



**Amendment #2
Modification #2**

This amendment is raised to correct an error in the presentation of the footnote indicator as presented in Amendment #1 (English Version). No other information or content was changed.

Cette modification est publiée pour corriger une erreur dans l'indicateur pour la « note de bas de page », tel que présenté dans modification #1 (version anglaise) . Aucune information ou contenu a été modifié.

1. Statement of Work

Part 4 Statement of work is deleted in its entirety and replaced by:

1. Title

Capacity of Forensic Laboratories¹ in Canada to Test for Drugs

2. Background

In 2016, and as outlined in his mandate letter, the Minister of Public Safety is to “work with the Minister of Justice and the Minister of Health on efforts that will lead to the legalization and regulation of marijuana.”

Researchers from the Department of Public Safety have recently completed a report titled “Cannabis Performance Metrics for Policy Consideration: What do we need to measure?” (Maslov, Lawrence, and Ferguson, 2016). In it, the authors identified some 45 cannabis policy metrics which policy makers could consider collecting as baseline data prior to any shift in policy on marijuana. Collection of baseline data is important because it allows researchers and policy makers to examine the impact of policy through comparing pre- and post-policy data to further inform decision-making.

The laboratory testing of cannabinoids (psychoactive ingredients found in cannabis) and other drugs found in the human body in a timely and reliable manner is extremely important. There are two main reasons for testing the presence of drugs in the body. First, from a law enforcement perspective the testing is required to provide documentary evidence regarding an offence or infraction. For example, law enforcement could require the testing of blood, urine, saliva or similar samples for drugs as a form of supporting for evidence of the offence of driving under the influence of drugs (DUID). Second, such testing can be necessary to demonstrate voluntary compliance with a standard or regulation. For instance, the testing of blood, urine, saliva or similar may aid private employers or insurers in determining non-compliance with policies on drug use related to the terms of contracts.

Under the current law, when there is a suspicion of impairment while driving, some enforcement officers have the legal right to test an individual for the presence of drugs in their system to determine whether they are fit to operate the vehicle, or whether they were under the influence of the drug at the time of an accident. In the case of driving and road accidents in particular, it is important to distinguish between samples collected from uninjured, injured, and deceased drivers. Samples collected from uninjured drivers would include sampling by the police at a roadside block, similar to the tests for alcohol. Samples collected from injured drivers would be collected after the accident, most likely by either the police or medical personnel, whereas samples collected from deceased drivers could be collected by the police, medical, or coroner personnel.

¹ Only private forensic laboratories will be included in this particular study
Capacity of Forensic Laboratories / Capacité des laboratoires médico-légaux



Amendment #2 Modification #2

Currently, tests on deceased individuals could be conducted through the analysis of human body fluids or adjuncts such as saliva, urine, blood, or hair.²

It is important to remember that, once cannabis is legalized and regulated, it is possible that the cases of driving under the influence could increase in Canada. In Colorado, where the recreational use of marijuana was legalized in 2012, the cases of driving under the influence of cannabis doubled since the year of legalization, from 5.7% in 2012 to 12.3% in 2014 (Colorado Department of Transportation, n.d.). The increase can also be attributed to an increase in law enforcement focusing on impaired drivers and road safety. The number of road fatalities involving a drugged driver has also increased in Colorado, from 18.8% in 2012 to 28.5% in 2014 (albeit the proportion for 2014 is only 4.6% higher than that for 2011) (Colorado Department of Transportation, n.d.). A similar portrait emerges in the state of Washington, where the recreational use of cannabis was also legalized in 2012. There, the cases of positive testing for THC in the blood samples of drivers have been rising from about 19% in 2012, to 33% in early 2015 (Kaste, 2015). Based on this, we can likely expect the demand for DUID testing to rise after legalization.

In the case of testing for the presence of cannabinoids and other drugs in the drivers' system, it should be expected that the number of samples requiring lab analysis will increase dramatically once cannabis is legalized, simply because the police will be reacting to the new regime with a similar approach as they do for driving under the influence of alcohol. Roadside checks and random screening of drivers for drugs will likely occur more often, thus increasing the number of samples that will need to be tested for drugs.

Given the likelihood of an increase in cases of DUID after the legalization of cannabis and the potential increased demand on labs to process samples that test for the presence of drugs in a human body, it is important to understand what is the current laboratory capacity to deal with a potential influx of samples to be tested for cannabinoids and other drugs in Canada.

3. Project Objectives

The following objectives are set for this project:

- a) Describe the laboratory intake and internal processes used to analyze biological samples to determine the presence and level of concentration of illicit drugs in a bodily fluid sample.
- b) Through a developed and approved research instrument, determine the laboratories' technical abilities and limitations (e.g., accuracy, time it takes, validity, etc.) specifically related to performing blood and other samples analysis to confirm presence of drug in bodily fluids. Describe the surveyed laboratories sample's capacity to process the biological samples, as well as the costs incurred by the clients who request the sampling.
- c) Discuss the potential for a backlog of samples, should there be a foreseeable increase in the influx of samples.
- d) Provide a series of recommendations based on the analysis of the data collected to contribute to the development of a framework for the forensic analysis of bodily fluid samples in Canada.

4. Approach and Methodology

Two previous papers were written for Public Safety Canada on the topic of capacity of forensic laboratories in Canada to deal with a potential influx of DNA samples as a result of Bill C-13 and C-18. The first, a prequel paper to the second, is titled "DNA Forensic Laboratory Services Cost and Capacity Review" (Government Consulting Services, 2009), while the second is titled "A

² While technologies are currently being developed for a number of drugs that are not alcohol, the focus of this study is on samples originating from a human body that can be sent for analysis to a lab.



Amendment #2 Modification #2

Feasible and Sustainable Model for Forensic Service Delivery in Canada” (Maguire, 2010). These two papers may serve as methodological examples of how the current project could commence and proceed.

The project must begin with a literature review on the topic of laboratory testing drugs. The literature review will include an international perspective on the capacity of forensic labs to process drug-related samples. The international component could include countries with regimes that are somewhat non-restrictive, decriminalized, legalized, or in the process of decriminalizing/legalizing cannabis or other drugs. Further, the countries would have similar judicial systems and approaches to DUID that are similar to Canada. These could include, but are not limited to: United Kingdom; Australia; New Zealand; Netherlands; Spain; Portugal; Uruguay; and four U.S. states: Alaska, Oregon, Washington; and Colorado. It is understood that some material will not be available in English or French. The successful bidder would not be required to be proficient in languages other than Canada’s two official languages, or use translation services to translate foreign languages.

Based on the literature review, the Contractor will design the research instrument(s). The researcher will design either or both: a questionnaire to be sent to the laboratories; an in-depth interview guide. Once approved by the Project Authority (PA), the research instrument(s) will be sent to the selected laboratories in Canada and in the U.S. states of Colorado, Oregon, and Washington.³ The PA could assist the successful bidder with the list of laboratories in Canada, as well as share ideas for the questions that should be asked on the research instrument.

An attempt should further be made to obtain any reports or qualitative and quantitative data that the laboratories can share publicly. The reports and the data should be analyzed with a goal of responding to the objectives raised in Section 2.

Once the necessary data is collected, the successful bidder will produce a report that responds to the objectives set in Section 2. The report will focus on the issue of the capacity of labs to process drug-related samples in Canada, as well as highlight the similarities and differences between the situation in Canada and the three U.S. states. Further, the report will address, in detail, the policy implications for Canada based on what was learned from the survey and literature review.

5. Tasks

The Contractor must perform the following tasks:

- 5.1 Meet with the PA/Technical Authority (TA) for a kick-off meeting, either in person or by teleconference within five days of contract award to discuss the overall requirement; the approach and methodology; the work plan, and; to clarify any issues.
- 5.2 Submit both an updated work plan, and updated methodology and approach based on the discussion at the kick-off meeting. Both documents must be submitted within 5 days of the kick-off meeting.
- 5.3 Submit both an email invitation letter that describes the project and invites the laboratories to participate in the study, and a research instrument (either or both the interview guide and the questionnaire) that will be used to guide data collection process, and the list of laboratories to be contacted (approximately 80 laboratories in Canada and approximately X in the US. To be confirmed after contract award). The Contractor must not send the email to the laboratories until approval is granted by Public Safety. The Contractor must use Canada’s two official languages as required.

³ These states were selected for analysis because of the recent developments in the field of legalization of recreational use of cannabis, as well as because of their similarity to Canada in terms of judicial system and policing approaches.



**Amendment #2
Modification #2**

- 5.4 Once approval for the email invitation letter is granted, the Contractor must send the invitation to the identified laboratories.
- 5.5 Through a combination of a literature review and analyses of available data respond to the objectives of this project set out in Section 2.
- 5.6 Submit a draft report that responds, at a minimum, to the objectives raised in Section 2, Project Objective. The draft report must include an abstract, a summary (no more than 2 pages), conclusion, bibliography, appendices (such as tables of data, methodological details, etc.). The main body of the report should be no more than 25 to 30 pages. The report must conform to the Public Safety Canada MSWord report template format. Submit a final report that incorporates all comments and revisions requested by the PA/TA.
- 5.7 Upon completion of the report, the Contractor must prepare a PowerPoint presentation deck that would take approximately 20 minutes to present. The presentation must conform to the Public Safety Canada MS PowerPoint presentation template format.
- 5.8 Submit ongoing, monthly status reports.

6. Deliverables

- 6.1. An updated work plan.
- 6.2. An updated approach and methodology.
- 6.3. Draft literature review.
- 6.4. An email invitation letter inviting the participants to take part in the research project that will be forwarded to the laboratories who agreed to participate in the study.
- 6.5. An interview guide and/or a questionnaire that will be used to guide the in-depth interview process. The guide will contain questions and points to be discussed during the interview.
- 6.6. Written, short monthly status reports. The reports should be no longer than 2 pages. Status reports that will include the discussion on the progress of the literature review; consultations/survey; and the writing of the report.
- 6.7. A draft and final report.
- 6.8. An MS PowerPoint presentation deck that presents and summarizes the research findings.

7. Project Schedule

Task	Delivery Date
Kick-off meeting	+5 days of contract award
Updated work plan	+5 days of the kick-off meeting
Updated approach and methodology	+5 days of the kick-off meeting
Literature review	+60 days of the kick-off meeting – to be completed by March 31, 2017
Email invitation	+5 days of literature review
Research instrument	+5 days of literature review
Draft report	Within 120 days of the kick-off meeting
Final report	Within 14 days of the comments and revisions by the PA
PowerPoint presentation	Within 14 days of the comments and revisions by the PA



**Amendment #2
Modification #2**

8. Official Languages

The Contractor may work and submit all deliverables in either official language (English or French). Translation of the final report and the PowerPoint presentation, if required, will be the responsibility of the PA/TA. The Contractor is responsible for translation and communication in both official languages, prior to the submission of the draft report.

9. Location of Work and Travel

All work will be carried out at the Contractor's facilities. The Contractor will be expected to be available for scheduled teleconference calls periodically throughout the contract.

10. Reporting and Communication

In addition to the timely submission of all deliverables and fulfilment of obligations specified within the contract, it is the responsibility of the Contractor to facilitate and maintain regular communication with the Department. Communication is defined as all reasonable effort to inform all parties of plans, decisions, proposed approaches, implementation, and results of work, to ensure that the project is progressing well and in accordance with expectations. Communication may include: phone calls, electronic mail, faxes, mailings, and face-to face meetings. In addition, the Contractor is to immediately notify the Department of any issues, problems, or areas of concern in relation to any work completed under the contract, as they arise.

11. References

CBC News. (2016). "Federal marijuana legislation to be introduced in spring 2017, Philpott says." *CBC News: Politics*, April 20, 2016. Accessed on May 3, 2016 from <http://www.cbc.ca/beta/news/politics/philpott-un-marijuana-legislation-legalize-1.3544554>.

Colorado Department of Transportation. (n.d.). *Drugged Driving Statistics*. Accessed on June 9, 2016 from <https://www.codot.gov/safety/alcohol-and-impaired-driving/druggeddriving/drugged-driving-statistics.html>

Government Consulting Services. (2009). *DNA Forensic Laboratory Services Cost and Capacity Review*. Public Safety Canada: Ottawa

Kaste, M. (2015). "More Washington Drivers Use Pot And Drive; Effect On Safety Disputed." *NPR*, August 19, 2015. Accessed on June 9, 2016 from <http://www.npr.org/2015/08/19/432896393/more-washington-drivers-use-and-drive>.

Maguire, C. N. (2010). *A Feasible and Sustainable Model for Forensic Service Delivery in Canada*. Public Safety Canada: Ottawa

Maslov, A., Lawrence, A., and Ferguson, M. (2016). *Cannabis Performance Metrics for Policy Consideration: What Do We Need to Measure?* Public Safety Canada: Ottawa. 68 Pages.

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