



Costs of Crime in Canada, 2008



Costs of Crime in Canada, 2008

Ting Zhang

rr10-05e

This report is a work product, and the findings presented herein are not to be construed as an official Department of Justice Canada position, unless they are designated as such by other authorized documents and the report is posted on the official Department of Justice Canada Web site.

Contents

Summary Table 1: Estimated Tangible Costs of Crime in Canada, 2008 ^a	7
Summary Table 2: Estimated Intangible Costs of Crime in Canada, 2008 ^a	8
Appendix A: Criminal Justice System Costs	9
Table 1: Police Costs	9
Table 2: Court Costs	9
Table 3: Prosecution Costs	10
Table 4: Legal Aid Costs	10
Table 5: Correction Costs	11
Table 6: Criminal Code Review Board Costs	11
Appendix B: Victim Costs	12
Table 1: Health Care Costs	12
Table 2: Value of Productivity Losses	14
Table 3: Value of Stolen/Damaged Property	18
Appendix C: Costs of the Third-Party	19
Table 1: Funeral and Burial Expenses	19
Table 2: Costs to Other People Harmed or Threatened during the Incidents	19
Table 3: Value of Lost Production/Services of Other People	20
Table 4: Costs to Victim Services and Compensation Programs	23
Table 5: Expenditures of Shelters for Victims	24
Table 6: Other Expenditures Related to Crime	24
Appendix D: Intangible Costs	25
Table 1: Value of Pain and Suffering	25
Table 2: Value of Loss of Life	26
Reference	27

The present study provides estimates of the social and economic costs of crime in Canada. Drawing on a variety of methods documented in existing literature and other similar studies, an economic model was developed that outlined the financial costs associated with crime in Canada. Data sources used for the estimation included the Police Administration Survey, the Adult Criminal Court Survey (ACCS), the Integrated Correctional Services Survey (ICSS), the Canadian Institute for Health Information (CIHI), the 2004 General Social Survey (GSS) and various governmental publications.

In 2008, the total (tangible) social and economic costs of *Criminal Code* offences in Canada were approximately **\$31.4 billion**.¹ This amounted to a per capita cost of **\$943** per year. However, this is likely to be a conservative estimate due to the unavailability of data in many areas. Despite best efforts to account for all the financial impacts of crime, only a partial picture of the true range of costs is ever available. The costs outlined herein were borne by the criminal justice system, victims of crimes and third parties in general. Details of the estimated costs of each category are presented in Summary Table 1.

The costs pertaining to the Canadian criminal justice system in 2008 amounted to about \$15.0 billion for policing, court, prosecution, legal aid, correctional services and mental health review boards.² This figure accounted for approximately 2.5% of the total annual expenditures by all levels of governments in 2008. A breakdown of the total criminal justice costs by sector reveals that policing services used the majority of justice expenditures (57.2%), followed by corrections (32.2%), courts (4.5%), prosecutions (3.5%) and legal aid (2.5%).

The most direct impact of crime is borne by victims. Of the total estimated costs, \$14.3 billion was incurred as a direct result of crime, for such items as medical attention, hospitalizations, lost wages, missed school days, stolen/damaged property. Specifically, productivity losses represented 47.0% of the total costs borne by victims followed by stolen/damaged property (42.9%) and health care costs (10.1%).

While crime has its most significant impact on victims, others suffer as well. Family members may grieve the loss of a loved one or take time off from their daily activities to accompany victims (e.g., to court or doctor's appointments). Governments also provide various victim services and compensation programs to help victims. All these costs are reflected in the costs to the third-party. In 2008, the total costs borne by the third-party were about 2.1 billion, including the costs to other people who were hurt or threatened in the incidents, government expenditures for providing victim services, running shelters and operating national crime prevention strategies, etc.

¹ Due to data limitations, the costs with respect to traffic offences and drug offences are not fully covered.

² Costs for policing in the present report only include the expenditures that are related to crime-prevention, about 75% of the total police expenditures in 2008.

Prior to the mid-1980s, it was generally believed that the costs of the criminal justice system dwarfed the costs imposed on victims. Once economists began to include the intangible costs of crime such as pain and suffering and lost quality of life, this relationship was reversed. For example, victim costs accounted for 45.6% of the total estimated tangible costs as presented above, but would account for 82.8% of the total costs if those intangible costs were taken into account. However, placing a monetary value on intangible items is subject to considerable uncertainty and controversy. Many studies have attempted to estimate the intangible costs of crime borne to victims, but no study has been able to produce estimates without much addendum and much critique. Notwithstanding the differences in method among studies, the consensus remains that intangible costs are often the most expensive component of victim costs.

In the present study, it is estimated that the total **intangible** costs were about **\$68.2 billion** in 2008, which increased the total costs of crime to **\$99.6 billion**. See Summary Table 2 for details of the estimates of intangible costs. While intangible costs are borne by victims, they are presented separately from other tangible victim costs as these figures are based on more subjective criteria. Detailed calculations are presented in Appendix A-D.

In 2005, the Research and Statistics Division estimated the total costs of crime in Canada to be \$70 billion. Apart from changes in the composition and consequences of crimes, characteristics of cases disposed in criminal court, legislation and inflation, improvements in the costing methodology and data sources used have resulted in a significant increase in the total costs of crime. As certain cost elements are not included (such as mental health care costs, life-time productivity losses, lost legitimate incomes for offenders and psychological impacts on family members, etc.), it is reasonable to suggest the current 2008 estimate of **\$99.6 billion** (\$31.4 billion+\$68.2 billion) is a conservative estimate.

SUMMARY TABLE 1: ESTIMATED TANGIBLE COSTS OF CRIME IN CANADA, 2008^a

Cost Category^b	Costs \$ (millions)	Main Data Sources
Criminal Justice System Costs		
Police	\$8,587	CCJS
Court	\$672	CCJS
Prosecution	\$528	CCJS
Legal aid	\$373	CCJS
Corrections	\$4,836	
a. Adult Corrections	\$3,869	CCJS
b. Youth Corrections	\$967	CCJS
Criminal Code Review Board	\$12	PT Review Boards
TOTAL CRIMINAL JUSTICE SYSTEM COSTS	\$15,009	
Victim Costs^c		
Health Care	\$1,443	
a. Medical Attention from a Physician	\$2	GSS 2004 ^d
b. Medical Attention at a Hospital	\$63	GSS 2004 ^d
c. Hospitalization	\$47	GSS 2004 ^d
d. Direct Health Care for Illicit Drug Users	\$1,294	CCSA
e. Direct Health Care Due to Drinking and Driving	\$37	Transport Canada
Productivity Losses	\$6,734	
a. Lost Wages	\$971	GSS 2004 ^d
b. Lost Household Services	\$382	GSS 2004 ^d
c. Lost School Days	\$33	GSS 2004 ^d
d. Lost Child Care	\$11	GSS 2004 ^d
e. Productivity Losses for Illicit Drug Users	\$5,337	CCSA
Stolen/Damaged Property	\$6,143	
a. Property Stolen/Damaged Due to Property Crime	\$5,777	GSS 2004 ^d
b. Property Damaged Due to Impaired Driving (Drugs)	\$76	CCSA
c. Property Damaged Due to Drinking and Driving	\$289	Transport Canada
TOTAL VICTIM COSTS	\$14,320	
Third-Party Costs		
Funeral and Burial Expenses	\$4	CCJS
Other People Harmed/Threatened During the Incidents^e	\$102	
a. Health Care	\$65	GSS 2004 ^d
b. Productivities Losses	\$37	GSS 2004 ^d
Lost Production/Services of Other People	\$1,054	

a. Lost Production/Services of Family Members	\$375	GSS 2004 ^d
b. Lost Production/Services of Friends/Neighbours	\$372	GSS 2004 ^d
c. Lost Production/Services of Co-workers	\$259	GSS 2004 ^d
d. Traffic Delays Due to Drinking and Driving	\$47	Transport Canada
Victim Services and Compensation Programs	\$451	2008 VSS
Shelters for Victims	\$254	2008 THS
Other Expenditures Related to Crime	\$238	
a. Law Enforcement	\$115	Public Safety
b. Enhancing the Public Prosecution Service	\$16	Finance Canada
c. National Crime Prevention Strategy	\$34	Public Safety
d. Enhancing Federal Corrections System	\$61	Finance Canada
TOTAL THIRD-PARTY COSTS	\$2,091	
TOTAL TANGIBLE COSTS	\$31,420	

SUMMARY TABLE 2: ESTIMATED INTANGIBLE COSTS OF CRIME IN CANADA, 2008^a

	Costs \$ (millions)	Main Data Sources
Intangible Costs^f		
Pain and Suffering	\$65,100	GSS 2004 ^d
Loss of Life	\$3,055	CCJS
TOTAL INTANGIBLE COSTS	\$68,155	

- a. Unless otherwise indicated, dollar amounts are in 2008 Canadian dollars.
- b. Offender costs such as lost legitimate income or lost productivity while the offenders are engaged in criminal activities or incarcerated in prison, injury or death to offenders and costs imposed on family members of offenders are not considered.
- c. Unless otherwise indicated, items included in victim costs refer to the costs associated with non-traffic and non-drug offences.
- d. All the cost estimations based on the General Social Survey (GSS) 2004 data may have been underestimated due to the choice of the weight in the Incident File. Each record of the Incident File can be thought of as representing a number of victimization incidents experienced by persons in the overall population. This number is given by the weighting factor WGHT_VIC. Usually there is a report for each victimization incident, but victimization incidents with very similar details are recorded on the same report. The number of incidents that the report represents is known as the series factor. To estimate the total number of incidents with a given characteristic, one would multiply WGHT_VIC by the series factor and sum over all records with the characteristic. However, as suggested by the GSS, another possible approach is to count those incidents in the same report as only one incident. Therefore, we use the weight variable WGHT_VIC, where the series factor is not taken into account.
- e. This group of people refers to those persons who were present at the incident in addition to the respondent of the GSS. As there was only one respondent for each interview recorded by the GSS 2004, all other people either harmed or threatened during the incidences were included in this group. The costs include health care and lost productivity.
- f. Intangible costs do not include the costs to illegal drug users and victims of traffic offences.

Appendix A: Criminal Justice System Costs

TABLE 1: POLICE COSTS

Total police expenditures 2008	\$11,448,937,000 ^a
Proportion of the expenditures spent on crime	75% ^b
Total Police Costs (\$11,448,937,000 * 75%)	\$8,586,703,000
Total Police Costs	\$8,586,703,000

a. Police Resources in Canada, 2009, CCJS, Statistics Canada.

b. It is reported that UK police spend about 61% of their time addressing or preventing crime. As police in the UK have a greater variety of responsibilities than Canadian police, we assume that the proportion of time spent on crime in Canada is higher at 75%. Other duties can include: offering youth education seminars, coordinating community efforts, patrolling a regular route or responding to complaints ranging from noise complaints to emergency calls for help.

<http://www.telegraph.co.uk/news/uknews/law-and-order/7639046/Police-spend-almost-half-of-time-not-tackling-crime.html>

TABLE 2: COURT COSTS

Number of civil cases per capita	2.06% ^a
Population in Canada 2002/03	31,425,160
Estimated number of active civil cases 2002/03 (31,425,160 * 2.06%)	648,499
Number of criminal cases (adult + youth) 2002/03	496,663 ^b
Total cases processed in courts 2002/03 (648,499 + 496,663)	1,145,162
Total court expenditures 2002/03	\$1,151,885,000 ^c
Average court cost per case 2002/03 (\$1,151,885,000 / 1,145,162)	\$1,006
Average court cost per case 2008 (inflation adjustment)	\$1,153
Average court cost per case 2008 (\$1,153 * 1.23)	\$1,418 ^d
Number of criminal cases 2008	474,030 ^e
Total Criminal Court Costs (\$1,418 * 474,030)	\$672,392,760
Total Criminal Court Costs	\$672,392,760

a. This figure is calculated as the average number of initiated civil cases per capita over the period between 2005/06 and 2008/09 in several jurisdictions. Number of initiated civil cases with associated coverage in each year can be found in Civil Court Survey Statistics, 2005/06 to 2008/09, CCJS, Statistics Canada.

b. Adult Criminal Court Survey (ACCS) and Youth Court Survey (YCS), 2002/03, CCJS, Statistics Canada.

c. Overview of the Courts Personnel and Expenditures Survey, 2002/03.

d. The average elapsed time per criminal case has increased by 23% from 2002/03 to 2008/09. In addition, note that another measure - the number of appearances per case has indicated a similar trend (increasing by 22%) from 2002/03 to 2008/09.

e. ACCS and YCS, 2007/08, 2008/09, CCJS, Statistics Canada.

TABLE 3: PROSECUTION COSTS

Criminal prosecution expenditures (excluding BC) 2002/03	\$352,139,000 ^a
Number of criminal cases (adult + youth) (excluding BC) 2002/03	443,268 ^b
Average prosecution cost per case 2002/03 (\$352,139,000 / 443,268)	\$794
Average prosecution cost per case 2008 (inflation adjustment)	\$906
Average prosecution cost per case 2008 (\$906 * 1.23)	\$1,114 ^c
Number of criminal cases 2008	474,030 ^d
Total Prosecution Costs (\$1,114 * 474,030)	\$528,249,551
Total Prosecution Costs	\$528,249,551

- a. Overview of the Prosecutions Personnel and Expenditures Survey, 2002/03.
- b. ACCS and YCS, 2002/03, CCJS, Statistics Canada.
- c. The average case elapsed time per case has increased by 23% from 2002/03 to 2008/09. In addition, note that another measure - the number of appearances per case has indicated a similar trend (increasing by 22%) from 2002/03 to 2008/09.
- d. ACCS and YCS, 2007/08, 2008/09, CCJS, Statistics Canada.

TABLE 4: LEGAL AID COSTS

Direct legal service expenditures (criminal matters) 2007/08	\$282,085,000 ^a
Direct legal service expenditures (criminal matters) 2008/09	\$306,202,000 ^a
Other expenditures (criminal matters) 2007/08	\$69,255,000 ^a
Other expenditures (criminal matters) 2008/09	\$74,653,000 ^a
Total legal aid expenditures (criminal matters) 2007/08 (\$282,085,000 + \$69,255,000)	\$351,340,000
Total legal aid expenditures (criminal matters) 2008/09 (\$306,202,000 + \$74,653,000)	\$380,855,000
Total Legal Service Costs (\$351,340,000 *25% + \$380,855,000*75%)	\$373,476,250
Total Legal Service Costs	\$373,476,250

- a. Legal Aid in Canada: Resource and Caseload Statistics 2008/09.

TABLE 5: CORRECTION COSTS

Adult federal correction costs 2007/08	\$2,011,881,000 ^a
Adult federal correction costs 2008 (inflation adjustment)	\$2,063,076,186
Adult provincial correction costs (operating expenditures) 2007/08	\$1,637,981,000 ^a
Adult provincial correction costs (capital expenditures) 2007/08	\$123,109,000 ^b
Adult provincial correction costs 2007/08 (\$1,637,981,000 + \$123,109,000)	\$1,761,090,000
Adult provincial correction costs 2008	\$1,805,903,451
Total adult correction costs 2008 (\$2,063,076,186 + \$1,805,903,451)	\$3,868,979,637
Youth correction costs 2008 (\$3,868,979,637 * 25%)	\$967,244,909 ^c
Total Correction Costs (\$3,868,979,637 + \$967,244,909)	\$4,836,224,546

- a. Adult Correctional Services in Canada (ACS), 2007-2008 reference table, CCJS, Statistics Canada.
- b. Provincial capital expenditures are estimated by using the proportion that federal capital costs represent relative to federal operating expenditures.
- c. Youth correction costs are approximately 25% of the adult correction costs. Justice Spending in Canada 1997, CCJS, Statistics Canada.

TABLE 6: CRIMINAL CODE REVIEW BOARD COSTS

Criminal code review board expenditures 2008	\$12,000,000 ^a
Total Criminal Code Review Board Expenditures	\$12,000,000

- a. Criminal Code Review Board in provinces and territories.

Appendix B: Victim Costs

TABLE 1: HEALTH CARE COSTS

a. Costs of Medical Attention from a Physician

Average cost for a physician visit 2004/05	\$50.36 ^a
Average cost for a physician visit (inflation adjustment)	\$55.64
Number of victims having medical attention from a physician 2004	37,780 ^b
Costs of Medical Attention from a Physician (\$55.64 * 37,780)	\$2,102,079

b. Costs of Medical Attention at a Hospital

Average cost of an emergency visit at a hospital	\$260 ^c
Number of victims having medical attention at a hospital 2004	116,026 ^d
Costs of medical attention at a hospital (116,026 * \$260)	\$30,166,760
Average cost of providing a ground ambulance transport	\$400 ^e
Number of victims transported to hospital by ambulance (116,026 * 0.7)	81,218 ^f
Costs of providing ambulance services (81,218 * \$400)	\$32,487,200
Costs of Medical Attention at a Hospital (\$30,166,760 + \$32,487,200)	\$62,653,960

c. Costs of Hospitalization

Average daily cost of hospitalization 1999/00	\$660 ^g
Average daily cost of hospitalization 2008 (Inflation adjustment)	\$800
Number of days staying in hospital	58,828 ^h
Costs of Hospitalization (\$800 * 58,828)	\$47,062,400

d. Direct Health Care Costs for Illicit Drug Users

Health care costs for illegal drug users 2002	\$1,134,600,000 ⁱ
Health Care Costs for Illegal Drugs Users 2008 (Inflation adjustment)	\$1,294,330,000

e. Direct Health Care Costs Due to Drinking and Driving

Health care costs due to drinking and driving in Ontario, 2004	\$12,600,000 ^j
Population of Ontario, 2004	12,390,599
Health care cost per capita (Ontario) 2004	\$1.017
Health care cost per capita (Ontario) 2008 (Inflation adjustment)	\$1.11
Population of Canada 2008	33,311,389
Health Care Costs Due to Drinking and Driving 2008 (\$1.11 * 33,311,389)	\$36,642,528

Summary Table for Health Care Costs

a. Costs of Medical Attention from a Physician	\$2,102,079
b. Costs of Medical Attention at a Hospital	\$62,653,960
c. Costs of Hospitalization	\$47,062,400
d. Direct Health Care Costs for Illicit Drug Users	\$1,294,330,000
e. Direct Health Care Costs Due to Drinking and Driving	\$36,642,528
Total Health Care Costs	\$1,442,790,967

- a. Canadian Institute for Health Information (2001). National Physician Database, National Grouping System Categories Report, Canada 2004/05, Table 7-5: Major Assessments for Office.
- b. GSS 2004, Victimization, Main File: XAR_Q140, PR_101_2004 and PR_304_2004; Incident File: CIR_Q180.
- c. The average cost of an emergency room visit in 2007/08 for all ages (seniors included) was \$260, Canadian Institute for Health Information.
- d. GSS 2004, Victimization, Main File: XAR_Q130, PR_101_2004 and PR_304_2004; Incident File: CIR_Q170.
- e. Because there is no significant variation in the cost of providing a ground ambulance transport among provinces, we use the fee charged for non-MSP (medical service plan) beneficiaries in British Columbia 2007 as our estimate. Ministry of Health, BC Ambulance Service. Due to lack of data, we do not take into account the air ambulance services.
- Note that the cost of providing an ambulance transport is different from the average ambulance fee that patients usually need to pay, as ambulance services are partially/fully covered under provincial health insurance.
- f. According to Canadian Institute for Health Information, 85% of the victims of crimes where a firearm was presented or used during the incidents were transported to hospitals by ambulance service and 15% were walk-in. Following this, it is assumed that 70% victims of overall crime are transported to hospitals by ambulance service.
- g. Public Health Agency of Canada, Daily cost of hospitalization 1999/2000: \$660. Canadian Institute for Health Information, Canadian Management Information Systems Database, October 2002.
- h. GSS 2004, Victimization, Main File: XAR_Q132, XAR_Q135_C, PR_101_2004 and PR_304_2004; Incident File: CIR_Q175 and CIR_Q176_C.
- i. It includes hospitalization, specialized treatment, ambulatory care, family physician visits and prescription drugs. The Costs of Substance Use in Canada 2002, Canadian Centre on Substance Abuse (CCSA), Ottawa.
- j. Drinking and driving collisions defined as collisions associated with alcohol consumption by one or more involved drivers—not necessarily where alcohol was the cause. Health costs include emergency room facility, hospital stay facility, medical practitioners and ambulance services. Analysis and Estimation of the Social Cost of Motor Vehicle Collisions in Ontario, 2007, Transport Canada.

TABLE 2: VALUE OF PRODUCTIVITY LOSSES

a. Value of Lost Wages

Main File, GSS 2004	
Number of days/nights victims staying in hospital	3,383 ^a
Average annual salary for victims absent from work	\$32,143 ^b
Average daily wage rate for victims	\$134 ^c
Lost wages due to hospital stay (3,383 * \$134)	\$455,332
Number of days victims staying in bed (excluding time in hospital)	63,723 ^d
Average annual salary for the victims who were absent from work	\$33,103 ^e
Average daily wage rate for victims	\$138 ^c
Lost wages due to bed rest (63,723 * \$138)	\$8,793,774
Number of days victims taking time off from daily main activities	137,195 ^f
Average annual salary for victims who absent from work	\$37,083 ^g
Average daily wage rate for victims	\$155 ^c
Lost wages due to time off from daily activities (137,195 * \$155)	\$21,265,225
Value of Lost wages for victims (\$455,332 + \$8,793,774 + \$21,265,225)	\$30,512,321
Incident File, GSS 2004	
Number of days absent from work	5,936,478 ^h
Average annual salary for victims absent from work	\$41,347 ⁱ
Average daily wage rate for victims	\$158 ^c
Value of Lost wages for victims (5,936,478 * \$158)	\$940,795,224
Total Value of Lost Wages (\$30,512,321 + \$940,795,224)	\$971,307,545

b. Value of Lost Household Services

Main File, GSS 2004	
Number of days/nights in hospital for females	11,649 ^j
Number of days staying in bed for females	124,640 ^k
Number of days with time away from daily main activities for females	165,253 ^l
Total number of days away from housework activities (11,649 + 124,640 + 165,253)	301,542
Average hours per day in housework and household care activities for females	3.4 ^m
Number of hours off from housework activities, female (301,542 * 3.4)	1,025,243
Number of days/nights in hospital for males	441 ^j
Number of days staying in bed for males	15,749 ^k
Number of days with time away from daily main activities for males	49,138 ^l
Total number of days away from housework activities (441 + 15,749 + 49,138)	65,328
Average hours per day in housework and household care activities for males	2 ^m
Number of hours off from housework activities, male (65,328 * 2)	130,656
Average hourly wage rate for household workers 2007	\$12.91 ⁿ
Average hourly wage rate for household workers 2008 (inflation adjustment)	\$13.2
Value of Lost household services (1,025,243 + 130,656) * \$13.2	\$15,257,864
Incident File, GSS 2004	
Number of days off from daily activities for females	5,844,368 ^o
Average hours per day in housework and household care activities for females	3.4 ^m
Number of hours off from housework activities, female (5,844,368 * 3.4)	19,870,851
Number of days off from daily activities for males	3,972,207 ^o
Average hours per day in housework and household care activities for males	2 ^m
Number of hours off from housework activities, male (3,972,207 * 2)	7,944,414
Average hourly wage rate for household workers 2008 (inflation adjustment)	\$13.2
Value of Lost household services (19,870,852 + 7,944,414) * \$13.2	\$367,161,511
Total Value of Lost Household Services (\$15,257,864 + \$367,161,511)	\$382,419,375

c. Value of Lost School Days

Number of missing school days (Main File, GSS 2004)	21,747 ^p
Number of missing school days (Incident File, GSS 2004)	1,236,296 ^q
Total number of lost school days (21,747 + 1,236,296)	1,258,043
National average tuition fees for undergraduate studies per year 2008	\$4,900 ^r
Average number of school days in universities in Canada	190
Average cost per school day (\$4,900 / 190)	\$26
Value of Lost School Days (1,258,043 * \$26)	\$32,709,118

d. Value of Lost Child Care

Number of days for lost child care service (Main File, GSS 2004)	31,012 ^p
Number of days for lost child care service (Incident File, GSS 2004)	334,606 ^q
Total number of days for lost child care service (31,012 + 334,606)	365,618
Average child care cost per day 2008	\$30 ^s
Value of Lost Child Care (365,618 * \$30)	\$10,968,540

e. Value of Productivity Losses for Illegal Drug Users

Productivity losses for illegal drug users 2002	\$4,678,600,000 ^t
Value of Productivity Losses for Illegal Drug Users 2008 (Inflation adjustment)	\$5,336,900,000

Summary Table for Productivity Losses

a. Value of Lost Wages	\$971,307,545
b. Value of Lost Household Services	\$382,419,375
c. Value of Lost School Days	\$32,709,118
d. Value of Lost Child Care	\$10,968,540
e. Value of Productivity Losses for Illegal Drug Users	\$5,336,900,000
Total Value of Productivity Losses	\$6,734,304,578

- a. GSS 2004, Victimization, Main File: XAR_Q135_C, ACMYR, PR_101_2004 and PR_304_2004.
- b. GSS 2004, Victimization, Main File: XAR_Q135_C, ACMYR, INCM, PR_101_2004 and PR_304_2004.
- c. It is assumed that there are 52.18 weeks per year and 5 days per week.
- d. GSS 2004, Victimization, Main File: XAR_Q155_C, ACMYR, PR_101_2004 and PR_304_2004.
- e. GSS 2004, Victimization, Main File: XAR_Q155_C, ACMYR, INCM, PR_101_2004 and PR_304_2004.
- f. GSS 2004, Victimization, Main File: XAR_Q160, ACMYR, PR_101_2004 and PR_304_2004.
For the respondents who had to take time off from everyday activities, it is assumed that they took on average 2 days off, which excluded the time spent in hospital or in bed.
- g. GSS 2004, Victimization, Main File: XAR_Q160, ACMYR, INCM, PR_101_2004 and PR_304_2004.
- h. GSS 2004, Victimization, Incident File: CIR_Q500, CIR_Q510 and LOSTDAYS.
This category refers to those respondents who found it difficult or impossible to carry out his/her main activity working at a paid job or business as a result of the incident (the activity was disrupted for at least 6 hours during a day). It includes the respondents whose main activity during the incidents was working, on vacation and on maternity leave.
- i. GSS 2004, Victimization, Incident File: CIR_Q500, CIR_Q510, LOSTDAYS and INCM.
- j. GSS 2004, Victimization, Main File: XAR_Q135_C, SEX, PR_101_2004 and PR_304_2004.
- k. GSS 2004, Victimization, Main File: XAR_Q155_C, SEX, PR_101_2004 and PR_304_2004.
- l. GSS 2004, Victimization, Main File: XAR_Q160, SEX, PR_101_2004 and PR_304_2004.
- m. Household activities, American Time Use Survey, Bureau of Labour Statistics.
<http://www.bls.gov/tus/charts/#childcare>
Note that the information used here is based on the persons who are actually engaged in household activities. As it is possible that not every victim conduct household work, our calculation might slightly overestimate the true value.
- n. Household services include meal preparation and cleanup, house cleaning or laundry and sewing: \$12.91 per hour, Labour Force Survey, Statistics Canada, 2007.
- o. GSS 2004, Victimization, Incident File: CIR_Q500, CIR_Q510, LOSTDAYS and SEX.
- p. GSS 2004, Victimization, Main File: XAR_Q135_C, XAR_155_C, XAR_Q160, ACMYR, PR_101_2004 and PR_304_2004.
- q. GSS 2004, Victimization, Incident File: CIR_Q500, CIR_Q510 and LOSTDAYS.
- r. Canadian Federation of Students-Nova Scotia. http://cfs-ns.ca/index.php?section_id=11
- s. *Today's Parent*, an average of four types of child care across all provinces.
http://www.todayparent.com/lifeasparent/childcare/article.jsp?content=20100302_173310_5996&page=1
- t. It includes losses due to long-term disability, losses due to short-term disability and losses due to premature mortality. The Costs of Substance Use in Canada 2002, Canadian Centre on Substance Abuse (CCSA), Ottawa.

TABLE 3: VALUE OF STOLEN/DAMAGED PROPERTY

a. Value of Property Stolen or Damaged Due to Property Crime

Value of property and cash stolen during the incidents 2004	\$2,928,369,727 ^a
Value of property damaged during the incidents 2004	\$2,379,721,461 ^b
Value of stolen/damaged property 2004 (\$2,928,369,727 + \$2,379,721,461)	\$5,308,091,188
Value of Property Stolen or Damaged Due to Property Crime 2008 (Inflation adjustment)	\$5,777,342,595

b. Value of Property Damaged Due to Impaired Driving (Drugs)

Value of property damaged due to impaired driving (drugs) 2002	\$67,000,000 ^c
Value of Damaged Property Due to Impaired Driving (Drugs) 2008 (Inflation adjustment)	\$76,430,000

c. Value of Property Damaged Due to Drinking and Driving

Value of property damaged due to drinking and driving in Ontario, 2004	\$98,600,00 ^d
Population of Ontario, 2004	12,390,599
Per capita value of property damaged due to drinking and driving 2004	\$7.96
Per capita value of property damaged due to drinking and driving 2008 (Inflation adjustment)	\$8.68
Population in Canada 2008	33,311,389
Value of Property Damaged Due to Drinking and Driving 2008	\$289,142,857

Summary Table for Value of Stolen/Damaged Property

a. Value of Property Stolen/Damaged Due to Property Crime	\$5,777,342,595
b. Value of Property Damaged Due to Impaired Driving (Drugs)	\$76,430,000
c. Value of Property Damaged Due to Drinking and Driving	\$289,142,857
Total Value of Stolen/Damaged Property	\$6,142,915,452

a. GSS 2004, Victimization, Incident File: CIR_Q370 and ADJWTVIC.

b. GSS 2004, Victimization, Incident File: VALDAMGE_C and ADJWTVIC.

c. The Costs of Substance Use in Canada 2002, Canadian Centre on Substance Abuse (CCSA), Ottawa.

d. Drinking and driving collisions is defined as collisions associated with alcohol consumption by one or more involved drivers—not necessarily where alcohol was the cause. Costs included are property damages, costs of towing trucks and other out of pocket payments. It should be noted that in addition to victims, these costs may also be borne by offenders and other people. Analysis and Estimation of the Social Cost of Motor Vehicle Collisions in Ontario, 2007, Transport Canada.

Appendix C: Costs of the Third-Party

TABLE 1: FUNERAL AND BURIAL EXPENSES

Number of homicide victims 2008	611
Average cost of funeral services in Canada 2006	\$6,583 ^a
Average cost of funeral services in Canada 2008 (inflation adjustment)	\$6,800
Total Funeral and Burial Expenses (611 * \$6,800)	\$4,154,800

^a. Saskatchewan Co-operative Association. Available at <http://www.sask.coop/documents/Co-operativeSpotlightJuly.pdf>

TABLE 2: COSTS TO OTHER PEOPLE HARMED OR THREATENED DURING THE INCIDENTS

a. Health Care Costs

Number of other people harmed or threatened (Main File, GSS 2004)	126,451 ^a
Number of other people harmed or threatened (Incident File, GSS 2004)	1,039,689 ^a
Total number of other people harmed or threatened (126,451 + 1,039,689)	1,166,140
Proportion of people who had medical attention from a physician	3%
Number of people having medical attention from a physician (1,166,140 * 3%)	34,984
Average cost of medical attention from a physician 2008	\$55.64
Costs of medical attention from a physician (34,984 * \$55.64)	\$1,946,510
Proportion of people who had medical attention at a hospital	10% ^b
Number of people having medical attention at a hospital (1,166,140 * 10%)	116,614
Costs of an emergency visit at a hospital	\$260
Costs of medical attention at a hospital (116,614 * \$260)	\$30,319,640
Number of victims transported to hospital by ambulance (116,614 * 0.7)	81,630
Average cost of providing a ground ambulance transport	\$400
Costs of providing ambulance services (81,630 * \$400)	\$32,652,000
Costs of medical attention at a hospital (\$30,319,640 + \$32,652,000)	\$62,971,640
Health Care Costs to Other People (\$1,946,510 + \$62,971,640)	\$64,918,150

b. Value of Productivity Losses

Number of other people taking time off from daily activity	187,510 ^c
Number of days other people taking time off from daily activity (187,510*2)	375,021 ^d
Average hourly wage rate for household workers 2008 (inflation adjustment)	\$13.2 ^e
Value of Productivity Losses of Other People Harmed or Threatened	\$37,127,073

Summary Table for Costs to Other People Harmed or Threatened

a. Health Care Costs	\$64,918,150
b. Value of Productivity Losses	\$37,127,073
Total Costs to Other People Harmed or Threatened	\$102,045,223

- a. GSS 2004, Victimization, Main File : XAR_Q185, PR_101_2004 and PR_304_2004; Incident File: CIR_Q336
- b. Due to lack of data, we do not consider the case of staying at hospital overnight.
- c. The figure only refers to adults. The Main File of the 2004 GSS provides the information regarding the percentage (of the total number of other people harmed or threatened) that adults represent. Then, this percentage is applied to the data obtained from Incident File.
- d. It is assumed that each person takes two days off from their main activities.
- e. The value of household work is used as a conservative estimate.

TABLE 3: VALUE OF LOST PRODUCTION/SERVICES OF OTHER PEOPLE

a. Value of Lost Production/Services of Family Members

Number of victims talking to family members (Main file)	336,487 ^a
Number of victims talking to family members (Incident file)	5,339,698 ^b
Total number of family members listening to victims (336,487 + 5,339,698)	5,676,185 ^c
Average hours of talking to family member	5 ^d
Total number of hours spent talking to a family member (5,676,185 * 5)	28,380,925
Average hourly wage rate for household workers 2008	\$13.2
Value of Lost Production/Services of Family Members (28,380,925 * \$13.2)	\$374,628,210

b. Value of Lost Production/Services of Friends/Neighbours

Number of victims talking to friends/neighbours (Main File)	337,509 ^e
Number of victims talking to friends/neighbours (Incident File)	5,304,591 ^f
Total number of friends/neighbours listening to victims (337,509 + 5,304,591)	5,642,100 ^g
Average hours of talking to friends/neighbours	5 ^h
Total number of hours spent talking to a family member (5,676,185 * 5)	28,210,500
Average hourly wage rate for household workers 2008	\$13.2
Value of Lost Production/Services of Friends/Neighbours (28,210,500 * \$13.2)	\$372,378,600

c. Value of Lost Production/Services of Co-workers

Main File, GSS 2004	
Number of victims talking to co-workers	148,235 ⁱ
Average number of hours talking to co-workers	3 ^j
Total hours spent in talking to co-workers (148,235 * 3)	444,705
Average annual salary of co-workers talking to victims	\$40,421 ^k
Average wage rate per hour for co-workers	\$22.5 ^l
Value of Lost Production/Services of Co-workers (444,705 * \$22.5)	\$10,005,863
Incident File, GSS 2004	
Number of victims talking to co-workers	3,462,295 ^m
Average number of hours talking to co-workers	3 ^j
Total hours spent in talking to co-workers (3 * 3,462,295)	10,386,885
Average annual salary of co-workers talking to victims	\$43,903 ⁿ
Average wage rate per hour for co-workers	\$24 ^l
Value of Lost Production/Services of Co-workers (10,386,885 * \$24)	\$249,285,240
Value of Lost Production/Services of Co-workers (\$10,005,863 + \$249,285,240)	\$259,291,103

d. Traffic Delays due to Drinking and Driving

Costs of traffic delays due to drinking and driving in Ontario, 2004	\$16,100,000 ^o
Population of Ontario, 2004	12,390,599
Per capita cost of traffic delays due to drinking and driving 2004 (\$16,100,000 / 12,390,599)	\$1.30
Per capita cost of traffic delays due to drinking and driving 2008 (Inflation adjustment)	\$1.42
Population in Canada 2008	33,311,389
Costs of Traffic Delays Due to Drinking and Driving 2008 (33,311,389 * \$1.42)	\$47,302,172

Summary Table for Value of Lost Production/Services of Other People

a. Value of Lost Production/Services of Family Members	\$374,628,210
b. Value of Lost Production/Services of Friends/Neighbours	\$372,378,600
c. Value of Lost Production/Services of Co-workers	\$259,291,103
d. Costs of Traffic Delays Due to Drinking and Driving	\$47,302,172
Total Value of Lost Production/Services of Other People	\$1,053,600,085

- a. GSS 2004, Victimization, Main File: XAR_Q530, PR_101_2004 and PR_304_2004.
- b. GSS 2004, Victimization, Incident File: CIR_Q601.
- c. For each record, it is assumed that there was only one family member involved.
- d. If the family member takes time off from work/household work to listen to the victim, there is a production loss. If the family member uses leisure time, there is also an opportunity cost, as he/she can use this time to relax. We use the value of household work as a conservative estimate, which may significantly underestimate the true cost. In those serious cases, family members may take days or weeks off from main activities to take care of the victims or as companies.
- e. GSS 2004, Victimization, Main File: XAR_Q540, PR_101_2004 and PR_304_2004.
- f. GSS 2004, Victimization, Incident File: CIR_Q602.
- g. For each record, it is assumed that there was only one friend or neighbour involved.
- h. If the friends or neighbours take time off from work/household work to listen to the victim, there is a production loss. If they use their leisure time, there is also an opportunity cost, as he/she can use this time to relax. The value of household work is used as a conservative estimate.
- i. GSS 2004, Victimization, Main File: XAR_Q550, PR_101_2004 and PR_304_2004.
- j. It is assumed that a 3-hour conversation occurs during the work time.
- k. GSS 2004, Victimization, Main File: INCM, XAR_Q550, PR_101_2004 and PR_304_2004.
- l. 52.18 weeks per year, 5 days per week, 7.5 hours per day.
It is assumed that the wage rate for the co-worker is the same as the victim's.
- m. GSS 2004, Victimization, Incident File: CIR_Q603.
- n. GSS 2004, Victimization, Main File: INCM; Incident File: CIR_Q603;
- o. Drinking and driving collisions defined as collisions associated with alcohol consumption by one or more involved drivers—not necessarily where alcohol was the cause. Costs of traffic delays include extra time, extra fuel and extra pollution. It should be noted that while some of the costs are borne by the victims, the majority part of this type of costs is borne by the public. Therefore, it is decided to include the traffic-delay costs in the third-party costs. Analysis and Estimation of the Social Cost of Motor Vehicle Collisions in Ontario, 2007, Transport Canada.

TABLE 4: COSTS TO VICTIM SERVICES AND COMPENSATION PROGRAMS

Number of victim service agencies 2007/08	879 ^a
Average cost of providing victim services per agency 2007/08	\$263,181 ^b
Average cost of providing victim services per agency 2008 (Inflation adjustment)	\$270,073
Total costs of providing victim services (879 * \$270,073)	\$237,394,167
Number of agencies offering only criminal injuries compensation programs	5 ^a
Number of victim service providers offering compensation programs	65 ^c
Average compensation expenditure per agency 2007/08	\$2,911,111 ^d
Average compensation expenditure per agency 2008	\$2,987,342
Total compensation costs to the 70 services agencies (70 * \$2,987,342)	\$209,113,940
Victim Services expenditures from Correctional Service of Canada	\$3,400,000
Victim Services expenditures from Public Prosecution Service of Canada	\$1,000,000
Total Costs to Victim Services and Compensation Programs	\$450,908,107

- ^{a.} Victim Services Survey, 2007/2008. According to the survey, there were 884 victim service agencies in the fiscal year ending March 31, 2008. Out of the 884 agencies, 5 agencies offered only criminal injuries compensation programs or other financial benefits programs to victims of crime.
- ^{b.} Victim Services Survey, 2007/2008. According to information collected from 679 victim service agencies (excluding compensation programs), the cost of providing formal services to victims of crime in Canada was \$178.7 million in 2007/2008. This amount excludes costs incurred to administer criminal injury compensation and other financial benefits programs, and other costs not specifically related to the formal delivery of services provided to victims of crime. Therefore, the average cost was \$263,181 (= \$178,700,000 / 679).
- ^{c.} Victim Services Survey, 2007/2008. In addition to the 5 programs that offered only compensation services to victims of crime, 65 of the victim services offices that provided a wide range of services also offered compensation or other financial benefit programs for victims.
- ^{d.} Victim Services Survey, 2007/2008. The 45 survey-participating agencies indicated they had awarded a total of \$131 million in compensation to victims of crime in 2007/2008. Therefore, the average cost of providing compensation in 2007/08 was \$2,911,111 (= \$131,000,000 / 45).

TABLE 5: EXPENDITURES OF SHELTERS FOR VICTIMS

Number of shelters in Canada 2008	569 ^a
Proportion of admissions related to abuse	75% ^a
Number of shelters in Canada 2006	553 ^b
Annual operating costs for shelters 2006	\$317,000,000 ^a
Average operating expenditure per shelter 2006 (\$317,000,000 / 553)	\$573,237
Average operating expenditure per shelter 2008 (Inflation adjustment)	\$595,810
Total Expenditures of Shelter Services (569 * 75% * \$595,810)	\$254,261,918

a. Family Violence in Canada: A Statistical Profile, 2009, Statistics Canada.

b. Canada's Shelters for Abused Women, 2005/2006, CCJS, Statistics Canada

TABLE 6: OTHER EXPENDITURES RELATED TO CRIME

Spending on law enforcement	\$114,600,000 ^a
Spending on enhancing prosecution services	\$16,000,000 ^b
Spending on national crime prevention strategy	\$34,381,350 ^c
Spending on enhancing federal corrections system	\$61,000,000 ^d
Total Other Expenditures Related to Crime	\$225,981,350

a. Public Safety Canada works in close collaboration with federal, provincial, territorial and international law enforcement partners to develop appropriate national policies to address new and evolving crime issues. Departmental Performance Reports 2008/09.

b. The Government of Canada provided \$32 million for 2008 and 2009 to enhance the work of the Public Prosecution Service of Canada. The Budget in Brief 2008, Department of Finance 2008.

c. Canada's National Crime Prevention Centre (NCPC) provides national leadership on effective and cost-effective ways to prevent and reduce crime by addressing known risk factors in high-risk populations and locations. Departmental Performance Reports 2008/09, Public Safety.

d. The Government of Canada committed \$122 million over two years (2008/09-2009/10) to ensure that the federal corrections system is on track to implement a new vision to achieve better public safety results. The Budget in Brief 2008, Department of Finance 2008.

Appendix D: Intangible Costs

TABLE 1: VALUE OF PAIN AND SUFFERING

Number of sexual assault victims (Main File, 2004 GSS)	20,030
Number of sexual assault victims (Incident File, 2004 GSS)	512,157
Total number of sexual assault victims (20,030 + 512,157)	532,187
Pain and suffering per sexual assault victim 2008	\$84,500 ^a
Value of pain and suffering for sexual assault victims (532,187 * \$84,500)	\$44,969,801,500
Number of assault victims (Main File)	347,065
Number of assault victims (Incident File)	1,323,152
Total number of assault victims (347,065 + 1,323,152)	1,670,217
Pain and suffering per assault victim 2008	\$9,547 ^a
Value of pain and suffering for assault victims (1,670,217 * \$9,547)	\$15,945,561,699
Number of robbery victims (Incident File)	273,748 ^b
Pain and suffering per robbery victim 2008	\$14,471 ^a
Value of pain and suffering for robbery victims (273,748 * \$14,471)	\$3,961,407,308
Number of break-and-enter victims (Incident File)	363,249
Pain and suffering per break-and-enter victim 2008	\$615 ^a
Value of pain and suffering for break-and-enter victims (363,249 * \$615)	\$223,398,135
Total Value of Pain and Suffering	\$65,100,168,642

^a. See Cohen (1988), Pain, suffering, and jury awards: A study of the cost of crime to victims.

^b. Victims of attempted robbery are included.

TABLE 2: VALUE OF LOSS OF LIFE

Number of homicide victims 2008	611
Proposed dollar value of a lost human life	\$5,000,000 ^a
Total Value of Loss of Life (611 * \$5,000,000)	\$3,055,000,000

^a. This is a conservative estimate based on the following information.

Over the past three decades, a broad body of economic research has been published on estimates of the value of an anonymous human life. Most studies show that, on an ex ante basis, life is routinely valued at two to three million dollars (Miller 1990; Fisher et al. 1989; Viscusi 1993).

While there is no explicit standard used by government agencies, in a review of federal agency regulations Gillette and Hopkins (1988) conclude that the range is \$1 million to \$2 million per statistical life saved.

Viscusi (2000) suggests the statistical value of a statistical life for the average worker in the U.S. between USD \$3 million and USD \$9 million. An estimate of CAD \$5.3 million per life in 2008 can be obtained by converting the conservative estimate (USD\$3 million) to the 2008 Canadian dollars.

Viscusi (2008) conducts a comprehensive literature review in the domain of estimating the statistical value of a life and concludes that the average value based on labour market is about \$7 million.

By considering future wages, productivity as well as lost quality of life, Miller et al. (1996) estimates the statistical value of a life for a 38-year-old male at USD\$2.7 million. This is equivalent to CAD\$4.6 million in 2008.

Based on ex post behaviour, Smith (2000) estimates the value of life of USD\$2.3 million to USD\$4.9 million.

The Department of Transportation of the United States (2007) suggests an average 5.8 million as they believe this value would appropriately reflect the conclusions of recent studies as well as the practice of other agencies. In addition, they argue that although the value of a statistical life within the range of \$1 million and \$10 million (or even more extreme values) can not be ruled out, it would be preferable to show values that are more likely to be accepted as realistic.

Reference

Cohen, M. A. 1988. Pain, Suffering and Jury Awards: A Study of Cost of Crime to Victims. *Law and Society Review* 22: 537-555.

Duvall, T. D., and D. J. Gribbin. 2007. *Departmental Guidance: Treatment of the Value of preventing Fatalities and Injuries in Preparing Economic Analyses*. Washington D.C.: U.S. Department of Transportation.

Fisher, A., L. G. Chestnut, and D. M. Violette. 1989. The Value of Reducing Risks of Death: A Note on New Evidence. *Journal of Policy Analysis and Management* 8(1): 88-100.

Gillette, C. P., and T. D. Hopkins. 1988. Report to the Administrative Conference of the United States: Federal Agency Valuations of Human Life.

Miller, T. R. 1990. The Plausible Range for the Value of Life: Red Herrings among the Mackerel. *Journal of Forensic Economics* 3: 17-40.

Miller, T. R., M. A. Cohen, and B. Wiersema. 1996. Victim Costs and Consequences: A new Look. *National Institute of Justice Report*, NCJ-155282.

Rehm, J., D. Baliunas, S. Brochu, B. Fischer, W. Gnam, J. Patra, S. Popova, A. Sarnocinska-Hart, and B. Taylor. 2006. *The Costs of Substance Use in Canada 2002*. Ottawa: Canadian Centre on Substance Abuse.

Smith, S. V. 2000. Jury Verdicts and the Dollar Value of Human Life. *Journal of Forensic Economics* 13(2): 169-188.

Viscusi, W. K. 1993. The Value of Risks to Life and Health. *Journal of Economic Literature* 31(4): 1912-1946.

Viscusi, W. K. 2000. The Value of Life in Legal Contexts: Survey and Critique. *American Law and Economics Reviews* 2: 195-222.

Viscusi, W. K. 2008. The Value of Life. In *The New Palgrave Dictionary of Economics*, 2nd ed. Steven Durlauf and Lawrence Blume. London: Macmillan.

Vodden, K., D. Smith, F. Eaton, and D. Mayhew. 2007. *Analysis and Estimation of the Social Cost of Motor Vehicle Collisions in Ontario*. Ottawa: Department of Transport Canada.