)	=	1.000
87 to Ult:	(99:87) (111:99) (123:111) (123:Ult)	=	1.000
75 to Ult:	(87:75) (99:87) (111:99) (123:111) (123:Ult)	=	1.000

## 25. PREMIUM DEVELOPMENT – ZONE-RATED AUTOS

### E. Zone-rating Tables

Zone-rating Table – Zone 20 (MemphisEMPHis) Combinations					
Zone	Description	\$100,000 Liability	\$500 Medical Payments	\$500 Deductible Collision	\$500 Deductible Comprehensive
01	Atlanta	\$ 20501441	\$ 7049	\$ 368311	\$ 236183
02	Baltimore/Washington	19711398	6748	384316	256192
03	Boston	17391277	5943	340288	211160
04	Buffalo	19711398	6748	384316	256192
05	Charlotte	20501441	7049	368311	236183
06	Chicago	18151343	6246	393309	206155
07	Cincinnati	18151343	6246	393309	206155
08	Cleveland	18151343	6246	393309	206155
09	Dallas/Fort Worth	17171244	5842	369290	209155
10	Denver	20241495	6951	424346	235175
11	Detroit	18151343	6246	393309	206155
12	Hartford	17391277	5943	340288	211160
13	Houston	17171244	5842	369290	209155
14	Indianapolis	18151343	6246	393309	206155
15	Jacksonville	20501441	7049	368311	236183
16	Kansas City	16931253	5843	421322	248188
17	Little Rock	17171244	5842	369290	209155
18	Los Angeles	18051303	6144	411324	289223
19	Louisville	20621502	7051	397319	235179
20	Memphis	20621502	7051	397319	235179
21	Miami	20501441	7049	368311	236183
22	Milwaukee	16931253	5843	421322	248188
23	Minneapolis/St. Paul	16931253	5843	421322	248188
24	Nashville	20621502	7051	397319	235179
25	New Orleans	19601356	6746	371300	225171
26	New York City	19711398	6748	384316	256192
27	Oklahoma City	17171244	5842	369290	209155
28	Omaha	16931253	5843	421322	248188
29	Phoenix	20241495	6951	424346	235175
30	Philadelphia	19711398	6748	384316	256192
31	Pittsburgh	19711398	6748	384316	256192
32	Portland	18051303	6144	411324	289223
33	Richmond	20501441	7049	368311	236183
34	St. Louis	16931253	5843	421322	248188
35	Salt Lake City	20241495	6951	424346	235175
36	San Francisco	18051303	6144	411324	289223
37	Tulsa	17171244	5842	369290	209155
40	Pacific	18411337	6345	411324	298235
41	Mountain	20651535	7052	424346	243185
42	Midwest	17271286	5944	421322	256198
43	Southwest	17511277	6043	369290	216164
44	North Central	18521378	6347	393309	212163
45	Mideast	21041542	7252	397319	243188
46	Gulf	20001391	6847	371300	232180
47	Southeast	20921479	7150	368311	244192
48	Eastern	20111435	6849	384316	264202
49	New England	17741311	6045	340288	218168

Table 25.E.#1(LC) Zone-rating Table – Zone 20 (MemphisEMPHis) Combinations Loss Costs

Zone-rating Table – Zone 24 (NashvilleASHVILLE) Combinations					
Zone	Description	\$100,000 Liability	\$500 Medical Payments	\$500 Deductible Collision	\$500 Deductible Comprehensive

01	Atlanta	\$ 20501441	\$ 7049	\$ 368311	\$ 236183
02	Baltimore/Washington	19711398	6748	384316	256192
03	Boston	17391277	5943	340288	211160
04	Buffalo	19711398	6748	384316	256192
05	Charlotte	20501441	7049	368311	236183
06	Chicago	18151343	6246	393309	206155
07	Cincinnati	18151343	6246	393309	206155
08	Cleveland	18151343	6246	393309	206155
09	Dallas/Fort Worth	17171244	5842	369290	209155
10	Denver	20241495	6951	424346	235175
11	Detroit	18151343	6246	393309	206155
12	Hartford	17391277	5943	340288	211160
13	Houston	17171244	5842	369290	209155
14	Indianapolis	18151343	6246	393309	206155
15	Jacksonville	20501441	7049	368311	236183
16	Kansas City	16931253	5843	421322	248188
17	Little Rock	17171244	5842	369290	209155
18	Los Angeles	18051303	6144	411324	289223
19	Louisville	20621502	7051	397319	235179
20	Memphis	20621502	7051	397319	235179
21	Miami	20501441	7049	368311	236183
22	Milwaukee	16931253	5843	421322	248188
23	Minneapolis/St. Paul	16931253	5843	421322	248188
24	Nashville	20621502	7051	397319	235179
25	New Orleans	19601356	6746	371300	225171
26	New York City	19711398	6748	384316	256192
27	Oklahoma City	17171244	5842	369290	209155
28	Omaha	16931253	5843	421322	248188
29	Phoenix	20241495	6951	424346	235175
30	Philadelphia	19711398	6748	384316	256192
31	Pittsburgh	19711398	6748	384316	256192
32	Portland	18051303	6144	411324	289223
33	Richmond	20501441	7049	368311	236183
34	St. Louis	16931253	5843	421322	248188
35	Salt Lake City	20241495	6951	424346	235175
36	San Francisco	18051303	6144	411324	289223
37	Tulsa	17171244	5842	369290	209155
40	Pacific	18411337	6345	411324	298235
41	Mountain	20651535	7052	424346	243185
42	Midwest	17271286	5944	421322	256198
43	Southwest	17511277	6043	369290	216164
44	North Central	18521378	6347	393309	212163
45	Mideast	21041542	7252	397319	243188
46	Gulf	20001391	6847	371300	232180
47	Southeast	20921479	7150	368311	244192
48	Eastern	20111435	6849	384316	264202
49	New England	17741311	6045	340288	218168

Table 25.E.#2(LC) Zone-rating Table – Zone 24 (NashvilleASHVILLE) Combinations Loss Costs

Zone-rating Table – Zone 45 (MideastIDEAST) Combinations					
Zone	Description	\$100,000 Liability	\$500 Medical Payments	\$500 Deductible Collision	\$500 Deductible Comprehensive
01	Atlanta	\$ 20921479	\$ 7150	\$ 368311	\$ 244192
02	Baltimore/Washington	20111435	6849	384316	264202
03	Boston	17741311	6045	340288	218168
04	Buffalo	20111435	6849	384316	264202
05	Charlotte	20921479	7150	368311	244192
06	Chicago	18521378	6347	393309	212163
07	Cincinnati	18521378	6347	393309	212163

08	Cleveland	18521378	6347	393309	212163
09	Dallas/Fort Worth	17511277	6043	369290	216164
10	Denver	20651535	7052	424346	243185
11	Detroit	18521378	6347	393309	212163
12	Hartford	17741311	6045	340288	218168
13	Houston	17511277	6043	369290	216164
14	Indianapolis	18521378	6347	393309	212163
15	Jacksonville	20921479	7150	368311	244192
16	Kansas City	17271286	5944	421322	256198
17	Little Rock	17511277	6043	369290	216164
18	Los Angeles	18411337	6345	411324	298235
19	Louisville	21041542	7252	397319	243188
20	Memphis	21041542	7252	397319	243188
21	Miami	20921479	7150	368311	244192
22	Milwaukee	17271286	5944	421322	256198
23	Minneapolis/St. Paul	17271286	5944	421322	256198
24	Nashville	21041542	7252	397319	243188
25	New Orleans	20001391	6847	371300	232180
26	New York City	20111435	6849	384316	264202
27	Oklahoma City	17511277	6043	369290	216164
28	Omaha	17271286	5944	421322	256198
29	Phoenix	20651535	7052	424346	243185
30	Philadelphia	20111435	6849	384316	264202
31	Pittsburgh	20111435	6849	384316	264202
32	Portland	18411337	6345	411324	298235
33	Richmond	20921479	7150	368311	244192
34	St. Louis	17271286	5944	421322	256198
35	Salt Lake City	20651535	7052	424346	243185
36	San Francisco	18411337	6345	411324	298235
37	Tulsa	17511277	6043	369290	216164
40	Pacific	19261372	6547	467360	304235
41	Mountain	21601574	7354	482384	248185
42	Midwest	18071319	6145	478358	261198
43	Southwest	18321310	6245	419323	220164
44	North Central	19371414	6648	447344	216163
45	Mideast	22011581	7554	451354	247188
46	Gulf	20921427	7149	421333	237180
47	Southeast	21881517	7452	418346	249192
48	Eastern	21031472	7250	436351	269202
49	New England	18561345	6346	387320	222168

Table 25.E.#3(LC) Zone-rating Table – Zone 45 (MideastIDEAST) Combinations Loss Costs