## Nova Scotia

### **Commercial Vehicles**

# Oliver Wyman Selected Loss Trend Rates Based on Industry Data Through December 31, 2014

### **Selected Trend Rates - Summary**

The following table presents our selected past and future annual loss cost trend rates as of December 2014. We discuss and present our methodology and assumptions in selecting our trend rates in this report.

	Past	Future
Coverage	Loss Cost	Loss Cost
Bodily Injury	-5.5%	-5.5%
Property Damage	-1.5%	-1.5%
Accident Benefits	+0.0%	+0.0%
Collision	-3.0%	-3.0%
Comprehensive	+4.0%	+4.0%
Specified Perils	+4.0%	+4.0%

In selecting loss trend rates we consider the Bill 52 reforms enacted on April 28, 2010 that changed the definition of a minor injury and the cap amount applied to such minor injuries for pain and suffering awards. We also consider the Fair Insurance Act effective April 1, 2012 that enhanced the Accident Benefit coverage limits; and the introduction of DCPD in April 2013. We discuss these considerations more fully in this report.

## Loss Trend Rates

Loss trend rates are factors that are used to determine rate level indications. They are applied to the experience period incurred losses to adjust for the cost levels that are anticipated during the policy period covered under the proposed rate program.

The loss trend rates presented in this report are Board approved for use by insurers.

The application of trend rates is, essentially, a two-step process. The data in the experience period under consideration must be adjusted to reflect changes in cost conditions that have taken place (i.e., "past trend"), and then the data must be further adjusted to reflect changes in cost conditions that are expected to take place between the present time and the time during which the new premiums will be in effect (i.e., "future trend").

Therefore, past trend rates should reflect the underlying trend patterns that occurred during the experience period, which we have assumed to be the three to five years ending December 31, 2014. Future trend rates should reflect those same patterns that occurred during the experience period, as well as the likelihood that those patterns may change.

We select trend rates based on historical Industry Nova Scotia claim experience. The Industry data is organized by half-year, and in this report we refer to the first half of an accident half year as XXXX-1 and the second half of the accident year as XXXX-2. So, for example, the accident half-year spanning January 1, 2014 through June 30, 2014 is referred to as 2014-1. We combine the accident-half year data into the annual accident year data.

As our review is performed annually, for purposes of data stability, we typically review the data in annual accident year periods. We derive indicated annual loss trend rates based on a regression model using Industry historical accident year loss and loss adjustment expense data that we project to ultimate cost level (when all claims are reported and settled) using the Industry loss development factors we select.

We consider the latest fifteen years of Industry Nova Scotia claim experience, but generally select past trend rates based on the claim experience for the accident years spanning 2005 through 2014. As described more fully below, due to the introduction of Bill 1 in

November 2003 and Bill 52 in April 2010, which increases the Bodily Injury minor injury cap on pain and suffering to  $$7,500^{1}$  from \$2,500, we first adjust the experience data by accident half-year, but the trend analysis is performed on the adjusted annual accident year experience.

In selecting future trend rates, we adjust (as appropriate) our selected past trend rates after giving consideration to the changes that have occurred over the past three years where we see a (consistent) new pattern emerging.

The identification of the underlying trend patterns over the experience period, which is a matter of actuarial judgment, is challenging because factors such as statistical fluctuation in the data points, changes in the underlying exposure, or abnormal weather conditions, etc., can make the underlying trend patterns difficult to discern. And, the pattern is even more difficult to decipher due to the challenge to the Bodily Injury reforms during 2007 to 2009, the new MIR reforms implemented in the first half of 2010, and the increase in Accident Benefits sub coverage limits effective April 1, 2012. For this reason, we model the data several different ways in an attempt to identify the underlying trends during the experience period: with and without certain data points, and over time periods that are longer than the experience period as a means of increasing the stability/reliability of the data being analyzed.

## Estimation of Industry Ultimate Claim Counts and Loss Amounts

The Industry Nova Scotia experience upon which the loss trend rates are based must be adjusted to an ultimate claim count and claim amount level. We do so through the application of what are referred to as development factors to the reported claim counts and claim amounts as of December 31, 2013. We select development factors based on a review of the Industry Nova Scotia loss development patterns; we do this by coverage. Our selected development factors are generally based on the volume weighted average of the last twelve observed (accident half-year) development factors. The exceptions are as follows:

Bodily Injury	Claim Count	6-12; 114-ultimate	4 point weighted seasonal average; 1.00
Bodily Injury	Claim Amount	114-ultimate	1.00
Property Damage	Claim Amount	36-42; 114-ultimate	All period average excluding

<sup>&</sup>lt;sup>1</sup> The amount of the cap is indexed, and increased to \$7,956 on January 1, 2012, \$8,100 on January 1, 2013 and \$8,213 on January 1, 2014.

			high/low; 1.00
Accident Benefits	Claim Count	114-ultimate	1.00
Including UM			
Accident Benefits	Claim Amount	6-114; 114 – ultimate	All period average excluding
Including UM			high/low;100
Comprehensive	Claim Amount	60-66	1.00
Specified Perils	Claim Count	6-12; 12+	2.00; 1.00
Specified Perils	Claim Amount	18+	1.00

Exhibit II, Page 1 and Exhibit II, Page 2 attached present our selected cumulative claim count and claim amount development factors, respectively. We note that as a result of these selected development factors, our estimated ultimate claim amounts by accident half-year have changed from our last study, and these changes contribute to the changes in our selected trend rates.

### Consideration of Severity, Frequency, and Loss Cost Trend Patterns

In selecting past and future trend rates by coverage, it is typical to examine the separate trend patterns for claim severity and claim frequency, and then combine the selected severity and frequency trend rates to arrive at a selected loss cost trend rate. However, our review of the severity and frequency trend patterns suggests to us that there is a correlation that seemingly exists between severity and frequency, and if we separately select severity and frequency trend rates based on different time periods we could, possibly, miss that correlation. For this reason, while we do review and consider the frequency and severity trend rates separately, we tend to select past and future loss cost trend rates by directly from the trend pattern for loss cost.

### **Selection of Past Trend Rates**

### The Time Period We Consider

In our judgment, a ten-year period is, generally, a reasonable time period for determining the underlying trend rates for the Bodily Injury and Accident Benefits coverages, while the five-year period is a reasonable time period for determining the underlying trend rates for the Property Damage, Collision, and Comprehensive coverages.

We also give consideration to a possible change in reporting pattern that might have occurred beginning January 2008 as a result of challenges to the Minor Injury Regulations - in particular, the Decision by the Supreme Court of Nova Scotia to uphold the Minor Injury Regulation released on December 15, 2009, and the Supreme Court of Canada's Decision on May 27, 2010 to refuse leave to appeal the Decision.

As well, we give consideration to Bill 52, an amendment to the Automobile Accident Minor Injury Regulations of the Insurance Act, enacted on April 28, 2010; and the Fair Act Insurance Reforms enacted on April 1, 2012 which introduced higher maximum benefit levels for Accident Benefits sub-coverages.

And effective April 1, 2013, the DCPD coverage was introduced in Nova Scotia. We give consideration to this change in our selected trend rates for both Property Damage (which includes DCPD) and Collision.

## The Data Points We Consider

The identification of the underlying trend patterns over the experience period is challenging because factors such as statistical fluctuation in the data points, changes in the underlying exposure, or abnormal weather conditions, etc., can make the underlying trend patterns difficult to discern. For this reason, we model the data several<sup>2</sup> different ways in an attempt to identify the underlying trends during the experience period: with and without certain data points to improve our understand the sensitivity of the calculated loss trend rate to the inclusion or exclusion of those points, and over time periods that are longer than the experience period as a means of increasing the stability/reliability of the data being analyzed. In selecting future trend rates, if appropriate, we adjust our selected past trend rates after giving consideration to the changes that have occurred over the recent past if there is evidence of new patterns emerging.

Summaries of the various loss trend patterns that we observe and consider for each coverage, including the associated statistical measures, are included in Exhibit 3. A discussion of our selected trend rates follows.

<sup>&</sup>lt;sup>2</sup> We do not present the findings for all the regression models that we review to deepen our understanding of the underlying trend patterns.

### Adjustment of Bodily Injury Data for Reforms

In our opinion, the Bodily Injury data is not sufficiently credible for estimating the effect of the reforms on the Bodily Injury loss costs. Thus, for reasons of data credibility, we select a Bill 52 reform factor for Bodily Injury of +23% - the same as we selected in our loss trend analysis for our private passenger vehicles. We make an appropriate adjustment to the estimated Bodily Injury losses for Bill 52 before performing the trend analysis.

## **Our Selected Past Trend Rates**

## Bodily Injury

Based on data as of December 31, 2013, we selected a past loss cost trend rate of -3.0%.

The unadjusted annual data through December 31, 2014 shows the 2014 loss cost to have increased by approximately 3% over the 2013 loss cost.

This coverage has exhibited a high degree of loss cost volatility as indicated from the January-December accident year-to-accident year loss cost changes based on the unadjusted data:

2006 to 2007: +9% 2007 to 2008: +3% 2008 to 2009: -39% 2009 to 2010: +97% 2010 to 2011: -21% 2011 to 2012: -2% 2012 to 2013: -17% 2013 to 2014: +3%

Although the introduction of Bill 52 in April 2010 would have affected the loss costs in 2010, we suggest the steep increase (+97%) in 2010 over 2009 is due to volatility, and not only Bill 52 - as the average severity increased from \$28,500 (2009) to \$54,300 (2010), but then declined to \$38,300 (2011).

We present the following calculated historical annual loss cost trend rates below based on the loss costs adjusted for the historical reforms. Given the uncertainty and volatility in the estimates, we present the loss cost trend rates for the years ending 2013 and 2014:

	Loss Cost	
	Trend	Adjusted R2
2005-2014	-4.6%	0.43
2006-2014	-4.1%	0.28
2007-2014	-5.2%	0.32
2008-2014	-5.4%	0.21
2009-2014	-4.1%	-0.04
2010-2014	-11.0%	0.80

	Loss Cost	
	Trend	Adjusted R2
2005-2013	-4.5%	0.31
2006-2013	-3.8%	0.13
2007-2013	-5.1%	0.18
2008-2013	-5.3%	0.05
2009-2013	-3.3%	-0.24
2010-2013	-14.2%	0.87

An examination of the data points shows the square error value for the 2009 and 2010 data points to be relatively high and so we recalculate the trends excluding these two data points:

Excluding	2009	and	2010
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	Loss Cost	
	Trend	Adjusted R2
2005-2014	-5.5%	0.85
2006-2014	-5.0%	0.78
2007-2014	-6.4%	0.92

2008-2014	-7.3%	0.92
2009-2014	-6.9%	0.67
2010-2014	-6.9%	0.67

	Loss Cost	
	Trend	Adjusted R2
2005-2013	-5.5%	0.79
2006-2013	-5.0%	0.69
2007-2013	-6.6%	0.89
2008-2013	-8.0%	0.93
2009-2013	-9.7%	0.66
2010-2013	-9.7%	0.66

The larger negative loss cost trend rates over the more recent time periods is largely as a result of larger negative frequency trend rates. As our default time period is ten years, based on the higher Adjusted R square excluding 2009 and 2010, we select a past trend rate of **-5.5%**, in-line with the above indicated trend rates.

## Property Damage (including DCPD)

Based on data as of December 31, 2013, we selected a past loss cost trend rate of -1%.

The data through December 31, 2014 shows the 2014 loss cost to have decreased by approximately 2% compared to the 2013 loss cost. This 2% decrease is driven by a 10% decrease in the frequency rate, offset by a 9% increase in severity. Other than volatility, we are unable to explain why the frequency rate would decline to this extent. We note that the Private Passenger Vehicles experience (where we observed an increase in the PD/ DCPD frequency rate and a decrease in the Collision frequency rate which we suggest is due to introduction of DCPD in 2013) is unlike the Commercial Vehicle experience.

This coverage has exhibited some loss cost volatility as indicated from the January- December accident year-to-accident year loss cost changes:

2006 to 2007: -7%
2007 to 2008: -7%
2008 to 2009: +2%
2009 to 2010: +1%
2010 to 2011: +1%
2011 to 2012: +2%
2012 to 2013: -3%
2013 to 2014: -2%

We present the following calculated historical annual loss cost trend rates and Adjusted R square values for the year ending 2014:

	Loss Cost		
	Trend	Adjusted R2	
2005-2014	-1.5%	0.65	
2006-2014	-1.5%	0.55	
2007-2014	-0.9%	0.42	
2008-2014	-0.5%	0.11	
2009-2014	-0.9%	0.52	
2010-2014	-1.3%	0.75	
2011-2014	-2.0%	0.99	
2012-2014	-2.1%	0.98	

Due to the introduction of DCPD in 2013, we also calculate the loss cost trends ending 2012 before the introduction of DCPD:

	Loss Cost	
	Trend	Adjusted R2
2005-2012	-1.7%	0.51

2006-2012	-1.7%	0.37
2007-2012	-0.5%	-0.06
2008-2012	+0.5%	0.27
2009-2012	+0.1%	-0.43
2010-2012	-0.2%	-0.81

As our default time period is five years, based on the higher Adjusted R square, we select a past trend rate of **-1.5%**, in-line with the above indicated trend rates ending December 2014.

## Accident Benefits

Based on data as of December 31, 2013, we selected a past loss cost trend rate of +0.0%.

This coverage has exhibited a high degree of loss cost volatility as indicated from the January-December accident year-to-accident year loss cost changes:

2006 to 2007: -60% 2007 to 2008: +48 % 2008 to 2009: -19% 2009 to 2010: +20% 2010 to 2011: +51% 2011 to 2012: -23% 2012 to 2013: +43% 2013 to 2014: -15%

The data through December 31, 2014 shows the 2014 loss cost to have decreased by approximately 15%, over the 2013 loss cost. This is attributed to a 29% increase in severity and a 19% increase in frequency. Although the introduction of the Fair Insurance Act in April 2012 was expected to increase loss costs, the 2012 loss costs<sup>3</sup> decreased from 2011.

<sup>&</sup>lt;sup>3</sup> There are very few reported death benefit/funeral claims in any given year. Hence, it is not likely any increase in the 2012 severity is due to the increased benefit level for these subcoverages.

However, we observe that the average severity for the three years 2012 to 2014 is approximately \$12,800; and this is higher than the average severity for the prior period (2004 to 2011) at approximately \$6,800. We assume some of this increase in the severity is related to the reforms.

Given the uncertainty of the impact of the reforms and the volatility in the loss experience, we consider the ten-year loss cost trend rates for the periods ending December 2010, 2011, 2012, 2013 and 2014.

We present the following calculated historical annual ten-year loss cost trend rates and Adjusted R square values as follows:

	Lo	ss Cost
	Trend	Adjusted R2
2005-2014	+2.9%	-0.03
2004-2013	+3.3%	-0.01
2003-2012	-1.4%	-0.10
2002-2011	-4.7%	0.06
2001-2010	-8.8%	0.47

In light of these indicated trend rates and the loss cost volatility, we continue to select a past trend rate of +0.0%.

## Collision

Based on data as of December 31, 2013, we selected a past loss cost trend rate of -3.0%.

The data through December 31, 2014 shows the 2014 loss cost to be less than the 2013 loss cost by approximately 9%.

This coverage has exhibited less loss cost volatility in the recent past compared to the other coverages. The following are the January- December accident year-to-accident year loss cost changes:

2006 to 2007: +4%

2007 to 2008:	-5%
2008 to 2009:	-7%
2009 to 2010:	-8%
2010 to 2011:	-4%
2011 to 2012:	-7%
2012 to 2013:	+7%
2013 to 2014:	-9%

We present the following calculated historical annual loss cost trend rates and Adjusted R square values ending 2014:

	Lo	ss Cost
	Trend	Adjusted R2
2005-2014	-2.3%	0.17
2006-2014	-4.4%	0.89
2007-2014	-4.8%	0.89
2008-2014	-4.4%	0.82
2009-2014	-3.7%	0.72
2010-2014	-2.8%	0.48
2011-2014	-2.4%	0.05
2012-2014	-1.4%	-0.84

Due to the introduction of DCPD in 2013, we also calculate the loss cost trends and Adjusted R square values ending 2012 before the introduction of DCPD:

	Lo	ss Cost
	Trend	Adjusted R2
2005-2012	-1.8%	-0.04
2006-2012	-5.3%	0.92
2007-2012	-6.3%	0.99
2008-2012	-6.4%	0.98
2009-2012	-6.0%	0.97
2010-2012	-5.4%	0.92

We note that since the introduction of DCPD in April 2013, there has been a notable decline in the frequency rate, and an even larger increase in the severity level. We assume this may be due to the introduction of DCPD, with Collision claims shifting to PD/DCPD; however as we also observe a decline in the PD/DCPD frequency rate since the introduction of DCPD, we are not certain of this. For this reason, we do not calculate a reform factor for the introduction of DCPD for either PD or Collision.

As presented in more detail in Exhibit 3, we find the separate Adjusted R- square values for the five-year severity and frequency trend rates to be good, at 80% and 88%, respectively. We therefore select a past trend rate of **-3%** based on the five-year period ending 2014.

## Comprehensive

Based on data as of December 31, 2013, we selected a past loss cost trend rate of +1.0%.

The data through December 31, 2014 shows the 2014 loss cost to be more than the 2013 loss cost by approximately 5%.

This coverage has exhibited loss cost volatility as indicated from the January- December accident year-to-accident year loss cost changes:

2006 to 2007: +52% 2007 to 2008: -14% 2008 to 2009: -19% 2009 to 2010: -11% 2010 to 2011: +23% 2011 to 2012: -2% 2012 to 2013: +2% 2013 to 2014: +5%

We present the following calculated historical annual loss cost trend rates and Adjusted R square values ending 2014:

	Lo	ss Cost
	Trend	Adjusted R2
2005-2014	-0.6%	-0.10
2006-2014	-0.4%	-0.14
2007-2014	-2.1%	-0.01
2008-2014	+0.6%	-0.18
2009-2014	+3.7%	0.46
2010-2014	+5.2%	0.54
2011-2014	+1.6%	0.21
2012-2014	+3.5%	0.90

As presented more fully in the Exhibits, the trend rates over the time periods since 2009 show severity trend rates in the range of +4%, with Adjusted R-square values in the 80% range. However, the statistical fits measures for frequency over the same time periods are relatively low, with the trend rate close to the 0%, ranging from -3.0% to +1.5%. We select a past trend rate of +4%, based on the severity trend rates, and select 0% for frequency.

## Specified Perils

Due to insufficient data, we select the same past loss cost trend rate as we do for Comprehensive, +4%.

## **Selection of Future Trend Rates**

The data is not credible enough to discern any changes in trend patterns that may have occurred over the past one to three years. Hence, for all coverages we select a future trend rate that is the same as our selected past trend rate.

### **Selected Trend Rates - Summary**

	Past	Future
Coverage	Loss Cost	Loss Cost
Bodily Injury	-5.5%	-5.5%
Property Damage	-1.5%	-1.5%
Accident Benefits	+0.0%	+0.0%
Collision	-3.0%	-3.0%
Comprehensive	+4.0%	+4.0%
Specified Perils	+4.0%	+4.0%

The following table presents our selected past and future annual loss cost trend rates.

## **Reform Factors**

For reasons of data credibility, we select a Bill 52 reform factor for Bodily Injury of +23% - the same as we select for Private Passenger vehicles. Given the limited and volatile commercial automobile accident benefits claims experience, we make no direct adjustment to the Accident Benefit loss cost experience at this time for the FAIR Insurance reforms implemented in April 2012 or to the PD and Collision experience for the introduction of DCPD in April 2013.

## Exhibits

In the Exhibit 1 we present the historical loss cost, severity and frequency data points by accident half year over the fifteen year period 2000-1 to 2014-2, as well as the annual loss cost data points for each coverage.

In Exhibit 2 we present our selected cumulative claim count and claim amount development factors.

In Exhibit 3 we present the summary of the loss trend rates we have calculated over various time periods along with the associated regression statistics.



120 Bremner Boulevard, Suite 800 Toronto, Ontario M5J 0A8 1 416 868 2200

### Third Party Liability - Bodily Injury

	Accident Period	Time x	Earned Exposures	Ultimate Counts	Ultimate Losses	ULAE Adjustment	Adjusted Ultimate Losses	Ultimate s Loss Cost	Ultimate Severity	Ultimate Frequency per 1000
x	2000	1.5	45,502	274	14,541	1.082	15,733	345.77	57,420	6.02
х	2001	3.5	47,828	344	19,606	1.065	20,880	436.57	60,698	7.19
x	2002	5.5	45,745	274	15,525	1.077	16,720	365.50	61,022	5.99
х	2003	7.5	45,572	251	12,718	1.078	13,710	300.84	54,620	5.51
x	2004	9.5	47,458	197	8,923	1.140	10,172	214.33	51,634	4.15
х	2005	11.5	49,433	220	8,701	1.097	9,541	193.01	43,369	4.45
х	2006	13.5	49,718	217	6,820	1.099	7,492	150.69	34,549	4.36
х	2007	15.5	50,147	188	7,476	1.105	8,260	164.71	44,037	3.74
х	2008	17.5	50,923	176	7,903	1.095	8,650	169.86	49,099	3.46
x	2009	19.5	51,253	152	4,829	1.106	5,339	104.16	35,116	2.97
х	2010	21.5	50,791	156	8,020	1.108	8,883	174.90	56,860	3.08
х	2011	23.5	51,980	181	6,252	1.105	6,910	132.93	38,276	3.47
х	2012	25.5	54,010	167	6,436	1.090	7,018	129.93	42,079	3.09
x	2013	27.5	54,079	163	5,356	1.093	5,857	108.30	35,916	3.02
x	2014	29.5	54,192	140	5,549	1.086	6,026	111.21	42,908	2.59



### Third Party Liability - Property Damage

	Accident Period	Time x	Earned Exposures	Ultimate Counts	Ultimate Losses	ULAE Adjustment	Adjusted Ultimate Losses	Ultimate Loss Cost	Ultimate Severity	Ultimate Frequency per 1000
x	2000	1.5	45,502	1,113	4,315	1.082	4,668	102.60	4,194	24.46
х	2001	3.5	47,828	1,233	4,604	1.065	4,903	102.52	3,977	25.78
х	2002	5.5	45,745	865	3,881	1.077	4,179	91.36	4,832	18.91
х	2003	7.5	45,572	781	3,872	1.078	4,174	91.59	5,344	17.14
х	2004	9.5	47,458	805	4,167	1.140	4,750	100.10	5,901	16.96
х	2005	11.5	49,433	784	4,699	1.097	5,152	104.23	6,569	15.87
х	2006	13.5	49,718	842	4,901	1.099	5,384	108.29	6,391	16.94
х	2007	15.5	50,147	931	4,553	1.105	5,031	100.32	5,401	18.57
х	2008	17.5	50,923	925	4,333	1.095	4,742	93.12	5,125	18.17
х	2009	19.5	51,253	965	4,387	1.106	4,850	94.63	5,024	18.84
х	2010	21.5	50,791	920	4,363	1.108	4,832	95.14	5,255	18.10
х	2011	23.5	51,980	1,034	4,521	1.105	4,996	96.12	4,834	19.88
х	2012	25.5	54,010	983	4,690	1.090	5,114	94.69	5,202	18.20
х	2013	27.5	54,079	732	4,567	1.093	4,994	92.34	6,819	13.54
x	2014	29.5	54,192	663	4,528	1.086	4,918	90.75	7,418	12.23



Accident	Benefits
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	Accident Period	Time	Earned Exposures	Ultimate Counts	Ultimate Losses	ULAE Adjustment	Adjusted Ultimate Losses	Ultimate Loss Cost	Ultimate Severity	Ultimate Frequency per 1000
		x	·						,	
x	2000	1.5	33,489	164	1,190	1.082	1,288	38.45	7,851	4.90
х	2001	3.5	38,301	146	854	1.065	910	23.76	6,233	3.81
х	2002	5.5	35,670	134	779	1.077	839	23.51	6,258	3.76
х	2003	7.5	35,437	114	641	1.078	691	19.51	6,065	3.22
х	2004	9.5	37,190	81	345	1.140	394	10.59	4,861	2.18
х	2005	11.5	38,601	79	522	1.097	573	14.83	7,247	2.05
х	2006	13.5	38,880	100	722	1.099	793	20.39	7,927	2.57
х	2007	15.5	39,026	79	290	1.105	321	8.22	4,059	2.02
х	2008	17.5	40,483	66	449	1.095	492	12.15	7,450	1.63
х	2009	19.5	40,589	66	361	1.106	399	9.82	6,041	1.63
х	2010	21.5	41,082	73	438	1.108	485	11.81	6,650	1.78
х	2011	23.5	43,089	77	696	1.105	770	17.86	10,030	1.78
х	2012	25.5	51,815	61	657	1.090	716	13.82	11,719	1.18
х	2013	27.5	53,692	68	969	1.093	1,060	19.74	15,644	1.26
x	2014	29.5	53,436	80	822	1.086	893	16.71	11,139	1.50



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	Accident Period	Time x	Earned Exposures	Ultimate Counts	Ultimate Losses	ULAE Adjustment	Adjusted Ultimate Losses	Ultimate Loss Cost	Ultimate Severity	Ultimate Frequency per 1000
x	2000	1.5	12,473	421	1,760	1.082	1,904	152.67	4,523	33.75
х	2001	3.5	13,616	396	1,684	1.065	1,794	131.72	4,529	29.08
х	2002	5.5	12,453	297	1,416	1.077	1,525	122.46	5,134	23.85
x	2003	7.5	12,034	252	1,135	1.078	1,223	101.64	4,854	20.94
x	2004	9.5	12,149	236	1,264	1.140	1,441	118.62	6,106	19.43
x	2005	11.5	12,521	288	1,411	1.097	1,547	123.57	5,372	23.00
x	2006	13.5	12,975	337	2,015	1.099	2,213	170.59	6,568	25.97
x	2007	15.5	13,663	391	2,186	1.105	2,415	176.75	6,176	28.62
x	2008	17.5	13,970	401	2,138	1.095	2,340	167.49	5,835	28.70
x	2009	19.5	14,007	413	1,970	1.106	2,178	155.47	5,273	29.49
x	2010	21.5	14,198	389	1,829	1.108	2,026	142.72	5,209	27.40
x	2011	23.5	14,457	389	1,801	1.105	1,990	137.66	5,116	26.91
x	2012	25.5	14,768	350	1,732	1.090	1,888	127.85	5,400	23.67
x	2013	27.5	15,037	322	1,883	1.093	2,059	136.96	6,390	21.43
x	2014	29.5	15,397	258	1,761	1.086	1,913	124.24	7,406	16.78



Com	preher	nsive

	Accident Period	Time x	Earned Exposures	Ultimate Counts	Ultimate Losses	ULAE Adjustment	Adjusted Ultimate Losses	Ultimate Loss Cost	Ultimate Severity	Ultimate Frequency per 1000
x	2000	1.5	16,989	1,272	1,418	1.082	1,535	90.32	1,206	74.87
x	2001	3.5	18,216	1,265	1,802	1.065	1,919	105.37	1,517	69.44
x	2002	5.5	17,479	943	1,381	1.077	1,488	85.12	1,578	53.95
x	2003	7.5	16,845	606	1,015	1.078	1,094	64.95	1,805	35.97
x	2004	9.5	16,618	502	1,374	1.140	1,566	94.23	3,119	30.21
x	2005	11.5	16,664	585	1,516	1.097	1,663	99.77	2,842	35.11
x	2006	13.5	17,083	588	1,267	1.099	1,392	81.49	2,368	34.42
x	2007	15.5	17,627	678	1,975	1.105	2,182	123.80	3,219	38.46
x	2008	17.5	18,020	646	1,746	1.095	1,911	106.03	2,958	35.85
x	2009	19.5	18,192	717	1,419	1.106	1,568	86.21	2,187	39.41
x	2010	21.5	18,531	576	1,285	1.108	1,423	76.79	2,470	31.08
x	2011	23.5	18,857	733	1,613	1.105	1,783	94.56	2,433	38.87
x	2012	25.5	19,235	690	1,628	1.090	1,775	92.30	2,573	35.87
x	2013	27.5	19,453	664	1,676	1.093	1,833	94.23	2,759	34.15
x	2014	29.5	19,832	707	1,807	1.086	1,962	98.95	2,775	35.66



### Exhibit 2 Page 1

### Oliver Wyman Selected Age-to-Ultimate Development Factors As of December 31, 2014 Nova Scotia Commercial Automobile (Excluding Farmers)

As of 2014-2 Age-to-Ultimate Factors Incurred Claim Amount

	Bodily Injury	Property Damage	Accident Benefits	Collision	Comprehensive
180-Ult	1.000	1.000	1.000	1.000	1.000
174-Ult	1.000	1.000	1.000	1.000	1.000
168-Ult	1.000	1.000	1.000	1.000	1.000
162-Ult	1.000	1.000	1.000	1.000	1.000
156-Ult	1.000	1.000	1.000	1.000	1.000
150-Ult	1.000	1.000	1.000	1.000	1.000
144-Ult	1.000	1.000	1.000	1.000	1.000
138-Ult	1.000	1.000	1.000	1.000	1.000
132-Ult	1.000	1.000	1.000	1.000	1.000
126-Ult	1.000	1.000	1.000	1.000	1.000
120-Ult	1.000	1.000	1.000	1.000	1.000
114-Ult	1.000	1.000	1.000	1.000	1.000
108-Ult	0.996	1.000	1.004	1.000	1.000
102-Ult	0.986	0.994	1.005	1.000	1.000
96-Ult	0.981	0.997	1.005	1.000	1.000
90-Ult	0.986	0.992	1.005	1.000	1.000
84-Ult	0.997	0.993	1.006	1.000	1.000
78-Ult	0.999	0.993	1.008	1.000	1.000
72-Ult	0.988	0.999	0.999	1.000	1.000
66-Ult	0.985	0.996	0.997	1.000	1.000
60-Ult	1.033	1.001	1.014	1.000	1.000
54-Ult	1.033	1.001	1.032	1.000	1.000
48-Ult	1.042	1.006	1.047	1.000	1.000
42-Ult	1.106	1.004	1.062	1.001	1.000
36-Ult	1.169	1.001	1.082	0.998	0.999
30-Ult	1.223	0.998	1.063	0.994	1.000
24-Ult	1.292	0.991	1.182	0.988	1.001
18-Ult	1.351	0.986	1.185	0.975	0.997
12-Ult	1.413	1.013	1.164	0.933	0.997
6-Ult	1.640	1.180	1.233	0.800	1.073

### Exhibit 2 Page 2

### Oliver Wyman Selected Age-to-Ultimate Development Factors As of December 31, 2014 Nova Scotia Commercial Automobile (Excluding Farmers)

As of 2014-2 Age-to-Ultimate Factors Incurred Claim Count

Bodily Injury	Property Damage	Accident Benefits	Collision	Comprehensive
1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000
0.999	1.000	1.000	1.000	1.000
0.997	1.000	1.000	1.000	1.000
0.998	1.000	1.000	1.000	1.000
0.997	1.000	1.000	1.000	1.000
0.994	1.000	1.000	1.000	1.000
0.996	1.000	1.000	1.000	1.000
0.991	1.000	1.000	1.000	1.000
0.989	1.001	0.998	1.000	1.000
0.988	1.001	1.000	1.000	1.000
0.985	1.001	0.998	1.000	1.000
0.988	1.000	0.996	1.000	1.000
0.991	1.000	0.991	0.999	1.000
0.994	1.002	0.980	0.999	1.000
0.974	1.005	0.971	0.996	1.000
0.943	1.007	0.938	0.986	1.000
0.896	1.014	0.869	0.970	1.007
0.934	1.092	0.747	0.879	1.167
	Bodily Injury 1.000 0.999 0.997 0.998 0.991 0.988 0.985 0.988 0.991 0.994 0.993 0.994 0.995 0	Bodily Injury Property Damage   1.000 1.000   1.000 1.000   1.000 1.000   1.000 1.000   1.000 1.000   1.000 1.000   1.000 1.000   1.000 1.000   1.000 1.000   1.000 1.000   1.000 1.000   1.000 1.000   1.000 1.000   1.000 1.000   1.000 1.000   1.000 1.000   0.999 1.000   0.997 1.000   0.998 1.000   0.994 1.000   0.988 1.001   0.988 1.001   0.984 1.002   0.994 1.002   0.994 1.002   0.994 1.002   0.943 1.007   0.896 1.014   0.934 1.092	Bodily InjuryProperty DamageAccident Benefits1.0000.9991.0001.0000.9971.0001.0000.9981.0001.0000.9941.0001.0000.9851.0010.9980.9881.0010.9980.9841.0020.9810.9941.0020.9810.9941.0020.9810.9941.0020.9810.9941.0020.9810.9941.0020.9810.9431.0070.9380.9341.0920.747	Bodily InjuryProperty DamageAccident BenefitsCollision1.0000.9991.0001.0001.0000.9971.0001.0001.0000.9981.0001.0001.0000.9941.0010.9981.0000.9881.0010.9981.0000.9881.0010.9981.0000.9881.0010.9981.0000.9881.0010.9980.9990.9941.0020.9800.9990.9941.0020.9380.9960.9431.0070.9380.9860.8961.0140.8690.9700.9341.0920.7470.879

## Third Party Liability - Bodily Injury

### No Seasonality

#### No Exclusions

			Loss Cost					Severity					Frequency		
				Time	Seasonality				Time	Seasonality				Time	Seasonality
	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic
2005-2014	- 5.1%	0.46	8.78	-2.96		- 0.2%	-0.12	0.01	-0.10		- 4.9%	0.76	29.18	-5.40	
2006-2014	- 4.5%	0.30	4.49	-2.12		+0.1%	-0.14	0.00	0.02		- 4.6%	0.66	16.76	-4.09	
2007-2014	- 5.3%	0.30	4.04	-2.01		- 1.9%	-0.07	0.54	-0.74		- 3.5%	0.52	8.47	-2.91	
2008-2014	- 5.2%	0.16	2.11	-1.45		- 2.3%	-0.10	0.47	-0.69		- 2.9%	0.30	3.51	-1.87	
2009-2014	- 3.2%	-0.13	0.44	-0.66		- 0.8%	-0.24	0.03	-0.17		- 2.4%	0.04	1.23	-1.11	
2010-2014	- 10.5%	0.79	16.21	-4.03		- 6.1%	0.09	1.39	-1.18		- 4.7%	0.38	3.48	-1.86	

			Loss Cost					Severity					Frequency		
				Time	Seasonality				Time	Seasonality				Time	Seasonality
	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic
2005-2013	- 5.1%	0.36	5.59	-2.36		- 0.5%	-0.14	0.05	-0.22		- 4.7%	0.67	17.01	-4.12	
2006-2013	- 4.3%	0.18	2.49	-1.58		- 0.3%	-0.17	0.01	-0.09		- 4.1%	0.52	8.56	-2.93	
2007-2013	- 5.4%	0.18	2.29	-1.51		- 2.9%	-0.04	0.79	-0.89		- 2.5%	0.26	3.12	-1.77	
2008-2013	- 5.2%	0.01	1.06	-1.03		- 4.0%	-0.05	0.75	-0.87		- 1.3%	-0.11	0.52	-0.72	
2009-2013	- 2.2%	-0.30	0.09	-0.30		- 2.5%	-0.28	0.13	-0.37		+0.4%	-0.32	0.03	0.16	
2010-2013	- 13.6%	0.86	20.19	-4.49		- 12.0%	0.50	3.95	-1.99		- 1.8%	-0.31	0.29	-0.54	

#### Exclusions: 2009 and 2010

			Loss Cost					Severity					Frequency		
				Time	Seasonality				Time	Seasonality				Time	Seasonality
	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic
2005-2014	- 5.5%	0.85	39.32	-6.27		- 0.5%	-0.14	0.13	-0.35		- 5.0%	0.89	55.11	-7.42	
2006-2014	- 5.0%	0.78	22.29	-4.72		- 0.2%	-0.20	0.01	-0.11		- 4.8%	0.84	31.66	-5.63	
2007-2014	- 6.4%	0.92	54.91	-7.41		- 2.3%	0.19	2.19	-1.48		- 4.1%	0.76	16.55	-4.07	
2008-2014	- 7.3%	0.92	48.85	-6.99		- 3.1%	0.17	1.80	-1.34		- 4.3%	0.62	7.39	-2.72	
2009-2014	- 6.9%	0.67	6.98	-2.64		+1.9%	-0.38	0.18	0.42		- 8.6%	0.91	29.68	-5.45	
2010-2014	- 6.9%	0.67	6.98	-2.64		+1.9%	-0.38	0.18	0.42		- 8.6%	0.91	29.68	-5.45	

			Loss Cost					Severity					Frequency		
	Trend	Adi R2	F-Statistic	Time T-Statistic	Seasonality	Trend	Adi R2	F-Statistic	Time T-Statistic	Seasonality	Trend	Adi R2	F-Statistic	Time T-Statistic	Seasonality
0005 0040		7 (dj 1 (2		1 010115110	1 Otatiotic	1 4 4 6 (	7.031.02				1.50/	7.0j 1.2			
2005-2013	- 5.5%	0.79	23.91	-4.89		- 1.1%	-0.11	0.39	-0.62		- 4.5%	0.85	35.59	-5.97	
2006-2013	- 5.0%	0.69	12.32	-3.51		- 0.8%	-0.21	0.14	-0.37		- 4.2%	0.78	18.95	-4.35	
2007-2013	- 6.6%	0.89	33.06	-5.75		- 3.7%	0.51	5.20	-2.28		- 3.1%	0.75	12.81	-3.58	
2008-2013	- 8.0%	0.93	38.44	-6.20		- 5.4%	0.68	7.23	-2.69		- 2.7%	0.48	3.74	-1.93	
2009-2013	- 9.7%	0.66	4.97	-2.23		- 3.1%	-0.68	0.19	-0.44		- 6.8%	0.74	6.80	-2.61	
2010-2013	- 9.7%	0.66	4.97	-2.23		- 3.1%	-0.68	0.19	-0.44		- 6.8%	0.74	6.80	-2.61	

### Third Party Liability - Property Damage

### No Seasonality

			Loss Cost					Severity					Frequency		
				Time	Seasonality				Time	Seasonality				Time	Seasonality
	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic
2005-2014	- 1.5%	0.65	17.80	-4.22		+0.7%	-0.10	0.18	0.43		- 2.3%	0.10	1.96	-1.40	
2006-2014	- 1.5%	0.55	10.86	-3.29		+2.2%	0.03	1.22	1.10		- 3.6%	0.28	4.13	-2.03	
2007-2014	- 0.9%	0.42	6.16	-2.48		+4.5%	0.38	5.37	2.32		- 5.1%	0.46	6.88	-2.62	
2008-2014	- 0.5%	0.11	1.76	-1.33		+6.3%	0.54	8.14	2.85		- 6.4%	0.50	7.07	-2.66	
2009-2014	- 0.9%	0.52	6.35	-2.52		+8.3%	0.63	9.51	3.08		- 8.5%	0.62	9.21	-3.04	
2010-2014	- 1.3%	0.75	13.13	-3.62		+10.9%	0.67	9.25	3.04		- 11.0%	0.68	9.67	-3.11	
2011-2014	- 2.0%	0.99	228.57	-15.12		+16.8%	0.91	32.65	5.71		- 16.1%	0.92	37.84	-6.15	
2012-2014	- 2.1%	0.98	90.38	-9.51		+19.4%	0.83	10.86	3.30		- 18.0%	0.85	12.55	-3.54	

			Loss Cost					Severity					Frequency		
				Time	Seasonality				Time	Seasonality				Time	Seasonality
	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic
2005-2012	- 1.7%	0.51	8.18	-2.86		- 3.7%	0.60	11.60	-3.41		+2.1%	0.46	7.01	2.65	
2006-2012	- 1.7%	0.37	4.48	-2.12		- 2.9%	0.39	4.82	-2.20		+1.3%	0.17	2.24	1.50	
2007-2012	- 0.5%	-0.06	0.74	-0.86		- 0.9%	0.00	0.98	-0.99		+0.4%	-0.20	0.16	0.40	
2008-2012	+0.5%	0.27	2.52	1.59		- 0.1%	-0.33	0.01	-0.07		+0.6%	-0.26	0.17	0.41	
2009-2012	+0.1%	-0.43	0.10	0.31		+0.2%	-0.49	0.01	0.10		- 0.1%	-0.50	0.00	-0.04	
2010-2012	- 0.2%	-0.81	0.11	-0.33		- 0.5%	-0.97	0.01	-0.11		+0.3%	-0.99	0.00	0.05	

### Accident Benefits - Total

### No Seasonality

			Loss Cost					Severity					Frequency		
				Time	Seasonality				Time	Seasonality				Time	Seasonality
	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic
2005-2014	+2.9%	-0.03	0.75	0.86		+9.5%	0.44	8.15	2.85		- 6.0%	0.60	14.51	-3.81	
2004-2013	+3.3%	-0.01	0.92	0.96		+10.4%	0.50	10.02	3.17		- 6.5%	0.68	19.84	-4.45	
2003-2012	- 1.4%	-0.10	0.17	-0.41		+6.5%	0.29	4.63	2.15		- 7.4%	0.69	21.21	-4.61	
2002-2011	- 4.7%	0.06	1.61	-1.27		+3.3%	0.05	1.44	1.20		- 7.7%	0.69	20.82	-4.56	
2001-2010	- 8.8%	0.47	8.94	-2.99		+0.6%	-0.12	0.06	0.24		- 9.3%	0.80	37.61	-6.13	

### **Collision**

### No Seasonality

			Loss Cost					Severity			Frequency					
				Time	Seasonality				Time	Seasonality				Time	Seasonality	
	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	
2005-2014	- 2.3%	0.17	2.90	-1.70		+1.0%	-0.06	0.50	0.71		- 3.2%	0.24	3.84	-1.96		
2006-2014	- 4.4%	0.89	65.42	-8.09		+0.7%	-0.12	0.15	0.38		- 5.0%	0.54	10.51	-3.24		
2007-2014	- 4.8%	0.89	55.09	-7.42		+2.1%	0.03	1.18	1.09		- 6.8%	0.74	21.01	-4.58		
2008-2014	- 4.4%	0.82	29.28	-5.41		+4.1%	0.30	3.59	1.89		- 8.2%	0.81	26.78	-5.17		
2009-2014	- 3.7%	0.72	13.83	-3.72		+7.0%	0.66	10.63	3.26		- 10.0%	0.88	38.58	-6.21		
2010-2014	- 2.8%	0.48	4.69	-2.16		+9.7%	0.80	16.62	4.08		- 11.4%	0.88	30.34	-5.51		
2011-2014	- 2.4%	0.05	1.16	-1.08		+13.6%	0.95	52.76	7.26		- 14.1%	0.94	46.63	-6.83		
2012-2014	- 1.4%	-0.84	0.09	-0.30		+17.1%	1.00	693.19	26.33		- 15.8%	0.89	16.82	-4.10		

			Loss Cost					Severity			Frequency				
				Time	Seasonality				Time	Seasonality				Time	Seasonality
	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic
2005-2012	- 1.8%	-0.04	0.75	-0.86		- 2.1%	0.24	3.22	-1.79		+0.3%	-0.16	0.05	0.22	
2006-2012	- 5.3%	0.92	66.17	-8.13		- 3.8%	0.71	15.50	-3.94		- 1.6%	0.06	1.36	-1.16	
2007-2012	- 6.3%	0.99	521.50	-22.84		- 3.0%	0.51	6.25	-2.50		- 3.4%	0.60	8.43	-2.90	
2008-2012	- 6.4%	0.98	231.93	-15.23		- 1.8%	0.10	1.45	-1.20		- 4.7%	0.72	11.18	-3.34	
2009-2012	- 6.0%	0.97	93.38	-9.66		+0.5%	-0.36	0.21	0.45		- 6.5%	0.87	21.68	-4.66	
2010-2012	- 5.4%	0.92	25.34	-5.03		+1.8%	-0.14	0.75	0.87		- 7.0%	0.68	5.29	-2.30	

### **Comprehensive**

### No Seasonality

			Loss Cost					Severity			Frequency				
				Time	Seasonality				Time	Seasonality				Time	Seasonality
	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic	Trend	Adj R2	F-Statistic	T-Statistic	T- Statistic
2005-2014	- 0.6%	-0.10	0.14	-0.38		- 0.4%	-0.11	0.11	-0.33		- 0.2%	-0.12	0.04	-0.19	
2006-2014	- 0.4%	-0.14	0.04	-0.19		+0.0%	-0.14	0.00	0.00		- 0.4%	-0.12	0.14	-0.37	
2007-2014	- 2.1%	-0.01	0.90	-0.95		- 1.1%	-0.11	0.30	-0.55		- 1.0%	-0.05	0.64	-0.80	
2008-2014	+0.6%	-0.18	0.07	0.26		+1.1%	-0.13	0.31	0.55		- 0.6%	-0.17	0.12	-0.35	
2009-2014	+3.7%	0.46	5.24	2.29		+4.6%	0.87	35.09	5.92		- 0.8%	-0.21	0.14	-0.37	
2010-2014	+5.2%	0.54	5.69	2.38		+3.7%	0.82	18.66	4.32		+1.5%	-0.23	0.26	0.51	
2011-2014	+1.6%	0.21	1.82	1.35		+4.8%	0.88	23.08	4.80		- 3.0%	0.31	2.37	-1.54	
2012-2014	+3.5%	0.90	18.21	4.27		+3.9%	0.61	4.18	2.04		- 0.3%	-0.98	0.01	-0.11	