



On the Record: A Former Chief Actuary
Shares her Eventful Ten-Year Journey at the Insurance
Corporation of British Columbia
Camille Minogue

Presented to the Casualty Actuaries of the Northwest,
Portland, Oregon, September 25, 2015

Session Description

Former chief actuary of the Insurance Corporation of British Columbia (ICBC) Camille Minogue will tell of the most memorable actuarial challenges of her time at the organization. The general requirement that the ICBC operate with openness and transparency has implications for what actuarial methods can be used and still be understood; it also means that the actuarial work product is under an intense public magnifying glass. Ms. Minogue will provide explanations, grounded in accepted actuarial practice, of how she developed relationships of trust and credibility with the regulator and other stakeholders.

Timeline of Actuarial Challenges

- 2003** ICBC comes under regulation of BCUC
- 2004** Camille joins ICBC as new chief actuary
- 2005-06** Upward trending LDFs
- 2007** Uneventful year
- 2008-09** The recession hits
- 2010** Shift in claims frequency trend
- 2011-14** Significant internal and external impacts on the data
- 2015** Camille departs ICBC

Quick Backgrounder on ICBC

ICBC is

- ▶ Owned by the BC government
- ▶ Both a monopoly and competitive
 - ▶ Sole provider of compulsory (“Basic”) automobile coverage in B.C.
 - ▶ Utilities Commission regulates rates and capital requirements
 - ▶ Offers “Optional” coverages
 - ▶ Competes with other insurers for this business
 - ▶ BCUC does not regulate Optional
 - ▶ Not the subject of today

Basic Auto Insurance in BC

- ▶ A full tort product
 - ▶ No minor injury caps or thresholds
- ▶ Coverages include
 - ▶ Bodily injury and property damage (3rd party)
 - ▶ Accident and death benefits (1st party)
- ▶ Today's focus is on Basic bodily injury
 - ▶ Makes up about 75% of ICBC's Basic claims costs

Overview of ICBC's Regulatory Process

Only Basic insurance is regulated:

1. ICBC files rate applications with BCUC
2. ICBC holds public workshops on its applications
3. Interested parties may ask ICBC questions on its application
 - ▶ Information Requests (IRs)
4. ICBC must respond to relevant IRs
5. ICBC defends its applications in oral hearings

Participants include...

- ▶ Insurance Bureau of Canada
- ▶ Canadian Bar Association
- ▶ Canadian Consumer Association
- ▶ COPE Local 378
- ▶ Insurance Brokers Association of BC
- ▶ Coalition Against No Fault in BC
- ▶ Federated Anti-Poverty Groups of BC
- ▶ BC Coalition for Disabled People
- ▶ BC Old Age Pensioners Organisation
- ▶ BC Chiropractic Association
- ▶ Toward Responsible, Educated and Attentive Driving (TREAD)
- ▶ Canadian Direct
- ▶ Canadian Northern Shield
- ▶ Family Insurance
- ▶ And a number of interested individuals

Size and Scale of ICBC's Regulatory Proceedings

Example: Stats on 2005/06 Regulatory Proceedings

▶ Application

- ▶ Initially requested no rate change
- ▶ Amended application to request rate increase of 6.5%
- ▶ Included new capital management plan for approval
- ▶ Total of 1,350 pages

▶ Information requests

- ▶ Hundreds from both the BCUC and Intervenors
- ▶ ICBC's responses totaled about 4,500 pages

▶ Oral hearing lasted six full days

- ▶ Actuarial witness panel was on for three days
- ▶ Other witness panels included Claims, Road Safety, H.R.
- ▶ Transcripts numbered 1,500 pages

A case of upward trending LDFs...

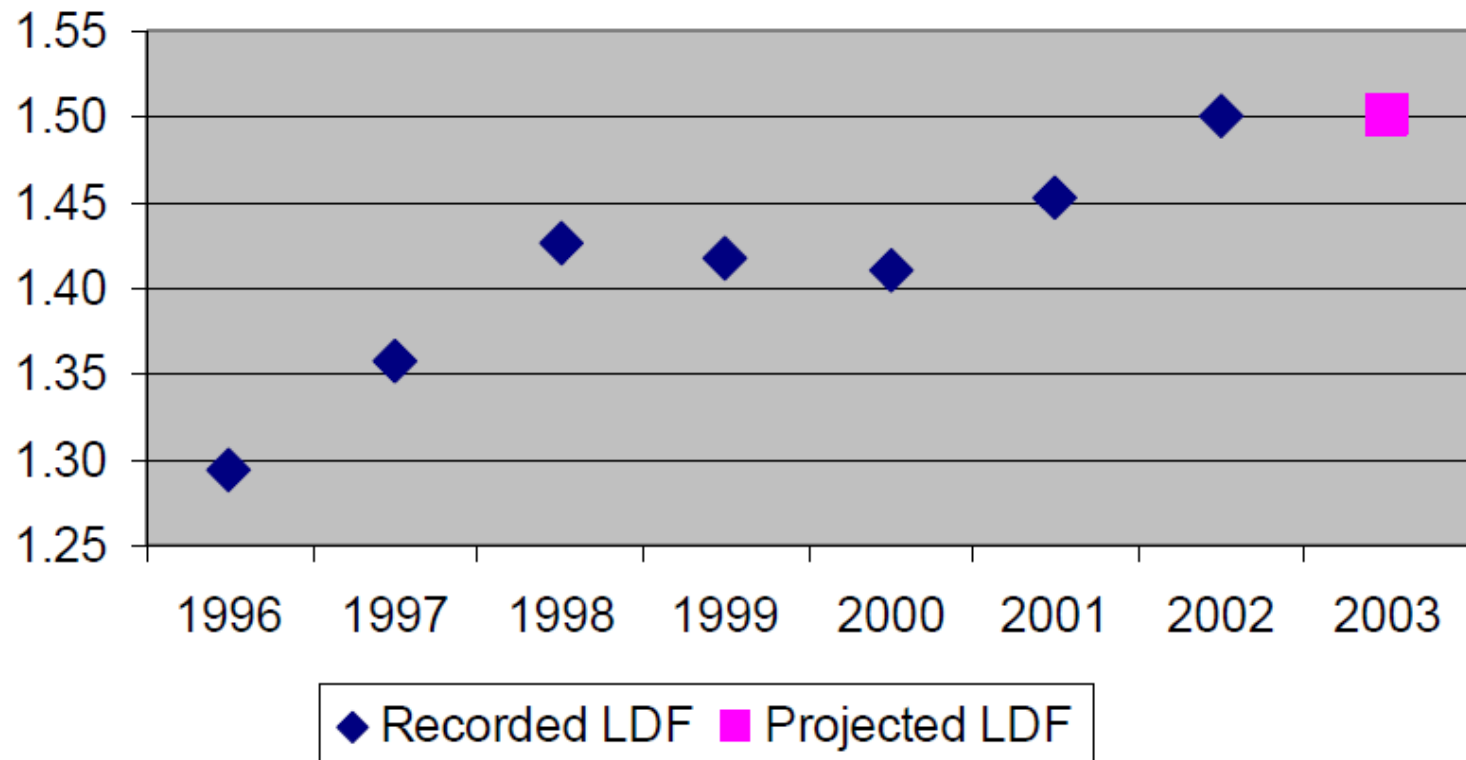
2005/2006 Application



Loss Reserving Practice

Basic BI Paid LDF

4th Payment Year at Nov. 2005





BI Ultimate Frequency

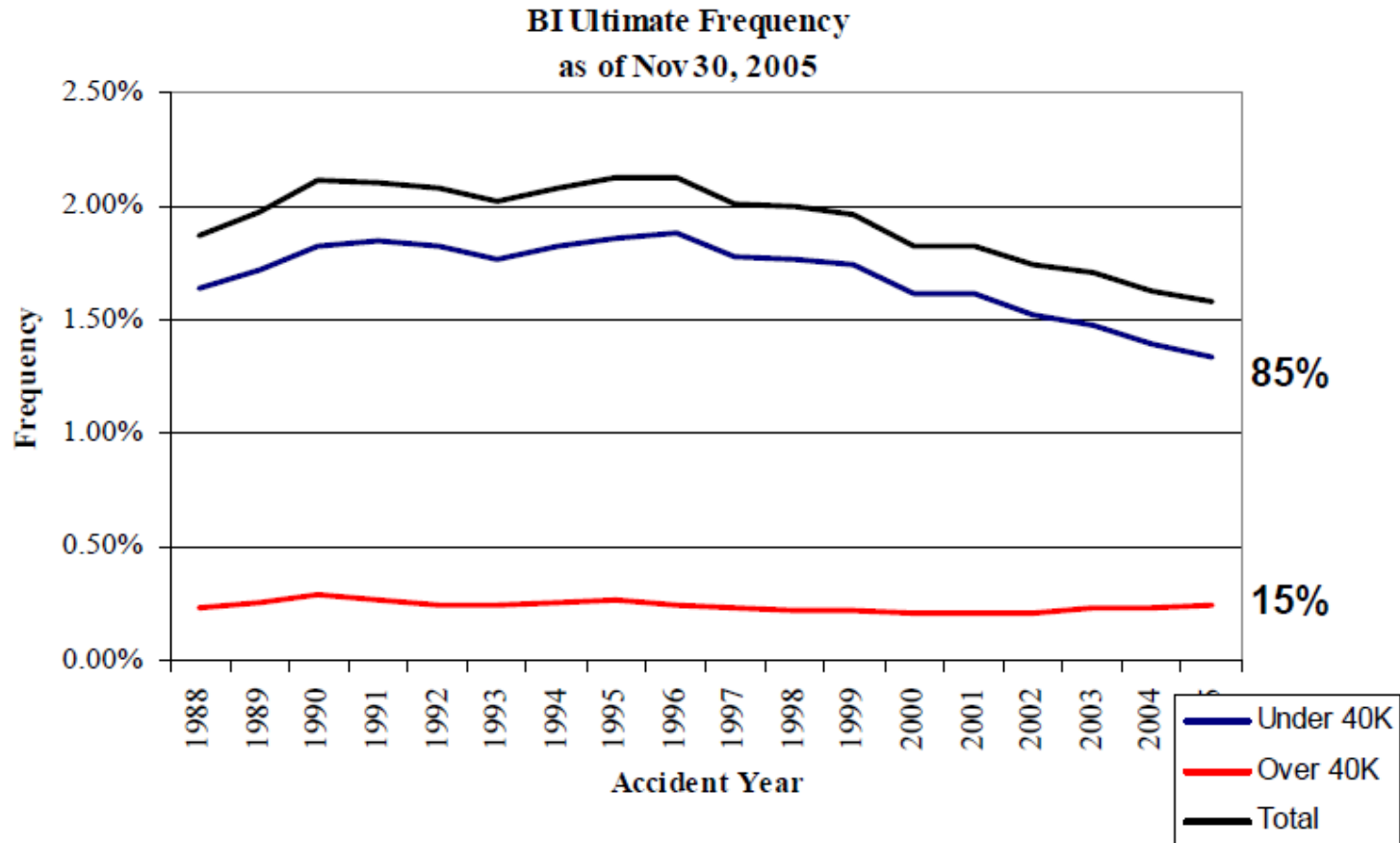




Illustration: Impact of Shift in Mix on LDFs

Accident Year	Loss Size	LDF (12-24 months)	Distribution	Combined LDF (12-24 months)
2001	Small Claims	1.0781		
	Large Claims	2.0564		
2003	Small Claims	1.0773		
	Large Claims	2.0140		

Response:

The requested table is shown below for each coverage is shown in the tables below.

Table 1: BI Ultimate Loss and ALAE Estimates

<u>BI Ultimate Loss and ALAE Estimates</u>			Comparison Aug-05 minus Dec-04
(\$000's)			
Accident Year	Dec-04	Aug-05	
	Exhibit B.1.1.1		
1988	\$504,569	\$504,362	-\$207
1989	612,612	612,300	-312
1990	725,716	725,385	-331
1991	716,926	716,347	-579
1992	713,962	713,493	-469
1993	714,038	714,464	426
1994	783,349	783,240	-109
1995	822,179	821,617	-562
1996	840,357	839,157	-1,200
1997	810,619	810,345	-274
1998	816,716	817,167	451
1999	814,326	816,275	1,949
2000	820,598	827,585	6,987
2001	820,099	838,576	18,477
2002	830,457	870,167	39,710
2003	877,313	948,928	71,615
2004	902,767	968,551	65,784
Total	\$13,126,603	\$13,327,960	\$201,356

Rate Application Approved

Table 14.10 Summary of the Revised Rate Indication

Line No.	Description	Percentage Change
1	October 2005 Rate Indication	4.2%
2	Capital Build	0.6%
3	Capital Maintenance	1.7%
4	Total Revised Rate Indication	6.5%

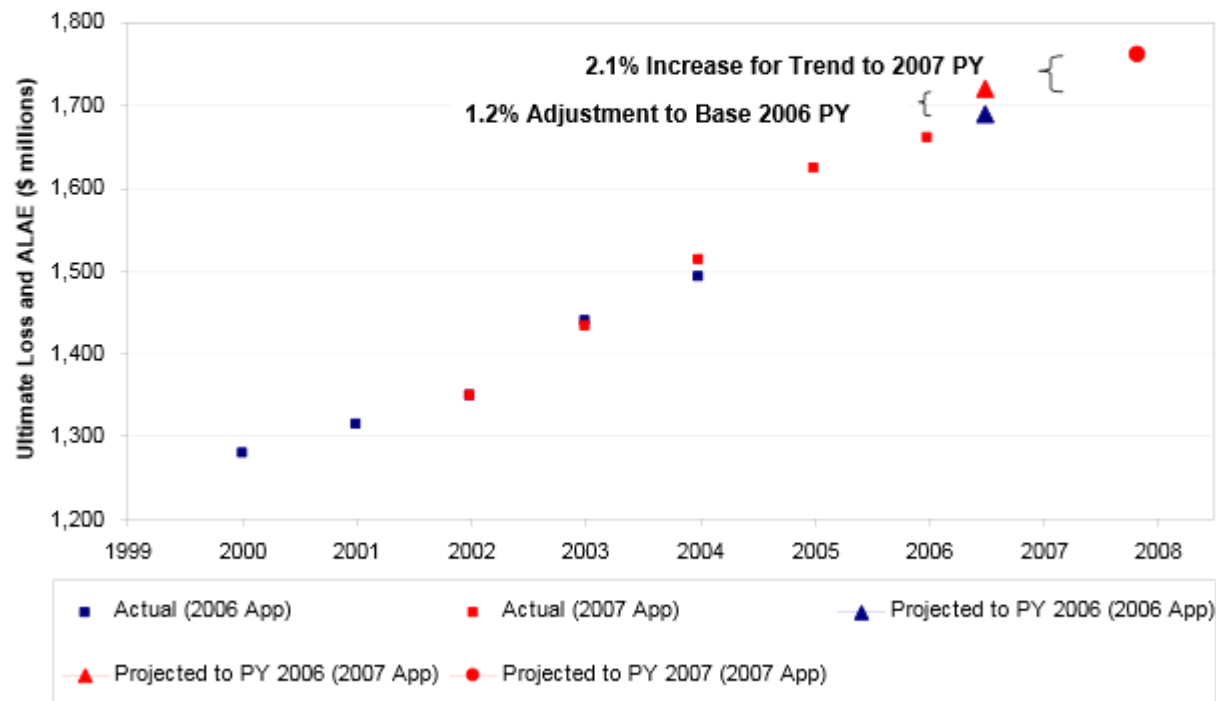
http://www.bcuc.com/Documents/Proceedings/2006/DOC_10073_B-30_Revised%20Application%20Jan%202027.pdf

An uneventful year...

2007 Application



Projection of Claims Cost





2007 Basic Insurance Revenue Requirements

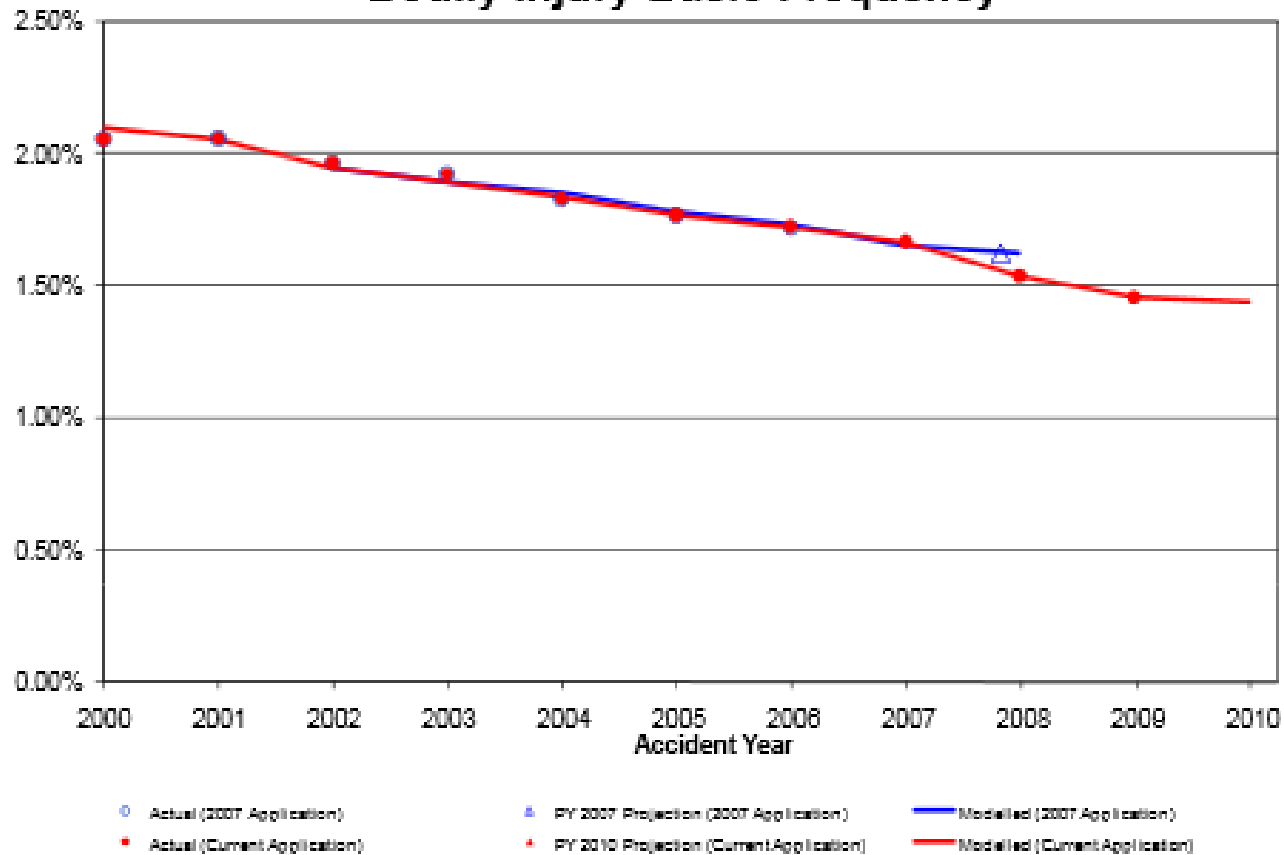
Adjustment to 2006 Base Policy Year	+ 1.2%
Trend to 2007 Policy Year	+ 2.1%
Capital Provision	+ 0.2%
<u>Other</u>	<u>- 0.2%</u>
2007 Required Rate Level Change	+ 3.3%

The favourable effect of the recession...

2010 Application

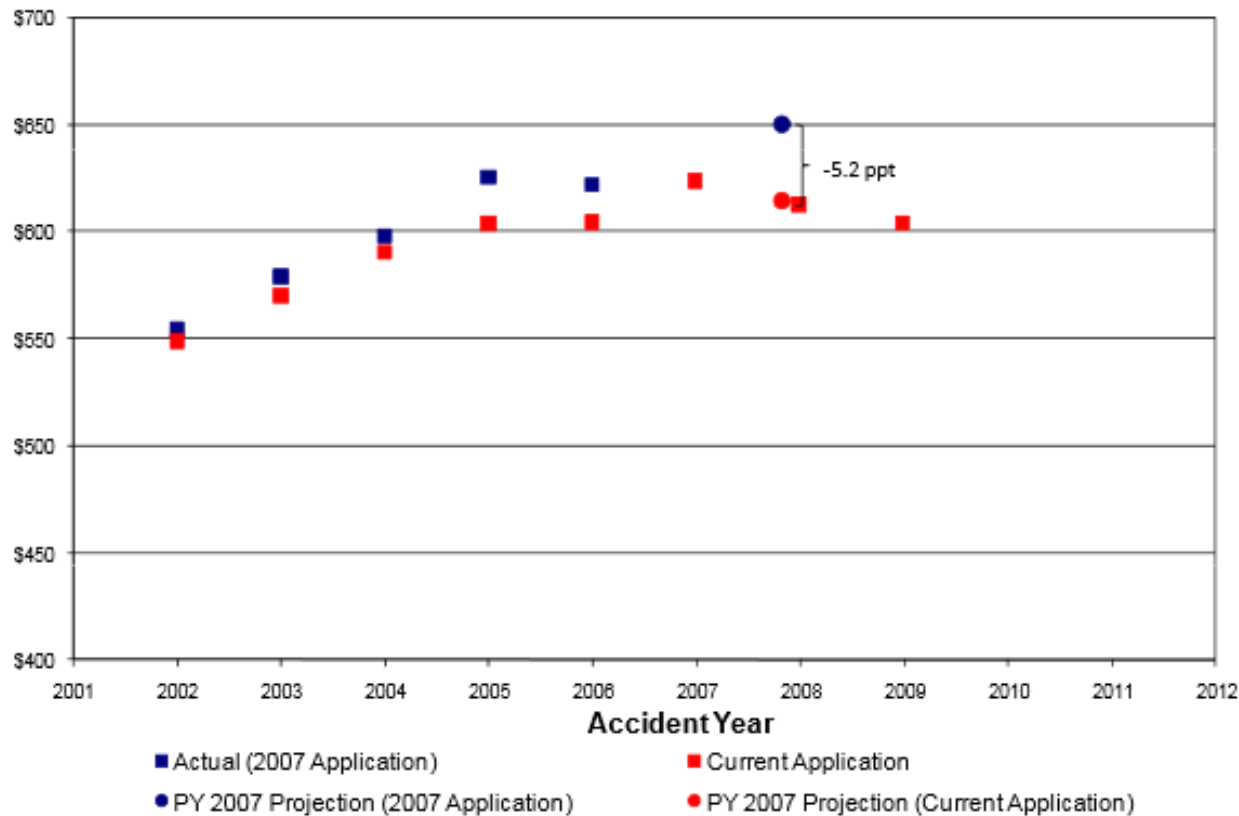
Loss Cost Update

Bodily Injury Basic Frequency



Loss Cost Update

Basic Loss Cost

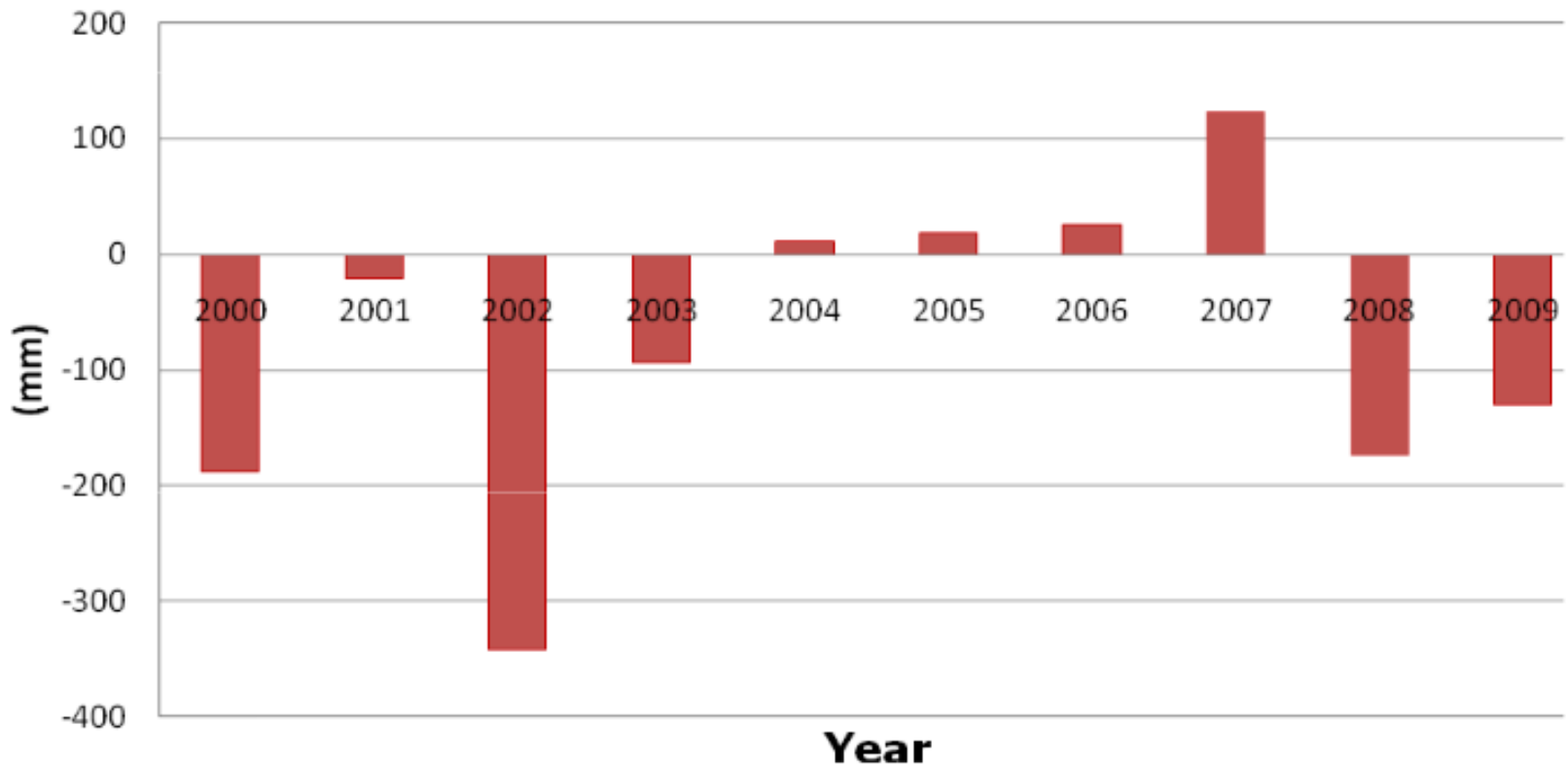


Claims Costs – Key Factors

- 2008 and 2009 drier than 30-year average
- 2008 and 2009 recession
- Enhanced and expanded claims initiatives since 2007

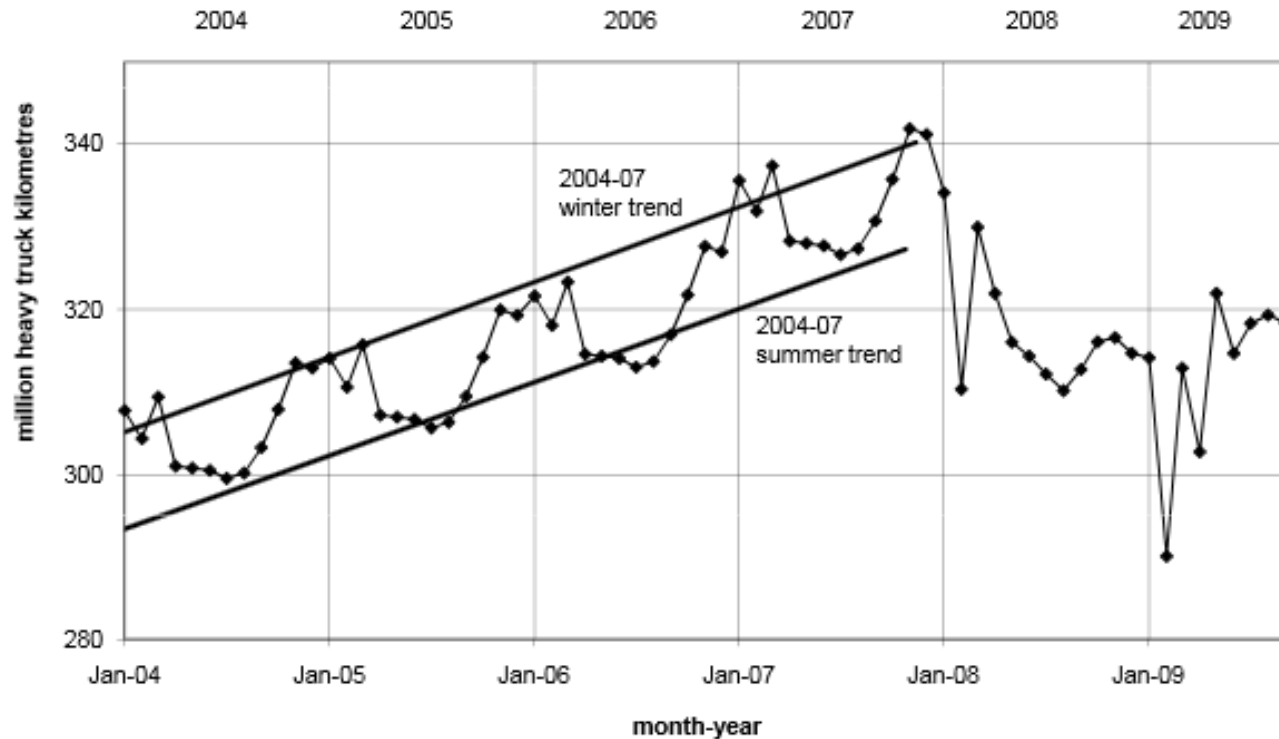
Precipitation - History

Precipitation Compared to Average 1971-2000



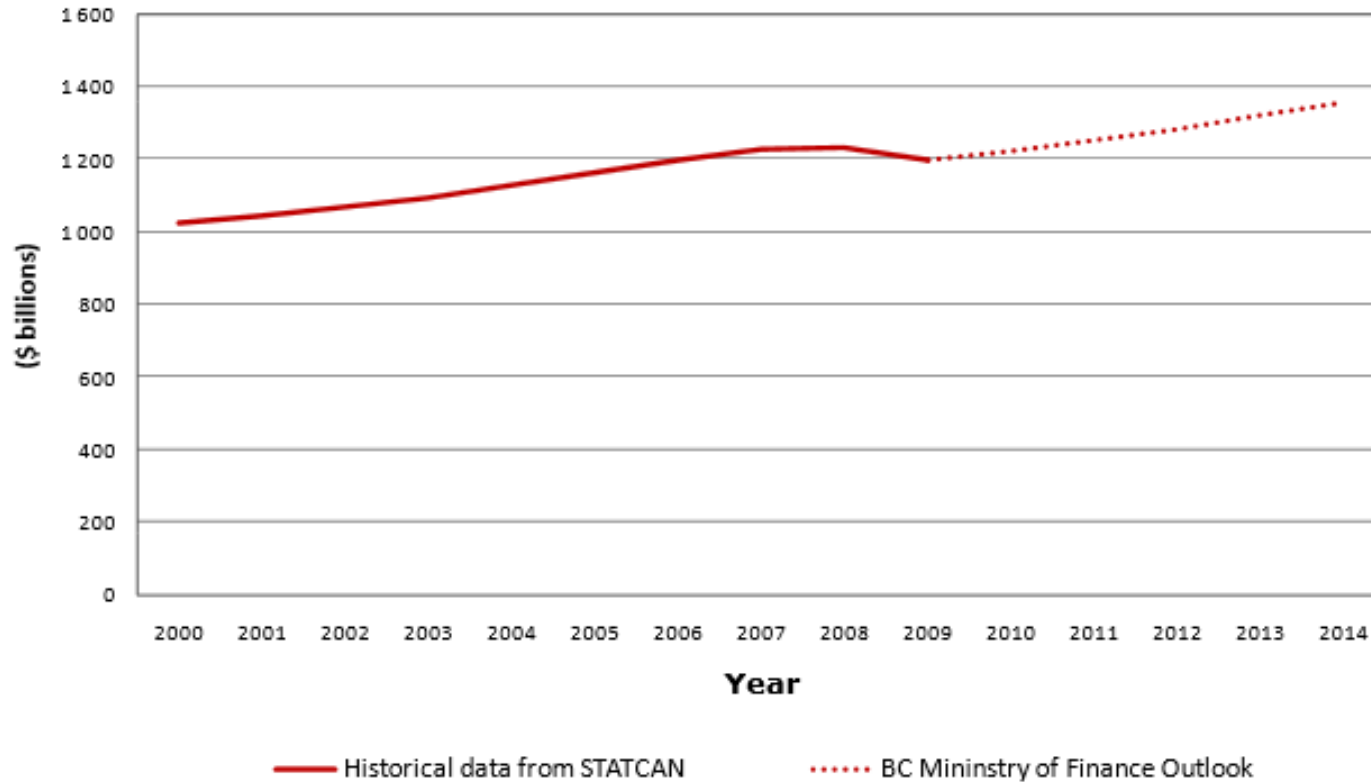
Recession Impact

Travel in BC Estimated from Highway Volumes and Diesel Sales



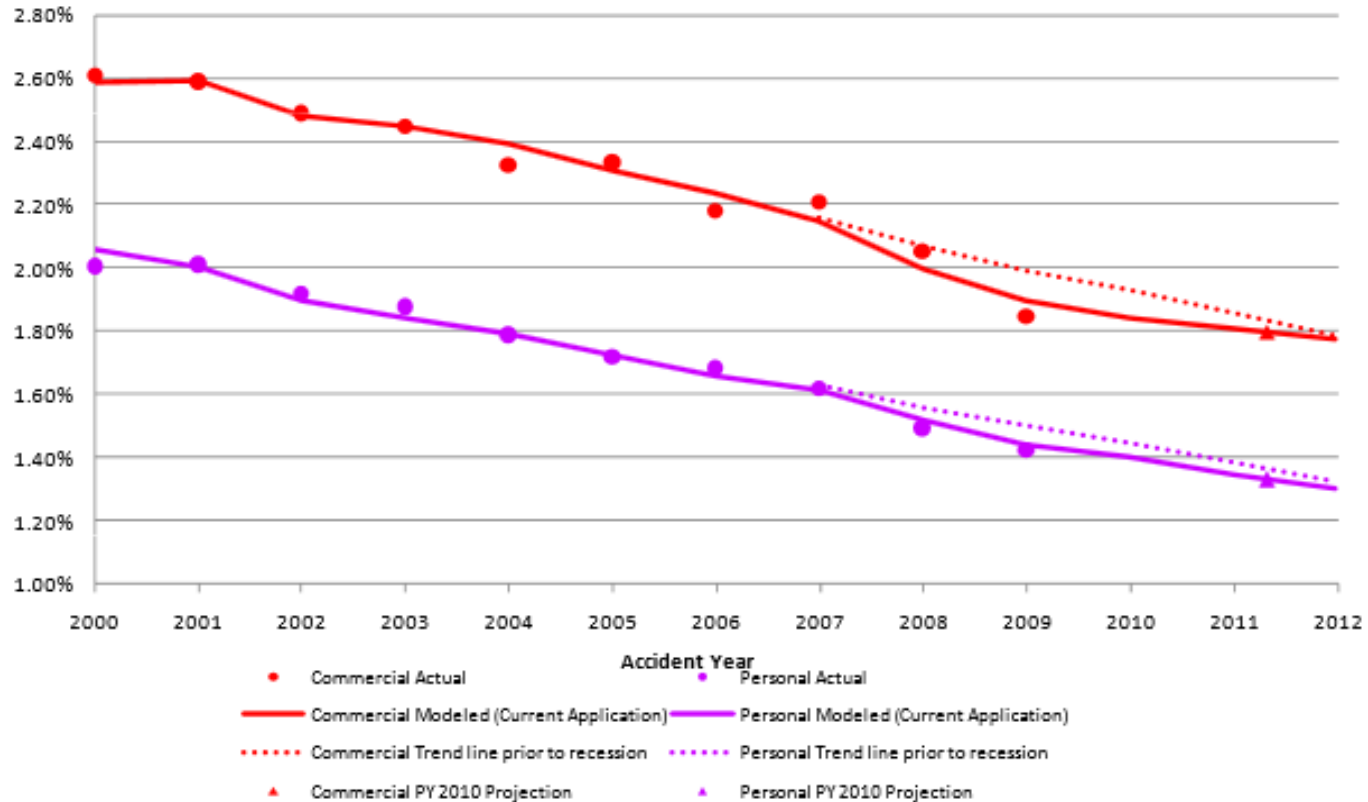
Economic Recovery

BC Gross Domestic Product (GDP)



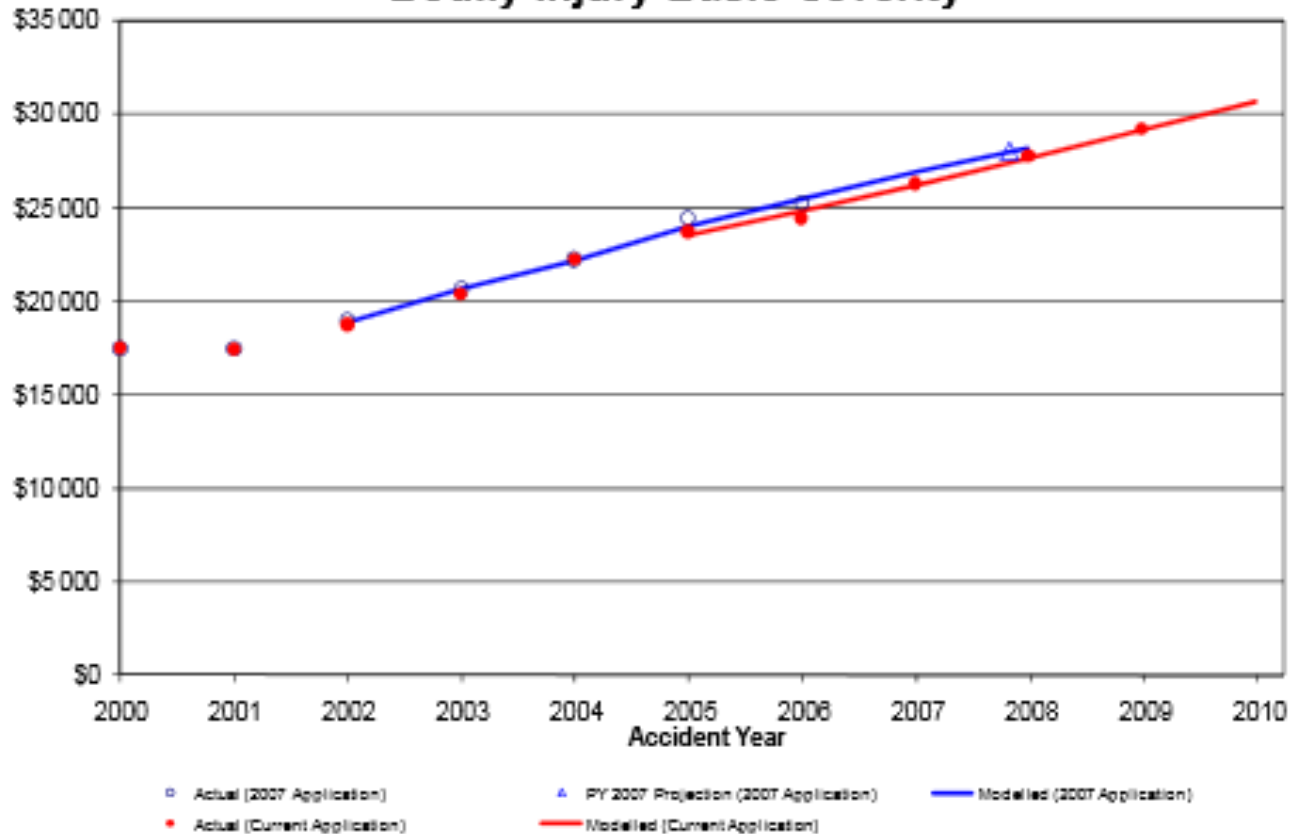
Loss Trending

BI Basic Frequency - Personal and Commercial



Loss Cost Update

Bodily Injury Basic Severity



Overview of Rate Change

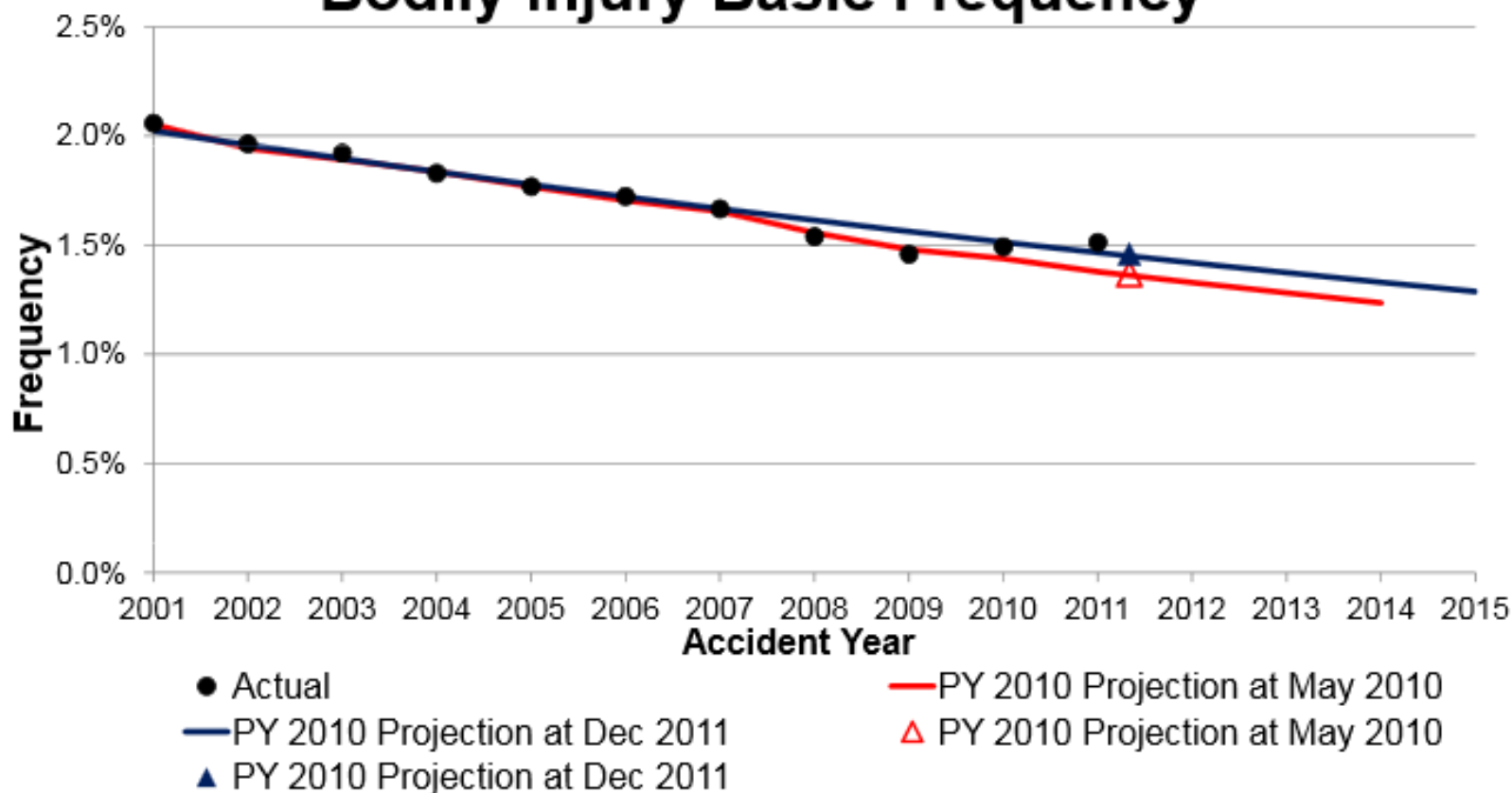
Component	Impact
PY 2007 Loss Cost Forecast Variance	-5.2 ppt
Loss Trend to PY 2010 and Prospective Adjustments	+1.7 ppt
Trend in Average Premium	+1.3 ppt
Change in Investment Income	-1.2 ppt
Change in Capital Provisions	-0.8 ppt
Change in Operating Expenses	+1.5 ppt
Other	+0.8 ppt
PY 2010 Indicated Rate Level Change	-1.9 ppt

A permanent and significant shift in BI frequency...

2012 Application

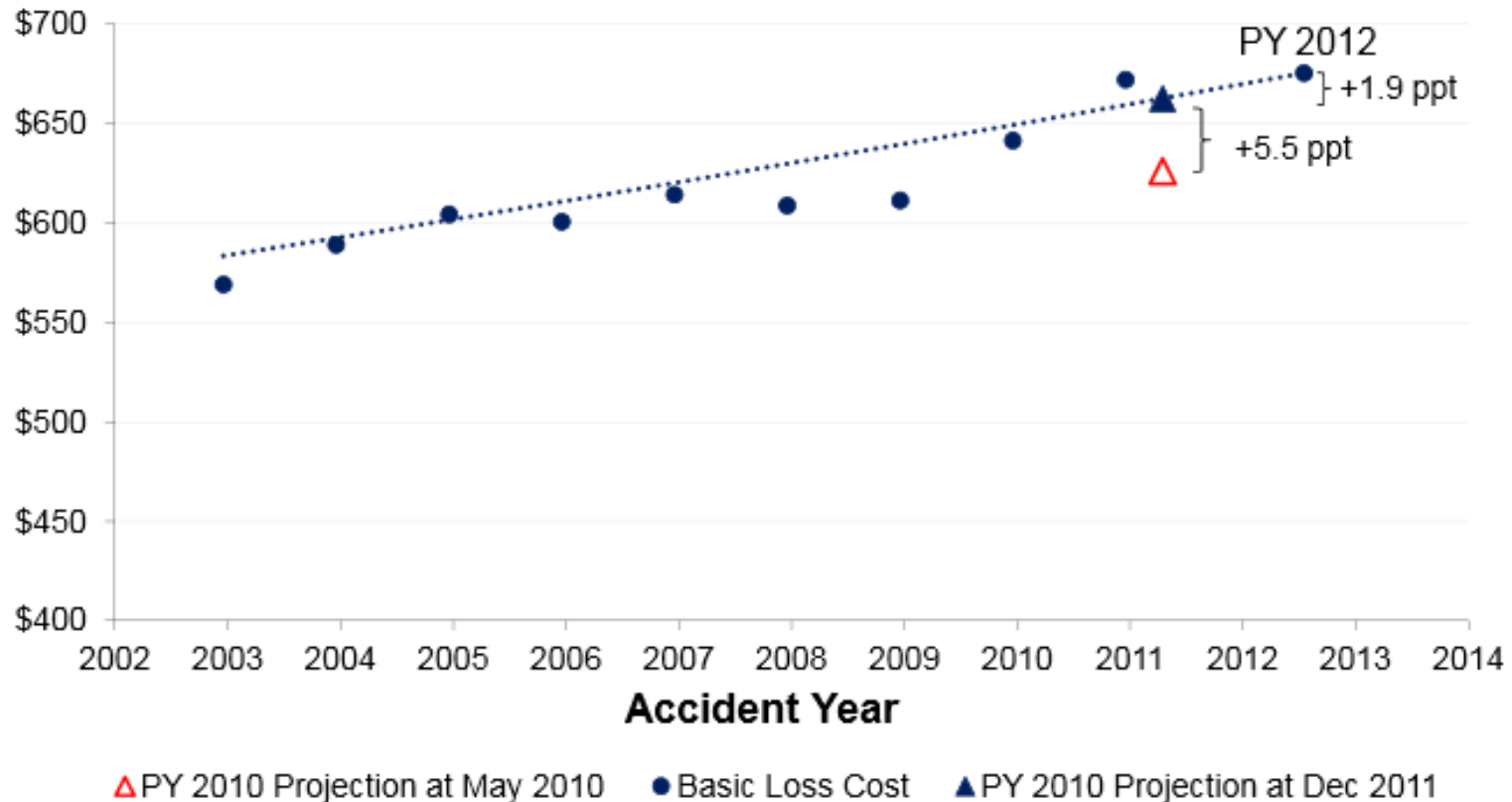
BI Frequency Forecast – 2012 RRA

Bodily Injury Basic Frequency



Claims Costs Increasing

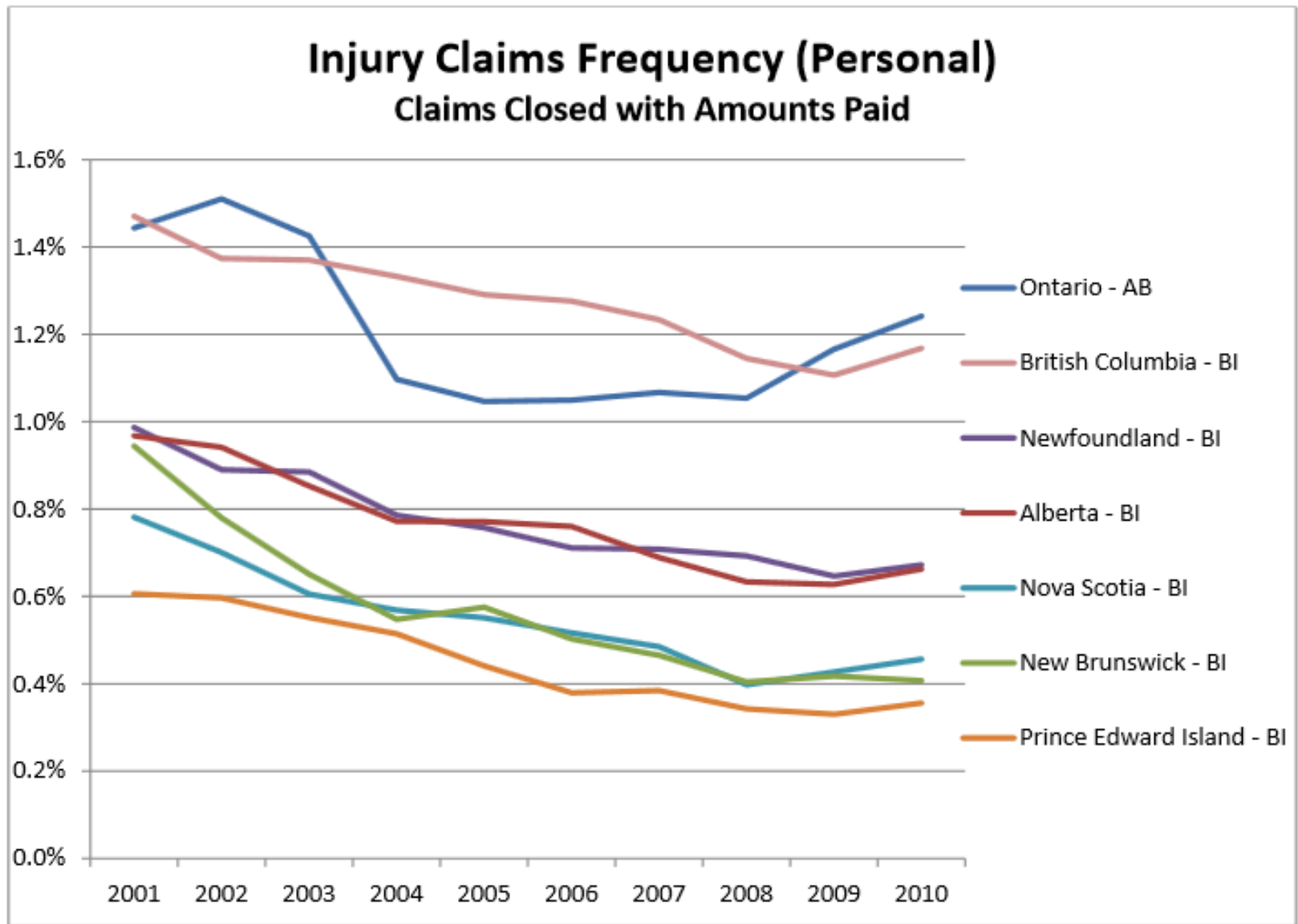
Basic Loss Cost



IRC findings cont'd

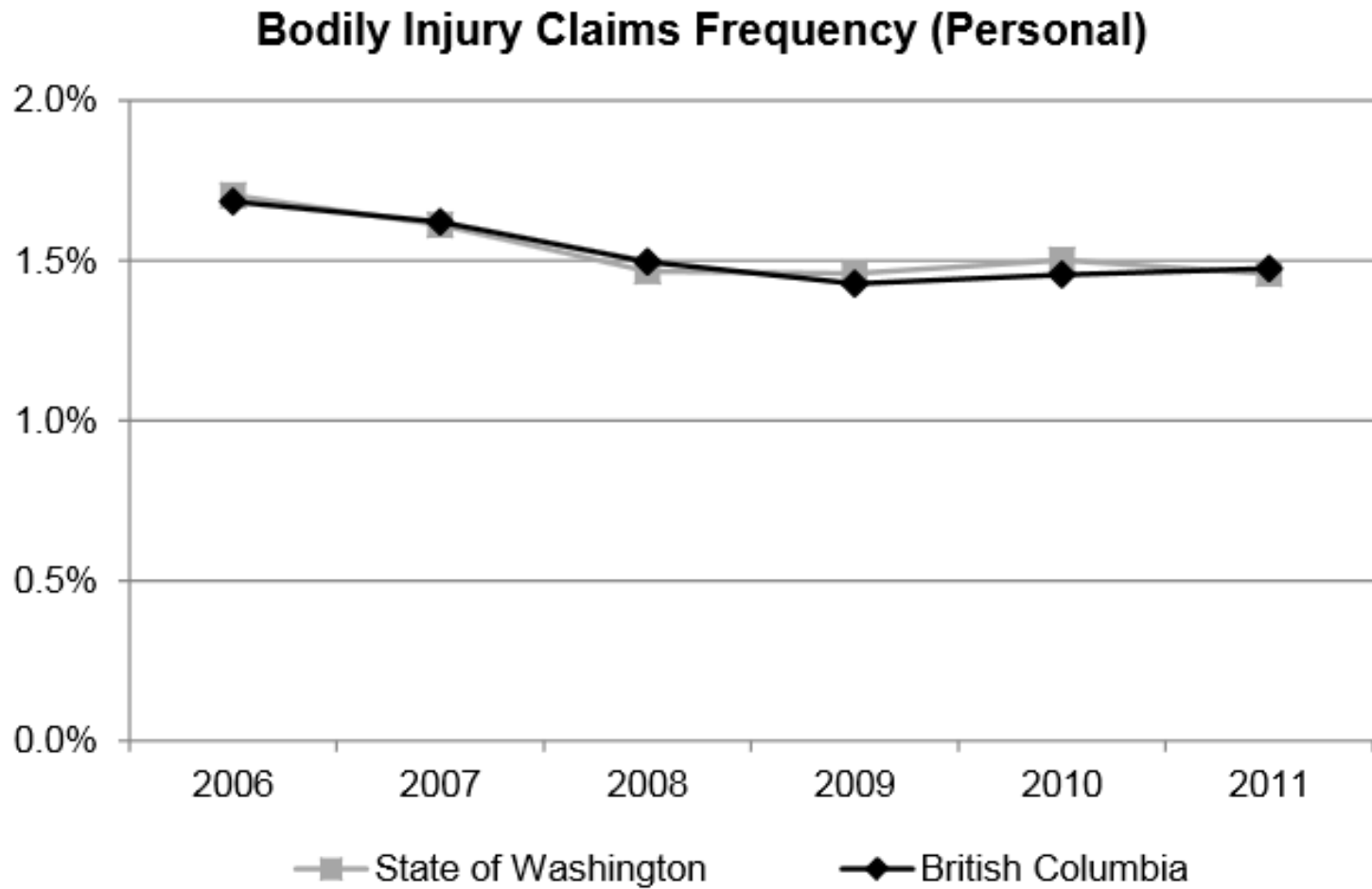
- ... claim frequency, on a countrywide basis, is no longer decreasing.
- ... the effect of rising claim severity has been magnified by the simultaneous increase in claim frequency ... 2010 marks the last year since 1984 that BI claim frequency did not decline.

Figure 1 – Injury Frequency – Select Provinces



http://www.bcuc.com/Documents/Proceedings/2012/DOC_30772_B-13_ICBC-Responses-BCUC-Panel.pdf

Figure 5 – Comparison of BC and Washington State

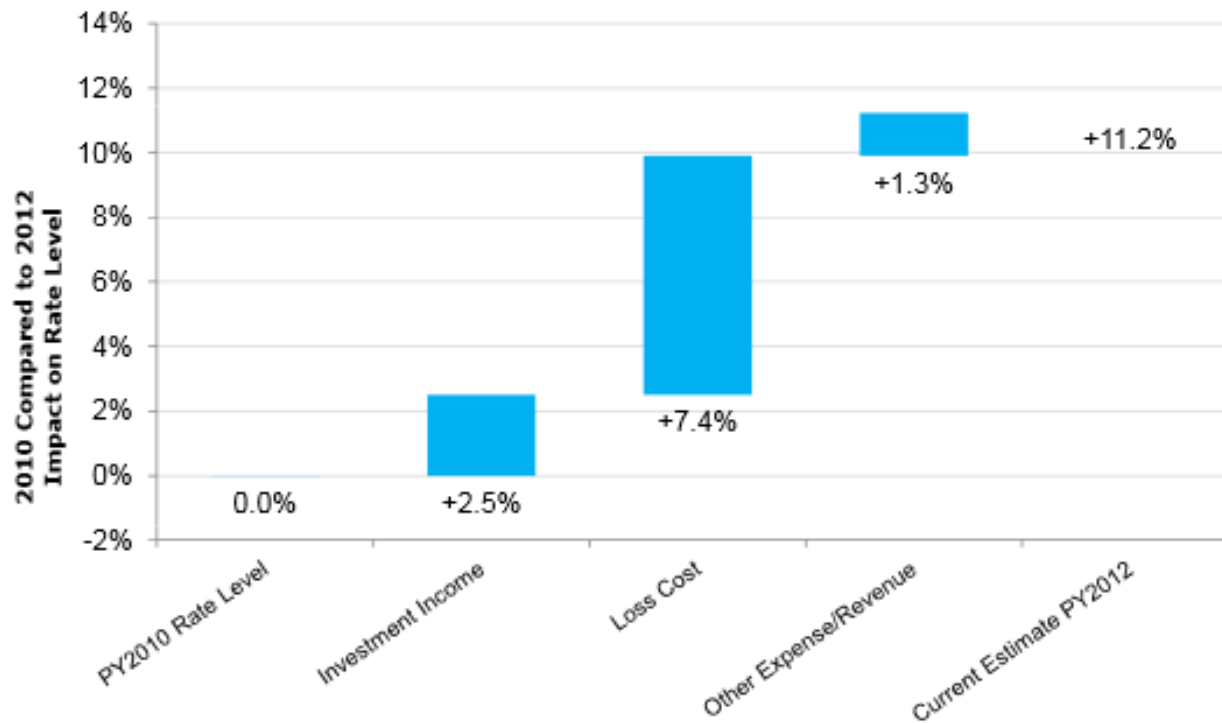


http://www.bcuc.com/Documents/Proceedings/2012/DOC_30772_B-13_ICBC-Responses-BCUC-Panel.pdf

BI Frequency – Key Factors

- Causes of higher frequency not fully understood
 - Travel factor doesn't fully explain recent increases
- Currently researching other potential factors

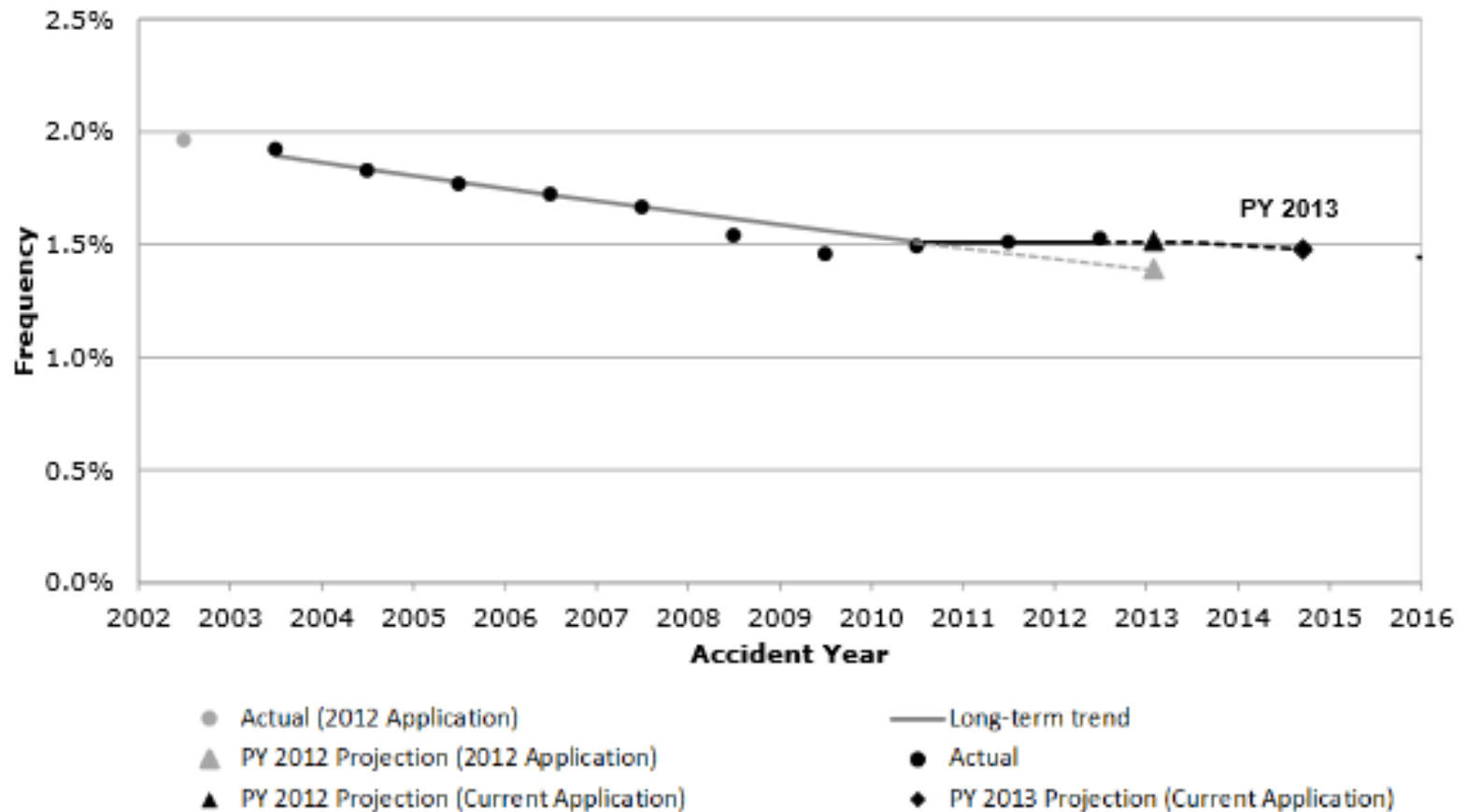
Pressure on basic rates



Back with an answer...

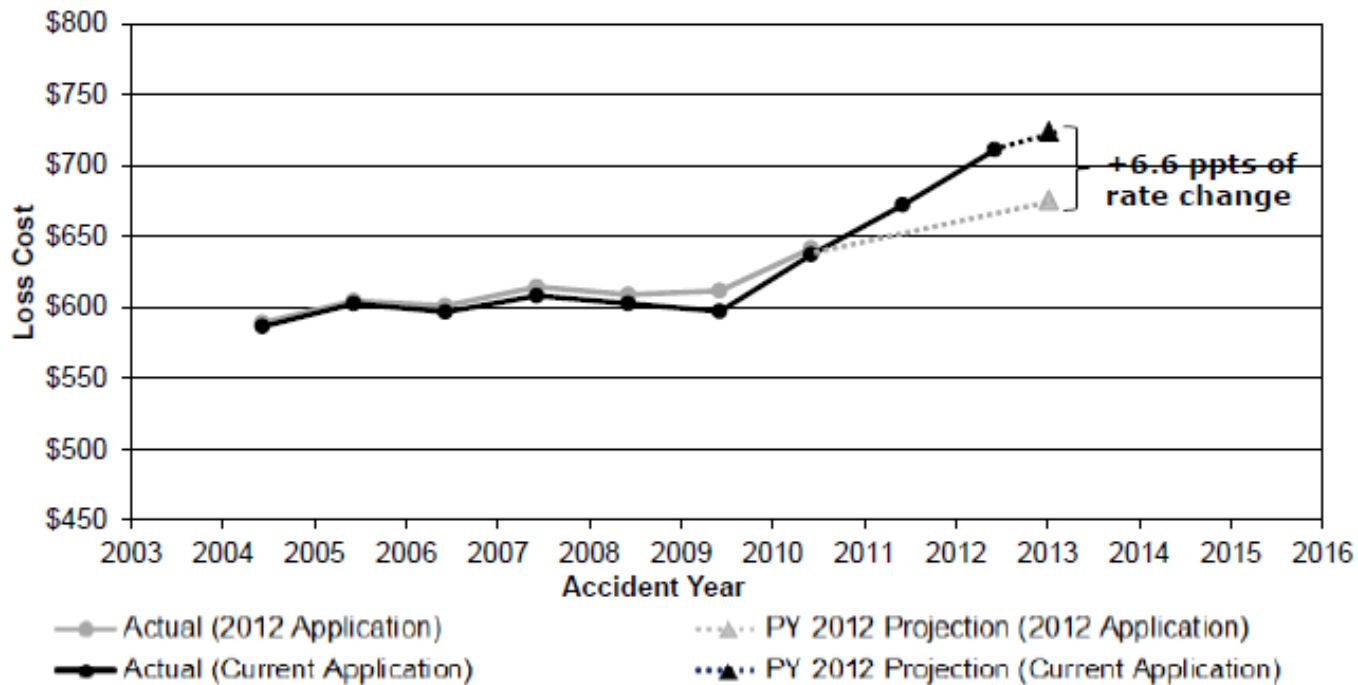
2013 Application

BI Frequency Forecast



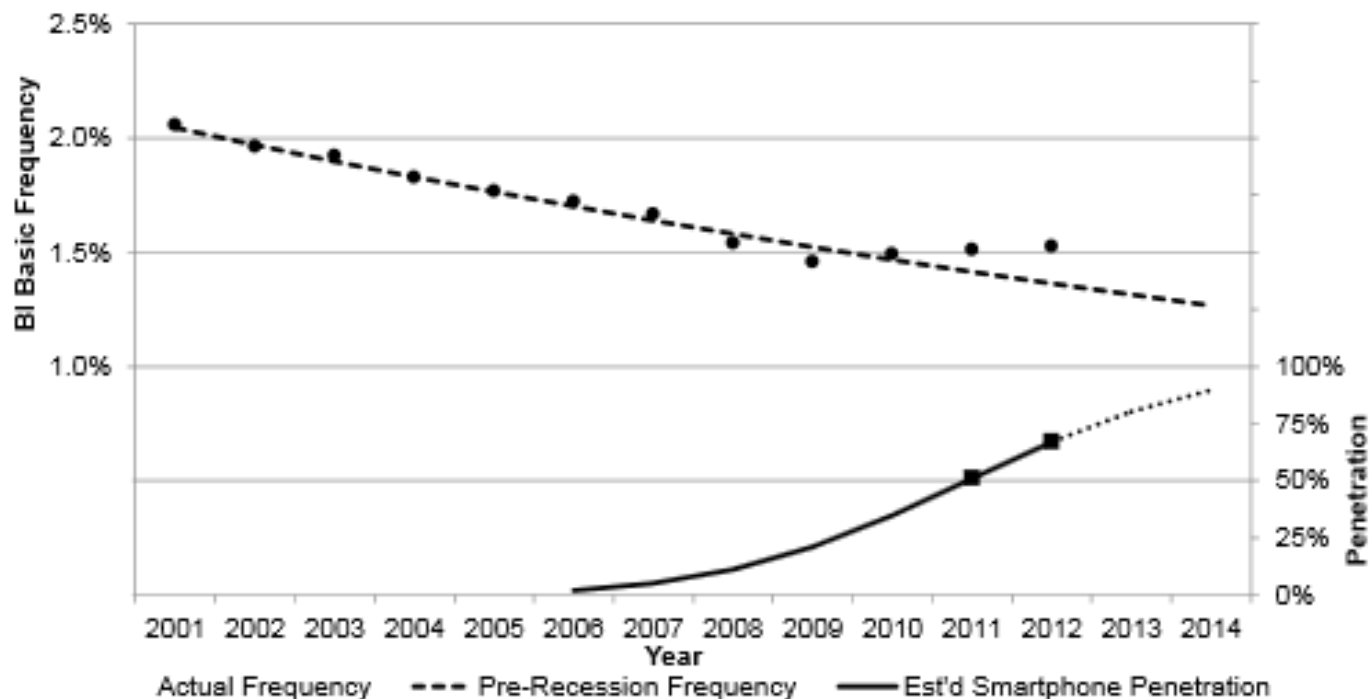
Loss Cost Forecast Variance (all coverages)

Difference is the Loss Cost Forecast Variance



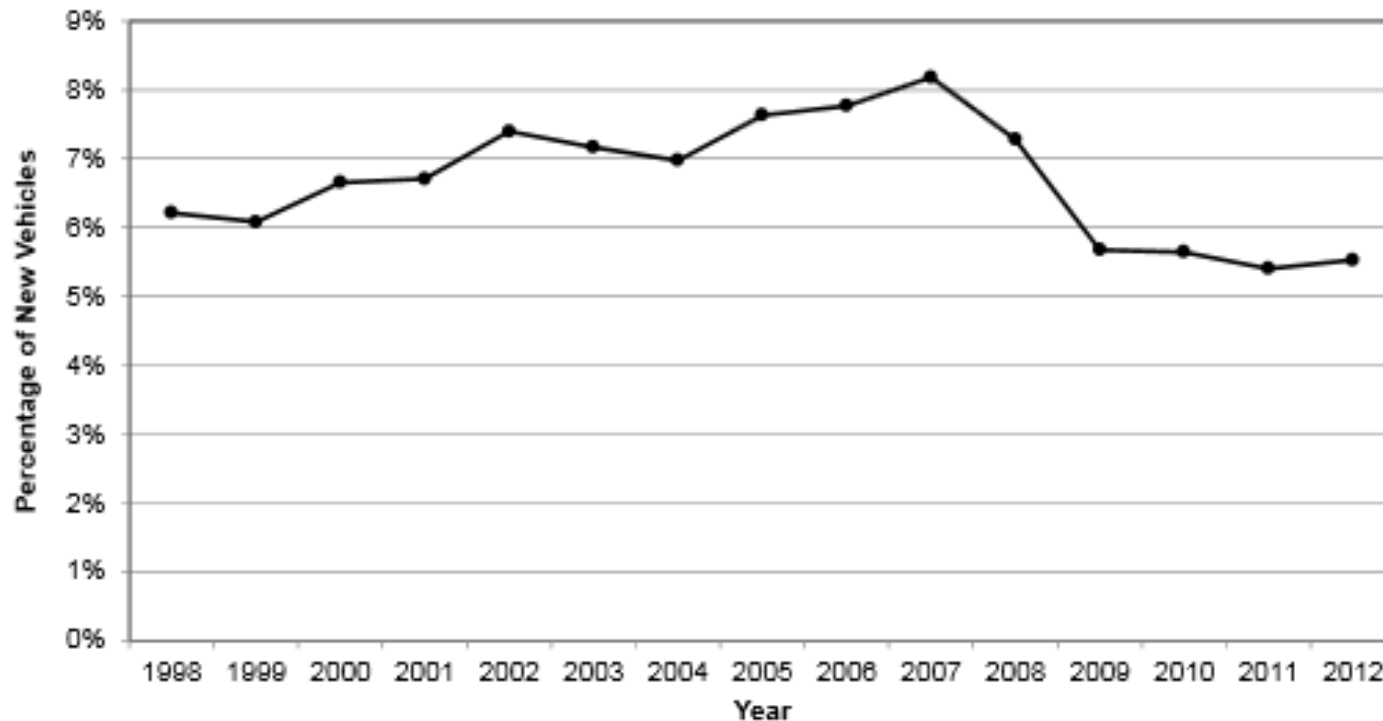
Smartphone Penetration

- Increase in the usage of smartphones is concurrent with the flattening of frequency



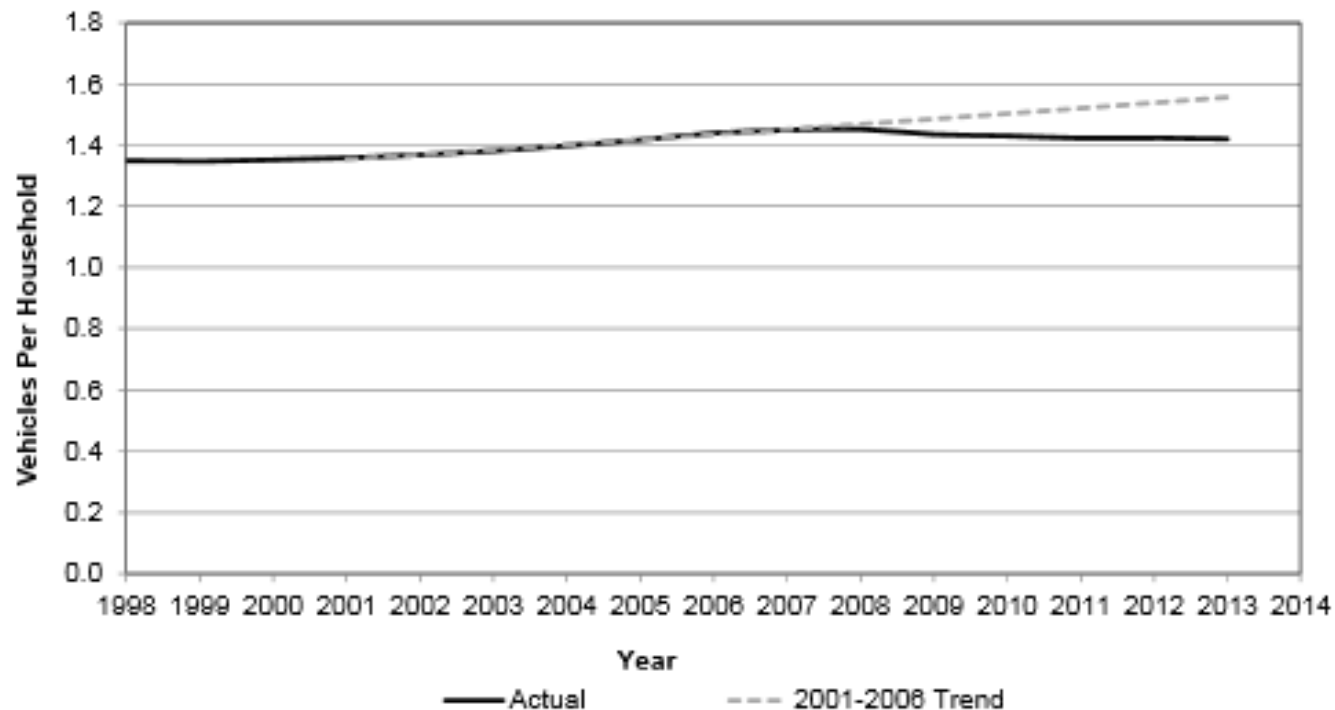
New Vehicles Sales

- Percentage of new vehicles dropped during the recession and has not recovered by the end of 2012



Vehicles Per Household

- The number of insured vehicles per BC household is no longer increasing.

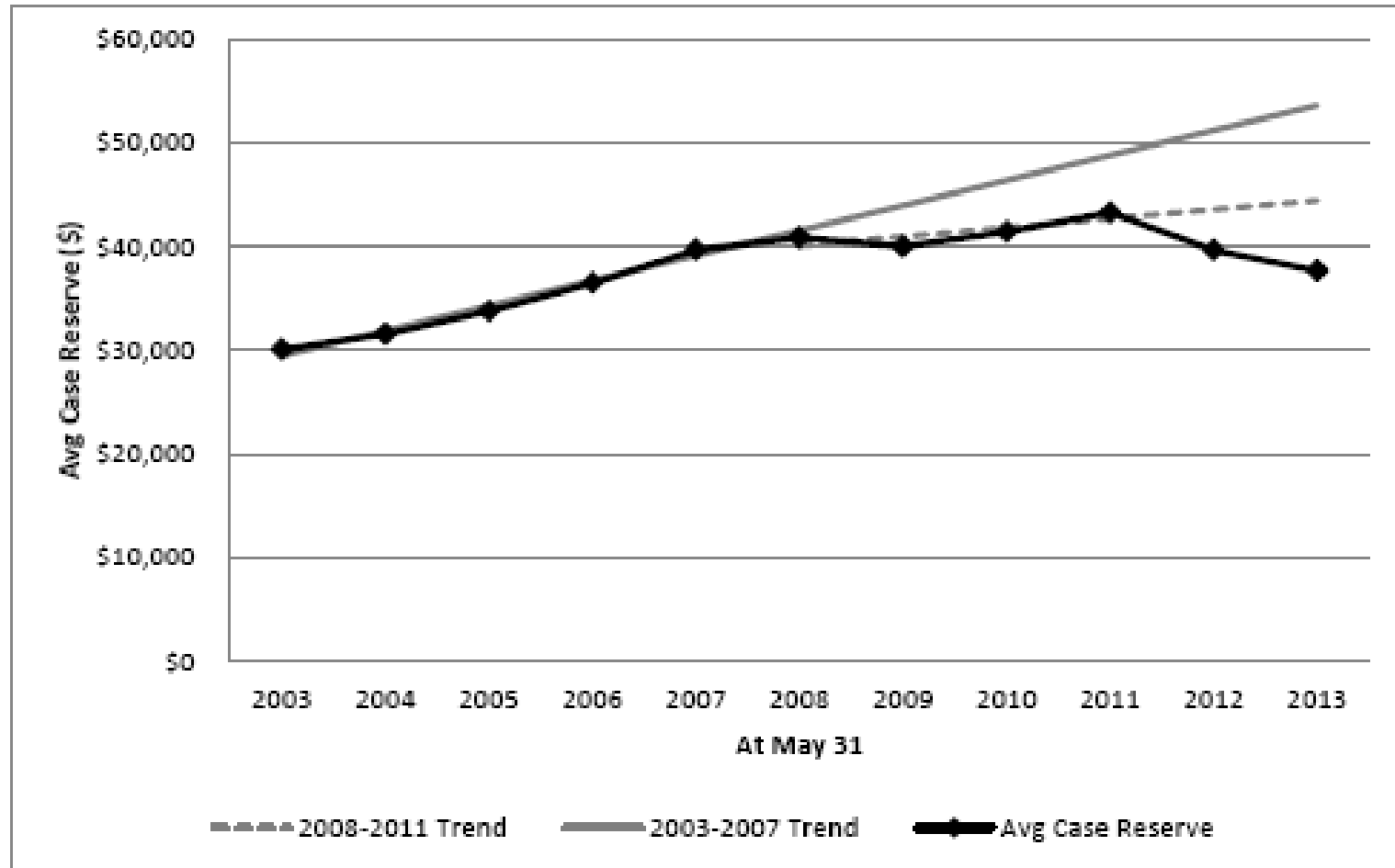


Operational changes
significantly impact the
data...

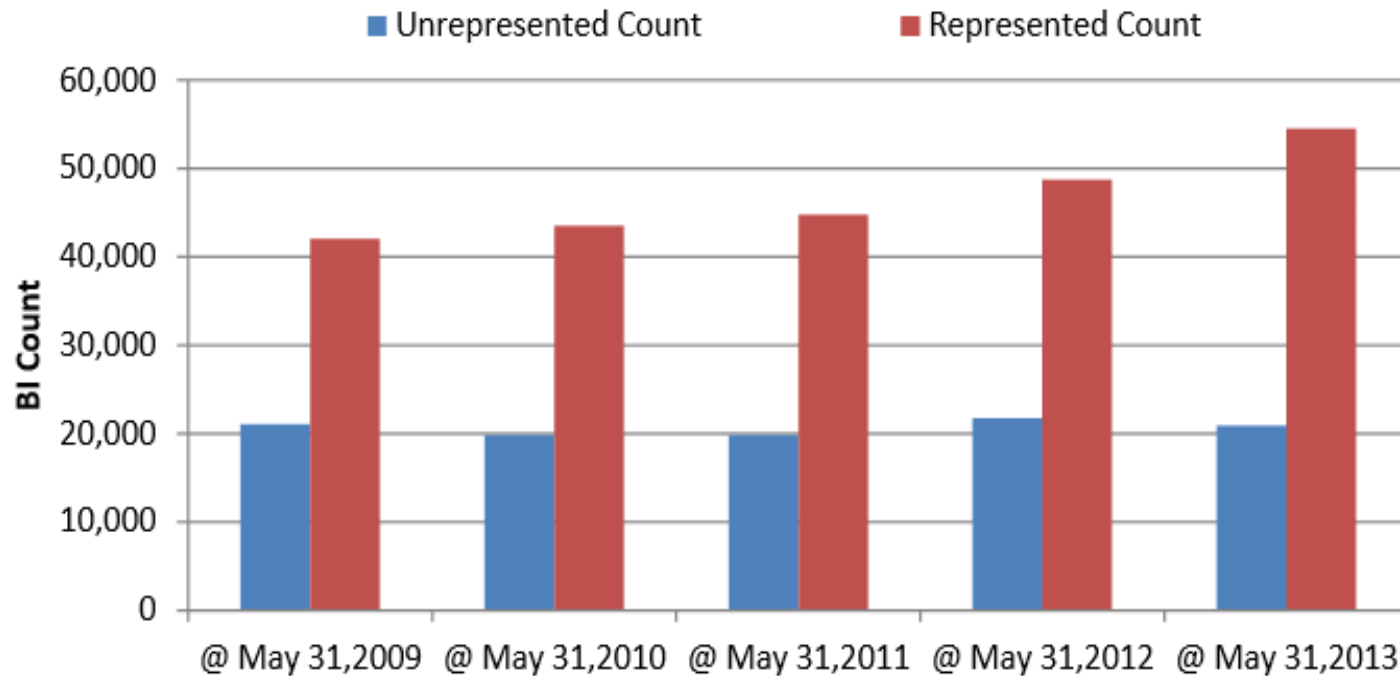
2013 Application

Lower Average Case Reserves

Figure C.1 – BI Basic Average Case Reserves



High Growth in Open Represented Claims



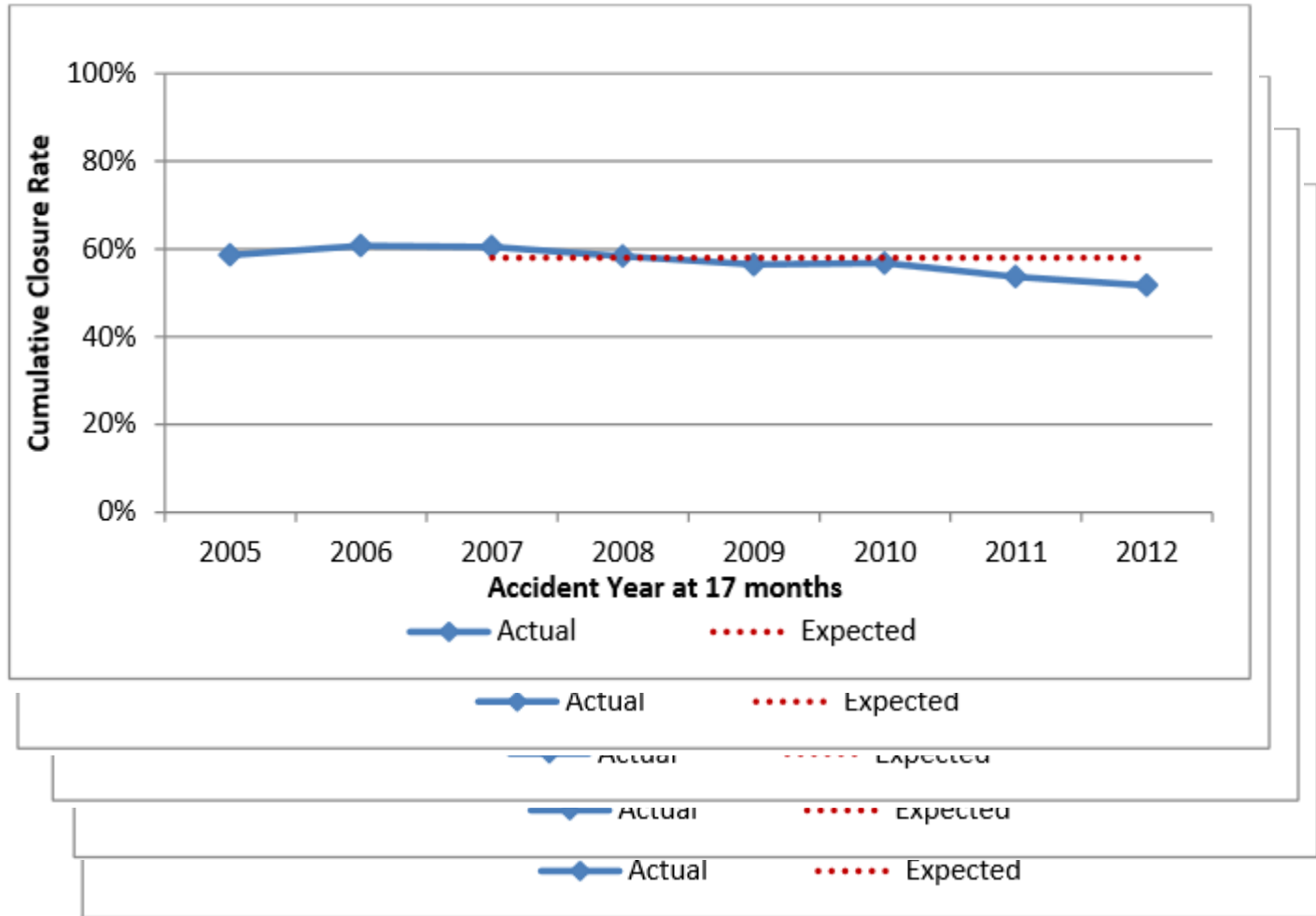
Unrep Yr/Yr		-5.7%	0.0%	9.7%	-3.9%
Rep Yr/Yr		3.5%	2.9%	8.9%	11.8%

* BI Count is exposure count, and includes both Personal and Commercial claim exposures

http://www.bcuc.com/Documents/Proceedings/2013/DOC_37379_B-3_ICBC_IR-Responses_1-99.pdf @1353

Slowdown in Closures

Figure 1a – Accident Year 2012 Closure Rate Comparison – Basic Personal BI



http://www.bcuc.com/Documents/Proceedings/2013/DOC_37379_B-3_ICBC_IR-Responses_1-99.pdf @1350-2

Citing authority to bolster our argument

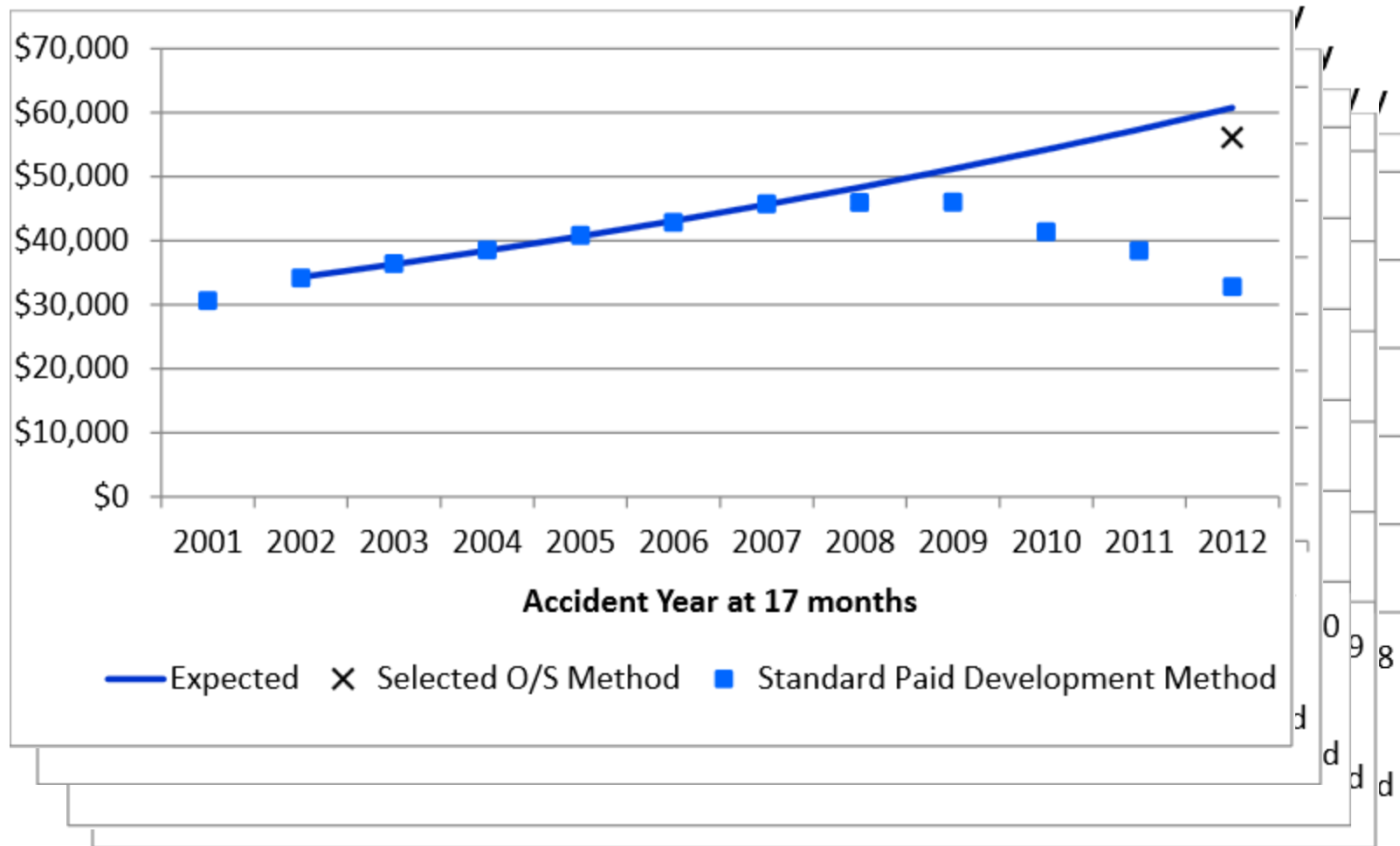
When the Development Technique Works and When it Does Not...

Actuaries often speak of the leveraged effect of claim development factors with high values. For example, if the cumulative reported claim development factor is 4.00, each dollar of reported claims is multiplied by a factor of 4.00 to determine ultimate claims. ... These highly leveraged factors result in projections of ultimate claims that are very sensitive to the current value of paid and reported claims. [A]ny unusual change in the reporting or settlement of claims ... can result in unreasonable projections of ultimate claims for the most recent accident years. In situations of highly leveraged cumulative claim development factors, actuaries often seek alternative techniques for estimating unpaid claims.

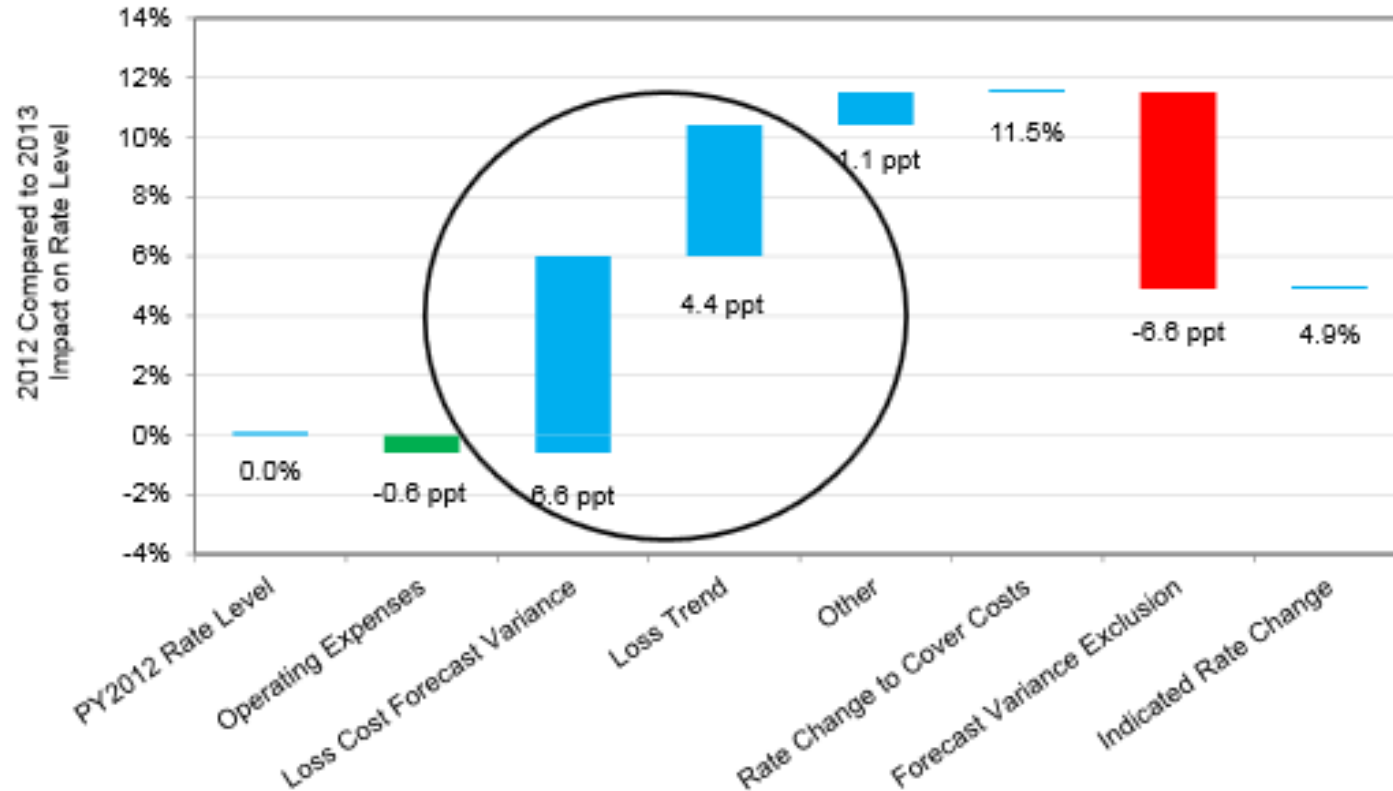
¹ Jacqueline Friedland, "Estimating Unpaid Claims Using Basic Techniques", *Casualty Actuarial Society*, 2010, pages 95-97.

Replacement Method “Hindsight Outstanding”

Figure 1a – Accident Year 2012 – BI Basic Personal Hindsight Outstanding Severity



Rate Change Components



A Pleasant Surprise...

23 | **CROSS-EXAMINATION BY MR. MILLER:**

24 | MR. MILLER: Q: Good morning, panel. First of all,
25 | Staff and the actuarial consultants would like to
26 | commend the Insurance Corporation for a well prepared

Allwest Reporting Ltd., Vancouver, B.C.

ICBC - Revenue Requirements
February 11, 2014, Volume 4

Page: 552

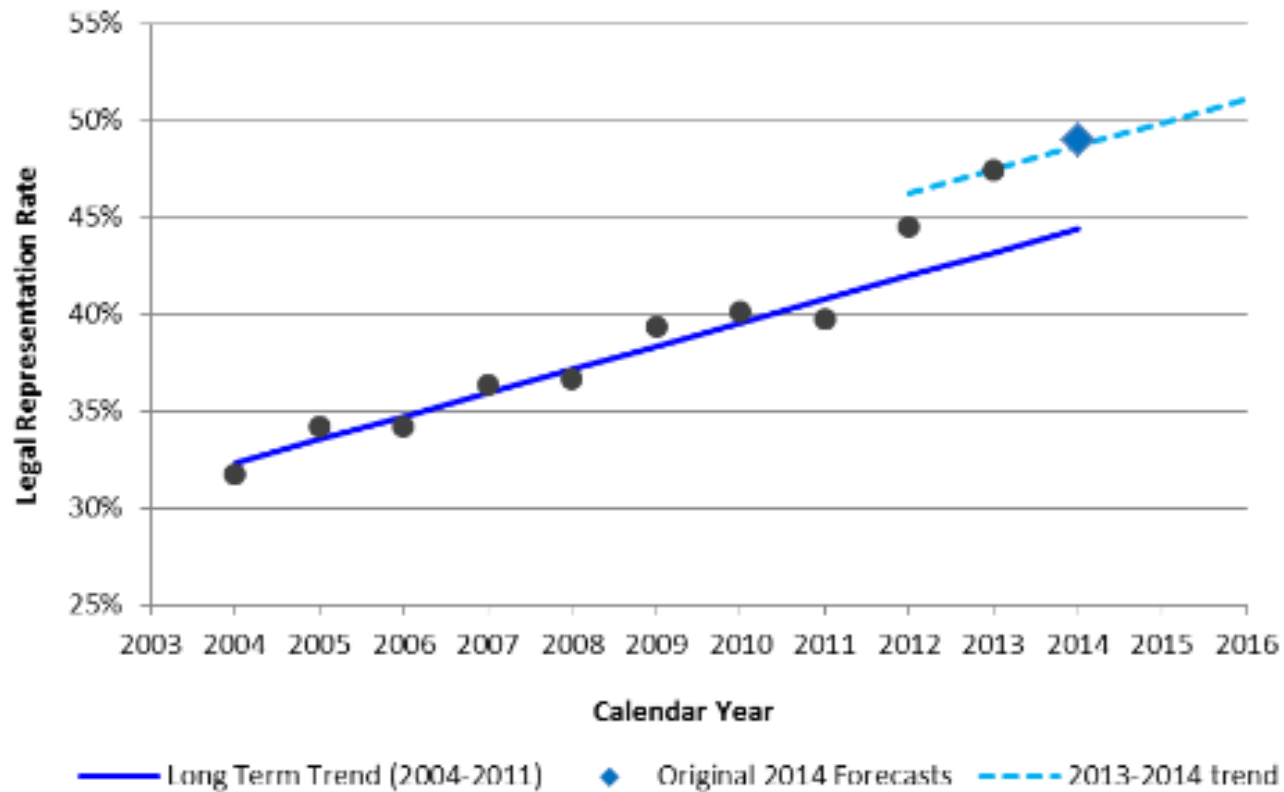
1 | actuarial component of the application. It's better
2 | than they've seen in many jurisdictions, so welcome --

http://www.bcuc.com/Documents/Transcripts/2014/DOC_40590_02-11-2014-ICBC-OralHearingVol-4.pdf@551-2

Acceleration in Legal Representation

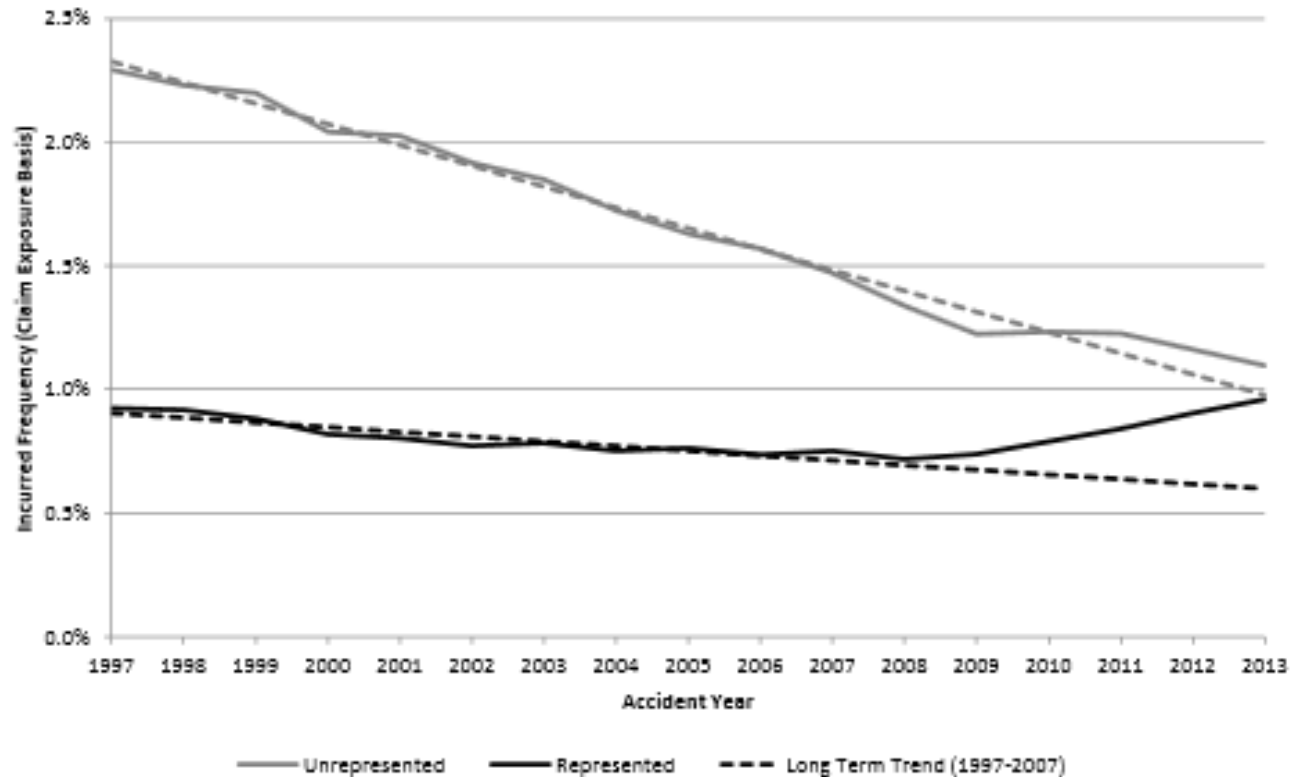
2014 Application

Rate of represented BI claims



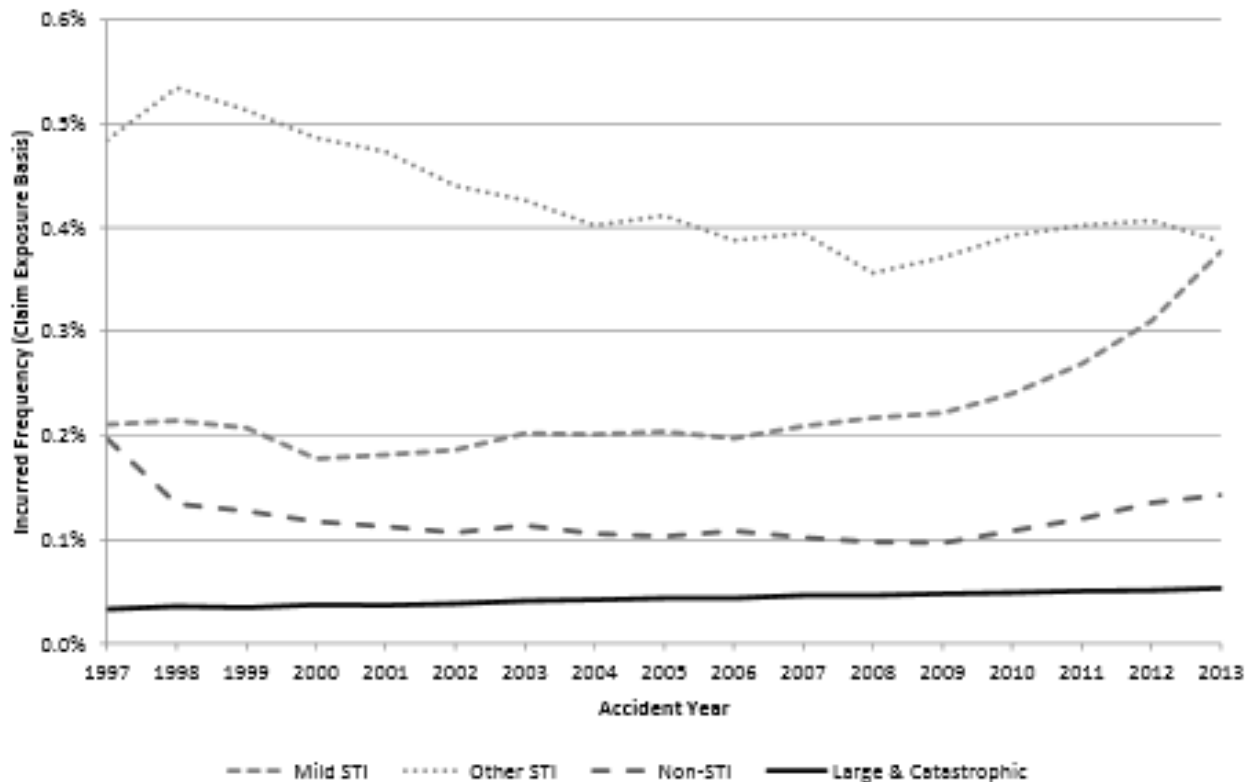
Mix of Claims - Representation

Bodily Injury Frequency – by Representation Status

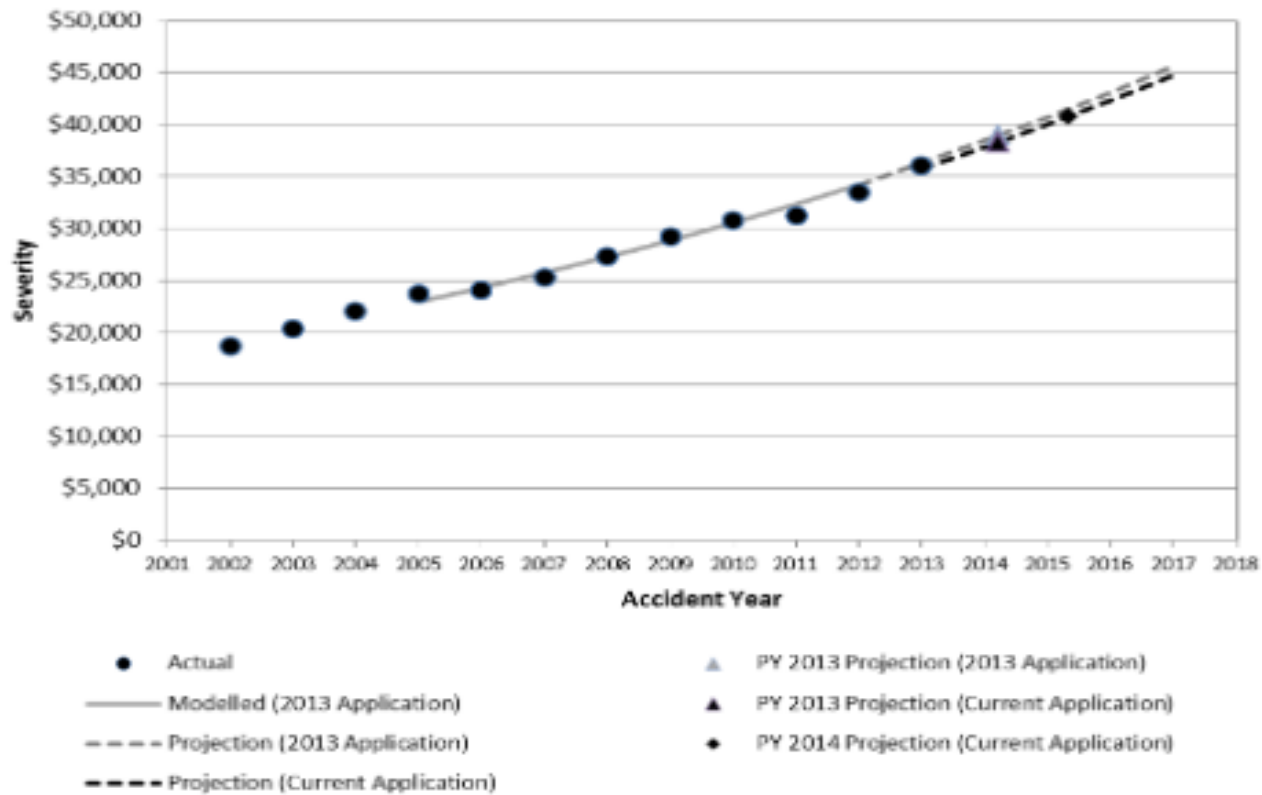


Mix of Represented Claims

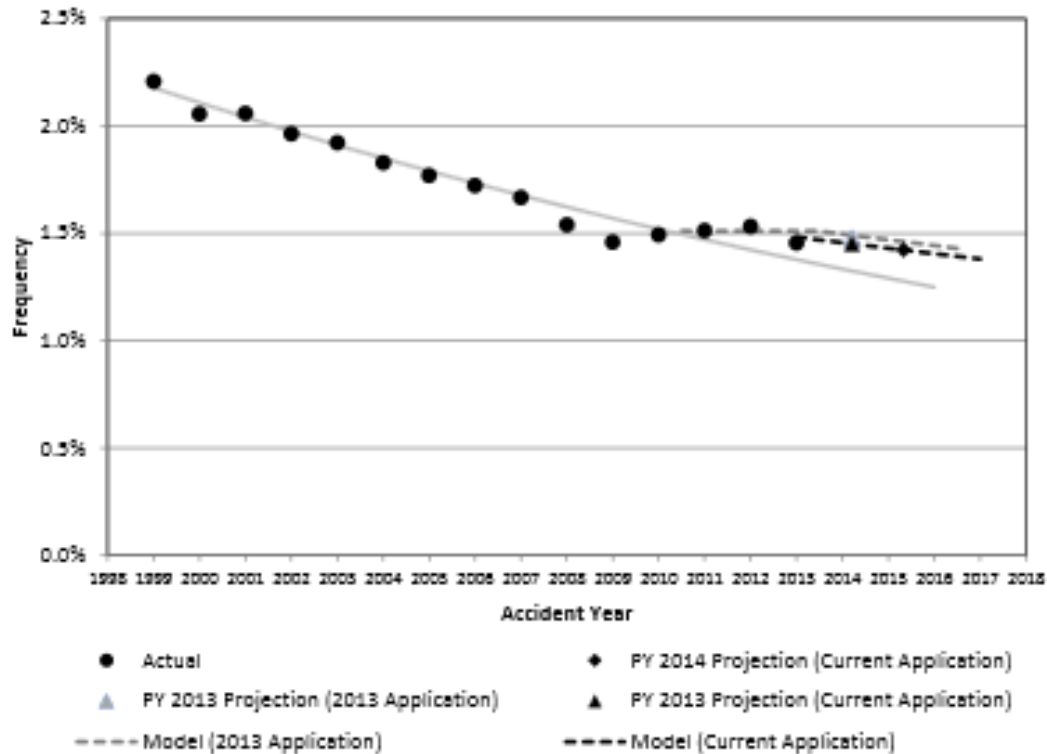
Bodily Injury Frequency – Represented by Injury Segment



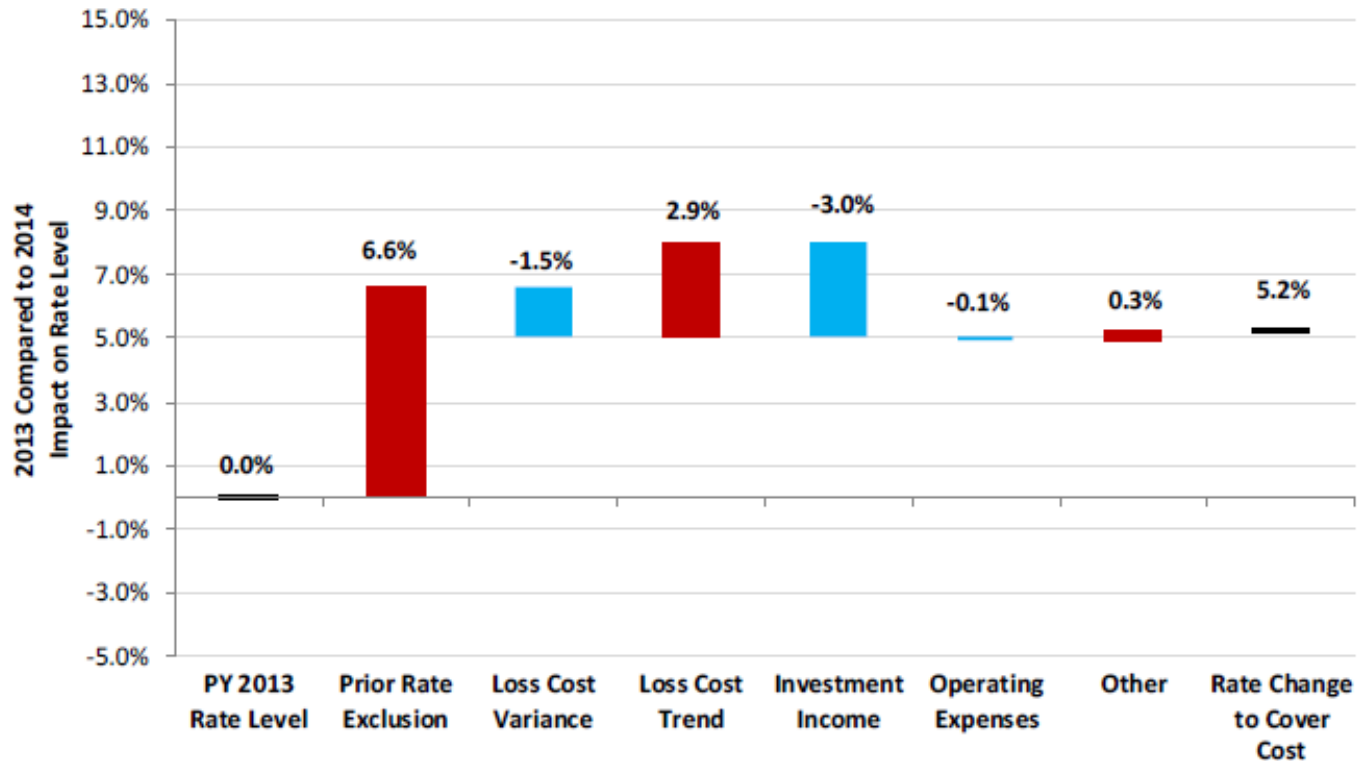
BI Severity



BI Frequency Forecast

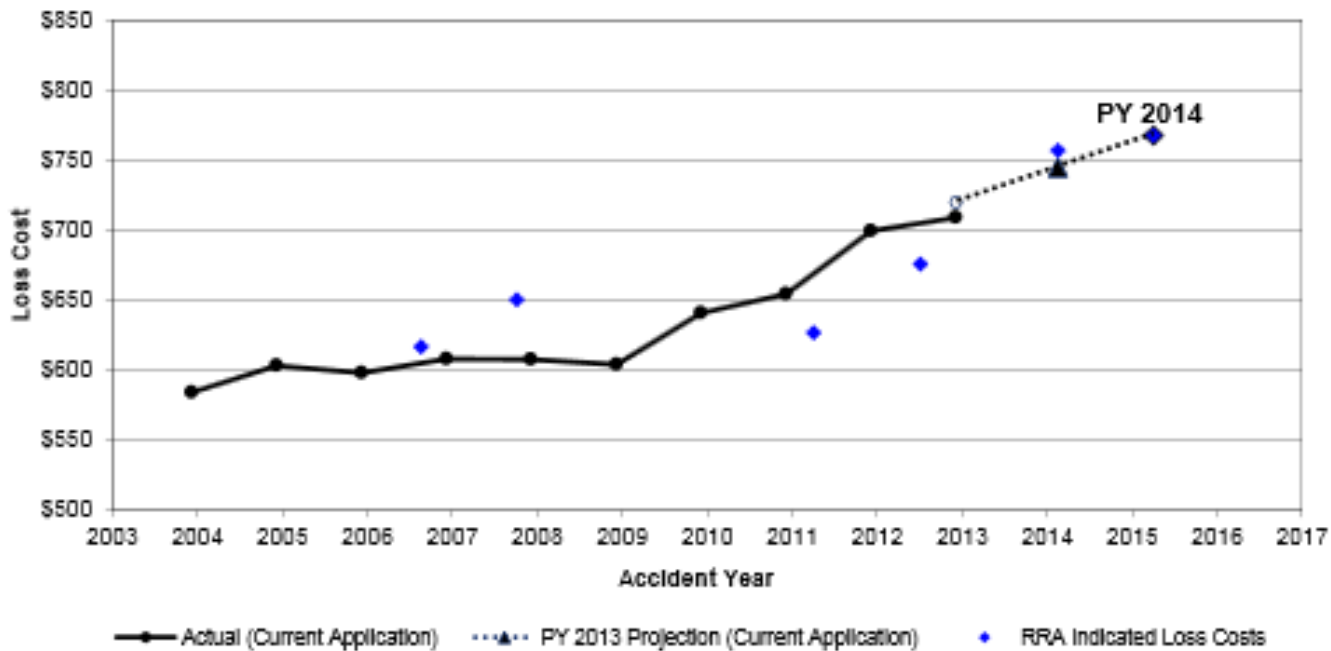


Components of 2014 rate change



Unbiased Estimates

Comparison of Previous RRA Estimates



In Closing...

Is it worth all that effort?

Benefits of Regulatory Process to ICBC

- ▶ Gives the public confidence in the management of ICBC
- ▶ Rates have been more closely aligned to costs than the period previous to regulation
- ▶ Drives a very high standard in all company analyses
 - ▶ Better management decisions

Disadvantages

- ▶ Other priorities of management often take a back seat
- ▶ Costly in terms of time and effort

Camille's Recipe for Success in Regulatory Proceedings

- ▶ Try to keep explanations at a high level
 - ▶ But be prepared to peel the onion back several layers
- ▶ Be conversant in how your work conforms to standards of practice and the statements of principles
- ▶ Back your statements with evidence or expert opinion
 - ▶ When no evidence, have a logically intuitive explanation
- ▶ Estimates should be best unbiased estimates
 - ▶ Important for developing a track record of unbiasedness
- ▶ Ensure rigorous peer review of analysis
- ▶ Duty to the public first

Questions?