

Detect Me if You Can: Unlicensed Drivers and Road Safety in British Columbia

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Abstract

Unlicensed driving is a road safety concern that contributes to bodily injuries, personal property damage, and fatalities. Typically, unlicensed drivers are unknown to law enforcement agencies until they crash or are caught committing another traffic violation. As such, unlicensed drivers pose a major health and safety risk to all other drivers sharing the same road space. This study assesses the prevalence of the unlicensed driving problem within the British Columbia jurisdiction. It starts with a broad literature review including an analysis of what other jurisdictions are currently doing in response to unlicensed driving. Then statistics provided by the Insurance Corporation of British Columbia's Crash Claims Database are interpreted to provide an idea of the scope of the problem in British Columbia. A number of themes are discussed before a set of policy measures are used to analyze four policy options. This study concludes adopting licence checks at all random roadblocks, designing a low-cost targeted education campaign, and Automatic Number Plate Recognition technology are all feasible policy options to respond to unlicensed driving in British Columbia.

Keywords: unlicensed driving; unlicensed driver; invalid licence; suspended licence; road safety; public policy

**TO MY MOTHER AND FATHER,
WHOSE STRENGTH AND ENCOURAGEMENT DRIVE ME
TO BE A BETTER PERSON.**

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List of Acronyms

AAA	American Automobile Association
ANPR	Automatic Number Plate Recognition
BC	British Columbia
BCCLA	British Columbia Civil Liberties Association
CCLA	Canadian Civil Liberties Association
CONROD	Centre of National Research on Disability and Rehabilitation Medicine
DMV	Department of Motor Vehicles (State of California)
DPP	Driver Penalty Point
DRP	Driver Risk Premium
FORS	Federal Office of Road Safety
ICBC	Insurance Corporation of British Columbia
LPI	Licence Plate Impoundment
DPS	Department of Public Safety (State of Minnesota)
MADD	Mother's Against Drunk Driving
MVA	Motor Vehicle Act
NSW	New South Wales
OSMV	Office of the Superintendent of Motor Vehicles
PDO	Property Damage Only
QM	Queensland Motorways
RBT	Random Breath Test
RCMP	Royal Canadian Mounted Police
RMS	Roads and Maritime Services
RRb	Random Roadblock
SCLG	Shouse California Law Group
TMR	Department of Transport and Main Roads
ULDs	Unlicensed Drivers
USLS	University of Minnesota's University Student Legal Services

Glossary

Term	Definition
Civil Liberties Associations	This stakeholder group is defined as any entity with a mandate to promote, support, and defend civil liberties and human rights as defined by common and constitutional law. The British Columbia Civil Liberties Association (BCCLA) is the primary agency that will be reflected in the following analysis.
Drivers	This stakeholder group is defined as any real present or upcoming operation of a motor vehicle in British Columbia. “Drivers” are included as a stakeholder group, even though they are not necessarily organized, because it is assumed that any option will have a high likelihood of affecting impact
Insurance Agencies	This stakeholder group is defined as any agency or organization involved in providing automobile insurance policies and subsequently any remuneration to a motor vehicle operator in British Columbia. The Insurance Corporation of British Columbia (ICBC) will be the primary agency reflected in the following analysis.
Law Enforcement Officers	This stakeholder group is defined as any agency involved with enforcement of road safety laws. This may include the Royal Canadian Mounted Police (RCMP), any municipal law enforcement agency (eg. Vancouver Police Department, Delta Police Department), and the Integrated Road Safety Unit (IRSU). It is assumed that all “Law Enforcement Officers” will be affected similarly; therefore, a position that may be taken by one law enforcement agency will be generalized to all “Law Enforcement Officers” operating within British Columbia.
Road Safety Advocacy Groups	This stakeholder group is defined as any organized association with a mandate to reduce present and upcoming hazards on British Columbian roads and highways. These agencies may encompass small agencies grassroots in nature (eg. Drop It And Drive) or centralized in nature (eg. Mothers Against Drunk Driving).
Recidivism	This is the act of a person repeating an undesirable behaviour after that have either experienced negative consequences of that behaviour. It can be thought of as a relapse back into the undesirable behaviour or action. In the context of this paper, recidivism is the act of an unlicensed driver driving unlicensed again, despite already being penalized for doing so.

Unlicensed Driver

This term is used as a catch-all term and includes all drivers who:

- Have let their licence expire
- Have had their licence disqualified or suspended
- Hold an inappropriate licence for the class of vehicle they are driving
- Drive outside the restrictions of a special licence
- Do not currently hold a licence
- Have never held a licence

Executive Summary

Unlicensed driving is a complex road safety problem among numerous Western jurisdictions that rely on motor vehicles for mobility, accessibility, and pleasure. In most circumstances, a valid licence is required to drive a vehicle. This ensures drivers have a solid foundation on the road rules, general driving skills, and are able to operate a motor vehicle in a safe and secure fashion. Since unlicensed drivers are difficult to detect and do not exhibit specific errant behavioural patterns like drink driving or speeding, unlicensed driving is a less recognized driving hazard. While unlicensed driving has been recognized and researched by some jurisdictions, no comprehensive study on the subject currently exists in the context of British Columbia. As such, this paper seeks to fill British Columbia's knowledge gap on unlicensed driving and provide decision makers with feasible solutions for implementation to combat unlicensed driving.

British Columbia is a leader in road safety. It is often cited for implementing strict policies to ensure compliance to road rules and regulations. British Columbia's framework for unlicensed driving is no different. Unlicensed drivers are subject to progressive administrative and judicial penalties including monetary fines, point penalties, immediate vehicle impoundments, and prison time; however, despite a robust penalties framework, an average of 3.1% of all tickets issued for contraventions to British Columbia's Motor Vehicle Act were for unlicensed driving between 2000 and 2012. While the absolute numbers of tickets issued for unlicensed driving and for contraventions to the British Columbia Motor Vehicle Act have both trended downward over the same time period, unlicensed driving still makes up a steady proportion of tickets issued. This suggests unlicensed driving has been, and currently is, a constant problem for road safety in British Columbia.

A number of findings in this study echoed similar findings in other jurisdictions. This study found younger populations and males are more likely to be issued tickets for unlicensed driving. In British Columbia, drivers issued tickets for unlicensed driving were likely to be issued tickets in combination with other contraventions, such as speeding, drink driving, and driving while prohibited. Additionally, repeat offenders are a concern

with unlicensed driving as more tickets are issued than individual people receiving them. Lastly, injuries caused by unlicensed drivers in British Columbia in motor vehicle crashes are more likely to be sustained by the other party (presumed to be licensed). As such, unlicensed driving is a clear road safety problem that poses major safety threats to all drivers sharing the road space.

To reduce the incidence of unlicensed drivers and promote safer roads for British Columbia's driving population four policy options were examined in detail: 1) Vehicle licence plate impoundment programs; 2) licence checking at all random roadblocks and roadside stops; 3) adopting automatic number plate recognition by all law enforcement agencies in British Columbia and; 4) public education campaigns. Each policy option was assessed based on the following criteria: effectiveness, budgetary impact, legality, implementation complexity, and stakeholder acceptance. A portfolio of options emerged as the most feasible solution. In the short term, I recommend the government of British Columbia implement licence checking at all random roadblocks and roadside stops province-wide while developing a budget-friendly public education campaign. In the medium-long term, I recommend the government of British Columbia to commence the public education campaign in parallel with starting the province-wide adoption of automatic number plate recognition technology by all law enforcement agencies. Due to concerns with legality, implementation complexity, and stakeholder acceptance, I recommend vehicle licence plate impoundment be further evaluated for use in British Columbia as a penalty-based option.

1. Introduction

In British Columbia, motor vehicles are a primary mode of travel providing mobility and accessibility. Driver licences are used as a method to ensure all drivers have a solid understanding of the road rules, general driving skills, and are able to drive in a safe and secure fashion. Drivers can have their licence removed for a number of reasons. The most frequent reason for licence removal is for breaking the law and posing a threat to public safety. Detection levels are low for unlicensed driving – unlicensed drivers (ULDs) continue to drive a functional vehicle, just like any other driver sharing the road space. This makes unlicensed driving a major risk factor that is often less recognized than other driving hazards such as drink driving and speeding, where the driver and vehicle may exhibit specific behavioural patterns. Typically, unlicensed drivers are undetected by law enforcement agencies until they crash or commit a traffic violation (Hanna *et al.*, 2006). As such, the inability to detect and enforce road safety rules on unlicensed drivers contributes to a large amount of suspect drivers with unknown risks and driving practices sharing public road space.

The general purpose of this study is to provide a detailed overview of the ULD problem and suggest some potential solutions to utilize in the province of British Columbia. I start with a comprehensive overview of the ULD problem by providing a background of the British Columbia jurisdiction in chapters 2 and 3; I follow up by conducting a broad literature review and cross-jurisdictional analysis to highlight findings made by other researchers and other jurisdictions in chapter 4. Then, I highlight the prevalence of the problem in British Columbia by looking at a set of statistics pulled from a comprehensive database in chapters 5 and 6. I discuss a number of variables that appear to be connected with unlicensed driving in chapter 7. I establish a set of policy measures to evaluate four policy options for implementation in British Columbia to reduce the prevalence of ULD on the public road space in chapters 8 and 9. I conclude that despite harsh penalties already in place in British Columbia, the problem of

unlicensed driving remains a serious road safety concern that can be reduced by targeted intervention from governments via public policy.

2. Background – Unlicensed Driving

Unlicensed driving is a complex road safety problem. This next section starts with an introduction to terminology used for unlicensed driving. It briefly explains the inherent reason for some of the differences in terminology and establishes the terms used in this paper. I conclude each section by examining two theories, first in the context of road safety and then in the context of unlicensed driving.

2.1. Terminology

In the international context, numerous terms and phrases have been used to categorize people that operate a vehicle without a licence. Among the more common terms are *unlicensed driver*, *unauthorized driver*, *disqualified driver*, *suspended driver*, *revoked driver*, *cancelled driver*, and *never licensed driver* (Watson, 2004b). Terms such as *disqualified*, *suspended*, and *revoked* tend to mean drivers have had their licence removed through some judicial or administrative process, whereas a *never licensed* driver may be an individual who is under the legal age for licensing or never applied for their licence and therefore has no valid driver's licence (Watson, 2004b). Despite differences in terminology and definition, the underlying characteristic of being an *unlicensed driver* is the driver operating a vehicle without a valid licence. To avoid confusion and to maintain consistency, the term "unlicensed driver" will be used throughout this paper and will be used as a catch-all term to refer to drivers who:

- Have let their licence expire
- Have had their licence disqualified or suspended
- Hold an inappropriate licence for the class of vehicle they are driving
- Drive outside the restrictions of a special licence
- Do not currently hold a licence
- Have never held a licence (Watson, 2004b)

2.2. Theories on Unlicensed Driving

Within the international literature, there are two main theoretical perspectives that can explain the prevalence of unlicensed drivers – the deterrence theory and the social learning theory (Watson, 2004b). The deterrence theory is grounded in sociology and attempts to explain the influence of legal sanctions and administrative penalties on social behaviour (Gibbs, 1975). The social learning theory, on the other hand, is grounded in psychology and attempts to explain behaviour based on rewards and punishments (Akers, 1990).

2.2.1. The Deterrence Theory

The deterrence theory relies on the perceived severity, certainty, and speed of legal sanctions and administrative penalties (Watson, 2004a). It is used extensively in most motorized countries to guide road safety measures. The deterrence theory is proposed to operate through two processes: general and specific (Akers, 1994). General deterrence hypothesizes the general population can be deterred from specific behaviour through the threat of sanctions and from witnessing sanctions being applied, whereas specific deterrence hypothesizes that offenders are deterred from reoffending through direct exposure to sanctions (Homel, 1986). Most sanction and administrative penalties for road safety are grounded in general deterrence. Governments use financial sanctions and administrative penalties including progressive fine structures and car impoundments as tools to deter the general public from engaging in risky driving behaviour. The general driving population, knowing the possibility of sanctions or administrative penalties, is incentivized to comply with road safety rules and regulations to avoid being sanctioned or penalized.

Specific deterrence aims to target those who have already violated a road safety rule or regulation. It suggests that the pain from paying a hefty financial sanction and inconvenience from having a vehicle impounded would deter the individual from reoffending. It is the first-hand experience of the financial sanction or administrative penalty that is hoped to deter the individual from reoffending. The deterrence theory is most popularly used in the context of drink driving, where severe sanctions are applied

to individuals who are caught driving with illegal blood alcohol levels. Because of the negative experience suffered from being arrested, or having their licence taken away, or their car impounded, a drunk driver would be deterred from drinking and driving again.

In the context of unlicensed driving, the general deterrence theory suggests drivers would generally not consider driving without a licence since sanctions and penalties exist for unlicensed driving. The general deterrence theory suggests drivers, knowing there are sanctions and penalties for unlicensed driving, may be reinforced to not drive without a licence especially after hearing about or witnessing another driver being sanctioned for unlicensed driving. The specific deterrence theory on the other hand, suggests when an offending driver is caught and penalized for unlicensed driving, that same driver would not consider reoffending in the future because the punishment was so severe and painful; they are not willing to go through the unpleasant experience again. As such, to reduce the incidence of unlicensed drivers from a deterrence theory standpoint, not only must sanctions and penalties exist for unlicensed driving, but they must be severe enough to prevent offenders from reoffending. Most deterrence theorists suggest the incidence of unlicensed driving in many jurisdictions is primarily a function of a low perceived risk of apprehension and problems with the actual severity, certainty, and speed of sanctions on unlicensed drivers who are caught (Watson *et al.*, 1996; Ross, 1991; Nichols & Ross, 1990).

2.2.2. The Social Learning Theory

The social learning theory, on the other hand, relies on the influence of personal and social rewards on individual behaviour. Where the social learning theory differs from the deterrence theory is its inclusion of potential benefits associated with various behaviours, not just the potential costs (Watson, 2003). Social learning theorists argue that the deterrence theory focuses too heavily on administrative and legal sanctions and fails to account for numerous non-legal factors that can influence compliances with the law including social sanctions, rewards, moral commitments to the law; and the opportunity for the commission of a crime (Watson, 2004a). It suggests the general driving population is compliant with road safety rules and regulations because they are motivated to do so by other factors including personal rewards, benefits, and even their

conscience. Social learning theorists would argue that some drivers comply with road rules and regulations because if they didn't, they may be shunned by their personal networks or they may not be able to sleep at night because they know they did something wrong.

Unlike the deterrence theory, the social learning theory also emphasizes rewards and benefits from being compliant with road rules and regulations. Rewards and benefits may be realized at the micro level or at the macro level. At the micro level, complying with rules and regulations can benefit drivers by getting them from one place to another on time and without injury; it can also benefit drivers by not being the ostracized individual within their personal networks for violating a road rule or regulation. At the macro level, it can also benefit the community by requiring fewer resources to deal with motor vehicle crashes and the injuries sustained. Overall, the social learning theory does include some characteristics of the deterrence theory, but it also emphasizes the power of social rewards and benefits to motivate the general driving population for complying with road rules and regulations.

In the context of unlicensed driving, the social learning theory highlights the need to drive as a powerful motivation in addition to sanctions for why drivers may be incentivized to not drive unlicensed. The need to drive for work represents a strong motivation since it results in personal rewards including income, social status, and maintenance of networks (Watson, 2003). The need to drive for convenience and pleasure are also motivational factors since personal vehicle travel is typically the fastest and most enjoyable method of travel. Along the same line of thought, the potential costs of not driving (e.g. loss of employment, loss of income, loss of networks, inconvenience, the displeasure of using other travel means) are reduced by continuing to drive. Social learning theorists suggest it is the calculation of potential costs against potential benefits that motivates drivers to continue driving unlicensed. Because ULDs are so motivated by the personal rewards and benefits from driving, they may continue to drive since they perceive the benefits of the behaviour to outweigh the potential costs (Watson, 2003; Watson, 2004a).

2.3. Summary of Background – Unlicensed Driving

- Within the international literature, there are two main theoretical perspectives that can explain the prevalence of unlicensed drivers: the deterrence theory, which relies on the perceived severity, certainty, and speed of legal sanctions and administrative penalties and the social learning theory which relies on the influence of personal and social rewards on individual behaviour.
- Most deterrence theorists suggest the incidence of unlicensed driving in many jurisdictions is primarily a function of a low perceived risk of apprehension and problems with the actual severity, certainty, and speed of sanctions on unlicensed drivers who are caught
- Most social learning theorists suggest the incidence of unlicensed driving is primarily a function of high perceived benefits from continuing to drive (including income, convenience, and pleasure) measured against the potential costs of not driving (including unemployment, sanctions if caught).

3. Background - British Columbia

British Columbia, like many other Western jurisdictions, requires drivers to hold a licence to operate a motor vehicle. At the same time, law enforcement agencies in conjunction with the Insurance Corporation of British Columbia (ICBC) – a provincial crown corporation providing auto insurance, driver licensing, and vehicle registration services – reserve the right to suspend or revoke driver licences if road rules are not obeyed (Blows *et al.*, 2007). Unlicensed drivers are a problem because they are more frequently involved in serious motor crashes resulting in bodily injuries, property damage, and fatalities than the average driver (Blows *et al.*, 2007). Additionally, for the majority of crashes, the ULD is found to be at fault due to their typically riskier driving behaviour including speeding, drink driving, red light running, and violating other road safety rules (Blows *et al.*, 2007). Research has shown that when they are involved in an accident ULDs are less likely to remain at the scene because they are more likely to be at fault, (Blows *et al.*, 2007). Therefore, not only are unlicensed drivers a major road safety concern due to their disregard for road safety rules, but their tendency to leave the crash scene results in the victim shouldering the costs of the motor vehicle crash.

British Columbia is a jurisdiction at the forefront of road safety. It is cited frequently for implementing strict policies to promote road safety. British Columbia's administrative and judicial penalties for unlicensed driving are no different. If a driver is caught driving without a driver's licence or has the wrong licence class for their vehicle, they are fined \$276, penalized three points on their driving record¹, and not permitted to drive the vehicle any further on the road (OSMV, 2012; ICBC, 2014b). If it is the second offence and the driver has a previous "No Driver's Licence" conviction on their file, their vehicle will be immediately impounded for seven days and they will be *prohibited* from

¹ A more detailed explanation of the point system is found in "2.1. BC's Driver Penalty Point & Driver Risk Premium systems"

driving until they apply for and receive a new licence (OSMV, 2012). If a third incident takes place and the driver is caught driving after being prohibited from driving, they may be charged with temporary “Driving While Prohibited” which is punishable by a \$500 fine and up to six months in jail for a first offence (OSMV, 2012). Offenders that repeat after the third incidence may be prohibited indefinitely until the driver becomes licensed again (ICBC, 2014d).

Out-of-province drivers are permitted to drive in British Columbia for up to six months if they hold a valid foreign or out-of-province licence (OSMV, 2012)². This licence must be produced at the request of a law enforcement officer otherwise a “Notice of Driving Prohibition” will be immediately issued (OSMV, 2012).

3.1. British Columbia’s Driver Penalty Point & Driver Risk Premium Systems

British Columbia’s Driver Penalty Point (DPP) system operates on a 12-month period called the “assessment period” (ICBC, 2014a). If a driver collects more than three points on their driving record during the assessment period, they are forced to pay a Driver Penalty Point premium (ICBC, 2014a). DPPs are separate from autoplan insurance premiums and are billed even if the driver does not own or pay insurance for a vehicle (ICBC, 2014a). DPPs range from \$175 for four points to \$24,000 for 50 or more points with progressively more fines charged for progressively more points (ICBC, 2014a)³.

British Columbia’s Driver Risk Premium (DRP) System operates in parallel to the DPP system. A driver will pay a DRP if they have: 1) one or more driving related Criminal Code convictions; 2) one or more 10-point Motor Vehicle Act convictions or; 3) one or more excessive speeding convictions and/or two or more roadside

² If the driver is a new resident to the province and has plans of staying in the province, they must obtain a BC driver’s license within 90 days of their arrival if they wish to continue operate a motor vehicle in BC (OSMV, 2012).

³ See <http://www.icbc.com/driver-licensing/tickets/dpp> for a full breakdown of penalty points and Driver Penalty Point premiums

suspensions/prohibitions (ICBC, 2014c). DRPs are calculated on an annual basis but encompass the three previous years for review of offences on the driving record (ICBC, 2014c). A driver will receive only one DRP invoice per year, but a serious driving offence may impact DRP billings for more than one year (ICBC, 2014c). For example, a driver charged with a serious criminal offence may be liable to pay a DRP for three years, calculated and billed on an annual basis. DRPs are separate from autoplan insurance premiums and are billed even if the driver does not own a vehicle. As a driver is progressively convicted of more driving offences, the premium amount they pay also progresses⁴. British Columbia's DPP and DRP are methods to incentivize the general driver population to comply with road safety rules and regulations. By assessing points and forcing drivers to pay a premium if they are considered risky, the British Columbian government is ensuring drivers internalize the potential risk they cause whenever they drive on public roads.

⁴ See <http://www.icbc.com/driver-licensing/tickets/risk-premium> for a full breakdown of Driver Risk Premiums based on Conviction count numbers

3.2. Summary of Background – British Columbia

- British Columbia is a jurisdiction at the forefront of road safety often using creative and innovative policies
- British Columbia has a system of administrative and judicial penalties in place for unlicensed driving that becomes progressively harder with reoffenses.
- British Columbia also uses a Driver Penalty Point and a Driver Risk Premium in addition to administrative and judicial penalties for road safety violations that increase the premiums paid for an individual identified as a “risky driver”

4. Cross-Jurisdictional Analysis

Unlicensed driving is a problem experienced in many jurisdictions around the world. Most developed nations with a drivers licensing program may experience a similar problem. In this next section, an analysis of Australia, California and Minnesota is presented. These jurisdictions were selected based on their past and present incidence rates of unlicensed drivers and their current penalty framework to combat unlicensed driving. For each jurisdiction, a summary of unlicensed driver prevalence is provided before correlating variables, including demographic characteristics and any other variables unique to each jurisdiction, are highlighted. Each section concludes with an outline of the current administrative framework for unlicensed driving including any unique programs, policies, or penalties that are operational in each jurisdiction.

4.1. Australia

Australia is a leader in road safety research and policies. It has numerous research institutions with the primary mandate of enhancing road safety. Australia's has extensive experience with unlicensed driving and its culture is also quite similar to British Columbia. For these reasons, Australia was selected as a jurisdiction to examine in more detail.

4.1.1. Australia Prevalence Rates

Unlicensed driving and crashes involving ULDs make a significant contribution to Australia's road casualty statistics (FORS, 1997). In a 1997 study using coroner's records about fatal crashes between 1992 and 1994, Australia's Federal Office of Road Safety (FORS) concluded 5% (204) of all fatal vehicular crashes involved one driver who was unlicensed (FORS, 1997). Out of the 204 ULDs, 54% (110) never held a licence for

the vehicle type they were operating and 34% (70) had been disqualified from operating the vehicle they were operating (FORS, 1997).

In Australia, remote rural areas have a higher incidence of unlicensed drivers resulting in more fatalities than any other area (FORS, 1997). The same study found that of all fatal crashes in remote rural regions, 22% involved an unlicensed motorist. For all other locations, including small towns, medium/large towns, and capital cities, the average incidence rate is 6% (FORS, 1997). In terms of gender characteristics, male drivers were more prevalent than female drivers. Five percent of all male drivers involved in a fatal crash were unlicensed while female drivers were involved in 3% of fatal crashes (FORS, 1997). In terms of age characteristics, FORS (1997) found those below the age of 25 were the worst offenders. Out of all unlicensed motorists involved in a fatal crash, 9% (126) were between 16-24 year olds (FORS, 1997). FORS (1997) also found 22 unlicensed drivers between the ages of 11 and 15 in a fatal car crash. This made up 0.5% of all fatal crashes in Australia between 1992 and 1994. In summary, Australia has a high reoffender rate

In a 2006 study by Watson *et al.*, a number of other factors were identified to contribute to fatal crashes with unlicensed drivers. In decreasing magnitudes of severity these include, alcohol/drugs usage, inattention, inexperience, speeding, and fatigue were also identified as factors contributing to fatal crashes (Watson *et al.*, 2006). This trend of risky driving behaviours in the ULD population makes them to be more likely to be judged at fault for the crashes they are involved in. In a separate study conducted in Australia using figures between 2000 and 2004, Wilson *et al.* (2006) concluded in 86.6% of fatal accidents involving an ULD, the ULD was judged to be at fault (Watson *et al.*, 2006). This is much higher than licensed drivers, who are judged to be at fault 56.1% of the time (Wilson *et al.*, 2006). Additionally, compared to their licensed counterparts, ULDs were nearly twice as likely to be involved in fatal crashes that occurred at night, nearly twice as likely to be in a single-vehicle crash, and one-third more likely to be involved in crashes on the weekend (Watson *et al.*, 2006).

In summary, Australia's ULD problem is primarily made up of individuals who were never licensed or have been sanctioned once already. Incidence rate is highest in

the rural areas among males younger than the age of 25. Lastly, accidents involving ULDs were more likely to take place at night, on the weekend, and resulted in the ULD being judged to be at fault.

4.1.2. Australia's Penalties Framework

The current penalties for driving without a licence in Australia vary greatly depending on the state and territory. In New South Wales, depending on the inherent reason for driving unlicensed, penalties may be monetary or licence disqualification for a period of time (Roads and Maritime Services, 2014). A ULD that is driving with a suspended licence may pay upwards of \$3,300 or have their licence disqualified indefinitely (Roads and Maritime Services, 2014). ULDs who are driving without the appropriate licence class or who have had their licence expired for a period of time may pay between \$506 and \$607 for a first offense and upwards of \$1,215 for subsequent offences (Roads and Maritime Services, 2014). In Queensland, ULDs may receive an infringement notice or be dealt with by a court for unlicensed driving (Transport and Main Roads, 2014.). If the driver is convicted of unlicensed driving, the court may impose a fine of up to \$4,400 or the driver may be imprisoned for up to one year (Transport and Main Roads, 2014). Both New South Wales and Queensland also operate on a point system, and therefore allocation of demerit points may also be a penalty issued at the Officer's discretion.

The most popular method employed by Australian states to elicit compliance is the Random Breath Test (RBT) Operation. RBTs are short campaigns primarily targeted at drink driving; however, they are also a medium for catching ULDs (Queensland Motorways, 2014). Campaigns are typically part of a broader strategy across numerous departments to improve road safety. Operations are typically done at night and on high traffic routes such as Queensland's Gateway Motorway, a 48km highway with some stretches expanding to upwards of nine lanes (Queensland Motorways, 2014). The most recently publicized operation was in early January 2014 where 11 unlicensed drivers were caught in a two-night period (Queensland Motorways, 2014).

4.2. United States

The United States has numerous national and state level research institutions with the primary objective of road safety. A number of these research institutions have extensively studied unlicensed driving including documenting its prevalence. The United State's culture is also quite similar to British Columbia. For these reasons, the United States and specifically the states of Minnesota and California were selected as jurisdictions to examine in more detail.

4.2.1. United States Prevalence Rates

A 2011 study conducted by the American Automobile Association (AAA) collected crash statistics between 2007 and 2009. A total of 151,820 drivers were involved in fatal crashes with 12.8% (19,410) of those drivers being unlicensed based on our earlier definition (AAA, 2011). The AAA further breaks down the type of unlicensed driving: 52.9% (10,277) had a suspended or revoked licence, 39% (7,588) were unlicensed, and 8.2% (1,595) had a licence that was expired, cancelled or denied (AAA, 2011). Out of all ULDs involved in fatal crashes, 83.4% (16,191) were male while 16.5% (3,219) were female (AAA, 2011). 60.4% (11,738) of fatal accidents involving at least one ULD took place on the weekday between Monday and Friday while 39.5% (7,671) took place on the weekend (AAA, 2011). Of these accidents, 45.7% (8,877) took place during the day between 5AM and 6:59PM, and the remainder 54.3% (10,532) were split evenly between the 7PM-11:59PM time period and 12:00AM – 4:59AM time period (AAA, 2011). The majority of accidents, 55% (10,695) were single-vehicle accidents that involved a car or a pick-up (AAA, 2011). Also, 12.1% (2,355) of all ULDs involved in a fatal accident fled the scene (AAA, 2011). Finally, 42.8% (8,316) of all ULDs had a blood alcohol concentration greater than 0.08 mg/l (AAA, 2011).

In summary, unlicensed drivers are well-represented in fatal car crashes in the United States. Accidents involving ULDs typically take place during the weekdays during dusk hours, in a single vehicle, and involve a male driver. ULDs were also more likely to have alcohol in their system than licensed drivers. Because the penalties for driving

without a licence differ depending on the state, a brief examination of ULD prevalence and penalty framework in the states of California and Minnesota follow.

4.2.2. United States: California

A recent study by Brar (2012) provided data on fatal two-vehicle crash statistics between 1987 and 2009. After excluding a number of data points due to the study's outlined criteria, 8,770 fatal crashes were analyzed along with 17,540 driver licences also analyzed (Brar, 2012). Brar (2012) found that 2,843 (16.2%) drivers were unlicensed⁵. Because the State of California's ULD average between 1987 and 2009 is above the United States' National Average, California was selected for this study.

In California, driving without a valid driver's licence is considered a criminal offence. In order to be validly licensed, a driver must retain a licence from the state in which they currently reside and for the type of vehicle they are operating (DMV, 2014). In California, driving without a licence is different than driving with a suspended licence. The former is less serious and typically results in a citation or infraction notice while the latter is always a misdemeanor and can lead to more serious and more targeted sanctions depending on the reason for licence suspension (DMV, 2014). Infraction notices for unlicensed drivers typically lead to a monetary fine, a court hearing, and potential vehicle impoundment as decided by the peace officer (SCLG, 2014). Misdemeanours, however, are more serious and can result in between \$300 and \$1000 in fines, vehicle impoundment, five days to six months in the county jail and informal probation for up to three years as a first time offender (SCLG, 2014). Subsequent offenders get ten days to one year in county jail, between \$500 and \$2,000 in fines, vehicle suspension, and various other targeted sanctions such as ignition interlock devices if the licence was suspended due to driving under the influence (SCLG, 2014).

At a roadside inspection, when a driver is found to be unlicensed, California law allows for immediate vehicle impoundment (Scopatz *et al.*, 2003). Vehicle seizures are

⁵ Brar's research breaks down the unlicensed drivers into suspended/revoked drivers and unlicensed drivers. For the purposes of this study, both groups of drivers fall within our category of unlicensed drivers.

also allowed, but only for multiple offenders. In practice, the vehicle impoundment law is used more frequently and typically results in a forfeiture of the vehicle because most impounded cars are worth less than the cost of their redemption from an impoundment yard (Scopatz *et al.*, 2003). Local level governments set the fee schedule for impounded vehicles, typically to meet the costs of running the program (Scopatz *et al.*, 2003). In California, the offender does not need to be the owner of the vehicle for the vehicle to be impounded – which is typically the case for multiple offenders since only one in three was the actual owner of the vehicle impounded (Scopatz *et al.*, 2003). Researchers believe California’s vehicle impoundment program is very effective. The immediacy and cost of a vehicle impoundment were found to have a deterrent effect on both drinking and driving and unlicensed driving (Scopatz *et al.*, 2003). California law enforcement agencies have, however, cited delays in the information system for calling up a driver history record as a barrier to more effective enforcement actions (Scopatz *et al.*, 2003). As a result, many cases of subsequent offenders are treated as first-time offenders, resulting in cases that may be eligible for arrest and impoundment or seizure of vehicle and licence to receive lighter administrative penalties (Scopatz *et al.*, 2003).

4.2.2. United States: Minnesota

Between 1993 and 1999, an average of 7.2% of Minnesota drivers involved in fatal accidents were unlicensed (Scopatz *et al.*, 2003). Throughout this time period, a downward trend in ULDs was witnessed with a peak of 8.9% in 1996 to a low of 4.4% in 1999 (Scopatz *et al.*, 2003). Because Minnesota experienced a steady downward trend leading it to be below the US’ national average, it was selected for this study.

In Minnesota, anyone who drives a motor vehicle on public streets or highways must carry a valid and unexpired driver’s licence (Department of Public Safety, 2014). If a driver is caught driving without a valid licence, they may be charged under criminal law for misdemeanour (Department of Public Safety, 2014). In the context of criminal law, driving without a licence is a misdemeanour and can result in a maximum sentence of \$1,000 and/or 90 days in county jail (USLS, 2014). The same driver may be found of gross misdemeanour if they have previously been found guilty of driving without a licence (whether it be cancelled, revoked, or suspended); has been given notice and

should reasonably know of the cancellation, revocation, or suspension of their licence; and yet continues to operate any motor vehicle in the state (State of Minnesota, 2013a). Persons charged with gross misdemeanour may be fined up to \$3,000 and various other penalties depending on the nature of their crime (State of Minnesota, 2013b).

With respect to administrative penalties that can be levied on ULDs in Minnesota, an *Inimical to Public Safety* statute provides grounds for licence cancellation (Scopatz *et al.*, 2003). If a driver is considered inimical to public safety, law enforcement agents may immediately impound, seize, or immobilize vehicles including their licence plates (Scopatz *et al.*, 2003). If a driver is driving with a cancelled licence, the licence plates of all vehicles owned by the driver are impounded by the enforcement officer in the field (Scopatz *et al.*, 2003). If administrative barriers emerge, the enforcement officer may request the Minnesota Department of Public Safety to conduct the licence plate impoundment at a later date, typically via mailed notification services. All impoundments are for a minimum of one year, with multiple offenders facing additional years of impoundment (Scopatz *et al.*, 2003). Researchers, law enforcement agencies, and program administrators attribute the downward trend in ULDs to the licence plate impoundment program. Studies have shown the immediacy of the roadside plate impoundment program is twice as effective in reducing recidivism when compared to a delayed plate impoundment program (Scopatz *et al.*, 2003). In other words, drivers whose plates were impounded at the time of the arrest by the enforcement officer were less likely to reoffend than those whose plates were impounded at a later date by the Minnesota Department of Public Safety (Scopatz *et al.*, 2003).

4.3 Summary of Cross-Jurisdictional Analysis

- In a study using coroner's records about fatal crashes between 1992 and 1994, Australia's Federal Office of Road Safety concluded 5% of all fatal vehicular crashes involved one driver who was unlicensed. Australia's unlicensed driving problem is primarily made up of individuals who were never licensed or have been sanctioned once already
- Australia uses the Random Breath Test as an enforcement mechanism to elicit compliance to Unlicensed Driving.
- A study conducted by the American Automobile Association (AAA) collected crash statistics between 2007 and 2009 found of 12.8% of the 151,820 drivers involved in fatal crashes were unlicensed. Unlicensed drivers in the United States were more likely to have alcohol in their system.
- The State of California uses immediate vehicle seizure and a monetary sanction as penalties for unlicensed driving. The State of Minnesota uses vehicle and licence plate impoundment programs to enforce rules and regulations on unlicensed driving.

5. Background - Statistics on Unlicensed Driving in British Columbia

The primary rationale for conducting a study on unlicensed driving is to fill a knowledge gap in British Columbia. Presently, no detailed studies have been conducted on the subject of unlicensed driving in the context of British Columbia. The objective of this paper is to identify the prevalence of the ULD problem in British Columbia, identify any common themes between British Columbia and other similar jurisdictions, and outline some potential policy options to reduce the problem of unlicensed driving. Policy measures are used in later chapters to evaluate potential policy options for implementation in British Columbia. In the following section, the data used to outline ULD prevalence in British Columbia is explained and statistical limitations are outlined.

5.1. Statistical Source

This study uses aggregated statistics about unlicensed driving provided by the British Columbia Ministry of Justice's Office of the Superintendent of Motor Vehicles (OSMV) and the Insurance Corporation of British Columbia (ICBC). A data request was made by the OSMV and forwarded to ICBC for them to extract the data from the Crash Claims Database located in their head offices. The data request targeted all tickets served under the Motor Vehicle Act (MVA) between 2000 and 2012. Statistical tables were then forwarded in an aggregated and anonymous format to ensure that no individual would be recognizable. The statistics focus on the number of MVA tickets served for offences related to unlicensed driving – MVA Section 24.1:

§24 (1) Except when accompanied by a person authorized by the Insurance Corporation of British Columbia to examine persons as to their ability to drive and operate motor vehicles, a person must not drive or operate a motor vehicle on a highway unless, in addition to any licence or permit which he or she is otherwise required to hold under this Act, the person holds a subsisting driver's licence issued to him or her under this Act of a class appropriate to the category of motor vehicle driven or operated by him or her.

(2) A person who contravenes subsection (1) commits an offence.

(BC MVA, s.24.1)

The original format of the statistical tables can be found in appendix A. They include:

Table 1: The number of tickets served, broken down by year, month, gender of driver, age group of driver.

Table 2: The number of MVA tickets served for offences related to ULD with respect to other offences. This table was broken down by year, month, ULD tickets served in combination with at least one speeding ticket, ULD tickets served in combination with at least one alcohol and/or drug ticket, ULD tickets served to drivers prohibited at the time the ticket was served.

Table 3: The number of MVA tickets served for offences related to ULD with respect to time. This table was broken down by year, month, time of day issued, and day of week issued.

Table 4: The number of ULDs involved in crashes. This table was broken down by year, crashes with property damage only, crashes with casualties, fatal crashes, at-fault / not-at-fault, and whether the ULD was injured, seriously injured, or fatally injured.

All the statistics also include out of province ULDs operating a motor vehicle in British Columbia.

Logistically, ICBC prepared the statistics and forwarded it to the OSMV who conducted a quality and privacy check of the information. This step ensured there were no conflicts of interest, no privacy leaks, no personal information, and no details of individual drivers. The OSMV then forwarded the statistics to the primary researcher to be interpreted for this research project.

5.2. Statistical Limitations

A number of methodological limitations should be highlighted. First, the numbers presented are continuously changing, especially for more recent time periods because of late reporting, corrections, and adjustments. Second, the statistics provided are intended to provide general information and should not be viewed as an audited or formally validated report. The provision of these statistics does not indicate in any way that the OSMV or the ICBC support, authorize, or endorse any use or interpretation which the primary researcher may make of it or any information it contains. Third, the numbers presented below come from the ICBC Claims Database. This database is considered to be one of the most exhaustive databases in British Columbia for injuries and fatalities due to motor vehicle crashes. However, because the database reflects only crashes where insurance claims have been made, minor injuries and minor personal damage (vehicle asset) may not be reported if the drivers involved choose not to report it for insurance claim purposes. Drivers may choose not to report a minor crash to ICBC for a number of reasons including willingness to settle privately or desire to not increase their personal insurance premiums.

Fourth, all numbers are rounded to the closest 10 creating the potential for rounding error. This means any number between five and nine will register as 10 whereas any number between one and four will register as zero. Fifth, all numbers presented are reflective of tickets issued regardless of ticket final status (eg. Guilty vs Not Guilty on court appeal⁶). This may slightly skew the actual prevalence of ULDs because some drivers may actually be found not guilty by the court system. Seventh, the statistical numbers are absolute numbers, not percentages of the population in the category represented. This is especially important in the context of age group statistics where one age group may be disproportionately represented in the general population (e.g. Baby boomers). As such, two age groups with the same statistical result does not necessarily mean the same proportion of that age group is represented in the statistical numbers. Lastly, statistics provided represent the number of tickets being issued for

⁶ A driver issued a contravention ticket for unlicensed driving may appeal the ticket in court. The courts may find the driver not guilty of the ticket issued by the officer.

unlicensed driving. This number, however, does not necessarily mean the actual numbers of unlicensed drivers on the road. A distinction must be made between the number of tickets issued for unlicensed driving and the number of actual ULDs. Focusing on a new road safety issue to enforce, reductions in enforcement resources, or an increase in a more severe contravention can all result in less tickets being issued for unlicensed driving⁷, but may not mean there are fewer ULDs on the road.

⁷ A driver can be charged with three contraventions at one time. Therefore, if a driver is charged with drunk driving, speeding, running a red light, and unlicensed driving, the charge for unlicensed driving may not show up.

5.3. Summary of Background - Statistics on Unlicensed Driving in British Columbia

- The primary rationale for conducting this study is to fill a knowledge gap on the current state of unlicensed driving in British Columbia.
- This study uses aggregated statistics about unlicensed driving provided by the British Columbia Ministry of Justice's Office of the Superintendent of Motor Vehicles and the Insurance Corporation of British Columbia to measure prevalence of unlicensed drivers.
- Statistical numbers are continuously changing. These numbers represent the number of tickets being issued for unlicensed driving. This number, however, does not necessarily mean the actual numbers of unlicensed drivers on the road.

6. Data of Unlicensed Drivers for British Columbia

In this chapter, data representing the characteristics of the ULD problem in British Columbia will be provided. In doing so, trends unique to British Columbia will be highlighted to inform more targeted policies. While the ULD problem may be experienced in numerous jurisdictions, there are unique characteristics of the problem in British Columbia to target. This section also allows for the identification of trends found in British Columbia that are similar in other jurisdictions. Knowing the trends in British Columbia will provide basis for adopting policies used by other jurisdictions to combat a similar trend.

6.1. Contravention Tickets for Unlicensed Driving, as Proportion of Total Contravention Tickets Issued, 2000-2012

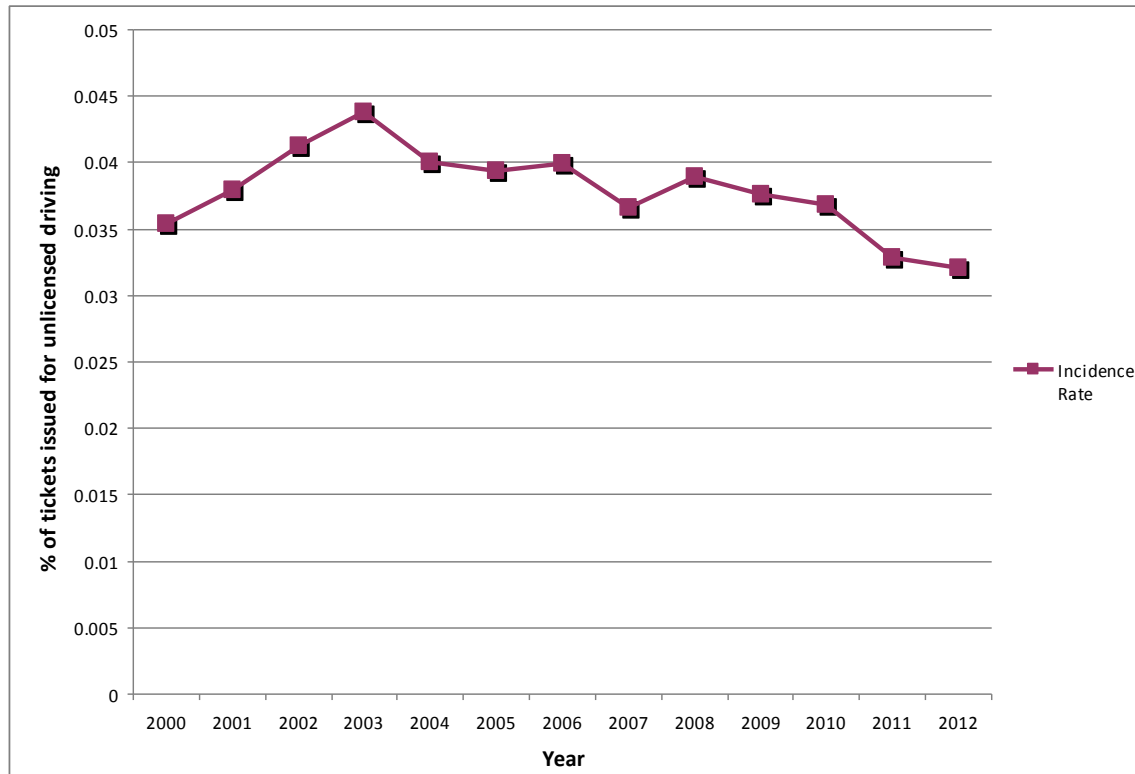


Figure 1 : Contravention Tickets for Unlicensed Driving, as Proportion of Total Contravention Tickets Issued, 2000-2012

Between 2000 and 2012, the proportion of contravention tickets issued for unlicensed driving has remained stable. It peaked as a proportion of total contravention tickets issued in 2003 when 4.2% of tickets issued were for unlicensed driving and was at a low point in 2012 when 3.1% of tickets were issued. Between 2000 and 2012, an average of 3.6% of total contravention tickets under the BC Motor Vehicle Act were for unlicensed driving.

6.2. Total Contravention Tickets Issued for Unlicensed Driving, 2000-2012

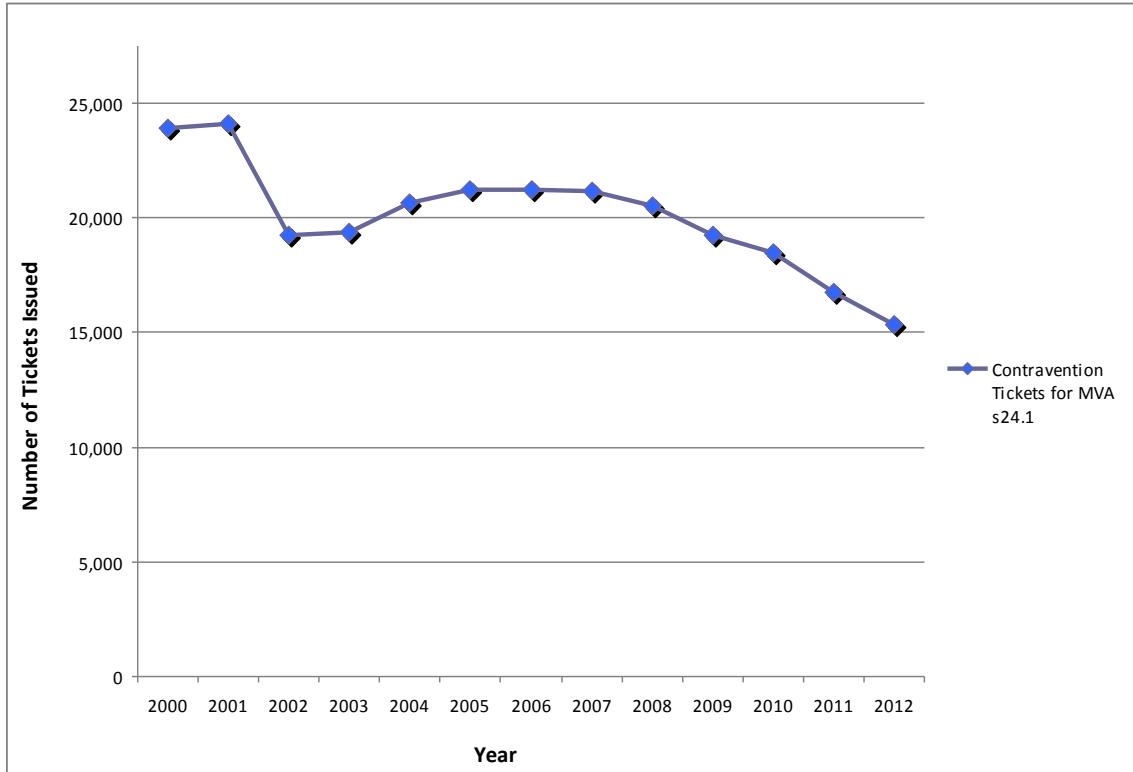


Figure 2: Total Contravention Tickets issued for unlicensed driving, 2000-2012

Between 2000 and 2012, it appears there has been a downward trend in number of contravention tickets served for driving while unlicensed. During this period, 2001 was a peak year when 24,140 tickets were issued for unlicensed driving and 2012 was the lowest year when 15,380 tickets were issued. This represents a 35% (8,760) decrease of tickets being issued for contraventions of MVA s24.1 over a span of 11 years.

This visual is important to consider because on the surface, it appears the problem of unlicensed driving is experiencing a downward trend. Instead, this visual actually represents a downward trend in tickets being issued for unlicensed driving. Fewer tickets being issued for unlicensed driving does not necessarily correlate to a smaller number of unlicensed driving present on public roads. Changes in enforcement priorities or increased difficulties to detect unlicensed drivers can also result in less tickets being issued for unlicensed driving.

6.3. Contravention Tickets for Unlicensed Drivers

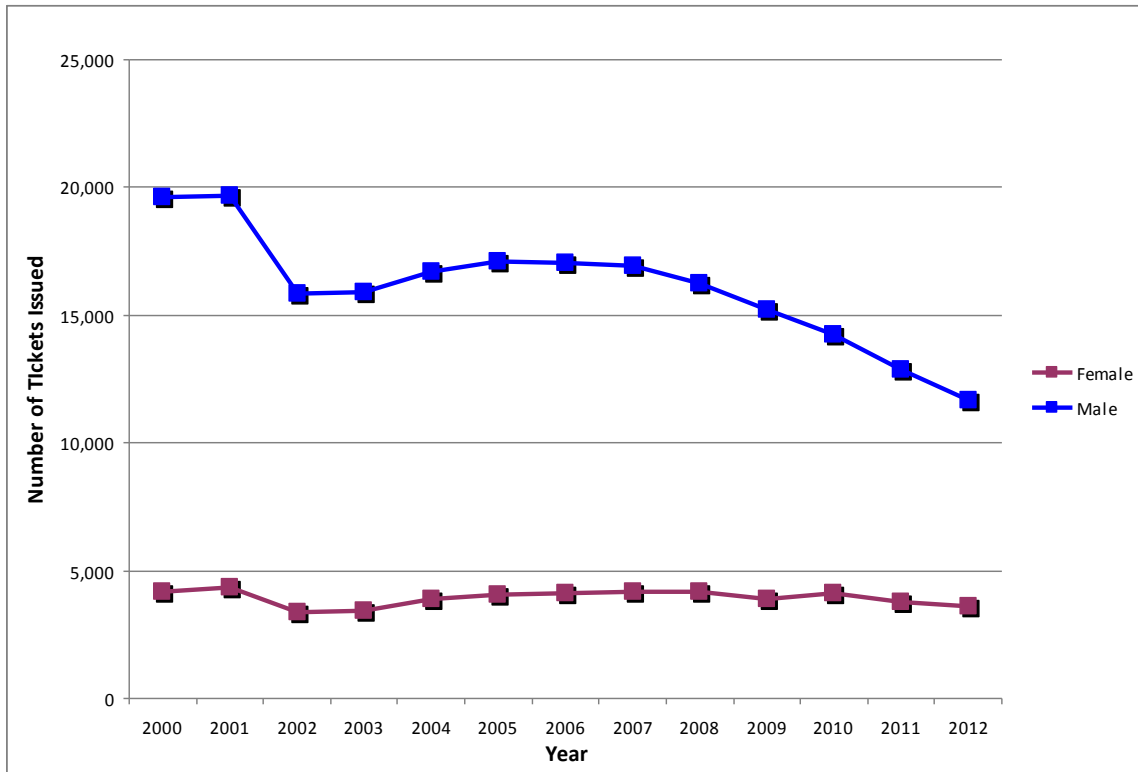


Figure 3: Contravention Tickets for Unlicensed Drivers, By Gender, 2000-2012

Between 2000 and 2012, it appears tickets issued to male drivers trends downwards. Tickets issued to males peaked in 2001 with 19,690 tickets issued and was at its lowest point in 2012 where 11,660 tickets were issued. Tickets issued to females also peaked in 2001 with 4,320 tickets issued and was at its lowest point in 2002 where 3,350 were issued. The most recent numbers for tickets issued for ULD to females was in 2012 where 3,620 were issued. This was the lowest point for nine years.

This visual reflects a similar trend in most other jurisdictions. In Australia and in the United States, males represent a greater proportion of unlicensed drivers involved in crashes. Here, males represent a great proportion of recipients for tickets for unlicensed driving.

6.4. Contravention Tickets for Unlicensed Drivers (MVA s24.1), By Age Group, 2000-2012

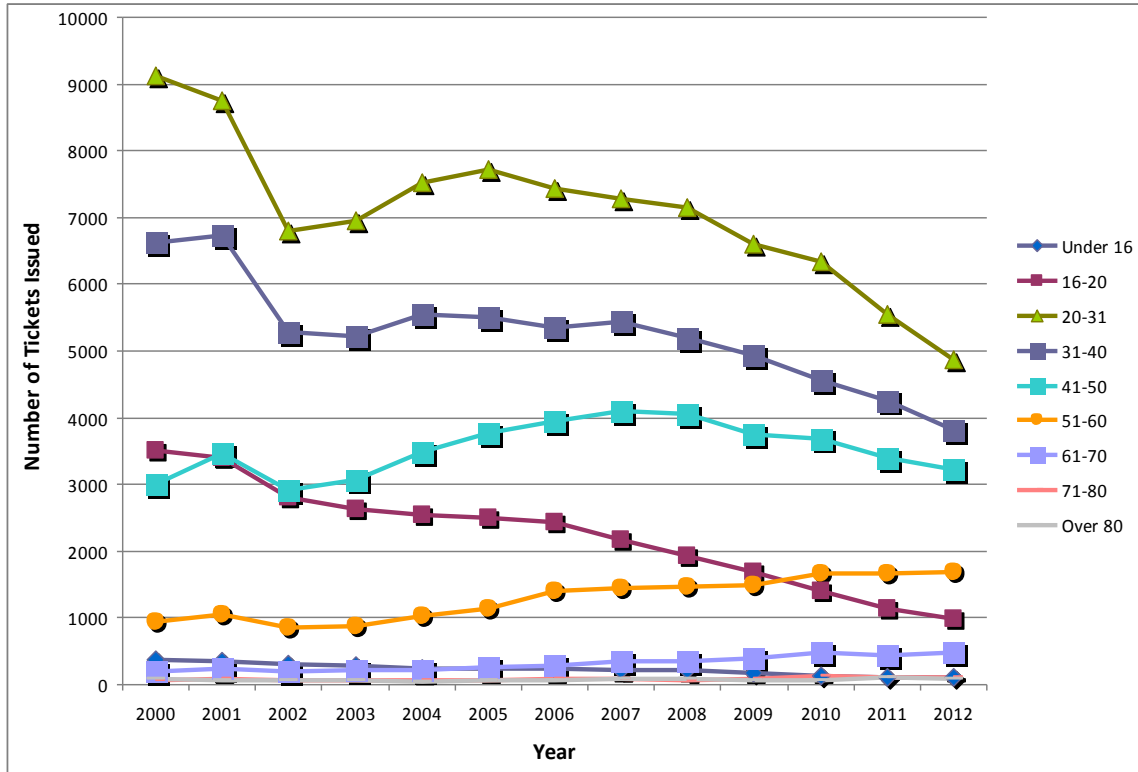


Figure 4: Contravention Tickets for Unlicensed Drivers, By Age Group, 2000-2012

Between 2000 and 2012, it appears those aged 20-31 are most likely to be served with a contravention ticket for unlicensed driving. Those aged 71-80 and above 80 appear to be tied for being the least likely to receive a contravention ticket for unlicensed driving. The groups with the most significant decrease in unlicensed driving tickets issued appear to be age groups Under 16, 16-20, 20-31, 31-40. The age groups with an upward trend appear to be those between 51-60, 61-70, 71-80. The age groups that stayed around the same level throughout the time period appear to include those between 41-50 and Over 80.

This visual highlights two key points. First, it showcases unlicensed driving is not equally prevalent among all age groups. Second, it supports a trend found in Australia. In Australia, the youngest age group was found to be most prevalent in and this is similar in British Columbia with those under the age of 31 receiving 46% of all tickets for

unlicensed driving. There is, however, an upward trend in British Columbia for middle age groups that was not found in Australia or the United States.

6.5. Contravention Tickets for Unlicensed Drivers (MVA s24.1), By Combination, 2000-2012

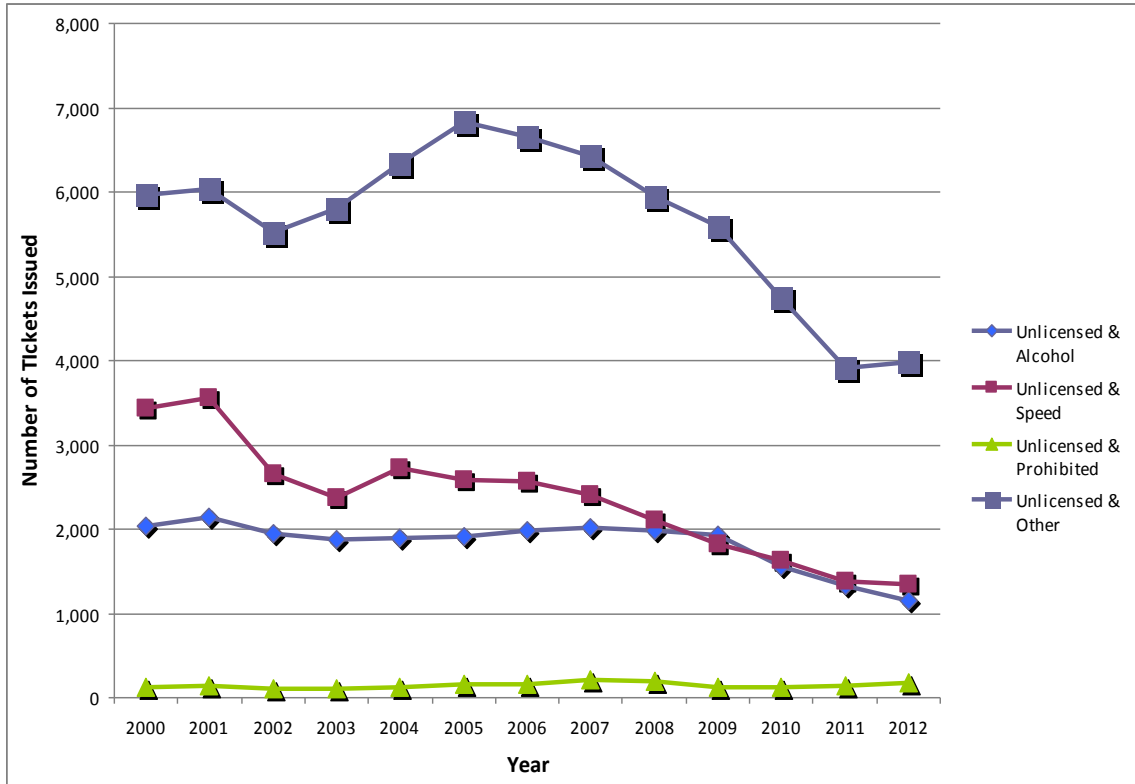


Figure 5: Contravention Tickets for Unlicensed Drivers, By Combination, 2000-2012

Between 2000 and 2012, tickets issued for unlicensed driving and alcohol appeared to experience a significant downward trend. From its peak in 2001 where 2,150 tickets were issued to its lowest point in 2012 where 1,150 were issued, 46.5% less tickets have been issued. Tickets issued for unlicensed driving and speeding also appeared to have a significant downward trend. From its peak in 2001 where 3,560 tickets were issued to its lowest point in 2012 where 1,350 tickets were issued, 62% less tickets were issued for the combination of unlicensed driving and speeding. Tickets issued for unlicensed driving while prohibited appeared to experience a slight upward

trend. Prohibited driving refers to driving a motor vehicle on a highway or an industrial road despite prior notice of prohibition. From its lowest point in 2003 where 110 tickets were issued to its most recent point in 2012 where 180 tickets issued, an increase in 63% tickets were issued for unlicensed driving and driving while prohibited. Tickets issued for unlicensed driving in combination with another violation other than alcohol, speed, or driving while prohibited also experienced a downward trend. From its peak in 2005 where 6,830 tickets were issued to its most recent point in 2012 where 3,980 were issued, over 41% less tickets were issued for unlicensed driving in combination with another violation except alcohol, speed, or driving while prohibited.

The most dramatic decrease was for unlicensed driving and speeding, where 63% less tickets were issued in 2012 compared to its peak year of 2001. Contraventions for unlicensed driving combined with alcohol appeared to have the next largest decrease with 44% less tickets being issued in 2012 than its peak year of 2001. Contraventions for unlicensed driving combined with prohibited licences stayed relatively stable throughout the time period, and may have even increased slightly. Contraventions for unlicensed driving combined with another contravention other than speeding, alcohol, or prohibited licences was consistently more than the other three combined for every year between 2000 to 2012; however, it appears to have also experienced a downward trend with 33% less tickets issued in 2012 than its peak year of 2001.

This visual reinforces a similar trend in the United States. An AAA (2011) study found a large proportion of ULDs had some concentration of alcohol in their system and it appears the same is true for British Columbia since Alcohol and Unlicensed Driving combination tickets are the highest served tickets.

6.6. Number of Distinct Drivers⁸ Served with Contravention Tickets for Unlicensed Driving & Total Contravention Tickets for Unlicensed Driving, Total, 2000-2012



Figure 6: Number of Distinct Drivers Served with Contravention Tickets for Unlicensed Driving vs. Total Contravention Tickets Issued for Unlicensed Driving, 2000-2012

This visual showcases the reoffender rate in British Columbia. Given the number of tickets that were issued is higher than the number of drivers who got tickets, it is clear some drivers are getting more than one. The number of distinct drivers served with a contravention ticket for unlicensed driving has decreased over time. It peaked in 2001 when 21,220 distinct drivers were served with 24,140 tickets and was lowest in 2012 when 14,360 distinct drivers were served with 15,380 tickets. The pattern for distinct

⁸ "Distinct Driver" refers to separate, different, individual drivers. For example, two distinct drivers means two completely separate and different persons. It is worth noting the number of distinct drivers because it can highlight the number of repeat offenders.

drivers, including its peak point and low point, appears to follow the same downward trend as the total contravention tickets issued for unlicensed driving.

This visual describes the degree of recidivism in British Columbia. Similar to Australia, it appears there is a degree of recidivism with unlicensed driving. While the degree of recidivism in British Columbia is significantly less than Australia's, the presence of recidivism suggests the present sanction and penalties system in British Columbia may not be properly incentivizing offenders from reoffending.

6.7. Number of Injury Crashes and Personal Damage Only Crashes, By Fault of Unlicensed Driver, 2000-2012

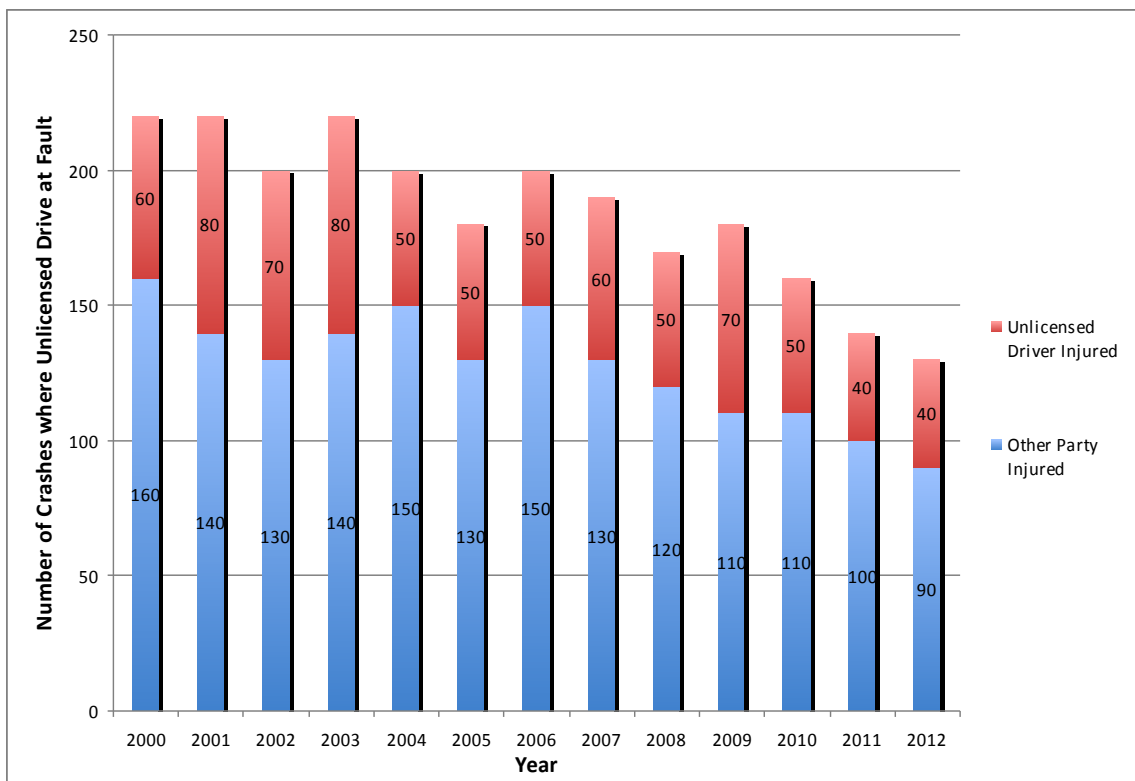


Figure 7: Number of Injury Crashes & Personal Damage Only Crashes, by Fault of Unlicensed Driver, 2000-2012

Between 2000 and 2012, total numbers of crashes with insurance claims appeared to trend downwards. The amount of claims made peaked in 2003 when 410

claims were made and was lowest in 2012 when 230 claims were made. The same downward trend appears for injury crashes and personal damage only (PDO) crashes. While the amount of total injury and PDO crashes has decreased, the ratio of at-fault to not-at-fault for the unlicensed driver stayed relatively the same for injury crashes between 2000 and 2012; however, the ratio of at-fault to not-at-fault appears to have greatly increased for PDO crashes with unlicensed drivers being found to be increasingly at fault. The number of fatal crashes were too low to be presented and to base concrete conclusions on.

This visual showcases the unfairness of the harm and injury caused by ULDs. Accidents involving an ULD in British Columbia disproportionately injure the other driver (presumably licensed). Despite ULDs breaking road safety rules and regulations, general driver population members are the ones suffering the consequences derived from motor vehicle crashes.

6.8. Data Limitations

These visuals showcase a number of patterns and trends that can help law enforcement agencies with respect to targeting specific demographics that are more likely to be an ULD. There are, however, a number of other demographic characteristics that can be studied in greater detail to promote more effective targeting of ULDs. In Australia, unlicensed driving was more prevalent in rural areas. Anecdotal evidence suggests individuals of lower socioeconomic status are more likely to be an ULD. As such, future studies can focus on those residing in rural areas and of lower socioeconomic status to improve targeting capacities.

6.9. Summary of Statistical Results in British Columbia

- In British Columbia, there appears to be a downward trend of tickets being issued for unlicensed driving.
- In British Columbia, males appear to be issued more tickets for unlicensed driving. This is similar to both Australia and the United States.
- In British Columbia, younger age groups are overly represented as recipients of unlicensed driving violations. This is similar to findings in Australia where younger age groups were overly represented as unlicensed drivers as well. In British Columbia, however, tickets issued to middle age groups appear to have trended upwards.
- In British Columbia, tickets issued for unlicensed driving in combination with alcohol represent the greater proportion of combination tickets issued. This is similar to findings in the United States where a large number of unlicensed drivers also had high concentration of alcohol in their system.
- Recidivism is present amongst unlicensed drivers In British Columbia. This is similar to Australia where a large proportion of offenders were found to be repeat offenders for unlicensed driving.
- In British Columbia, injuries caused by unlicensed drivers are disproportionately sustained by the other driver (presumed to be licensed).

7. Discussion

Given a number of commonalities between British Columbia, the United States, and Australia, this next section aims to delve deeper into the six visuals and themes provided. Further literature is examined in attempt to provide an explanation for the status of unlicensed drivers in British Columbia.

Despite the apparent downward trend in number of tickets issued for unlicensed driving between 2000 and 2012, *this does not necessarily mean the actual numbers of unlicensed drivers on the road may be trending downwards*. A distinction must be made between the number of tickets issued for unlicensed driving and the number of actual ULDs. Focusing on a new road safety issue to enforce and reductions in enforcement resources can both result in fewer tickets being issued for unlicensed driving⁹. In 2012, the most recent year statistics were available for, 15,380 tickets (representing 3.1% of all contravention tickets issued under the Motor Vehicle Act) were issued for unlicensed driving. Therefore, despite a general decline in percentage of tickets for unlicensed driving between 2000 and 2012, the problem is still apparent.

7.1. Gender Considerations

As found in most other jurisdictions, males tend to be issued more tickets for unlicensed driving. In 2012, males were given over 76% of tickets for driving while unlicensed¹⁰. This is within the range found by most literature on the subject.

⁹ A driver can be charged with three contraventions at one time. Therefore, if a driver is charged with drunk driving, speeding, running a red light, and unlicensed driving, the charge for unlicensed driving may not show up.

¹⁰ It is worth noting that males being issued over 76% of the tickets for unlicensed driving may be due to males being more prone to having their license removed. Therefore, males become a higher proportion of those driving unlicensed.

Blows *et al.*'s (2007) study of Auckland, New Zealand and found males received 65.3% of all tickets for unlicensed driving while the American Automobile Association's (2011) study on America and found males received 83.4% of all tickets for unlicensed driving. Some researchers argue males may be more likely to drive without a licence because they are more likely to be risk seekers (Watson, 2004b). The sensation seeking habit of males is more likely to lead to a range of riskier behaviours (Zuckerman, 1994). Driving behaviours that have been shown to be linked to sensation seeking including drink driving, speeding, and tailgating (Jonah, 1997).

It is possible to explain male's propensity to engage in risk-taking behaviour with social learning theory. There are non-social rewards that individuals may achieve from engaging in risky behaviours (Watson, 2004b). High sensation seeking males may be more prone to perceive risky behaviours as inherently rewarding due to the thrill and excitement associated with breaking the law (Watson, 2004b). Within this framework, the act of driving, in it of itself, may be the facilitator to other high sensation behaviours such as speeding and drink driving, which therefore makes engaging in these behaviours rewarding to those that are high sensation seekers (Watson, 2004b).

For females, the amount of contravention tickets for unlicensed driving as a percentage of total unlicensed driving tickets issued has increased between 2000 and 2012. Even though the absolute number of tickets issued to females has stayed relatively steady, because contravention tickets issued to males has decreased over time, female tickets now represent a higher proportion of unlicensed driving tickets. The proportion of ULD tickets issued to females has increased from 17.4% to 23.6% between 2002 and 2012. The slight increase in females being served unlicensed driving tickets combined with the decrease in males being served unlicensed driving tickets results in females representing a greater proportion of total unlicensed driving tickets. As such, future programs and policies should consider female participation in unlicensed driving in addition to male participation.

7.2. Age Group Considerations

As found in most other jurisdictions, younger age groups appear to be overrepresented as ULDs. Between 2000 and 2012, those under the age of 31 received 47.5% of all tickets issued for unlicensed driving. Most age groups trended downwards for tickets being issued, with the greatest decrease being 53% for those aged 20-31. The couple upward trends were for those aged 51-60 and those aged 61-70 where an increase in 80% and 157% were seen, respectively. While the absolute numbers of both these age groups are still significantly less than the 20-31 age group, their dramatic increase suggests a potential budding problem that may require further research into.

The overrepresentation of younger age groups can be explained by the social learning theory. The propensity of younger age groups to be greater risk-takers and more sensation seeking can explain the pattern of younger age groups being overrepresented as a proportion of the entire population. Blows *et al.*, (2005) conducted a study in Auckland, New Zealand and found that 45.7% of their sample was under the age of 25. An AAA (2011) report found those under the age of 35 were issued 65.4% of all unlicensed driving¹¹ tickets. Researchers argue it is due to the thrill and excitement associated with breaking the law that younger age groups have tended to be overrepresented (Watson, 2003). Watson (2003) also found that the younger the individuals were, the more likely they were to drive unlicensed again in the future. Therefore, policies and programs can consider targeting younger age groups due to their overrepresentation and due to their greater likelihood for recidivism and middle age groups to prevent further upward trends in unlicensed driving.

7.3. Combination Tickets Considerations

Social learning theory explains the prevalence of contravention tickets being issued for unlicensed driving in combination with another contravention as part of the

¹¹ This report breaks down driver license status into unlicensed driving, suspended/revoked, and expired/cancelled/denied. For the purposes of consistency and clarify, these license statuses were all included within my definition of unlicensed driving.

Motor Vehicle Act. In line with thrill seeking and high sensation seeking behaviours, the perception of breaking the law creates excitement which is a desired effect (Watson, 2004b). This results in a large number of ULDs being issued tickets for more than just unlicensed driving.

Researchers in other jurisdictions have arrived at similar conclusions. Watson's (2003) study of Queensland using statistics from 1994 to 1998 found over 25% of unlicensed drivers were also above the legal alcohol limit. The same study found 14.7% of ULDs were also speeding (Watson, 2003). Blow *et al.*'s (2007) study on Auckland, New Zealand found 23.2% were over the legal alcohol limit and 23.1% were traveling faster than the posted speed limit. In 2012 within British Columbia, prevalence of combination tickets was lower than most other jurisdictions. Here, 9.0%¹² and 11.5%¹³ of ULDs were also charged with being over the legal alcohol limit and for speeding, respectively. Despite the downward trend in combination contraventions for unlicensed driving and another infraction within BC Motor Vehicle Act, attention should still be given to combination contravention unlicensed drivers since they are still more likely to result in a serious or fatal vehicular crash (Watson, 2003).

7.4. Recidivism Considerations

Defined as individual, unique drivers, the statistics on distinct drivers depicts an idea of how many repeat offences take place. In line with previous statistics of a downward trend with unlicensed driving, the number of repeat offences appears to have decreased as well. The downward trend of reoffending started from 2000 where 2,940 (14%) more tickets than distinct drivers were issued to the most recent and lowest year of 2012 where 1,020 (7.1%) more tickets than distinct drivers were issued. This is

¹² Calculated by taking the average percentage of combined contravention for Unlicensed Driving & Drunk Driving as a proportion of the total Unlicensed Driving tickets issued each year between 2000 and 2012

¹³ Calculated by taking the average percentage of combined contravention for Unlicensed Driving & Speeding as a proportion of the total Unlicensed Driving tickets issued each year between 2000 and 2012

significantly lower than most other jurisdictions, including Queensland where researchers charted a 35.7% repeat offender rate (Watson, 2004b).

Repeat offenders are an important cohort to consider and can be explained by the specific deterrence theory. Even though British Columbia's repeated offender rate appears to be on the decline and is significantly lower than most other jurisdictions, it is widely accepted that individuals who reoffend engage in riskier driving behaviours and are between two and four times more likely to be in an accident (Blows *et al.*, 2005). The presence of recidivists may point to a problem with the low perceived risk of apprehension and problems with the actual severity, certainty, and speed of sanctions on unlicensed drivers who are caught. Deterrence theorists would suggest strengthening the perception of apprehension and making sanctions more severe, more certain, and more speedily to target repeat offenders and reduce the risk to public safety.

7.5. Disproportionate Injury Considerations

The differences in injuries sustained between an ULD and their licensed counterpart is quite stark. Between 2000 and 2012, the majority of injuries sustained were by the other party, not the ULD. This statistic has held relatively constant, where 63%-75% of these accidents resulted in the other party being injured. In other words, out of all accidents involving an ULD and where at least one party sustained injuries, 63-75% of the time it was sustained by the other party, not the ULD. While the absolute numbers has gone down over the time period, the likelihood of the other party sustaining the injury has remained quite stable.

It is well documented by the literature that ULDs tend to be more likely to get into an accident that is fatal or injurious (Watson, 2004b; Hanna *et al.*, 2006; Scopatz *et al.*, 2003). Most studies conducted in the literature, however, do not disaggregate whether the ULD or the other party was injured. In British Columbia, knowing that vehicular accidents involving an ULD more often result in the other party being injured has some implications. It supports a greater need to address the problem because innocent people are being injured by violators of the law. Because these statistics come from the ICBC's Claims Database, the exact severity of injures is unknown; what is know is that an

insurance claim was made. Therefore, it is safe to assume the injuries recorded in the statistics are not minor bumps or bruises, but are something severe enough to require medical attention and an insurance claim.

While this area has not been researched heavily by the United States or Australia, it highlights a fundamental concern with unlicensed driving in that the other driver (presumably licensed) is shouldering the costs. As such, policies and programs should consider methods to force the ULD to internalize the injury cost sustained by the other party. Social learning theorists may suggest using the moral aspect of doing no harm to others as the groundwork for leading ULDs to internalize the cost whereas deterrence theorists may consider additional sanctions as the tool. Regardless the theory used, it is clear ULDs disproportionately causing injury to the other driver than to themselves.

7.6. Summary of Discussion

- In 2012, males were given over 76% of tickets for driving while unlicensed. The high incidence rate of males being issued tickets for unlicensed driving may be explained by males being more prone to engage in risk taking behaviour for sensation seeking purposes.
- The overrepresentation of younger age groups in receiving tickets for unlicensed driving can be a function of young peoples' propensity to be risk takers and belief they will not be detected. Given the overrepresentation, policies and programs should consider targeting younger age groups due to their overrepresentation and their greater opportunity for recidivism.
- The presence of recidivist unlicensed drivers suggests a weakness with the current administrative penalties, according to the specific deterrence theory. Deterrence theorists would suggest strengthening the perception of apprehension and making sanctions more severe, more certain, and more speedily to target repeat offenders and reduce the risk to public safety.
- Between 2000 and 2012, the majority of injuries sustained were by the other party, not the ULD. This statistic has held relatively constant, where 63%-75% of these accidents resulted in the other party being injured. Regardless the theory used, it is clear ULDs are unfairly punishing the general driving population by disproportionately causing injury to the other driver rather than to themselves.

8. Policy Criteria & Measures

In the following sections, a thorough analysis of potential policy options to combat the ULD problem in British Columbia is conducted. First, an evaluative framework is established to measure and compare each policy option for implementation in British Columbia. This framework utilizes a set of policy measures, including the policy option's ability to effectively reduce ULD prevalence, the potential cost of the option, and the implementation complexity. Policy options are measured and scored on a three-step system which is informed by the cross-jurisdictional analysis provided earlier. Second, a number of potential policy options are outlined. These policy options are informed by the literature review and cross-jurisdictional analysis. Each option is evaluated first within the established framework as an individual policy option, and then comparatively against the other policy options. Lastly, a set of policy recommendations are established along with an implementation timeline specifically for British Columbia.

8.1. Effectiveness

Effectiveness is the primary criterion used for evaluation of each policy option to decrease the overall number of ULDs in British Columbia. It is assumed that fewer ULDs will contribute to less accidents and injuries, both beneficial for government and society. Based on research suggesting ULDs are typically riskier drivers since many had their licence removed in the first place due to a previous violation of road safety rule or regulation, by reducing the number of ULDs, public roads can be a safer place.

This criterion applies to unlicensed driving as a whole within British Columbia. It does not target specific groups, such as age or gender groups because it is hoped that policies will impact all ULDs collectively. While some policies and programs may target specific groups, it is hoped they may still have an impact on other groups.

8.1.1. Measure

Policy options may be ranked as Highly effective, Moderately effective, or Limited effectiveness depending on the degree to which it may reduce the percentage of ULDs on the road from its current levels. Measurement numbers are informed by the current prevalence rate in the State of Minnesota, which is seen as a forefront jurisdiction on combating unlicensed driving. The current prevalence rate in the State of Minnesota is 7.3%.

A – Highly effective: can reduce the number of ULDs by more than 20%

B – Moderately effective: can reduce the number of ULDs by 10%-19%

C – Ineffective: can reduce the amount of ULD by less than 10%

8.2. Budgetary Impacts

This criterion is intended to evaluate the cost of the policy option in terms of additional funding required to adequately and appropriately implement the policy option.

8.2.1. Measure

Policy options may be ranked as High Impact, Medium Impact, or Low Impact depending on the degree which it may require additional funding.

A – Low Impact: requires little additional funding

B – Medium Impact: requires some additional funding

C – High Impact: requires substantial additional funding

8.3. Legality

This criterion is intended to evaluate the legality of policy options within the current legislative frameworks of British Columbia and Canada, *including the Canadian Charter of Rights and Freedoms*.

8.3.1. Measure

Policy options may be ranked as High likelihood, Uncertain likelihood, or Low likelihood based on the degree which it may result in a legal challenge within the current British Columbia or Canadian legislative or regulatory framework. This will be assessed by looking at past legal challenges to similarly designed policies targeting drink driving.

- A – Low likelihood of legal challenge
- B – Uncertain likelihood of legal challenge
- C – High likelihood of legal challenge

8.4. Implementation Complexity

This criterion is intended to evaluate how difficult each policy option may be to implement. Considerations include the similarity between the proposed policy change and what is currently in place evaluated through the degree to which new legislation or regulation may be required; the degree to which cooperation may be needed from other groups; the degree to which human resource training, updates to current programs may be required; and the degree of potential operational challenges

8.4.1. Measure

Policy options may be ranked as Least difficult, Moderate difficulty, or High difficulty to implement based on the degree of difficulty during implementation phase

- A – Least difficult: option requires one or more of: no new legislation or regulation required; little to no cooperation needed from other groups; no human resource training or updates to programs required; no challenges operationally
- B – Moderate difficulty: option requires one or more of: changes to new legislation or regulation required; little to no cooperation needed from other groups; moderate human resource training and updates to current programs; some operational challenges
- C – High difficulty: option requires one or more of the following: major changes to current legislation or regulation; substantial cooperation needed from other groups; substantial human resource training and/or program updates; and potential for substantial operational challenges

8.5. Stakeholder Acceptance

This criterion is intended to evaluate the acceptability of each policy option by various organizations. These stakeholders may have an agenda to either advance or pushback against a policy option depending on their association's agenda. The stakeholders identified as having a vested interest in unlicensed drivers and their public safety concerns include the following entities and associations:

- Drivers
- Law enforcement officers
- Insurance agencies (eg. ICBC)
- Road safety advocacy groups (eg. MADD)
- Civil liberties associations

Drivers are defined as any real present or upcoming operation of a motor vehicle in British Columbia. "Drivers" are included as a stakeholder group, even though they are not necessarily organized, because it is assumed that any option will have a high likelihood of impact on them.

Law enforcement officers are defined as any agency involved with enforcing of road safety laws. This may include the Royal Canadian Mounted Police (RCMP), any municipal law enforcement agency (eg. Vancouver Police Department, Delta Police Department), or the Integrated Road Safety Unit (IRSU). It is assumed that all "Law Enforcement Officers" will be affected similarly; therefore, a position that may be taken by one law enforcement agency will be generalized to all "Law Enforcement Officers" operating within British Columbia.

"Insurance agencies" are defined as any agency or organization involved in providing automobile insurance policies and subsequently any remuneration to a motor vehicle operator in British Columbia. The Insurance Corporation of British Columbia (ICBC) will be the primary agency reflected in the following analysis.

"Road safety advocacy groups" are defined as any organized association with a mandate to reduce present and upcoming hazards on British Columbian roads and

highways. These agencies may encompass small agencies grassroots in nature (eg. Drop It And Drive) or centralized in nature (eg. Mothers Against Drunk Driving).

“Civil liberties associations” are defined as any entity with a mandate to promote, support, and defend civil liberties and human rights as defined by common and constitutional law. The British Columbia Civil Liberties Association (BCCLA) is the primary agency that will be reflected in the following analysis.

8.5.1. Measure

Policy options will be ranked according to whether stakeholders are expected to be in approval of, indifferent/neutral to, or potentially in opposition to each option. This ranking will be informed by an analysis of each group’s agenda, mission statement, and stated values.

Organizations exhibiting one of the characteristics listed within the rank will be scored by that rank.

A – Organizations *expected to approve* have either:

- A stated interest or mandate associated with increasing road safety, compliance with the *BC Motor Vehicle Act*, and/or reducing traffic related accidents and injuries.
- A stated recognition of the hazards associated with unlicensed driving
- A stated position in agreement with the respective policy option

B – Organizations expected to be Indifferent/neutral to have either:

- An unstated, an unknown position, or a stated indifference to concern for road safety, compliance with the *BC Motor Vehicle Act*, reducing traffic related accidents, unlicensed driving, and/or individual common law and/or Constitutional rights.¹⁴
- A stated position of neutrality toward the respective policy option

C – Organizations *expected to oppose* have either:

- A stated commitment to the protection of individual civil liberties as defined by common law and/or Constitutional law, even in the face of decreased road safety
- A stated position of opposition to the respective policy option

8.6. Summary of Policy Criteria & Measures

Table 1 : Summary of Policy Criteria & Measures

Criteria	Description	Measures	Methodology
Effectiveness	Primary goal of each policy is to decrease the number of unlicensed drivers. This is also the effectiveness criterion	% less unlicensed drivers on the road: A – Highly effective: can reduce the amount of ULD by greater than 20% B – Moderately effective: can reduce the amount of ULD by 10%-19% C – Limited effectiveness: can reduce the amount of ULD by less than 10%	Quantitative research on impact of other jurisdictions' road safety policies targeting unlicensed driving.
Budgetary Impact	Cost of Policy Option based on the level of change to the budget required for policy implementation	A – Low Impact: requires little additional funding B – Medium Impact: requires some additional funding C – High Impact: requires substantial additional funding	Cost estimation including additional human resources to administer, train, and operate policy
Legality	Feasibility of policy option within the current national and provincial legislative frameworks	A – Low likelihood of legal challenge B – Uncertain likelihood of legal challenge C – High likelihood of legal challenge	Legal precedence; previous court challenges

Criteria	Description	Measures	Methodology
Implement- ation Complexity	Potential Degree of difficulty encountered during implementation phase	<p>A – Least difficulty: option requires one or more of: no new legislation or regulation required; little to no cooperation needed from other groups; no human resource training or updates to programs required; no challenges operationally</p> <p>B – Moderate difficulty: option requires one or more of: changes to new legislation or regulation required; little to no cooperation needed from other groups; moderate human resource training and updates to current programs; some operational challenges</p> <p>C – High difficulty: option requires one or more of the following: major changes to current legislation or regulation; substantial cooperation needed from other groups; substantial human resource training and/or program updates; and potential for substantial operational challenges</p>	Inferred from similar policies implementation on road safety, such as for drink driving
Stakeholder Approval or Opposition	Acceptability of option by identified stakeholder groups	<p>Summation of all stakeholder groups' position towards policy option:</p> <p>A – Organizations identified are all <i>In approval of</i> policy</p> <p>B – Organizations identified include groups that are <i>Indifferent/neutral to</i> policy option</p> <p>C – Organizations identified include groups that are <i>potentially in opposition to</i> policy option</p>	Review and analysis of identified stakeholder groups' agenda, mission statement, and values championed

9. Policy Options

In this next section, four policy options are outlined to combat the ULD problem in British Columbia. These include: Vehicle licence plate impoundment, licence checks at all random roadblocks and all roadside stops, adopting automatic number plate recognition by all law enforcement agencies in British Columbia, and a public education campaign. Each section starts with a description of the policy option and how it would look like in British Columbia. Then, a thorough analysis of the benefits and shortcomings is provided in the context of the policy criteria and measures framework established earlier. Each section concludes with a summary table providing the scores of that policy option within the evaluation framework.

9.1. Vehicle Licence Plate Impoundment

Vehicle Licence Plate Impoundment (LPI) is a penalties-based option that has gained much popularity in the State of Minnesota. Minnesota State Law Enforcement Agencies have quoted LPI as a major deterrence for ULDs considering reoffending, thereby greatly reducing the recidivism rate. Minnesota's LPI program works in conjunction with other administrative sanctions and has successfully brought the ULD prevalence rate in Minnesota to below the United States' national average.

A Vehicle LPI program in British Columbia would be designed to be similar similarly to the Minnesota program. Under this program in British Columbia, law enforcement agencies would have the administrative capacity to seize and impound a driver's licence plate including all other licence plates registered to the unlicensed driver in question. Law enforcement agencies should work with ICBC to confirm the driver's licence status, and if confirmed to be unlicensed, the impoundment of licence plates would be immediate and at roadside. There would be no option for delayed

impoundment or for ICBC to conduct an administrative impoundment by mail due to recorded reduced effectiveness (Scopatz *et al.*, 2003). All impoundments would be made for a minimum of one year, with repeat offenders facing additional years of impoundment.

This program would be implemented province-wide. Prior to making it operational, it is necessary that law enforcement agencies adequately inform their administering staff of the resources available. Due to the immediacy of the sanction and lack of recourse, it is essential that law enforcement agents choosing to apply this sanction are certain the driver is a confirmed unlicensed driver.

As this is a penalties-based option, it caters to both the deterrence theory and the social learning theory. This sanction has been attributed by researchers, law enforcement agencies, and program administrators in Minnesota as the core reason for less ULDs. Scopatz *et al.* (2003) showed this program was also twice as likely to reduce recidivism of multiple offenders. For these reasons, LPI was the preferred option for consideration out of all available penalties and fines options such as increasing fines or increasing jail sentencing durations.

Lastly, based on the current paperwork and processes in place for drink driving in British Columbia, it is necessary to create an unburdensome process for law enforcement officers administering the LPI program. Currently, drivers suspected of being over the legal alcohol limit require law enforcement agencies to choose between time-consuming criminal investigations or getting as many drunks off the road as possible (Hunter, 2011). Anecdotal evidence suggests three or four hours is required on each driver who fails a roadside breathalyzer test in order to conduct a more rigorous breath analysis test, fingerprinting, dealing with lawyers, and completing paper (Hunter, 2011). The time spent on paperwork and procedure, while necessary, takes officers off the roadside to effectively deliver the program. Therefore, a British Columbia LPI program would ideally not require too much time for paperwork and processes in order to allow for more enforcement officers at roadside to carry out the program.

9.1.1. Benefits

Vehicle Licence Plate Impoundment programs exist in the State of Minnesota. They have been cited as a major contributor to the reduction of ULDs on the roads since their introduction. Currently, Minnesota's LPI program is targeted at repeat drink drivers and unlicensed drivers; therefore, a similarly structured program can have a dual effect of a similar nature in British Columbia. Based on British Columbia's statistics that there are more unlicensed driving tickets issued than distinct drivers, recidivism is clearly present in the province.

The immediacy of LPI programs has similar characteristics to British Columbia's Immediate Roadside Prohibition (IRP) program for drinking and driving. British Columbia's IRP program has been referred to as "Canada's toughest provincial impaired driving law" and has been instrumental in reducing the amount of alcohol related traffic fatalities since its implementation in Fall of 2010 (Ministry of Justice, 2012). Between 2005 and 2010, an average of 114 alcohol related motor vehicle accidents were recorded in British Columbia. Between Fall 2010 and Fall 2012, the number of alcohol related motor vehicle accidents has decreased to an average of 62 per year (Ministry of Justice, 2012). Given that Minnesota experienced a 51.6% decrease in repeat offenders for unlicensed driving during the period that LPI programs were implemented and the effectiveness of IRP in British Columbia, I rate a LPI as highly effective if implemented in British Columbia.

LPI is also beneficial in terms of budgetary considerations. The development of an LPI program may take some time and funding, but once operational, all costs of LPI can be borne by the driver through fines and administrative charges. Similar to British Columbia's IRP program for drink driving where the majority of costs related to vehicle impoundment are borne by the offender, LPI programs can be designed with the offender liable for all incremental administrative costs. Given that licence plates do not require much storage space and are not very costly to transport, the majority of budgetary considerations would be focused on the program administration. Hence, LPI is a low budgetary option since it would not cost much to operate and maintain, and any incremental costs to program administration can be shouldered by the offender.

9.1.2. Shortcomings

A few major shortcomings of LPI include its difficulty to adopt in terms of implementation complexity, legality, and potential pushback from relevant stakeholders.

Implementation of an LPI program in British Columbia is challenging in that it requires changes to the current Motor Vehicle Act, significant human resource training, and high potential for operational challenges. First, changes to legislation will be required; therefore Victoria will need to undergo the steps necessary to make legislative amendments. This process can be time consuming and can encounter numerous barriers to successful amendments. Second, law enforcement agencies will need to be trained in the delivery of LPI to ensure proper sanctioning and delivery of program. A standardized delivery of the LPI program would be most effective. Given the numerous law enforcement agencies in British Columbia based on jurisdiction, it would detract from the programs effectiveness if enforcement officers in one jurisdiction were delivering the program differently from another jurisdiction. Last, there are some operational challenges. ICBC's and law enforcement agencies' database on driver licence status will need to be maintained as up to date as possible. Given that these databases will be the source of confirmation on driver licence status, it is essential that they not only remain operational at all hours of the day, but that they provide the most current information on driver licence status.

LPI programs also run into some potential legality issues. The likelihood of legal challenge is uncertain. Drivers may consider the sanction to be proportionate to their offence since it is well known that one must have a valid licence in order to operate a motor vehicle, and thus may not challenge it in court. On the other hand, however, drivers may go by the case of *Sivia v. British Columbia* where immediate roadside prohibition for drinking and driving was considered unconstitutional because the sanction violated an individual's ability to a fair trial including an appeal as well as protection from unreasonable search and seizure (*Sivia v. BC*, 2011). If drivers fall in the former group, they may be less likely to challenge LPI in courts; however, if drivers fall in the latter group, they would be highly likely to challenge LPI in courts.

In terms of stakeholder acceptance, it may take some time and effort to garner support to implement this policy as a response to unlicensed driving. The immediacy and severity of the sanction may be viewed by some drivers and civil liberties associations as disproportional and as a violation on civil rights; however, other drivers, law enforcements agencies, road safety advocacy groups, and even insurance agencies may be more supportive given the core objective of improved road safety for all users. Groups identified as “Civil Liberties Associations” may pose a major challenge and push back against the policy. The British Columbia Civil Liberties Association’s (BCCLA) constitution is:

“...to promote, defend, sustain, and extend civil liberties and human rights... Among these liberties and rights are those which have been embodied in such documents as the *Canadian Charter of Rights and Freedoms*, the *Declaration of the Rights of Man and the Citizen*, the *American Declaration of Independence*, the *British, American and Canadian Bills of Rights*, and the *Universal Declaration of Human Rights*.” (BCCLA, 2014)

This mandate suggests the BCCLA has a commitment to protecting individual civil liberties, even if in the face of decreased road safety. The BCCLA, however, is the only stakeholder identified to potentially be in opposition to LPI. Regardless, it is worth highlighting that licence plates are properties of the government and therefore, challenges made against LPI based on impounding the licence would not stand in the legal system (Ontario Ministry of Transportation, 2014). If there is stakeholder pushback, it would be more likely to challenge the application of the policy and treatment of the individual at the roadside by law enforcement officers. As such, proper and respectful standardized training should be considered for law enforcement agencies to ensure public civil liberties are not infringed during the delivery of a LPI program in British Columbia. Hence, stakeholder acceptance scores a moderate level in that there are organizations potentially in opposition, in approval of, and indifferent/neutral to this option.

Table 2 : Summary of Vehicle Licence Plate Impoundment

	Effectiveness	Budgetary Impacts	Legality	Implementation Complexity	Stakeholder Acceptance
Vehicle Licence Plate Impoundment	A	A	B	C	B

9.2. Licence Check at all Random Roadblocks and all Roadside Stops

Licence checking at all random roadblocks and roadside stops is a detection option. It involves the streamlined introduction and maintenance of licence checks at all Random Roadblocks (RRBs) and all Roadside Stops. Regardless of the initial reason for the RRb or roadside stop, whether it be to catch drunk drivers, drivers using electronic devices, or drivers who fail to use seatbelts, a request for the driver's licence would be made at the roadside. A streamlined introduction into all law enforcement jurisdictions is necessary because the perception of being caught driving without a licence should not be unique within any one jurisdiction. Based on findings by numerous deterrence theorists, questionable perception of apprehension is a major factor contributing to unlicensed driving (Watson *et al.*, 1996; Ross, 1991; Nichols & Ross, 1990). A varied application of licence checks at RRbs and roadside stops depending on jurisdiction could lead some ULDs to chance the potential cost of being caught in order to gain the reward of driving unlicensed. Risk-taking drivers would be more inclined to try their luck at driving unlicensed since even at a roadblock, they may not be asked for their driver's licence. By streamlining all jurisdictions and conducting licence checks at all roadblocks and all roadside stops, risk-taking drivers will be deterred from taking the chance of running into a roadblock that may not conduct a licence check. RRbs in British Columbia would have increased randomness and improved visibility when at the roadside, thereby catering to factors highlighted by researchers in Australia for maximum effectiveness (Commonwealth of Australia, 2011).

If a driver is found and confirmed to be unlicensed at either a RRb or a roadside stop, they would be sanctioned based on the current penalty structure in British Columbia. This option is based on a mix of both the deterrence theory and the social

learning theory. By increasing the perception of being caught, unlicensed drivers would add the potential costs if they were caught into the calculation of whether they would or would not drive without a licence. This differs from the first option of Vehicle LPI as LPI is a penalty-based option and not a detection-based option.

9.2.1. Benefits

Licence checking at RRbs and at all roadside stops is a limited effectiveness strategy to combat unlicensed driving. Data collected by Queensland Police in Australia during one of their Random Breath Testing campaigns between Feb 2010 and April 2010 caught 104 (3.3%) unlicensed drivers¹⁵ (Watson, 2011). The Commonwealth of Australia (2011) also cited the use of RRbs as a moderately effective strategy with potential deterrent effect on drivers. Based on the numbers provided in Australia, I rank RRbs as a limited effective strategy for British Columbia, especially when compared to other options.

Licence checks at RRbs benefit greatly in terms of budgetary considerations and implementation complexity given that RRbs and roadside stops are already a popular mechanism for enforcement purposes. Tagging on licence checks at all established RRb or roadside stops would not require substantial additional financial or re-training of human resources. Therefore, there is little implementation complexity and no incremental budgetary considerations. Additional funding could, however, be spent on technology to speed up licence checks if wished for by the law enforcement agency. Some jurisdictions recommend the use of hand-held devices to quickly access relevant databases to check the validity of provided licences (Austroads, 2013). As it stands now, law enforcement agents need to consult their in-vehicle computer to conduct a licence check. Therefore, if jurisdictions are greatly concerned with slowing down drivers, they may procure additional technology which may require substantial additional funding; however, the procurement of additional driver licence scanners are not included as part of the analysis for this option.

¹⁵ Queensland Police breaks down the unlicensed drivers into expired licenses, invalidly licensed, suspended licenses, and wrong license class. These groups all fall within our established definition of unlicensed drivers.

9.2.2. Shortcomings

RRBs and roadside checks may run into some difficulties with legality and stakeholder acceptance. Civil Liberties Associations may pushback on the legality of providing a driver licence upon request by law enforcement agencies. Given part of the Canadian Civil Liberties association is to “... fight against abuse of **state authority** ...[and]... protect our fundamental freedoms... [while] standing [against] **police powers**...” (CCLA, 2014, emphasis added), licence checks at RRBs and roadside stops may receive some legal challenges, especially if the program is delivered without being conscious of civil liberties. It is worth noting, however, that driver licences remain the property of ICBC and must be surrendered upon request based on ICBC terms and agreements.

The ability to adequately check licences also requires an up-to-date database. The operation and maintenance of such a database may require human and financial resources. This database would likely be maintained by the ICBC; therefore, an open communication process must be maintained between law enforcement agencies and ICBC to ensure open two-way communication. This may provide some operational challenges, therefore it slightly impacts implementation complexity.

Table 3 : Summary of Licence Check at all Random Roadblocks and Roadside Stops

	Effectiveness	Budgetary Impacts	Legality	Implementation Complexity	Stakeholder Acceptance
Licence check at all Random Roadblocks and Roadside Stops	C	A	B	A	B

9.3. Adopting Automatic Number Plate Recognition by all Law Enforcement Agencies in British Columbia

Automatic Number Plate Recognition¹⁶ (ANPR) is a detection option that utilizes a camera and Optical Character Recognition software to capture images of a vehicle's licence plate and convert it to a text string of letters and numbers (Armstrong *et al.*, 2010). It was implemented in Queensland, Australia in 2009 and has been cited as a powerful detection tool leading to improved addressing of crimes and enforcement of road rules. (Bedfordshire Police, 2014).

It has been adopted by the Royal Canadian Mounted Police and since being operational, has been foundational in leading to individuals being charged with offences ranging from no driver's licence to possession of stolen property (RCMP, 2014). Given the RCMP's jurisdiction in select municipalities and regions throughout British Columbia, large portions of the driving population are not subject to being screened by the RCMP's ANPR. This option calls for the adopting of ANPR by all law enforcement agencies in British Columbia, including all municipal level law enforcement agencies. By having ANPR on hand as a tool for detection, it is hoped that more licence plates can be scanned and cross-referenced with law enforcement or ICBC's databases thereby reducing the number of unlicensed drivers on the road.

9.3.1. Benefits

In Australia's first evaluation of ANPR following their initial trial run, law enforcement officers were asked about their perceptions on the effectiveness of ANPR on targeted traffic offences. Out of all eligible law enforcement respondents, 93% believed ANPR was either very effective or effective and no one thought ANPR was not effective (Armstrong *et al.*, 2010). Seven percent of the respondents felt it was marginally effective (Armstrong *et al.*, 2010). Qualitatively, ANPR was quoted as being effective and efficient in checking a high volume of vehicles easily, beneficial in detecting unlicensed and unregistered vehicles, and was simple for staffing (Armstrong *et al.*,

¹⁶ For a more thorough overview of Automatic Number Plate Recognition, see Kranthi, Kranthi and Srisaila. 2011. "Automatic Number Plate Recognition"

2010). Furthermore, the adoption of ANPR by RCMP in British Columbia has also yielded impressive results. From February 2007 to September 2009, ANPR recognized 3,600,000 licence plates and 67,189 (1.85%) were of interest. Out of the 'of interest' licence plates, detection led to follow-up action in 11,040 (16.43%) cases resulting in 3,676 (33.3%) individuals being charged for a number of offences including "No Driver's Licence", "Driving While Prohibited/Suspended", "Driving While Impaired", and "Recovered Stolen Vehicles". As such, based on Armstrong *et al.*'s (2010) research and the RCMP's numbers, I ranked adopting ANPR in British Columbia as highly effective.

ANPR also greatly benefits from legality, stakeholder acceptance, and some implementation complexity considerations. Given that ANPR is a non-invasive tool which highlights vehicles of interest to law enforcement officers from a distance, there is a low likelihood of legal challenge because there are no infringements on any individual's civil liberties or rights. Because it does not actively get in any one's way, the use of ANPR for the purposes of promoting road safety would likely be supported by all the identified stakeholder groups. Civil liberty organizations may raise concerns with privacy in that ANPR is not only scanning and processing their licence plates, but is also recording their exact location at a certain time and day. This privacy concern can be mitigated by ensuring the ANPR software immediately discards all information collected after processing, therefore no record of the driver's location and time are stored. Lastly, implementing ANPR in other regions and providing all law enforcements agencies would not be too complex, especially given it has already been implemented by the RCMP and is currently operational in British Columbia. New enforcement agencies that adopt ANPR could consult the RCMP on their implementation process.

9.3.2. Shortcomings

The major shortcomings of this policy are the budgetary considerations and some implementation complexity. ANPR requires both technologically advanced hardware and software in order to be operational. Funding will be required to purchase the required equipment to ensure the ANPR system can appropriately capture and process an image, all within a short time frame. Financial resources will also be needed to provide some training to new law enforcement agencies that procure and implement it

as a tool. This slightly impacts implementation complexity, since programs will need to be updated and a moderate level of human resource training will be required. There may also be some operational and maintenance challenges. Operationally, there will be a need to maintain communication and cooperation between ICBC and law enforcement agencies to ensure the ability to check up-to-date driver licence information. Maintenance wise, there will need to be some further additional training of technicians to ensure the longevity of the hardware and software. Because of these considerations, ANPR ranks as a high impact option for budgetary considerations and is moderately difficult for implementation complexity.

Table 4 : Summary of Adopt Automatic Number Plate Recognition by All Law Enforcement Agencies in British Columbia

	Effectiveness	Budgetary Impacts	Legality	Implementation Complexity	Stakeholder Acceptance
Adopt Automatic Number Plate Recognition by all Law Enforcement Agencies in British Columbia	A	C	A	B	A

9.4. Public Education Campaign

Public Education Campaigns are essentially advertising campaigns to provide a message to the general public. It can come in numerous forms, including websites, television commercials, radio advertisements, online advertisements, billboards, mail-out brochures, transit advertisements, posters in high-traffic zones, guest speakers at education institutions, and even physical pamphlets at government service counters. Based on the wide assortment of public education campaigns, there is a considerable range for measuring effectiveness, budgetary considerations, implementation complexity, legality, and stakeholder acceptance.

9.4.1. Benefits

Public education campaigns typically rank high for legality, implementation complexity, and stakeholder acceptance. As long as the messages displayed do not include vulgar language and do not block the general public from continuing on with their day-to-day activities, there is low likelihood of it being legally challenged or countered by any of the identified stakeholders. Also, because public education campaigns do not require any new legislation, have little operational challenges, and do not require human resource training, it is the least difficult of the options considered in this paper for implementation complexity.

In terms of budgetary impacts, public education campaigns can run off little additional funding. Given a concise message and a hard-hitting slogan, minimal paid media would be required for producing videos and other advertisements. By strategically using free mediums and low-cost mediums, including social media and radio advertisements, it is possible to reach a large portion of the general population. Furthermore, if the message follows Lenon *et al.*'s (2010) research that males respond more to campaigns focusing on the threat of sanctions while females respond better to messages that emphasize physical harm, additional funding would only be required to sustain the advertisement.

Another form of education campaigns are awareness campaigns. These are also low-cost options that can be used to deliver messages on unlicensed driving. Here, researchers highlight the use of social unacceptability and social conformity as the most effective in conveying a message (Alamar *et al.*, 2006) For example, Alamar *et al.* (2006) conducted a study on minimally advertised social unacceptability messages and their effects on reducing cigarette consumption. They found a strong relationship between the social unacceptability and reductions in cigarette consumption (Alamar *et al.*, 2006). In our case, the use of awareness campaigns emphasizing social unacceptability of unlicensed driving is also low-cost option.

9.4.2. Shortcomings

Education campaigns typically take more time to gain traction among the general public and have questionable effectiveness, especially when compared to the other options. Typically, education campaigns do not provide immediate effectiveness – it takes time for the message to be heard and delivered through the general public. Even when it is heard, the effect of the message still has a questionable effect on the individual. Therefore, public education campaigns should be based on the findings from the literature that suggest the use of social unacceptability, bodily harm, and perception of sanction to improve its effectiveness.

Take New South Wales’s “Pinkie” campaign against speeding as an example of the use of social unacceptability in a road safety context. The campaign targeted young drivers and the notion that speeding is a manly act. The social unacceptability component comes through its tagline: “Speeding... no one thinks big of you” (Roads & Maritime Services, 2014a). It was delivered via several bursts of television activity and outdoor billboards along roadsides. It resulted in 64% of the general population and 63% of young male drivers (17-25 years old) believing the campaign to have some effect in encouraging young male drivers to obey the speed limit (Roads & Maritime Services, 2014a). A campaign with a similar tagline in British Columbia could yield similar results for unlicensed driving. Something like “Most People Drive With A Valid Licence” or “Driving Without A Licence Is Not Worth It” to emphasize the social unacceptability of unlicensed driving and that the costs associated are not worth the benefits.

Table 5 : Summary of Public Education Campaign

	Effectiveness	Budgetary Impacts	Legality	Implementation Complexity	Stakeholder Acceptance
Public Education Campaign	C	A	A	A	A

9.5. Colour-coded Summary of Policy Evaluations

Table 6 : Summary of All Policy Options and Evaluation

	Effectiveness	Budgetary Impacts	Legality	Implementation Complexity	Stakeholder Acceptance
Vehicle Licence Plate Impoundment	A	A	B	C	C
Licence check at all Random Roadblocks and Roadside Stops	C	A	A	A	B
Adopt Automatic Number Plate Recognition by all Law Enforcement Agencies in British Columbia	A	C	A	B	A
Public Education Campaign	C	A	A	A	A

10. Policy Recommendation

The policy analysis above provides grounds for proposing a portfolio of policy options that are both effective and feasible for adoption in British Columbia. It is recommended the Ministry of Justice take the following actions according to the following levels of priority and time frames:

1. Implement Licence Checks at all Random Roadblocks and Roadside Stops
 - Short Time Frame, Immediate Implementation
2. Design a 'light' Public Education Campaign
 - Short – Medium Time Frame, Delayed Implementation
3. Adopt New Enforcement Technologies in All Jurisdictions
 - Medium – Long Time Frame, Delayed Implementation
4. Further Evaluate Vehicle Licence Plate Impoundment

10.1. Implement Licence Checks at all Random Roadblocks and Roadside Stops

Random Roadblocks and roadside stops are already being utilized by law enforcement agencies as a detection and enforcement tool to promote road safety. While primarily it is used to catch drunk drivers, it can also double up as licence checks. This would be an efficient use of financial resources since law enforcement agencies are already on the roadside. It is recommended the Ministry of Justice implement this policy within a short time frame as a first step given its ease of implementation, low impact on budgetary considerations, and has the the potential to be moderately effective,

10.2. Design a ‘light’ Public Education Campaign

Public education campaigns are great for legal purposes and stakeholder acceptance since they are passive in nature. There is a large range in costs depending on how much paid media is wanted and the level of human resources devoted to the creation of an education campaign. Due to the questionable effectiveness of education campaigns, it is recommended the Ministry of Justice design a ‘light’ education campaign with themes of social unacceptability, threat of sanctions, and threat of bodily harm in order to equally target both genders for the short-medium time frame. Periodic re-evaluation will be needed to assess the effectiveness of the education campaign and to consider extending the public education campaign and what themes to highlight.

10.3. Adopt Automatic Number Plate Recognition by all Law Enforcement Agencies in British Columbia

Automatic Number Plate Recognition (ANPR) is an enforcement tool that is being increasingly adopted in developed countries as an enforcement mechanism for road safety. It is considered highly effective by law enforcement agencies and it also benefits from high stakeholder acceptance and legality considerations. It does, however, require substantial upfront and operational funding to procure the required equipment and to appropriately train law enforcement agencies on delivery. Despite the high budgetary considerations and high implementation complexity, it is recommended the Ministry of Justice consider ANPR to promote road safety because it is also capable of enforcing numerous other traffic safety violations in addition to unlicensed driving,

10.4. Further Evaluation of Vehicle Licence Plate Impoundment

While Minnesota’s Vehicle Licence Plate Impoundment (LPI) program has garnered much success, it is the only jurisdiction to implement a policy of this nature. Despite Minnesota having numerous cultural, legal, and regulatory similarities to British Columbia, the uncertainty of legal challenges and potential pushback from stakeholders

requires further evaluation. Furthermore, the implementation complexity of this option is also a shortcoming since legislative amendments may be needed to the BC Motor Vehicle Act and operational difficulties are likely to surface. As such, while LPI may be highly effective as shown in Minnesota, it is not viable for immediate implementation due to legality and stakeholder considerations. As a next step, it is recommended the Ministry of Justice seek legal advice on the legality of LPI and engage with multiple stakeholders to assess overall feasibility.

11. Timeline Recommendation

Given that random roadblocks and roadside stops are already happening on a daily basis, this licence checking at all roadblocks and roadside stops should be considered the first and foremost option. Licence checks at RRbs and all roadside stops, while limited in effectiveness, benefit greatly from budgetary, legality, and implementation considerations. It is a traditional detection option which can help address the systemic issue of unlicensed drivers not believing they will be caught.

While licence checks are being implemented, the Ministry of Justice should start thinking about designing the public education campaign. Ideally, this campaign would go live around the same time licence checks are implemented and would run for a moderate duration. Public education campaigns, while limited in effectiveness, also benefit greatly from budgetary, legality, implementation considerations, and stakeholder acceptance. Given a slogan or message with the focus of detection, sanction, and social unacceptability, the public education campaign can work in conjunction with licence checks at RRbs and roadside stops to reinforce the perception of being detected.

ANPR is a medium to long term option. Given it is an expensive option, it will require time to factor in its procurement, maintenance, and operation costs to the budgets of various law enforcement agencies. Depending on the budgetary structure of the law enforcement agencies, no new procurements may be feasible till the next calendar year or fiscal year. Despite its high costs, it benefits in terms of effectiveness, legality, and stakeholder acceptance. Furthermore, it is also able to enforce a variety of other motor vehicle act violations, thereby making it an even more effective tool.

Lastly, the Ministry of Justice should further evaluate vehicle licence plate impoundment. Given the recent case of *Sivia v. British Columbia* in the British Columbia Court of Appeal, there are some further evaluations needed for a licence plate impoundment program which is administered similarly to an immediate roadside

prohibition for drink driving. A LPI program in British Columbia would need to consider the precedence set by *Sivia v. British Columbia*, the culture of drivers within British Columbia, the potential operational challenges, the potential future court challenges, and the potential pushback from stakeholders as part of its evaluation. LPI programs benefit from high effectiveness and low budgetary impacts, but have numerous implementation and stakeholder concerns. Therefore, a wholesome evaluation of a British Columbia based licence plate impoundment program may be able to address some of those concerns and ensure policy success.

11.1. Summary Timeline Recommendation

Table 7 : Summary of Timeline Recommendation

Short Term	Medium Term	Long Term
Licence Checks at all Random Roadblocks and Roadside Stops		
Design a 'light' Public Education Campaign	Run a 'light' Public Education Campaign	
	Adopt Automatic Number Plate Recognition Technology in all British Columbia Jurisdictions	
Further evaluate Licence Plate Impoundment programs for British Columbia		

12. Conclusion

Unlicensed driving is a major road safety concern that has resulted in numerous injuries and substantial property damages in British Columbia. Due to the threat of public safety and monetary costs associated with unlicensed driving, it is recommended a number of actions be taken to promote road safety. In addition to conducting licence checks at all random roadblocks and designing a light public education campaign, the Ministry of Justice can consider adopting Automatic Number Plate Recognition technology as an enforcement tool. ANPR is a costly investment, however, it may be used to enforce more than unlicensed driving on public roads. These policies will reduce bodily injuries, property damage, and monetary costs to society, while simultaneously improving road safety for all British Columbians.

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Appendix A: Statistical Tables

Table A1: Number of contravention tickets served for driving while unlicensed and for other reasons. 2000 to 2012

Violation Year	Contravention tickets for Motor Vehicle Act section 24.1	All other contravention tickets*	Year Total
2000	23,930	675,530	699,460
2001	24,140	636,900	661,040
2002	19,280	467,140	486,420
2003	19,400	443,400	462,800
2004	20,680	517,020	537,700
2005	21,260	540,410	561,670
2006	21,250	532,310	553,550
2007	21,190	578,000	599,190
2008	20,520	527,020	547,540
2009	19,220	510,600	529,820
2010	18,460	501,620	520,080
2011	16,760	509,490	526,250
2012	15,380	479,050	494,420

* All other types of contravention tickets except MVA 24.1

Data Source: Office of the Superintendent of Motor Vehicles - Data extracted January 2014 by ICBC Business Insights. Numbers rounded to the closest 10. For privacy reasons, numbers equal or inferior to 10 are replaced by **. MVA 24.1 : contraventions for unlicensed driving - This table includes tickets issued regardless of ticket final status (e.g., guilty vs not guilty on appeal).

Table A2: Contraventions for unlicensed driving and other contraventions by gender. 2000-2012

Violation Year	Contravention tickets for Motor Vehicle Act section 24.1			All other contravention tickets*			Year Total
	Female	Male	Unknown	Female	Male	Unknown	
2000	4,180	19,640	110	178,700	493,920	2,920	699,460
2001	4,320	19,690	120	158,740	476,440	1,720	661,040
2002	3,350	15,850	90	109,200	356,730	1,210	486,420
2003	3,410	15,890	100	104,100	337,550	1,750	462,800
2004	3,870	16,720	90	123,600	392,000	1,420	537,700
2005	4,080	17,090	100	128,070	410,900	1,440	561,670
2006	4,120	17,030	90	129,240	401,730	1,340	553,550
2007	4,180	16,910	100	141,850	434,890	1,270	599,190
2008	4,180	16,240	100	131,250	394,470	1,300	547,540
2009	3,900	15,240	80	127,720	381,680	1,210	529,820
2010	4,140	14,230	100	131,270	369,100	1,250	520,080
2011	3,780	12,890	90	138,030	370,230	1,220	526,250
2012	3,620	11,660	90	132,890	344,840	1,320	494,420

* All other types of contravention tickets except MVA 24.1

Data Source: Office of the Superintendent of Motor Vehicles - Data extracted January 2014 by ICBC Business Insights. Numbers rounded to the closest 10. For privacy reasons, numbers equal or inferior to 10 are replaced by **.

MVA 24.1 : contraventions for unlicensed driving - This table includes tickets issued regardless of ticket final status (e.g., guilty vs not guilty on appeal).

Table A3: Contravention tickets served for unlicensed driving and for other reasons, by age group. 2000-2012

Age groups	Violation Year												
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Contravention tickets served for Motor Vehicle Act section 24.1													
Under 16	380	340	300	290	240	250	250	220	210	180	130	100	100
16-20	3,510	3,400	2,800	2,640	2,540	2,490	2,440	2,170	1,940	1,690	1,410	1,150	990
20-31	9,130	8,760	6,800	6,950	7,530	7,710	7,430	7,290	7,150	6,610	6,330	5,540	4,860
31-40	6,620	6,730	5,290	5,220	5,540	5,500	5,350	5,440	5,190	4,940	4,560	4,260	3,820
41-50	3,010	3,460	2,920	3,080	3,480	3,780	3,950	4,100	4,060	3,750	3,690	3,410	3,230
51-60	940	1,060	850	880	1,020	1,130	1,400	1,450	1,470	1,500	1,660	1,670	1,690
61-70	190	240	200	210	220	270	280	340	350	390	480	440	490
71-80	60	80	60	70	70	70	90	80	70	80	130	110	100
Over 80	80	70	70	60	50	70	60	80	80	70	70	100	90
Missing	**	**	**	**	**	**	**	**	**	**	**	**	**
All other contravention tickets*													
Under 16	550	510	450	450	450	450	450	390	320	320	290	280	300
16-20	96,670	96,550	73,280	63,310	67,470	65,920	62,390	62,560	55,400	53,580	48,550	44,820	41,030
20-31	199,580	189,990	143,100	133,550	150,600	157,280	153,830	163,990	149,420	146,240	139,070	136,000	125,470
31-40	160,530	149,820	108,260	102,440	117,880	121,220	116,780	127,110	114,910	109,040	107,260	110,170	104,920
41-50	118,650	110,560	79,720	79,840	99,020	106,420	106,700	117,770	107,570	102,620	103,400	107,650	100,770
51-60	61,750	57,620	40,860	41,280	52,970	58,440	60,140	69,310	64,240	63,130	65,570	70,190	67,540
61-70	22,980	20,390	14,130	14,770	19,470	21,210	22,450	25,920	24,900	25,600	27,070	29,590	28,180
71-80	9,500	7,900	5,320	5,320	6,820	7,030	7,130	8,300	7,720	7,580	7,890	8,000	8,160
Over 80	5,130	3,210	1,890	2,410	2,290	2,410	2,390	2,600	2,490	2,480	2,490	2,740	2,650
Missing	190	350	120	40	40	30	40	50	60	40	40	40	30
Year Total	699,460	661,040	486,420	462,800	537,700	561,670	553,550	599,190	547,540	529,820	520,080	526,250	494,420

* All other types of contravention tickets except MVA 24.1

Data Source: Office of the Superintendent of Motor Vehicles - Data extracted January 2014 by ICBC Business Insights. Numbers rounded to the closest 10. For privacy reasons, numbers equal or inferior to 10 are replaced by **.

MVA 24.1 : contraventions for unlicensed driving - This table includes tickets issued regardless of ticket final status (e.g., guilty vs not guilty on appeal).

Table A4: Contravention tickets for "unlicensed driving" served in combination with "alcohol-driving". 2000 -2012

Year	Unlicensed and alcohol*	Other combination of contravention tickets**	Year Total
2000	2,040	44,810	46,850
2001	2,150	47,210	49,360
2002	1,950	37,740	39,690
2003	1,870	35,010	36,880
2004	1,900	38,920	40,810
2005	1,910	42,020	43,930
2006	1,990	43,360	45,340
2007	2,020	44,190	46,210
2008	1,980	41,330	43,310
2009	1,930	41,630	43,570
2010	1,560	37,470	39,030
2011	1,330	32,190	33,530
2012	1,150	32,040	33,190

* Contraventions tickets served for unlicensed driving (MVA 24.1) in combination with "alcohol-driving"

** All combinations of contravention tickets except the one shown in the other column of the table

Data Source: Office of the Superintendent of Motor Vehicles - Data extracted January 2014 by ICBC Business Insights. Numbers rounded to the closest 10. For privacy reasons, numbers equal or inferior to 10 are replaced by **.

MVA 24.1 : contraventions for unlicensed driving - This table includes tickets issued regardless of ticket final status (e.g., guilty vs not guilty on appeal).

Table A5: Contravention tickets for "unlicensed driving" served in combination with "speed". 2000-2012

Year	Unlicensed and speed*	All other combination of contravention tickets**	Year Total
2000	3,430	43,410	46,850
2001	3,560	45,810	49,360
2002	2,660	37,030	39,690
2003	2,370	34,510	36,880
2004	2,730	38,080	40,810
2005	2,580	41,350	43,930
2006	2,560	42,790	45,340
2007	2,410	43,800	46,210
2008	2,100	41,210	43,310
2009	1,830	41,730	43,570
2010	1,630	37,400	39,030
2011	1,380	32,140	33,530
2012	1,350	31,840	33,190

* Contraventions tickets served for unlicensed driving (MVA 24.1) in combination with "speed"

** All combinations of contravention tickets except the one shown in the other column of the table

Data Source: Office of the Superintendent of Motor Vehicles - Data extracted January 2014 by ICBC Business Insights.

Numbers rounded to the closest 10. For privacy reasons, numbers equal or inferior to 10 are replaced by **.

Motor Vehicle Act 24.1 : contraventions for unlicensed driving - This table includes tickets issued regardless of ticket final status (e.g., guilty vs not guilty on appeal).

Table A6: Contravention tickets for "unlicensed driving" served in combination with "driving while prohibited". 2000-2012

Year	Unlicensed and prohibited*	All other combination of contravention tickets**	Year Total
2000	120	46,730	46,850
2001	150	49,210	49,360
2002	100	39,590	39,690
2003	110	36,770	36,880
2004	130	40,690	40,810
2005	160	43,760	43,930
2006	160	45,180	45,340
2007	210	46,000	46,210
2008	200	43,110	43,310
2009	130	43,430	43,570
2010	130	38,900	39,030
2011	150	33,380	33,530
2012	180	33,010	33,190

* Contraventions tickets served for unlicensed driving (MVA 24.1) in combination with "driving while prohibited"

** All combinations of contravention tickets except the one shown in the other column of the table

Data Source: Office of the Superintendent of Motor Vehicles - Data extracted January 2014 by ICBC Business Insights.

Numbers rounded to the closest 10. For privacy reasons, numbers equal or inferior to 10 are replaced by **.

Motor Vehicle Act 24.1 : contraventions for unlicensed driving - This table includes tickets issued regardless of ticket final status (e.g., guilty vs not guilty on appeal).

Table A7: Contravention tickets for "unlicensed driving" served in combination with other violation than those for "alcohol", speed, or "driving while prohibited". 2000-2012.

Year	Unlicensed and another violation*	All other combination of contravention tickets⁺	Year Total
2000	5,960	40,890	46,850
2001	6,030	43,330	49,360
2002	5,520	34,170	39,690
2003	5,810	31,070	36,880
2004	6,340	34,470	40,810
2005	6,830	37,100	43,930
2006	6,650	38,690	45,340
2007	6,430	39,780	46,210
2008	5,940	37,360	43,310
2009	5,600	37,960	43,570
2010	4,740	34,290	39,030
2011	3,910	29,610	33,530
2012	3,980	29,210	33,190

* Contraventions tickets served for unlicensed driving (MVA 24.1) in combination another violation except those for "alcohol", "speed", or "driving while prohibited".

All combinations of contravention tickets except the one shown in the other column of the table

Data Source: Office of the Superintendent of Motor Vehicles - Data extracted January 2014 by ICBC Business Insights.

Numbers rounded to the closest 10. For privacy reasons, numbers equal or inferior to 10 are replaced by **.

Motor Vehicle Act 24.1 : contraventions for unlicensed driving - This table includes tickets issued regardless of ticket final status (e.g., guilty vs not guilty on appeal).

Table A8: Number of distinct drivers served with contravention tickets for unlicensed driving and drivers served other tickets. 2000-2012

Year violation	Distinct drivers served under MVA 24.1	Distinct drivers served other contravention tickets without an MVA 24.1 contravention ticket	Year Total
2000	20,990	467,560	488,550
2001	21,220	438,210	459,430
2002	17,260	331,970	349,230
2003	17,270	320,490	337,760
2004	18,320	369,940	388,250
2005	18,820	383,710	402,530
2006	18,840	380,730	399,570
2007	18,810	413,960	432,780
2008	18,300	382,150	400,450
2009	17,210	371,430	388,640
2010	16,870	371,780	388,650
2011	15,540	383,940	399,480
2012	14,360	362,120	376,480

Data Source: Office of the Superintendent of Motor Vehicles - Data extracted January 2014 by ICBC Business Insights. Numbers rounded to the closest 10. Numbers equal or inferior to 10 are replaced by **. MVA 24.1 : contraventions for unlicensed driving. This table includes tickets issued regardless of ticket final status (e.g., guilty vs not guilty on appeal). If drivers had both unlicensed driving and other types of contraventions within the same year, they were classified as 'Unlicensed Drivers'.

Table A9: Liability of drivers involved in a crash and who got issued a ticket for unlicensed driving at the time of crash, by year and crash type

Year crash	At-fault*	Not-at-fault**	At-fault*	Missing	Not-at-fault**	At-fault*	Missing		
2000	++	30	180	**	30	140	++	++	380
2001	++	50	160	**	30	140	++	++	390
2002	++	50	160	**	30	140	++	++	380
2003	++	50	180	**	30	160	++	++	410
2004	++	30	170	**	20	130	++	++	350
2005	++	40	150	**	30	150	++	++	360
2006	++	40	160	**	20	180	++	++	400
2007	++	40	150	**	20	160	++	++	380
2008	++	40	130	**	20	160	++	++	350
2009	++	30	150	**	20	120	++	++	320
2010	++	50	120	**	20	110	++	++	290
2011	++	10	120	**	20	120	++	++	270
2012	++	20	110	**	10	90	++	++	230

Data Source: Office of the Superintendent of Motor Vehicles - Data extracted January 2014 by ICBC Business Insights, from Crash Claims database. Numbers rounded to the closest 10. Numbers equal or inferior to 10 are replaced by ++

*At-fault : Drivers with liability score equal to or greater than 50%

**Not-at-fault: Drivers with liability lesser than 50%

*** Includes fatal crashes, injury crashes and PDO crashes

Fatal cash does not mean that the driver was deceased victim in the crash. Another person may have deceased (e.g., passenger, pedestrian)

Injury crash does not mean that the driver was injured in the crash. Another person may have been injured (e.g., passenger, pedestrian)