

Ministry of Transportation of Ontario

Road Safety Research Partnership Program

Guidelines 2020 - 2021



Ministry of Transportation

Safety Program Development Branch

87 Sir William Hearst Ave
Building A – Room 212
Toronto ON M3M 0B4
Tel.: 416 235-3585
Fax.: 416 235-5129

Ministère des Transports

Direction de l'élaboration des programmes de sécurité

87 Sir William Hearst Ave
Bâtiment A – salle 212
Toronto ON M3M 0B4
Tél.: 416 235-3585
Télé.: 416 235-5129

Background

Ontario's roads are among the safest in North America; however, despite significant transportation safety improvements in recent years, motor vehicle collisions continue to be a leading cause of death, injury, and disability among persons of all ages. The Ministry of Transportation (MTO), through the Research and Evaluation Office (REO), is committed to conducting and supporting research on road user behaviour and human factors surrounding transportation safety. In the past, our research has contributed to policy and program developments such as the inclusion of cognitive screening tools into the Senior Driver Licence Renewal Program and the expansion of Ontario's drinking and driving laws. A key component of the REO's mission is to work with external partners to conduct research into aspects of transportation safety that cannot be addressed from within the ministry. Accordingly, the Road Safety Research Partnership Program (RSRPP) has been established.

The RSRPP provides grant funding to researchers in the broader Ontario public sector, enabling them to contribute policy-relevant research to support Ontario's efforts to improve transportation safety and keep the province among the safest jurisdictions in the world.

Examples of RSRPP-funded research currently underway include:

- investigating methods to maintain driver vigilance during use of Advanced Driver Assistance Systems, which may reduce certain types of collision involvement but also lead to driver distraction or attention
- measuring the effects of cannabis edibles alone or in combination with alcohol on simulated driving performance

The call of proposals for 2020-2021 is now open, and we invite you to apply.

Ontario's strong transportation safety record has been built upon relationships established over the years with the academic / medical community, other ministries, municipal and federal governments, police services, industries and associations, and grass roots road safety stakeholders. Together, we can achieve our shared goals and improve transportation safety for all Ontarians.

Correspondence and Timelines

The call for applications opens on **August 17, 2020**.

If you are planning to submit an application, please notify us of your intent by e-mail *as soon as possible* and indicate which of the four priority areas (listed in Appendix A) your submission will address. Please send this e-mail to: RoadSafetyResearch.PartnershipProgram@ontario.ca

The deadline for the full application is **September 17, 2020** at 11:59 pm EST.

An electronic copy of the application package must be received by the application deadline. Please submit electronic applications and any inquiries to RoadSafetyResearch.PartnershipProgram@ontario.ca

1.0 PURPOSE

The primary purpose of the program is to stimulate applied transportation safety research in Ontario, with a focus on road user behavior and human factors, and to deliver practical policy or program-ready solutions for the MTO. The secondary purposes of this program are to facilitate the transfer of knowledge, skills, and methodologies from other disciplines to road user safety research, and to foster collaborative working relationships between MTO and researchers in the academic and broader public sector community.

2.0 SCOPE

2.1 Eligible Institutions

Ontario hospitals, colleges, universities (including their affiliated colleges, research centres, institutes, and hospitals), and other public institutions are eligible for funding through the RSRPP (“sponsoring institution”). The principal investigator(s) must be a member of the faculty (full- or part- time) or an employee of the sponsoring Ontario-based institution. Faculty carrying out behavioural and social research in road user safety in departments such as Economics, Engineering, Geography, Medicine, Rehabilitation, Psychology, and Sociology are encouraged to apply for funding under this program. An institution that is listed on MTO’s Vendor of Record pool for procurement services may not be the sponsoring institution. The successful proponent may not subcontract to outside vendors.

2.2 Eligible Topics

The ministry is interested in funding research projects that address one of the specific problem statements outlined in Appendix A. The statements are grouped into four key priority areas:



2.3 Reporting Requirements

Please note that the project and funding structure has changed for the 2020-2021 competition. Guidelines from earlier RSRPP competitions will not apply.

A maximum of three projects will be funded for the 2020-2021 fiscal year out of a combined pool of \$150,000 per year. Projects may span a period of up to 18 months, except for those under priority area 1B (max. 6 months).

Six-month projects (including all projects under priority area 1B) must be completed by the end of the current fiscal year (i.e., the final report submitted to MTO by March 31, 2021).

18-month projects (under priority areas 1A, 2, 3, 4A, and 4B only) must be structured using a two-phase approach. **Phase 1** must be completed by the end of the current fiscal year (i.e., Phase 1 reports are due on

or before March 31, 2021). The Ministry's decision to approve and proceed with **Phase 2** will be made, at the Ministry's own discretion, after March 31, 2021.

Reporting requirements are outlined in Sections 6 and 7 below. Funded recipients can submit an invoice for eligible expenditures incurred to complete the project at the time of submitting any of the required progress or final reports in order to be reimbursed for expenses up to the maximum amount specified in the approved budget for the project/phase. Funding will be remitted to recipients upon the receipt of the reports, provided that the reports are satisfactory to the Ministry in its sole discretion.

The number of projects funded and the amount of funding that will be provided for each project is at the discretion of MTO. The ministry reserves the right not to grant any funds. If multiple applications score highly, the proposed budget may be used as a determining factor in determining the successful candidate(s). Projects may be funded by other grant agencies simultaneously. Sources of additional funding, including in-kind contributions, must be disclosed to MTO.

3.0 KNOWLEDGE TRANSLATION

3.1 Ministry Involvement

Research and Evaluation Office staff have extensive experience in carrying out transportation safety research in a variety of areas. Each funded project will be assigned a team of MTO staff that are subject matter experts in that area of study. At the beginning and end of each project, the Principal Investigator (PI) and his/her team will be invited to the MTO Office at the Downsview Complex for a kick-off and close-out meeting (in-person or virtual), respectively. MTO subject matter experts will be at both meetings and may also provide collective feedback to the PI throughout the course of the project at key milestones and/or upon receipt of progress reports. MTO subject matter experts will work closely with the PI on a knowledge translation strategy, and, where relevant, may also assist in research design, in data extraction from MTO databases, and in soliciting involvement of other stakeholders.

3.2 External Opportunities

Opportunities for RSRPP-funded research to be profiled at working groups (e.g., with the Canadian Council of Motor Transport Administrators) and conferences will arise. In these instances, MTO expects to work collaboratively with the PI(s) to prepare the appropriate materials.

Should researchers choose to publish their findings, MTO requires a copy of the final manuscript accepted for publication at least 30 days prior to the publication date. Should MTO choose to post the final report online, MTO will coordinate with the principal investigator(s) to ensure no impact on the candidacy of the research for future publication.

4.0 APPLICATION PROCESS & SELECTION

4.1 Application Package

Interested applicants are invited to submit an application for evaluation. The full application package will include a completed **application form** appended with the following components:

a) **Research Proposal**

In addition to the research summary included in the application form, applicants must submit a detailed proposal, with sections corresponding to:

1. **Background**, including objectives, brief overview of the literature (topic areas, theoretical frameworks, common methodologies), and **which provided problem statement is being**

- addressed** along with the specific research question(s) for the proposed project;
2. *Methods*, including population and sampling, instrumentation, data collection, study design, analytic strategy, and timeline; and
3. *Knowledge Translation*, including planned publications or conferences.

The specific research objective(s) must address one of the provided problem statements (Appendix A), otherwise the project will not be considered for funding.

The timeline should be written in Month 1, Month 2 format, rather than specific dates; as the project timeline will eventually be revised to start at the date of the kick-off meeting (see Section 5.0). 18-month projects must sub-divided into two phases.

The research proposal must be no more than 5 pages (for six-month projects) or 7 pages (for 18-month projects), excluding a title page, table of contents, and list of references. Figures will also not count towards page limit if they are provided at the end of the proposal (i.e., after the list of references). Appendices can be provided, but may not be reviewed comprehensively during evaluation. Therefore, all pertinent information for the judges to evaluate the merits of the submission should be included in the main body of the proposal.

b) Budget Justification

Budget items listed on the application form may require additional justification. Please refer to Appendix B for eligible expenditures and provide an explanation accordingly.

c) Curriculum Vitae of Principal Investigator(s)

There are no format or length restrictions for the CV of investigators, and we encourage the use of an existing, but current CV that has been prepared for other grant applications.

Information contained in the application package will be treated as confidential and are subject to MTO's obligations under the *Freedom of Information and Protection of Privacy Act*.

4.2 Evaluation

Applications will be reviewed by a selection committee comprising of MTO staff. One or more transportation safety research experts, external to the MTO, may be requested to review applications, at the discretion of the MTO. The selection committee may request clarification of points contained in proposals.

Applications will be evaluated on how well the project and investigator(s) satisfy the following criteria (with the weighting of criteria in parentheses):

a) Relevance to the provided problem statements and innovativeness of the approach (35%)

The association between the research project and one of the provided problem statements (see Appendix A) should be clear and tangible. Higher scores will be awarded to projects that challenge or seek to shift current research paradigms by utilizing novel and innovative concepts and approaches.

b) Methodology and team (30%)

The study design, methods, and proposed analyses must be appropriate and rigorous. The stated aims should also be feasible to accomplish within the estimated time and budget. The budget should be realistic and justifiable, including the optimal use of proposed personnel. CV(s) should demonstrate alignment between team expertise and project proposal.

c) Impact on transportation safety in Ontario and external assets leveraged (25%)

The research should result in an important understanding of, or improvement in, transportation safety in Ontario. *Proposals should clearly outline how the project could not otherwise be completed by MTO internally (e.g., by not relying solely on data to which the MTO has access, including driving records,*

collision records, etc.). Accordingly, applicants are expected to specify any non-MTO resources being utilized (e.g., new or existing external datasets that will be used, expertise being leveraged, etc.). The experience and qualifications of the researcher(s) in transportation safety or related fields should be stated. Capacity in project management and quality control should be demonstrated.

d) Communication and knowledge translation (10%)

The proposal should be well-written, comprehensible, and demonstrate understanding and expertise on the relevant topic areas. The proposal should outline how the researcher(s) plan to disseminate the results of the project to other transportation safety professionals and organizations (e.g., publications, conference presentations, etc.), and how results from the research may readily be translated into policy, program, or public education initiatives.

Applications will be reviewed carefully by the selection committee and assigned scores for each criterion based on how effectively the requirements are satisfied. Those that do not adequately satisfy each of the criteria will not be considered eligible for funding. Aggregate scores of satisfactory submissions (weighted as specified above) will then be used to generate a rank ordered list of applications. MTO will make its funding decisions based on this list; applications will be considered for funding in rank order. MTO reserves the right to adjust rankings to reflect current ministry priorities. In these rare occurrences, adjustments will be made only after consensus at the Senior Management level.

5.0 NOTIFICATION OF AWARD & ONBOARDING

MTO will notify successful candidates directly. A Letter of Award will be sent to the PI(s) along with a Letter of Agreement. Expenses incurred in excess of the approved budget are not eligible for reimbursement. The Letter of Award and Letter of Agreement will outline the maximum funding for the project. The holders of research awards and their associates are not considered employees of MTO.

The PI(s) will be asked to sign and return the Letter of Agreement, along with any additional items requested in the Letter of Award. These additional items may include a signed certificate from the Research Ethics Board at the sponsoring institution indicating acceptability of the study on ethical grounds, missing signatures, or revisions to the budget or proposal.

Upon receipt of the above documents, MTO will invite the PI(s) to the MTO Office in the Downsview Complex for a kick-off meeting (in-person or virtual). The project will officially commence on the date of the kick-off meeting.

6.0 FINANCIAL ARRANGEMENTS

6.1 Financial Reporting

Upon the date of the kick-off meeting and until the project's stated end date, researchers may incur project expenses for items and amounts specified in the approved budget. Periodic fiscal reports must be submitted to MTO containing proof of funds spent to date, starting three (3) months after the kick-off meeting and continuing on a quarterly basis. An invoice may be submitted along with progress and final reports (see Section 7 below). Once the progress/final reports have been reviewed and deemed acceptable by MTO in its sole discretion, funding will be remitted to the researchers up to the lesser of the eligible expenditures or the maximum approved amounts for the study/phase. Costs not invoiced by the project's stated end date are not eligible for funding, neither are costs incurred for producing fiscal reports.

Reports will include an itemized list of eligible expenditures and activities that will be funded by the RSRPP, including equipment that was purchased (in whole or part). The following headings will be included in the reports: salaries and benefits, equipment, and other costs. MTO reserves the right to

question discrepancies or disallow expenditures that are not adequately justified or previously approved. MTO also reserves the right to audit any project. The institution is required to keep any records that may be required for a financial audit for the duration of the current fiscal year plus an additional seven (7) years. These rights are in addition to any rights provided to the Auditor General pursuant to section 9(1) of the *Auditor General Act (Ontario)*.

6.2 Appropriation of Funds by the Legislature

MTO reserves the right to terminate an award if, in the opinion of MTO, the award recipient: a) fails to comply with any of the requirements set out in these Guidelines and in the Letter of Agreement; b) requests reimbursement for a purpose not authorized by or without the prior written consent of MTO; or c) fails to provide the requested periodic fiscal and progress reports. MTO reserves the right to terminate an award at any time by providing written notice of termination for the reasons above or for failure by MTO in receiving the necessary appropriation of funds by the Legislative Assembly of Ontario.

If MTO terminates funding, it may determine the recipient's reasonable costs to end the RSRPP project and permit it to offset these costs against the Ministry's RSRPP funds.

6.3 Conflict of Interest

An award recipient receiving RSRPP funds must ensure the RSRPP project is carried out and RSRPP funds are used without an actual, potential, or perceived conflict of interest. A conflict of interest includes any circumstances where the recipient, or any person who has the capacity to influence the recipient's decisions, has outside commitments, relationships, or financial interests that could, or could be seen to, interfere with the recipient's objective, unbiased and impartial judgment relating to the RSRPP project and the use of the RSRPP funds.

7.0 PROGRESS AND FINAL REPORTS

7.1 Progress Report

Researchers must submit periodic progress reports alongside the periodic fiscal reports outlined in Section 6.1. Progress reports must detail the project's completed activities to date and work that has yet to be completed. The summary should also discuss any unforeseen circumstances that have led to any deviations from the original project timelines. This section does not replace the requirement of the researchers to inform MTO of any alterations to the project schedule.

7.2 Final Report

Researchers must submit a final report (i.e., due on or before March 31, 2021, for six-month projects, or March 31, 2022 for 18-month projects). The final report should include the following: an executive summary, a table of contents (including figures, tables, and appendices), and comprehensive background, methods, results, and discussion sections. The discussion should focus on applications of the new findings to the reduction or monitoring of collision risk on Ontario's transportation networks. In addition, the final report shall include detailed plans for publication and for dissemination of results to other transportation safety professionals and organizations. A copy of a student thesis or dissertation is not a substitute for the final report. Final reports will be kept in the Research and Evaluation Office for future reference.

Appendix A Priority Areas and Specific Problem Statements

Priority 1A: DRIVING TRAINING & TESTING: DIGITAL TECHNOLOGIES

Background: Whether banking, shopping, or changing an address on a driver's licence, an ever-increasing number of private and government services are being offered digitally. Not only do Ontarians expect the convenience of online digital services, but the digital approach provides several safety benefits, including reduced vehicle travel and enhanced social distancing in the age of COVID-19 or future pandemics. While real-world road tests will likely remain the gold standard of novice driver testing in the foreseeable future, some forms of driver testing may be amenable to online digital delivery. Digital technologies (e.g., driving simulators) may also provide added value through the ability to test drivers in safety critical scenarios that would present too great a risk for real-world testing, or through custom testing of individuals with disabilities. In the latter case, scenarios that are infrequent in the real world, but which may present special challenges in relation to a specific disability could be tested more easily in a simulated environment.

Problem Statements:

The Ministry is interested in 1) identifying which of its driver training or testing/evaluation services for passenger or commercial vehicles could be provided in an online digital format that is scientifically valid in preventing collisions; and 2) identifying scenarios in which simulator testing could prove advantageous over traditional road testing, especially in relation to safely testing drivers in dangerous situations or in situations that could be dangerous to a driver with a specific disability.

Also of interest:

- Quantifying the difference in prospective collision risk for drivers who pass a road test in specific vehicle types (e.g., for drivers of passenger vehicles, testing in private vehicles vs. common vehicles with standardized features, or in vehicles with different levels of automation; for drivers of commercial vehicles, testing in commercial vehicles with standardized features vs. passenger vehicles, etc.).

Priority 1B: DRIVER TRAINING & TESTING – COMMERCIAL DRIVERS WITH REDUCED VISION

Background: In 2005, Ontario introduced a Vision Waiver Program for class G drivers. The program is for individuals who cannot meet the mandatory vision requirements but are able to drive safely. Program applicants must submit detailed medical and visual reports and complete a functional assessment with a specially trained occupational therapist and driving instructor. The assessment follows a standardized in-clinic and on-road protocol to challenge areas of visual deficit. Although there are approximately 2,500 participants in the G vision waiver program, no such program yet exists for commercial drivers. The Ministry is interested in developing an individualized assessment protocol that can predict if a driver can compensate for their vision loss (e.g., monocular vision) and drive safely over a subsequent two-year period, as measured by motor vehicle collision rate. Such a program could be modelled on the Class G process, but may also include novel assessment approaches, such as in-clinic, online, or high-fidelity simulator-based testing components.

Problem Statements:

The Ministry is interested in the design and development of a robust protocol that individually assesses persons that fall below the commercial driver vision standards, and which reliably identifies unsafe drivers and predicts future collision risk.

Note: The protocol must be fully developed by March 2021 for the consideration of the Ministry. Monitoring of road safety outcomes would be conducted by Ministry staff.

Of particular interest:

- Assessing whether any special criteria should be employed for transit and school bus drivers.
- Identifying vehicle types that should be excluded from the program* (e.g., garbage trucks, cement trucks, etc.) and developing a strong rationale for their exclusion.
- Examining what components of the class G process can be leveraged for a new program for commercial drivers, if any.
- Incorporating the current state of high-fidelity technology/simulators or extensive road tests with planned hazards coupled with in-clinic assessment as part of a new program.
- Exploring potential implications for existing programs.
- Consulting with key stakeholders (e.g., medical community, trucking industry, road safety advocacy groups, transit agencies, etc.) to obtain their feedback on the proposed protocol.

* At minimum, the protocol must be applicable to drivers of school buses, however a broader application to several types of commercial vehicles is preferred.

Priority 2: EMERGING VEHICLES AND ALTERNATIVE MOBILITY

Background: Factors such as increasing urbanization, a greater desire for environmentally friendly options, and the development of novel transportation technologies are necessitating a broadened focus from traditional motor vehicles to alternative forms of mobility by transportation safety policy makers. Evaluation of the impact of road safety policy for traditional motor vehicles typically relies on some measure of exposure, ideally vehicle kilometers travelled. When a direct exposure measure is unavailable, “exposure free” methods such as *quasi-induced exposure* have been developed and validated. However, with alternative modalities, such as e-bikes or e-scooters, or even with well-established modalities, such as walking or cycling, direct exposure measures are difficult to obtain and no “exposure free” methods of evaluation have been established. Evaluation of the safety policy impact for these modalities is therefore challenging and sometimes unreliable.

Problem Statements:

The Ministry is interested in 1) identifying new data sources and methods that can practically be used by MTO to measure exposure for pedestrians, cyclists, and other forms of mobility beyond traditional motor vehicles; and 2) development of practical “exposure free” methods for safety policy impact evaluation.

Of particular interest:

- Exploring the effect of influential variables or confounders, including demographics (e.g., age, gender, socio-economic status), vehicle usage (e.g., recreation, commuting, etc.), etc.

Priority 3: IMPACT OF COVID-19 ON ROAD SAFETY

Background: Ontario issued a Declaration of Emergency on March 17, 2020 in response to the COVID-19 pandemic. Various temporary restrictions intended to enhance social distancing and prevent disease transmission were implemented by the province, including the closing of most physical business and school locations. Other jurisdictions that implemented similar restrictions saw substantial reductions in vehicle kilometers travelled, followed by a gradual increase toward baseline as lifting of restrictions began. Preliminary evidence suggests a similar pattern occurred on Ontario’s roads, but it is unclear how long it will take for a full return to pre-COVID traffic levels. Anecdotally, this reduced traffic period has been associated with increased speeding behaviour by some drivers, and a reduction in driving by others. It is not known how attitudes and behaviours learned (e.g. speeding) or unlearned (e.g. driving skills) during the COVID-19 restriction period will influence safety in the post-pandemic period or how long these effects may last. The COVID-19 restriction period

also provides a natural experiment due to the dramatic and sudden reduction in the need for a large segment of the population to drive, including those who transitioned to telework, were laid-off, whose social activity was curtailed, and so on. Several temporary MTO policy/program changes were also enacted as part of Ontario's efforts to enhance social distancing, including pausing the *80 and Over Driver's Licence Renewal Program*, extending the due dates of medical and vision reports submitted to the *Medical Review Section*, suspending road tests for commercial and passenger vehicle drivers, and extending the validity of carrier products (e.g., commercial vehicle operator's registration (CVOR), semi-annual and annual vehicle inspections, and special permits).

Problem Statements:

The Ministry is interested in 1) quantifying changes in the attitudes, behaviours, skills and knowledge of transportation system users that occurred (and are occurring) during the COVID-19 pandemic, and especially in quantifying the post-pandemic road safety effects of these changes; 2) creatively leveraging the unique natural experiment presented by COVID-19 restrictions to better understand driver behavior and inform novel policy directions that will have long-term beneficial impacts on road safety; and 3) measuring the impact of temporary MTO policy/program changes*.

Of particular interest:

- Identification of any potential post-pandemic surge in prevalence of a known road safety risk factor
- Identification of novel post-pandemic road safety risk factors, along with possible countermeasures
- Development of novel, actionable insight into aggressive, impaired, distracted, or other forms of unsafe driving based on the natural experiment presented by COVID-19 restrictions
- Evaluating the impact of changes to Ministry policies/programs that form part of Ontario's effort to enhance COVID-19 social distancing (e.g., modifications to the delivery of *Group Education Sessions* for seniors participating in the *80 and Over Driver's Licence Renewal Program* to adhere to public health advice; and delivery of in-class driver training courses via virtual classrooms for the *Entry-Level Training (ELT)* program for commercial class A truck drivers and the *Beginner Driver Education (BDE)* program for G class licences).

**Any impact evaluation must go beyond what could be accomplished with police-reported collision data or driver record data already maintained by MTO. The intention is not to conduct a collision data analysis. Candidates are expected to collect and utilize data from sources outside of those maintained by MTO (e.g., survey of the driving population; data on vehicle kilometers travelled; data on health outcomes from hospitals, trauma centres, ambulances; etc.). Each project must clearly outline how the results can be applied by the ministry, including but not limited to recommending policy/program enhancements or new countermeasures (e.g., initiatives for enforcement partners, public outreach and education, etc.).*

Priority 4A: IMPAIRED DRIVING – IMPACT OF PARTIAL VEHICLE AUTOMATION

Background: Alcohol- and drug-impaired driving continues to be problematic in Ontario and around the world despite sustained efforts at elimination. In 2017, drinking and driving collisions claimed 133 lives in Ontario, and 75 of the 617 total road fatalities involved drugs. Advanced driver assistance systems / partial automation are gradually beginning to take over aspects of the driving task. It is unclear how these emerging technologies will influence a driver's decision to get behind the wheel while impaired, or how they will affect the collision risk and severity associated with drug or alcohol impairment.

Problem Statement:

The Ministry is interested in 1) better quantifying the true social costs of drug- and alcohol-impaired driving in Ontario and how this will be affected by partial vehicle automation (levels 3 and higher); and 2) effectively combatting impaired driving through novel approaches appropriate to an environment of increasing vehicle automation.*

Of particular interest:

- Quantifying the longer-term health outcomes for victims of impaired driving in comparison to other collision-involved drivers and estimating the impacts of partial automation (e.g. collision avoidance technologies) on those outcomes
- Quantifying the impact of partial vehicle automation on the incidence of alcohol- or drug-impaired driving and road safety outcomes
- New technologies, analytical approaches, and techniques for identifying key driver characteristics (e.g., impulse control, demographics, driver history, etc.) that predict the likelihood of impaired driving, especially in the context of partial automation

**Each project must clearly outline how the results can be applied by the ministry, including but not limited to recommendations for policy/program enhancements, new vehicle standards, new initiatives for public outreach and education (e.g., targeting owners of vehicles with specific new technologies), new policy outcomes (e.g., identifying specific technologies that are worthwhile becoming standard on new vehicles), etc.*

Priority 4B: IMPAIRED DRIVING – CANNABIS EDIBLES

Background: Over the past two decades, the number of published studies related to cannabis impaired driving has grown rapidly. However, human studies have focused mainly on smoked cannabis leaves, while other forms of cannabis consumption, especially edibles, have received relatively less attention. It is well-known that the psychoactive components of cannabis are absorbed and metabolized over remarkably different timescales when eaten as opposed to smoked. Moreover, ingestion leads to a different profile of cannabinoids in the blood than does smoking.

Problem Statements:

The Ministry is interested in 1) understanding the differences in the impairing effects and duration of impairment associated with cannabis edibles as compared to smoked cannabis; 2) understanding the effectiveness of current cannabis impaired driving screening/detection methods in the context of edible versus smoked cannabis; and 3) identifying practical countermeasures that may be useful in detection or deterrence of driving while impaired by cannabis edibles.

Of particular interest:

- Cannabis administration studies with human participants.
- Measurement of impairment through real (closed track) or simulated driving.
- Comparison of direct driving impairment measures with results of standard impairment detection techniques used by enforcement officers (e.g. Standardized Field Sobriety Tests, oral fluid screening devices, other approved drug screening equipment, Drug Recognition Expert Evaluations).

Appendix B

Budget

The detailed budget must include a full account of purchases and activities to be funded by the award. The budget breakdown and supporting information must be in sufficient detail to justify the items relative to the project description. Other sources of funding for the project should be indicated on the application, including in-kind contributions. The selection committee reserves the right to disallow expenditures in the budget that are not adequately justified. Partial support of a project may be recommended by the committee.

Expenditures will only be eligible for reimbursement under the RSRPP (an “Eligible Expenditure”) if it meets all of the following general criteria: (1) directly related to and necessary for the successful completion of the research; (2) specifically identified in, and made in accordance with, the budget provided to MTO as part of its application for funding under RSRPP; and (3) documented through paid invoices or original receipts, or both. No changes to the budget will be allowed without the prior written approval of MTO.

Salaries and Benefits. The number of persons in each line item should be specified along with the amount of time each individual will spend on the project (e.g., in person-days). Salaries will be in accordance with those considered appropriate by the sponsoring institution. Salaries of graduate and undergraduate students, post-doctoral fellows, research associates, overhead, technical, clerical, and secretarial staff working on the proposed project under the direction of the principal investigator(s) are eligible for inclusion. The salary of the principal investigator(s) will not be funded by this program.

Equipment. Hardware includes all equipment essential to the project that is to be purchased, including operating and maintenance costs. Hardware and software should be listed separately and broken down into two categories: purchase and rental. If equipment or supplies are to be purchased, consideration should be given first to Canadian manufacturers and suppliers. Purchases from non-Canadian manufacturers and suppliers will be acceptable if adequate justification is provided in the proposal. Equipment purchased under this program will be retained by the sponsoring institution for further research or teaching. Desktop and portable microcomputers will not usually be eligible for funding unless a sufficient argument is made in the proposal for this otherwise standard equipment.

Other Costs. These expenses include costs for computing, administration, travel, and accommodation, consulting costs, overhead, supplies and services, and contingency costs. The method for calculating the value for overhead costs must be stated in the budget and must be congruent with that of the sponsoring institution. Overhead costs may not exceed 15% of the total requested budget. Funds may be requested for travel that is essential for the collection of data, for fieldwork, or for the presentation of papers resulting from the project. Travel to centres performing similar work to obtain first-hand information essential to the project will be considered. Travel and accommodation costs should be in accordance with the sponsoring institution's internal guidelines. Supplies and services include expendable materials, telephone, postage, printing, photocopying, and the like. Requests for common office items are not eligible for inclusion.