Appendix 5
Actuarial Report, Mercer Oliver Wyman

MERCER OLIVER WYMAN

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March 5, 2004

Mr. Robert Byrne
Director, Regulatory & Advisory Services
Board of Commissioners of Public Utilities
120 Torbay Road
St. John's, Newfoundland
A1A 5B2

Re: Actuarial Costing of Private Passenger Automobile Product Changes

Dear Mr. Byrne:

Enclosed, please find 5 copies of our actuarial report for the Newfoundland and Labrador Board of Commissioners of Public Utilities.

We understand that our report will become a public document. Permission is hereby granted for the distribution of our report on the condition that the entire report is distributed rather than any excerpt, and that all recipients are made aware that Mercer Oliver Wyman Actuarial Consulting, Ltd. remains available to answer any questions that may arise.

It has been a pleasure working with you on this assignment and we look forward to being of assistance to you again in the future

If you have any questions please feel free to contact us at the numbers below.

Sincerely,

Theodore J. Zubulake, FCAS, FCIA
212-345-3559

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Executive Summary

Mercer Oliver Wyman Actuarial Consulting, Ltd. (Mercer) was retained by the Newfoundland and Labrador Board of Commissioners of Public Utilities (the Board) to conduct an actuarial study that would provide comparative estimates of private passenger automobile insurance savings that would be expected to arise from changes in the automobile insurance product that are under consideration.

The following product changes (scenarios) were studied:

Scenario 1: Application of a deductible at $7,500; $10,000; $12,500; and $15,000
Scenario 2: Net instead of gross wage settlement
Scenario 3: Consideration of collateral sources
Scenario 4: Combination of scenarios 1, 2, and 3
Scenario 5: Impact on premiums of the elimination of age, gender, and marital status as rating variables

In this study we estimate the reductions in the losses paid by insurance companies that would result from the product changes. We then apply these estimated loss cost savings to our estimate of the average adequate premiums for the 2004 policy year to arrive at a percent of premium savings that would be realized by insureds. Our findings are presented in terms of the estimated premium savings.

Subject to the caveats, limitations, and assumptions presented in this report, our best estimates of the average premium savings that would result from the automobile product changes being considered are as follows.

Scenarios 1, 2, 3, and 4

				Net		Collateral		
			Ded	Wages		Benefits		All
			Only	Only		Only		Scenarios
Deductible	Net Wages:		No	Yes		No		Yes
	Collateral Benefits:		No	No		Yes		Yes
$0			0.0%	2.1%		3.2%		5.3%
$7,500			10.1%	12.2%		13.3%		15.4%
$10,000			12.5%	14.6%		15.7%		17.8%
$12,500			14.5%	16.6%		17.7%		19.8%
$15,000			16.2%	18.3%		19.3%		21.4%

Scenario 5

The elimination of age, gender, and marital status as rating variables will not result in a change in the overall level of premiums paid by Newfoundland and Labrador insureds (hereafter referred to as insureds). But it would result in changes (increases or decreases) in the amount of premiums paid by individual insureds. The amount of the premium changes will depend, in part, on how Scenario 5 is implemented.

Option A assumes that insurance companies would be allowed to charge additional premiums for occasional operators under 25 years of age (as is the current practice), but, unlike the current practice, would not be permitted to vary the additional premiums by gender. Option B assumes that insurance companies would not be allowed to charge additional premiums for occasional operators. There is a third alternative, which, because of a lack of data, we were not able to quantify in this study: allowing insurance companies to charge additional premiums for all occasional operators, but not allowing insurance companies to vary the additional premiums by the age or gender of the occasional operator.

Government must decide how occasional operators will be rated in the future.

We present below our estimates of the percentage of premium changes for Option A and Option B as they apply to the mandatory Third Party Liability coverage (i.e., the Bodily Injury coverage

and the Property Damage coverage). Ranges are presented because the premium changes also depend upon where the insured vehicles are garaged (i.e., rating territory).

Estimated Average Premium Changes for Third Party Liability		
	Option A	**Option B**
Married Males Under 25	-20% to -26%	-17% to -24%
Single Males Under 25	-35% to -48%	-33% to -46%
Females Under 25	-7% to -18%	-4% to -16%
Insureds 25 or over	+2% to +3%	+5% to +6%

Scope

- The study undertaken by Mercer focuses on the estimation of private passenger automobile premium changes in Newfoundland and Labrador (herein after referred to at various sections as the province, provincial, or, NL) under several different scenarios. This report presents a comparison of the estimated relative premiums associated with each of the scenarios and explains how these relative premium estimates are derived.

- This study deals exclusively with automobile insurance for private passenger non-fleet automobiles, excluding those classified as farm use. This excludes motorcycles, commercial trucks, taxis, limousines, delivery vans, construction equipment, buses, recreational vehicles, and all other vehicle types not considered to be private passenger vehicles. Therefore, the findings presented in this report should not be extrapolated to those other vehicle types.

- The percentages of premium savings presented in this report are based on our estimate of the required adequate premiums for the 2004 policy year, which may not be the premiums currently being charged (i.e., street premiums) by insurance companies.

- The analysis of premiums presented in this report is for premiums that would otherwise be paid by insureds for the policy year beginning January 1, 2004. A policy year represents a 12 month period in which insurance policies are issued. The policy year beginning January 1, 2004 includes all policies issued from January 1, 2004 through December 31, 2004. Assuming annual policy terms, the last policies during this period, issued on December 31, 2004, would expire on December 31, 2005. Therefore, the policy year beginning January 1, 2004 deals with the costs associated with claims that occur between January 1, 2004 and December 31, 2005; the average date of claim being January 1, 2005.

- The objectives of this study do not include the evaluation of reasonable provisions for either insurance company expenses or profits. The assumptions that we make in this study regarding provisions for expenses and profits are made solely for the purpose of developing estimated premiums for comparative purposes, and we believe that they are reasonable for this purpose.

Caveats and Limitations

The following caveats and limitations of this study notwithstanding, the conclusions presented in this report represent our best estimate of the relative premium savings under the various scenarios.

- The report was prepared to measure the impact on premiums of different private passenger automobile insurance product alternatives and is not intended for any other purpose.

- The premium savings estimates presented in this report are appropriate for the year in which the product changes are implemented. Following the year of implementation, absent any other changes, we would expect that inflationary forces will continue to impact insurance premiums in the province.

- This study is based on aggregate experience of the entire automobile insurance industry in the province (including the Facility Association) and our findings are for premiums, on average, for all insurance companies and insureds. As such, the conclusions contained in this report may not be applicable to any specific insurance company. For example, each insurer operates with its own set of underwriting rules, thus might write a book of business that is significantly different than the average industry-wide book of business. We believe that our premium assumptions are reasonable for the insurance industry as a whole, but may not be appropriate for any individual insurance company. Similarly, the conclusions contained in this report may not be applicable to any specific insured. Thus, the conclusions regarding the premium savings, while valid on the average for all insureds, do not necessarily reflect the premium savings that may apply to any one insured.

- This study is largely based on the results of the Newfoundland and Labrador closed claim study compiled by Exactor Insurance Services Inc. on behalf of the Insurance Bureau of Canada (IBC) at the end of 1996. This data is used because we consider the closed claim study data (hereafter referred to as the "database") to be the most reliable source of

relevant information regarding the distribution of automobile claims by size and by category of damage in the province. The IBC closed claim study is based on a sample of 1,533 private passenger automobile claims in the province that were closed during the period mid 1994 to mid 1996. The data was provided to us by Exactor Insurance Services Inc. Although we reviewed the data for reasonableness, we did not audit or independently verify the data.

While we consider the IBC closed claim study to be the most reliable source of relevant information it is limited in several respects.

- The study is somewhat dated.

- The study reflects only a sampling of NL automobile insurance claims, and, as such, is subject to sampling error: the sample may not reflect the true population of NL automobile insurance claims. In fact, even after making adjustments for explainable differences, we find the average size of claims within the closed claim study to be less than the average size of NL claims calculated from loss data compiled by IBC and published in its AIX reports for the similar time period. (As described later in this report, we make an adjustment to reflect this discrepancy.)

- As is the case for any study of this nature, the claim dollar amounts reported for each category of damage are based on the judgments of the claim adjusters that reviewed the claim files. As such, the assignment of claim dollars to category of damage is subject to inconsistencies in the application of those judgments. The application of different judgments could very well lead to different assignments of costs by category of damage.

- The average number of claimants per claim in the Newfoundland and Labrador database is 1.29, while in the Nova Scotia and New Brunswick closed claim studies, the average number of claimants per claim is 1.50 and 1.59, respectively. This further suggests limitations inherent in the Newfoundland and Labrador database, and leads one to suspect the coding of the claimant number may have been less accurate in the Newfoundland and Labrador study.

- The percentage of claims within the database that are without any indemnity payment is 10% as compared to the percentages of claims without any indemnity payment in the New Brunswick and Nova Scotia closed claim studies of 2-3%. This further suggests limitations inherent in the Newfoundland and Labrador database.

- The premium savings that are actually realized are dependent upon how the product changes are implemented and developed over time. For example, if as a result of Scenario 3, consideration of collateral sources, all employers redefine their benefit plans either to exclude injuries suffered in automobile accidents or to make their benefit plans secondary to automobile insurance coverage, then little savings will be realized.

- The objectives of this study do not include an evaluation of the relative adequacy of the premiums currently being charged in the province (i.e., street premiums). As a result, the estimated savings presented in this report may be reduced due to possible inadequacies in the current rate levels.

- The conclusions reached in this analysis are based on many assumptions. Some of these assumptions are based on statistical data and in other cases are based on professional judgment. The reader should keep in mind that any forecast of future costs involves many assumptions, some of which may be implicit and not expressly stated in this report.

- Due to uncertainties inherent in the estimation of future insurance costs, such as changes in judicial decisions, legislative actions, claim consciousness, claim management, claim settlement practices, and economic and social conditions, actual costs may vary significantly from our estimates. This element of risk is always present when future costs are being estimated.

  The estimates presented in this report are subject to a higher than normal degree of uncertainty for the following reasons:

  - Our projections estimate the effects of fundamental system-wide changes. Other influences, such as a change in the level of coverage under employer-sponsored income disability plans, which are not incorporated in our work, may arise that can

affect our estimate of the effects of changes contemplated by the various scenarios.

- As stated earlier, our premium savings estimates are largely based on a very limited sample of closed claims, from several years ago. The current legal and claims consciousness environment in the province may be different from the environment at the time of the closed claim study. As such, the results of the study may not be indicative of the results that would be expected today. We have attempted to recognize this through various assumptions and adjustments that we made; however, such assumptions and adjustments serve to increase the uncertainty.

- The study conclusions are developed in the accompanying text and exhibits, which together comprise the report. The reader should be cognizant of all parts of the report, in order to avoid reaching incorrect conclusions.

Introduction

Mercer was retained by the Board to conduct an actuarial study that would provide comparative estimates of private passenger automobile insurance premium savings that would be expected to arise from changes in the automobile insurance product that are under consideration. This study will form part of a broader report to the Provincial Government by the Board.

Automobile Insurance in Newfoundland and Labrador Current Situation

Under the provincial tort system of reparations, injured parties can bring legal action against at-fault drivers for injuries resulting from the operation of a motor vehicle. Injuries, or damages, that occur are typically categorized as either economic or non-economic. Economic injuries/damages include costs incurred for necessary medical care and treatment, funeral expenses, and wages that would not be earned as a result of injuries suffered (i.e., lost wages). Non-economic injuries/damages, also referred to as general injuries/damages, provide principally for pain & suffering that may be experienced by the injured party as a result of the automobile accident.

The automobile insurance coverage known as Bodily Injury coverage, a mandatory coverage in the province, provides protection for legal actions brought for both economic and non-economic injuries up to the limit of coverage that is purchased. This means, for example, that if an insured driver, who has $200,000 of Bodily Injury Coverage, causes injuries to another party that result in damages amounting to $50,000 for medical costs and lost wages, and $25,000 for pain & suffering, that insured driver's insurance company would pay the damages. If the at-fault driver was uninsured, the payments would be made by the injured person's automobile insurance company under the mandatory Uninsured Motorist coverage. If the at-fault driver's Bodily Injury coverage limit was insufficient, the injured party could seek additional recovery under his Underinsured Motorist coverage, if he had purchased this optional coverage.

Accident Benefits (AB) coverage is offered on an optional basis in the province. If the injured party has access to AB benefits, he would first seek recovery under the AB coverage which provides:

- Medical benefits – up to $25,000 per person, for medical expenses (including rehabilitation costs) incurred within a time period of four years; excludes coverage provided under health insurance plans

- Funeral benefits - up to $1,000 per person for funeral expenses incurred

- Disability income benefits – 80% of gross income from employment less amounts provided by employer or government plans, up to $140 per week, for up to 104 weeks if partially disabled and for life if totally disabled, subject to a seven day waiting period; up to $70 per week for housekeepers for a maximum 12 weeks

- Death benefits – for deaths that occur within two years of the accident, survivors of the deceased insured person receive, in total: $10,000 for the death of the head of household, plus $1,000 for each survivor; $10,000 for the death of the spouse of the head of the household; $2,000 for the death of a dependent

To the extent AB benefits are insufficient or unavailable, the not-at-fault injured party can seek recovery under tort, or, if purchased, under his Underinsured Motorist coverage.

Description of Scenarios That Were Studied

In this report we refer to the automobile insurance product changes as "scenarios." We have evaluated five different scenarios as follows:

Scenario 1: Application of a deductible at $7,500; $10,000; $12,500; and $15,000
Scenario 2: Net instead of gross wage settlement
Scenario 3: Consideration of collateral sources
Scenario 4: Combination of scenarios 1, 2, and 3
Scenario 5: Impact on premiums of the elimination of age, gender, and marital status as rating variables

Scenario 1: Application of Deductible Options

Under Scenario 1A, any amounts that would otherwise be paid by the at-fault driver's insurance company for pain & suffering injuries, would be subject to a $7,500 deductible. This means that $7,500 would be subtracted from the pain & suffering settlement or award. So, for example, if the injured person would otherwise receive $5,000 for pain & suffering, the injured person would receive $0 (since the amount of the deductible, $7,500, exceeds the amount that would have otherwise been paid). If, instead, the injured person would otherwise receive $10,000 for pain & suffering, the injured person would receive $2,500 ($10,000 less the amount of the deductible of $7,500). If, instead, the injured person would otherwise receive $25,000 for pain & suffering, the injured person would receive $17,500 ($25,000 less the amount of the deductible of $7,500). And so on.

Scenarios 1B, 1C, and 1D are similar, except that the deductible amounts are higher: $10,000 (B), $12,500 (C), and $15,000 (D). For the same $15,000 that an injured person would today otherwise receive for pain & suffering, the injured person would receive $7,500 under Scenario 1A, $5,000 under Scenario 1B, $2,500 under Scenario 1C, and $0 under Scenario 1D.

Scenario 2: Net Instead of Gross Wage Settlement

This scenario deals with the wage component of settlements or awards. The savings under this scenario were measured on the basis of eliminating the income tax, Canada Pension Plan, and employment insurance (hereafter collectively referred to as taxes) portion of the injured person's wages.

Currently in the province, the amount of wages that an injured person loses because of an inability to work for a period of time due to injuries suffered in an automobile accident caused by another person, is determined based on the injured person's gross wages before tax. That is, for example, if an injured person earns $500 a week before taxes, and is unable to work for four weeks due to injuries suffered in an automobile accident, the injured person's lost wages are determined to be $2,000 (4 weeks multiplied by $500 per week). This means that the person can recover $2,000 under the at-fault driver's Bodily Injury coverage, assuming AB benefits are not available.

Under this scenario, the amount of wages lost by an injured person as a result of an automobile accident caused by another person would be determined based on the injured person's after tax, or net, wages. That is, for example, if an injured person earns $500 a week before taxes, and $400 a week after taxes, and is unable to work for four weeks due to injuries suffered in an automobile accident, the injured person's net lost wages are determined to be $1,600 (4 weeks multiplied by $400 per week) under this scenario. This means that the person could recover $1,600 under the at-fault driver's Bodily Injury coverage, assuming AB benefits are not available.

Scenario 3: Consideration of Collateral Benefits

This scenario measures the impact on premiums of reducing settlements or awards by any amounts received by the injured person from other sources for the same injuries.

Currently in the province, a person injured in an automobile accident can receive payments for injuries that are suffered from the at-fault driver's Bodily Injury coverage as well as from his

own personal sources of benefits. A collateral benefit may include the injured person's recovery for lost wages from a disability insurance coverage benefit available to him through employment. As a result of the existence of collateral benefits a person injured in an automobile accident can collect benefits from more than one source for the same injury.

Under this scenario, any automobile insurance benefits otherwise payable to an injured person will be secondary to other collateral benefits that the injured person may have. That is, for example, if an injured person earns $500 a week before taxes, and is unable to work for four weeks due to injuries suffered in an automobile accident, the injured person's gross lost wages are determined to be $2,000 (4 weeks multiplied by $500 per week). This means that the person can recover $2,000. If the person receives $1,200 dollars from a disability insurance plan, then he would receive only $800 from the at-fault driver's Bodily Injury coverage (assuming AB benefits are not available).

Scenario 4: Deductible Options, Net Instead of Gross Wage, and Consideration of Collateral Benefits

Scenario 4 is the combination of scenarios 1, 2 and 3, and measures the combined premium savings measured under these scenarios. Scenario 4A is with the $7,500 (Scenario 1A) deductible, Scenario 4B is with the $10,000 (Scenario 1B) deductible, Scenario 4C is with the $12,500 (Scenario 1C) deductible, and Scenario 4D is with the $15,000 (Scenario 1D) deductible.

Scenario 5: Removal of Age, Gender, and Marital Status as Risk Rating Variables

Currently in the province, the amount of premium that an insured pays for personal automobile insurance depends upon the driver's risk characteristics (or rating variables). Three of the risk characteristics are age, gender, and marital status, and apply to principle operators under the age of 25. Generally these younger drivers pay more for automobile insurance than drivers 25 years of age and over, males pay more than females, and generally, those who are married pay less than those who are single.

Under this scenario, insurance companies would no longer be permitted to charge premiums that vary on the basis of age, gender, or marital status. This change will not result in a reduction in loss payments made by insurance companies. As a result, there will be no reduction in overall premiums paid by insureds. This change will, however, result in a redistribution of premiums paid by insureds. In general, this redistribution will lead to lower premiums for insureds under age 25 and higher premiums for insureds over the age of 25. In addition, young male and young female insureds will pay the same premium, and young single insureds will pay the same premium as young married insureds.

The amount of the shift in premiums paid depends, in part, on how Scenario 5 would be implemented as respects households that have drivers that occasionally operate an insured vehicle.

Currently, insurance companies charge a higher premium for households that have occasional operators that are under the age of 25. The additional premium charge varies depending upon whether the occasional operator under 25 is male or female. Companies do not charge a higher premium for households that have occasional operators that are 25 years of age or older.

Under Scenario 5, insurance companies will not be permitted to vary the premiums that they charge by the age of an insured. This suggests that the current practice of charging for occasional operators must be changed in one of three ways.

Under what we refer to as Option A, insurance companies would be allowed to charge additional premiums for occasional operators under 25 years of age as is the current practice, but, unlike the current practice, would not be permitted to vary the additional premium by gender. Under Option B, insurance companies would not be allowed to charge additional premiums for occasional operators. There is a third alternative, which, because of a lack of data, we were not able to quantify in this study: allowing insurance companies to charge additional premiums for occasional operators, but not allowing insurance companies to vary the additional premiums by the age or gender of the occasional operator.

Methodology

All Scenarios

We first determined what would be a representative adequate average loss cost per car for all insurance companies combined for the policy period spanning January 1, 2004 through December 31, 2004. Our projection of this representative loss cost per car is based on data presented in the IBC 2002 AIX report. Next, we adjusted the loss cost per car to reflect the time value of money. We refer to this as the discounted loss cost per car. This adjustment was based on historical payment data presented by IBC in the IBC 2002 AIX exhibits, and an assumed discount rate of 5.5% per annum. We did this by coverage and for all coverages combined (based on the proportion of coverages that are purchased in the province). The resulting projected representative discounted loss cost by coverage totals $727 (for one car) and is presented in Exhibit 1.

Scenario 1: Application of a Deductible

We analyzed the results of the IBC closed claim study referred to previously to estimate the relative premium savings under each of these deductible scenarios. In doing so, we first calculated the total amount of actual payments made for all claims within this database.

Before performing these computations, we made several adjustments to the claim payment amounts in the database.

We adjusted the payments made for each of the claims in the database for the cost inflation that has occurred since the time the claims in the database occurred. In doing so, we re-stated the claim payments, for each category of damage, to a January 1, 2005 cost level. The average cost adjustment that we selected is 4.8% per year for the period spanning 1991 to 1996, and 1.6% per year for the period spanning 1997 to 2004. The selected cost inflation adjustments are based on our review of the changes in the average costs per claim (claim severity) by year over the period 1991 through 2002.

We also added to the cost value of the claims in the database a provision for unallocated loss adjustment expense costs. We selected a provision of 6.8%, and this is based on data provided in IBC's 2002 summary expense exhibits for the province.

We supplemented the database with hypothetical Bodily Injury claims which, when added to the database, raised the average Bodily Injury cost per claim to levels comparable to those within the IBC AIX report. We first assumed the number of claimants per claim in the province, 1.29, should be similar to the ratios found in the Nova Scotia and New Brunswick studies, an average of 1.55. We added $5 million dollars of large loss claims as follows: 1 at $1,000,000, 2 at $500,000 and 12 at $250,000. In doing so, we distributed the total estimated claim costs by type of damage consistent with the manner in which the total amounts of the actual claims in the database are distributed.

Then, for each of the four deductibles, we estimated the total amount of payments that would have been made for all claims in the database assuming that the pain & suffering portion of each claim was subject to each of the deductible amounts. In doing so, we assumed that the resulting proportionate savings in pain & suffering costs would apply to other types of damages: pre-judgment interest, party & party costs, and allocated loss adjustment expenses. Pre-judgment interest refers to that portion of the loss settlement/award for interest on accrued damages. Party & party costs refer to that portion of the loss settlement/award for the costs of the plaintiff's attorney. Allocated loss adjustment expenses generally refer to the claim settlement expenses that can be attributed to specific claims, such as legal expenses.

We then compared the re-stated claim payments against the claim payments before the application of the deductible amounts to determine the savings resulting from the application of the deductibles. We then reduced this savings by 15% for erosion that we anticipate will occur. The issue of erosion is discussed in detail under the Major Assumptions section of this report.

The resulting estimated savings was then re-stated as a "product change adjustment factor" that was applied to the representative Bodily Injury and Uninsured Motorist discounted loss cost per car we had projected (presented in Exhibit 1). The adjusted projected discounted loss cost per car was then totaled for all coverages combined and compared to the pre-adjusted projected discounted loss cost per car for all coverages combined, to arrive at the percentage savings. This

was done for each of the deductible options.

We converted the percentage savings in loss costs to percentage savings in premiums. In so doing we treated the expense and profit components of the premium dollar as being proportional to the loss costs. As a result, the percentage savings in premiums is the same as the percentage savings in loss costs.

Scenario 2: Net Instead of Gross Wage Settlement

We estimated the percentage savings that would result from paying lost wage claims on a net of tax basis by first determining the portion of the Bodily Injury claim dollars attributed to lost wages from the database. To this percentage of 22.2%, we applied the percentage difference between gross and net wages, which we estimated from information published by the Canada Customs and Revenue Agency for the 2001 tax year. We applied this percentage difference to the portion of the Bodily Injury claim dollars attributed to lost wages. The resulting estimated savings was then re-stated as a "product change adjustment factor" that was applied to the representative Bodily Injury, Uninsured Motorist and Underinsured Motorist discounted loss cost per car we had projected (presented in Exhibit 1). The adjusted projected discounted loss cost per car was then totaled for all coverages combined and compared to the pre-adjusted projected discounted loss cost per car for all coverages combined, to arrive at a percentage savings. We then reduced this savings by 15% in anticipation of erosion that is likely to take place. The issue of erosion is discussed in detail under the Major Assumptions section of this report.

We converted the percentage savings in loss costs to a percentage savings in premiums. In so doing we treated the expense and profit components of the premium dollar as being proportional to the loss costs. As a result, the percentage savings in premiums is the same as the percentage savings in loss costs.

Scenario 3: Consideration of Collateral Benefits

We estimated the premium savings that would result from making lost wages claims paid under Bodily Injury, Uninsured Motorist and Underinsured Motorist coverages secondary to collateral benefits that may be available to the claimant by first determining the portion of the Bodily Injury claim dollars attributed to lost wages from the database. We then estimated the average collateral wage benefit from information published by the Canada Customs and Revenue Agency in 2001, and based on our assumption that 70% of wage earners have collateral benefits equal to 60% of gross wages. We then estimated the percentage savings in the average Bodily Injury lost wages payment due to the recognition of the average collateral wage benefit, and applied this percentage to the portion of the Bodily Injury claim dollars attributed to lost wages from the database. The resulting estimated savings was then re-stated as a "product change adjustment factor" which was applied to the representative Bodily Injury, Uninsured Motorist and Underinsured Motorist discounted loss cost per car we had projected (presented in Exhibit 1). The adjusted projected discounted loss cost per car was then totaled for all coverages combined and compared to the pre-adjusted projected premium for all coverages combined, to arrive at the percentage savings. We then reduced this savings by 15% in anticipation of erosion that is likely to take place. The issue of erosion is discussed, in detail under the Major Assumptions section of this report.

We converted the percentage savings in loss costs to percentage savings in premiums. In so doing we treated the expense and profit components of the premium dollar as being proportional to the loss costs. As a result, the percentage savings in premiums is the same as the percentage savings in loss costs.

Scenario 4: Combination of Scenarios 1, 2, and 3

For this scenario, we combined the premium savings we estimated for Scenario 1, Scenario 2 and Scenario 3.

Scenario 5: Elimination of Age, Gender, and Marital Status

We estimated the percentage change in premium that would result from the elimination of age, gender, and marital status as risk rating factors for the mandatory Third Party Liability coverage. Third Party Liability and Collision (optional) are the two coverages for which age, gender, and marital status are rating variables. Since all insureds do not purchase collision coverage, in our study we focused on the impact of this scenario on the Third Party Liability coverage.

We derived our estimates under the two implementation options discussed previously. Due to the lack of certain important statistics, we were not able to estimate the premium changes that would result from allowing insurance companies to charge additional premiums for occasional operators, but not allowing insurance companies to vary the additional premiums by age or gender. Generally, the three risk characteristics under consideration, age, gender, and marital status, are rating variables only for determining the premiums for insureds under the age of 25. While many companies offer discounts that are based on the age of the insured, the review of such discounts is outside the scope of our study.

Based upon data published by the Insurance Bureau of Canada, we estimated the percentage of insureds in the province by age, gender, and marital status, for the TPL coverage. We also assumed that all insureds under the age of 25, who are principal operators, either use their automobile to drive to work or to drive to school. We then estimated the percentage change in premiums for those under age 25 and those 25 or older by applying the same cost relationship between insureds under age 25 and those 25 or over that is contemplated in the current Newfoundland and Labrador Benchmarks.

Major Assumptions

- In this study we assumed that Scenario 1, Application of a Deductible, would impact only the Bodily Injury coverage and the Uninsured Motorist coverage, and will not affect the Underinsured Motorist coverage. We also assumed that Scenario 2, Net Instead of Gross Wage Settlement, and Scenario 3, Consideration of Collateral Sources, would impact the Bodily Injury coverage, the Uninsured Motorist coverage, and the Underinsured Motorist coverage. We assumed that there will be no impact on the Accident Benefits coverage or the Property Damage coverage portion of the Third Party Liability coverage and the Uninsured Motorist coverage.

- The objectives of this study do not include the evaluation of reasonable provisions for either insurance company expenses or profits that may be appropriate under the changes being considered. For the purposes of developing premiums for cost comparison purposes, we assumed a total expense ratio of 25.5% and a profit provision of 3.1% based on historical levels. We believe that they are reasonable assumptions for this comparative purpose.

- We assumed the composition of Uninsured Motorist coverage claims and the Underinsured Motorist coverage claims to be 80% Bodily Injury and 20% Property Damage claims, and only the Bodily Injury coverage portion would be affected by the changes. We assumed that 1% of the Bodily Injury claims costs are attributed to out-of-province claims, and that these claims would not be affected by the changes.

- We assumed that on average, 70% of all wage earners with an annual income of $25,000 or more have collateral benefits equal to 60% of gross wages.

- The average size of Bodily Injury claims within the database is less than the average size of provincial claims calculated from data compiled by IBC and published in its 2002 AIX reports. This is the case even after we further adjust the claims in the database for explainable differences. We attribute this to the absence of a representative number of

large claims within the database. We, therefore, assumed that the number of large claims is underrepresented in the database.

- In estimating the cost impact of product changes such as the ones that are the subject of this study, it is a common actuarial practice to assume that due to behavioral changes that typically occur, premium savings that are otherwise anticipated are not realized in full. This phenomenon is generally referred to as erosion. Erosion generally results from the exaggeration of injuries or damages to overcome some or all of the reduced recoveries that result from the imposition of higher insurance claim thresholds. An example of this is found in the imposition of higher deductibles. All else being equal, one would expect that the average collision coverage claim payment for policies carrying a $500 deductible would be $200 less than the average collision claim payment for policies carrying a $300 deductible. However, actuarial studies have shown the difference to be less than $200. Consistent with this common actuarial practice, we have reduced our premium savings estimates under the various scenarios by 15%. The 15% erosion factor is a judgment we made, but it is in line with erosion factors that are commonly used by actuaries.

Findings

Subject to the previously listed caveats and limitations, our best estimates of the premium savings that would result from each of the automobile product changes being considered are as follows.

Scenario 1, 2, 3, and 4

The effect of the pain & suffering deductible scenarios, Scenario 1, would be to reduce the amounts paid out by automobile insurance companies under the Bodily Injury and Uninsured Motorist coverages for pain & suffering injuries. All else being equal, the reduced insurance costs would, in turn, translate into lower premiums charged by automobile insurance companies and, hence, premium savings for insureds. Among the deductible scenarios, the premium savings would be largest for Scenario 1D ($15,000 deductible) and lowest for Scenario 1A ($7,500 deductible).

In addition to the savings from the pain and suffering deductibles described in Scenario 1, the effect of Scenario 2 would be to reduce the amounts paid out by automobile insurance companies under the Bodily Injury, Uninsured Motorist, and Underinsured Motorist coverages for economic injuries involving lost wages. The amount of the reduction would be equal to the average difference between gross (before taxes) wages and net (after tax) wages. All else being equal, the reduced insurance costs would, in turn, translate into lower premiums charged by automobile insurance companies and, hence, premium savings for insureds.

In addition to the savings from the pain and suffering deductibles described in Scenario 1, the effect of Scenario 3 would be to reduce the amounts paid out by automobile insurance companies under the Bodily Injury, Uninsured Motorist, and Underinsured Motorist coverages in those situations where the injured person has collateral benefits. The amount of the reduction would be equal to the average difference between the cost to indemnify the injured person for injuries suffered and the amount of collateral benefits received (bearing in mind that not all people have a source of collateral benefits). All else being equal, the reduced insurance costs would, in turn,

translate into lower premiums charged by automobile insurance companies and, hence, premium savings for insureds.

It follows that the effect of Scenario 4, which is the combination of Scenario 1, Scenario 2, and Scenario 3, would be to reduce the amounts paid out by automobile insurance companies under the Bodily Injury and Uninsured Motorist coverages for pain & suffering injuries as well as in those situations where the injured person has collateral benefits. All else being equal, the reduction in insurance costs, and hence insurance premiums paid by insureds, would be greater under Scenario 4 than either under Scenario 1, Scenario 2, or Scenario 3.

We estimate the average percentage savings for insureds under each of these scenarios to be as follows:

		Ded Only	Net Wages Only	Collateral Benefits Only	All Scenarios
Deductible	**Net Wages:**	**No**	**Yes**	**No**	**Yes**
	Collateral Benefits:	**No**	**No**	**Yes**	**Yes**
$0		0.0%	2.1%	3.2%	5.3%
$7,500		10.1%	12.2%	13.3%	15.4%
$10,000		12.5%	14.6%	15.7%	17.8%
$12,500		14.5%	16.6%	17.7%	19.8%
$15,000		16.2%	18.3%	19.3%	21.4%

As can be seen from the above table, we estimate the average premium savings that would arise from the pain & suffering deductibles ranges from 10% to 16%. We further note that based on the database, 83% of all Bodily Injury coverage claims involve pain & suffering, and the average amount paid for pain & suffering injuries (adjusted for inflation) is $13,117.

We estimate the average premium savings resulting from changing the manner in which lost wages are determined, from being based on gross wages to being based on net wages, to be 2.1%. When combined with the pain & suffering deductibles under consideration, the savings range from 12% to 18%. We further note that based on the database, 22.2% of all Bodily Injury coverage claim amounts involve lost wages.

We estimate the average premium savings resulting from making the payment of Bodily Injury coverage claims secondary to collateral benefits ranges to be 3.2%. When combined with the pain & suffering deductibles under consideration, the savings range from 13% to 19.

We estimate the average premium savings resulting from the combination of Scenarios 1, 2, and 3, to range from 15% to 21%.

Scenario 5: Removal of Age, Gender, and Marital Status as Risk Rating Variables

Removal of age, gender, and marital status as rating variables would not result in a change to the average automobile insurance premium paid in the province as there will be no offsetting reduction in losses through this product change. However, assuming all other conditions remain constant, the removal of these rating variables would result in a redistribution of the amount of premium paid by individual insureds. In general, this redistribution will lead to lower premiums for insureds under the age of 25 and higher premiums for insureds age 25 or over. In addition, young male and young female insureds will pay the same premium, and young single insureds will pay the same premium as young married insureds.

The amount of the shift in premiums will depend, in part, on how the scenario would be implemented as respects occasional operators.

We present, below, our estimates of the resulting shift in premiums under two options. Option A assumes that insurance companies would be allowed to charge additional premiums for occasional operators under 25 years of age (as is the current practice), but, unlike the current practice, would not be permitted to vary the additional premium by gender. Option B assumes that insurance companies would not be allowed to charge additional premiums for occasional operators. There is a third alternative, which, because of a lack of data, we were not able to quantify in this study: allowing insurance companies to charge additional premiums for occasional operators, but not allowing insurance companies to vary the additional charge by the age or gender of the occasional operator. Government must decide how occasional operators will be rated in the future.

We present below our estimates of the percentage of premium changes for Option A and Option B as they apply to the mandatory Third Party Liability coverage (i.e., the Bodily Injury coverage and the Property Damage coverage). Ranges are presented because the premium changes also depend upon where the insured vehicles are garaged (i.e., rating territory).

Estimated Average Premium Changes for Third Party Liability		
	Option A	**Option B**
Married Males Under 25	-20% to -26%	-17% to -24%
Single Males Under 25	-35% to -48%	-33% to -46%
Females Under 25	-7% to -18%	-4% to -16%
Insureds 25 or over	+2% to +3%	+5% to +6%

While not considered in the above chart, the removal of age as a rating variable, however, will result in the elimination of the seniors/mature driver discounts currently offered by many companies. This will reduce premium savings these insureds would otherwise receive.

One possible effect of the elimination of age, gender, and marital status as premium rating variables is an increase in the size of the Facility Association, as insurance companies may decline to write youthful male operators that would not be paying their actuarially based premium under this product change. The size and makeup of the Facility Association, and insurance company underwriting practices, would need to be monitored and controlled to ensure that this does not occur.

Sensitivity Testing

The premium savings estimates we have presented in this report are based on the various assumptions that we have made. We tested the sensitivity of our estimates to several of the key assumptions that we made, by changing the assumptions and re-computing the estimated premim savings.

We tested the following alternative assumptions:

(a) An erosion factor of 25%. That is, 75% of the otherwise calculated premium savings would be realized under each deductible scenario (instead of 85%).

(b) No erosion factor. That is, 100% of the otherwise calculated premium savings would be realized under each deductible scenario (instead of 85%). We present this alternative assumption to show how our assumed erosion factor impacts our estimates. We do not believe this it is reasonable to assume that no erosion would occur.

(c) On average, 80% of all wage earners are assumed to have collateral benefits equal to 70% of gross wages (instead of 70% of wage earners having collateral benefits equal to 60% of gross wages).

(d) On average, 60% of all wage earners are assumed to have collateral benefits equal to 50% of gross wages (instead of 70% of wage earners having collateral benefits equal to 60% of gross wages).

(e) The number of large claims is not underrepresented by the closed claim database (instead of assuming the number is underrepresented).

The resulting premium savings estimates under these alternate assumptions are presented in Exhibit 2 (a-e).

In Exhibit 2a and 2b we present our percentage savings per car for Scenarios 1 to 4 based on alternative realization rates of 75% and 100% respectively ((a) and (b), above). We find that, if a 75% realization rate is, instead, assumed, the estimated premium savings would decrease (i.e., lower savings) by 1 to 2 percentage points depending upon the deductible limit and scenario. We find that, if a 100% realization rate is assumed, the estimated premium savings would increase (i.e., greater savings) by 2 to 3 percentage points depending upon the deductible limit and scenario.

In Exhibit 2c and 2d we present our percentage savings per car for Scenarios 1 to 4 based on alternative collateral benefit assumptions; a higher collateral benefit where 80% of the claimants with incomes of $25,000 or greater would be eligible for collateral disability income benefits equal to 70% of the gross weekly wage, and a lower collateral benefit where 60% of the claimants with incomes of $25,000 or greater would be eligible for collateral disability income benefits equal to 50% of the gross weekly wage; (respectively (c) and (d)). We find that, if the higher collateral benefit is, instead, assumed, the estimated premium savings would increase (i.e., higher savings) by approximately 1 percentage point. We find that, if the lower collateral benefit is assumed, the estimated premium savings would decrease (i.e., lower savings) by 1 percentage point.

In Exhibit 2e we present our estimate of the premium savings per car for Scenarios 1 to 4 based on the database provided to us by Exactor Insurance Services, without any adjustment for the under-representation of large claims. We find that, if no additional large loss claims are added to the database, the estimated savings would increase (i.e., greater savings) by 2 to 3 percentage points, depending upon the deductible limit and scenario.

Concluding Comments

We conclude our report with an addition point that we believe warrants consideration.

While the estimates we have presented represent our best estimates, as is the case with any estimate of future costs, they are subject to uncertainty. Some of the uncertainty is attributed to the limitations we discussed that exist in the closed claim study. Consideration should be given to conducting an updated closed claim study. We estimate that once the scope of the study has been defined and participating insurance companies have been identified and have committed their full and timely cooperation, it would take at approximately 12 months for such a study to be conducted by an independent firm.

Exhibits

Province of Newfoundland and Labrador
Private Passenger Automobile (excluding farmers)

Exhibit 1

Estimated Required Premiums and Discounted Losses for Policy Year 2004

Coverage	Bodily Injury	Property Damage	Accident Benefits	Health Levy	Uninsured Automobile	Total Compulsory	Collision	Comprehensive	Specified Perils	All Perils	Underinsured Motorist	Total Optional Coverages	Total All Coverages
2002 Written Exposures	215,623	215,623	157,131	215,623	206,770	215,623	137,241	144,088	7,100	2,467	150,547	290,896	215,623
Weighted Package	100	100	100	100	100	100	63.6%	66.8%	3.3%	1.1%	69.8%		
Projected Loss & LAE/exposure At Jan 1/2005	498.81	78.17	48.18	22.21	17.50	664.86	179.76	75.68	15.24	267.11	2.70	540.49	835.29
													Weighted Avg
Discount Factor at 5.5%	0.8134	0.9601	0.9091	1.0000	0.9091		0.9697	0.9666	0.9664	0.9697	0.8134		
Discounted Loss & LAE/car	405.71	75.05	43.80	22.21	15.91	562.68	174.31	73.15	14.73	259.01	2.19	523.40	727.49
													Weighted Avg
Premium Delay Factor	1.0135	1.0135	1.0135	1.0135	1.0135		1.0135	1.0135	1.0135	1.0135	1.0135		
Expense Ratio %	25.5	25.5	25.5	25.5	25.5		25.5	25.5	25.5	25.5	25.5		
Profit Loading %	3.1%	3.1%	3.1%	3.1%	3.1%		3.1%	3.1%	3.1%	3.1%	3.1%		
Projected Avg Premium	576.04	106.55	62.19	31.54	22.59	798.91	247.49	103.86	20.92	367.75	3.11	743.14	1,032.91
													Weighted Avg

						Exhibit 2a
	ALTERNATIVE ASSUMPTION: 75% REALIZATION					
Estimated Average Premium Savings per car						
			Net	**Collateral**		
		Ded	**Wages**	**Benefits**	**All**	
		Only	**Only**	**Only**	**Scenarios**	
Deductible	**Net Wages:**	**No**	**Yes**	**No**	**Yes**	
	Collateral Benefits:	**No**	**No**	**Yes**	**Yes**	
$0		0.0%	1.8%	2.8%	4.6%	
$7,500		8.9%	10.7%	11.6%	13.5%	
$10,000		11.0%	12.8%	13.8%	15.6%	
$12,500		12.8%	14.6%	15.5%	17.4%	
$15,000		14.2%	16.1%	17.0%	18.9%	

Exhibit 2b

ALTERNATIVE ASSUMPTION: 100% REALIZATION

Estimated Average Premium Savings per car

Deductible	Net Wages:	Ded Only: No	Net Wages Only: Yes	Collateral Benefits Only: No	All Scenarios: Yes
	Collateral Benefits:	No	No	Yes	Yes
$0		0.0%	2.5%	3.7%	6.2%
$7,500		12.0%	14.5%	15.7%	18.2%
$10,000		14.8%	17.3%	18.5%	21.0%
$12,500		17.2%	19.7%	20.9%	23.4%
$15,000		19.2%	21.6%	22.8%	25.3%

Exhibit 2c

ALTERNATIVE ASSUMPTION: Higher Collateral Source Benefit Levels

Estimated Average Premium Savings per car

Deductible	Net Wages:	Ded Only: No	Net Wages Only: Yes	Collateral Benefits Only: No	All Scenarios: Yes
	Collateral Benefits:	No	No	Yes	Yes
$0		0.0%	2.1%	4.2%	6.3%
$7,500		10.1%	12.2%	14.3%	16.4%
$10,000		12.5%	14.6%	16.7%	18.8%
$12,500		14.5%	16.6%	18.7%	20.8%
$15,000		16.2%	18.3%	20.4%	22.5%

Exhibit 2d

ALTERNATIVE ASSUMPTION: Lower Collateral Source Benefit Levels

Estimated Average Premium Savings per car

Deductible	Net Wages:	Ded Only	Net Wages Only	Collateral Benefits Only	All Scenarios
	Collateral Benefits:	No	No	Yes	Yes
$0		0.0%	2.1%	2.2%	4.3%
$7,500		10.1%	12.2%	12.3%	14.4%
$10,000		12.5%	14.6%	14.7%	16.8%
$12,500		14.5%	16.6%	16.7%	18.8%
$15,000		16.2%	18.3%	18.4%	20.5%

Exhibit 2e

ALTERNATIVE ASSUMPTION: NO UNDER-REPRESENTATION OF LARGE CLAIMS

Estimated Average Percent of Premium Savings Per Car

Deductible	Net Wages:	Ded Only: No	Net Wages Only: Yes	Collateral Benefits Only: No	All Scenarios: Yes
	Collateral Benefits:	No	No	Yes	Yes
$0		0.0%	2.1%	3.2%	5.3%
$7,500		11.9%	14.0%	15.1%	17.2%
$10,000		14.7%	16.8%	17.9%	20.0%
$12,500		17.0%	19.1%	20.2%	22.3%
$15,000		18.9%	21.0%	22.1%	24.2%