

Road Safety Audit Guidelines, City of Kamloops

Draft

Prepared by Geoffrey Ho, P.Eng.
December 2001

<u>Contents</u>	<u>Page</u>
1. Kamloops Safer City Initiative	Page 1
2. The Purpose of the Guidelines	Page 1
3. Road Safety Audit Objectives	Page 1
4. Road Safety Audit Process	Page 2
5. Resource Implications	Page 2
6. Legal Issues	Page 3
7. Road Safety Audit Procedures	Page 4

1. City of Kamloops Safer City Initiative

In year 2001, the City of Kamloops (City) in association with the Insurance Corporation of British Columbia (ICBC) launched the Safer City Initiative to demonstrate the City's desire in improving traffic and road safety, and to pilot a holistic approach to tackling road safety issues. The objective of the initiative is to produce a significant improvement in road safety through the implementation of a series of measures through engineering, planning, enforcement and education.

One of the primary mechanism of the engineering component to enhance road safety in the City will be the implementation of road safety audit. The Safer City Initiative states that the City will undertake road safety audits and these Guidelines describe the background and procedure to road safety audit within the City.

2. The Purpose of the Guidelines

The purpose of these Guidelines is to describe the subject of road safety audit and to introduce a set of formal procedures for carrying out road safety audits in the City. A set of formal procedures is described as part of this document.

These Guidelines generally follows the road safety audit process and procedures described in the Canadian Road Safety Audit Guide, published by the Transportation Association of Canada (TAC), unless otherwise specified, and should be updated as practice develops.

The Guidelines are solely intended for the use of staff and consultants working on projects within the City only.

3. Road Safety Audit Objectives

The traditional approach to road safety engineering requires the identification of high-risk locations from collision data. Projects are designed specifically to reduce the collisions occurring at a site, on a corridor, or throughout an area.

A complementary approach to the traditional approach is collision prevention. With new roads or improvements to existing roads, collision occurrence on the roads can be reduced by adopting a system of "safety checking" during the design process. This system is the road safety audit and is described in more detail in Section 4.

A road safety audit is a process for systematically checking the safety of road transportation projects, based on sound road safety engineering principles and undertaken from the road users' perspectives. A road safety audit is an input to the design process that provides an independent assessment of the safety performance of a road transportation project at predetermined intervals by road safety specialists. A road safety audit is defined in the TAC Canadian Road Safety Audit Guide as follows:

A road safety audit is a formal and independent safety performance review of a road transportation project by an experienced team of safety specialists, addressing the safety for all road users.

The objectives of a road safety audit are to:

- minimize the frequency and severity of preventable collisions;
- consider the safety of all road users, including vulnerable road users;
- ensure that collision mitigation measures that may eliminate or reduce the identified safety problems are considered fully; and to,
- minimize potentially negative safety impacts outside the project limits, i.e. to avoid introducing collisions elsewhere along the route or on the network.

4. Road Safety Audit Process

The road safety audit process for the City should follow the procedures set out in the TAC Canadian Road Safety Audit Guide.

5. Legal Issues

It is important that a clear procedure for managing and organizing road safety audit is established, and that the practice of undertaking and reporting road safety audit is clearly specified, and that the actions are fully and consistently documented.

As suggested in the TAC Canadian Road Safety Audit Guide, the City should seek its own legal advice concerning liability issues with respect to road safety audits.

In undertaking road safety audits for the City, parties involved should:

- ensure that the terms of reference for each road safety audit are clear;
- establish exactly what information has been received by the road safety audit Team and subsequently used as information to assist with the road safety audit;
- in writing road safety audit reports at the detailed design and pre-opening stages, ensure that safety issues raised at earlier stages, which have not been addressed, are re-examined where appropriate;
- note that the pre-opening stage road safety audit is the final opportunity to examine the project from a road safety point of view before it is opened to traffic;
- ensure that road safety audit Team members are aware of their responsibilities in undertaking a road safety audit;
- ensure that staff and consultant in charge of the design and construction of the project are aware of their responsibilities in responding to a road safety audit;
- maintain the documentation of a formal set of road safety audit procedures;
- maintain a record of the full documentation for each road safety audit undertaken; and
- monitor the safety performance of newly constructed projects after they are open.

Consultants carrying out road safety audit work on behalf of the City will be expected to provide adequate professional indemnity cover for this type of work.

6. Resource Implications

The adoption of these Guidelines in practice has important implications in terms of staff resources for the City.

- In order to ascertain and monitor the safety performance of the road infrastructure, the existing collision data systems should continue to be reviewed and updated. The implication is that an ongoing staff commitment should be made to maintain and operate a collision data system.
- The City should train selected staff (both engineering and planning) in an awareness of road safety audit to administer road safety audits, or to react to road safety audits carried out on their projects.
- The City should only consider contracting out road safety audit work to specialist consulting firms who can demonstrate expertise in this area.

- The City should require developers to submit projects together with an independent road safety audit, again carried out by an organisation able to demonstrate competence in this area.
- The City should acknowledge the responsibility for managing the road safety audit process, including the requirement to monitor the quality and consistency of road safety audit reports.

7. Road Safety Audit Procedures for City of Kamloops

7.0 Introduction

This section is set out to provide a clear series of road safety audit procedures for the City. It is recommended that the City obtain endorsement of the road safety audit process from Council and the Traffic Advisory Committee. The endorsements will be to facilitate the introduction of road safety audit procedures in the City, and to recommend staff suitable to manage road safety audits for the City. It is recommended that the Planning Department should be familiar with the road safety audit process.

The road safety audit procedures contain information on:

- Scope
- When to conduct road safety audits
- Road safety audit Team
- Road safety audit Report and the Response Report
- Road safety audit and the Development Process

These Guidelines for road safety audits refer to the City Engineer as the final decision-maker or arbiter for engineering projects. It is understood that the legal responsibility for roads transportation projects rests with the City Engineer. The engineering department should therefore carry ultimate responsibility for the road safety audit process.

7.1 Scope

The primary purpose of road safety audit is to identify potential road safety hazards within the design. Road safety audit should not consider structural safety. Road safety audit should consider only those matters which have an adverse effect on road safety. Road safety audit is not a check of compliance with design standards or domains.

Road safety audit should consider road safety under all operating conditions.

Suggestions for dealing with identified road safety hazards should make allowance for the fact that strategic decisions on route choice and intersection type reflect a balance of factors including safety. Suggestions requiring major changes in these areas are therefore unlikely to be acceptable, particularly after the preliminary design stage of the road safety audit process.

These Procedures apply to all engineering projects implemented on City roads, except the following:

- **Rehabilitation Projects:** Where the main component of the work involves milling and repaving. For collector and arterial roads, it may be beneficial to conduct road safety audits to remove or relocate potentially hazards or to provide road users with advanced warning through signing and/or pavement markings. The decision on whether a road safety audit should be conducted can be supported or rejected through a review of the safety performance of the roadway using historical collision data. In this situation the decision to audit a project is the responsibility of the Transportation Engineering Manager.
- **New Road Construction and Upgrade Projects:** Where the total cost of road works on the entire project is less than \$100,000. In this situation the decision to audit a project is the responsibility of the Transportation Engineering Manager.

These Procedures should also be applied to projects planned and designed by outside organisations on behalf of the City (such as the Ministry of Transportation). Such outside organisations should be able to demonstrate that they have adopted relevant parts of these Procedures, and that they are using specialist sub-contractors, or if this is not appropriate that their staff are completely independent of the project design and experienced in undertaking road safety audits.

These Procedures do not cover road maintenance or temporary road projects unless a specific requirement to carry out a road safety audit has been specified in the project brief or contract.

These Procedures apply to arrangements between developers and the “Development Approval Section” of the Planning Department regarding road safety auditing of the roads and traffic elements of major development proposals.

These revised Procedures apply to all new projects with effect from XXXXXX, 2002.

7.2 When to conduct Road Safety Audits

Road transportation projects should be subject to road safety audit at the following stages as described in the TAC [Canadian Road Safety Audit Guide](#):

- Planning Stage
- Preliminary Design Stage
- Detailed Design Stage
- Pre-opening Stage

For development-led projects the requirement for a planning stage road safety audit should be determined by the City in accordance with Section 7.5 of these Procedures.

The road safety audits for the preliminary and detailed design stages can be combined for projects with the agreement of the Transportation Engineering Manager.

Pre-opening stage road safety audits can be carried out in two parts for major projects. These are 1) prior to completion and 2) immediate post-opening, in both daytime and darkness conditions. For minor projects, pre-opening stage road safety audits should be carried out at either pre-opening or immediate post-opening. A major project is defined where the total cost of road works on the entire project is greater than \$500,000. In addition, such a project can be defined at the discretion of the Transportation Engineering Manager.

7.3 Road Safety Audit Team

For road safety audit team requirements, refer to the TAC [Canadian Road Safety Audit Guide](#). In addition, the following specific requirements apply.

For all projects requiring road safety audits, the road safety audit should be carried out by specialist sub-consultants. The road safety audit team should be retained by the design consultant. It will be necessary for the design consultant to demonstrate that the road safety audit has been carried out in accordance with these Procedures. In particular they should demonstrate that the entire road safety audit team is completely independent from the design team, and is comprised of members with appropriate road safety training and experience, and relevant road safety audit experience.

The City should maintain a database of desirable road safety auditors that meets the TAC Guide's suggestions on the composition, skills and experience of road safety audit teams.

7.4 Road Safety Audit Report and the Response Report

A. Road Safety Audit Report

The road safety audit report should follow the procedures described in the TAC Canadian Road Safety Audit Guide. In addition, the following specific requirements apply:

- The design consultant is responsible for obtaining a road safety audit report from the audit team. A copy of the road safety audit report should be made available to the City.
- The timeline for producing the road safety audit report should be agreed between the City, the design consultant and the road safety audit team. A timescale of 10 to 20 working days is considered appropriate.

B. Response Report

The response report should follow the procedures described in the TAC Canadian Road Safety Audit Guide. In addition, the following specific requirements apply:

- Where all of the road safety audit suggestions are accepted in full, changes should be made to the project and documented.
- In those circumstances where audit suggestions are rejected, a response report should be prepared by the design consultant in consultation with the City explaining why road safety audit suggestions are not to be implemented.
- The design consultant is responsible for ensuring that a copy of the road safety audit report, together with a copy of the response report, is available to the City.

7.5 Road Safety Audit and the Development Process

Developers submitting projects for development approval are required to complete the Road safety audit process discussed in this section.

With respect to applications for development permits, the criteria to be used in deciding if a road safety audit is required in respect of a new development is summarized in Table 1. Any development project meeting one or more of these criteria shall be submitted to the road safety audit process.

Road safety audits are not required by the City for projects not meeting the criteria in Table 1.

**TABLE 1: CRITERIA FOR DETERMINING WHEN
A DEVELOPMENT REQUIRES A ROAD SAFETY AUDIT**

- where there is a new access to the City’s existing arterial or collector road network as a result of the development other than single family residential development.
- where there is a change in intersection traffic control as a result of the development, eg a two-way stop to a traffic signal;
- for those developments where a Traffic Impact Assessment is required;
- where there is a change to pedestrian and/or bicycle routes as a result of the development, i.e. an increase in pedestrian or cycle flows by at least 5%, but a minimum of 50 per hour;
- for those developments where there is a significant change in modal split, eg an increase in commercial vehicles by 20%;
- for those developments where there is special consideration to road safety matters, where the development traffic could substantially affect a road with a sensitive existing land use type, eg a school, or hospital;
- where otherwise deemed necessary by the City in the interests of road safety.

The developer is responsible for appointing a suitably experienced road safety audit team recognized by the City to undertake this work on developer-led projects, and the developer is responsible for the costs of the road safety audit. For development-led projects that requires Traffic Impact Assessment, the traffic consultants conducting the Traffic Impact Assessment are not considered to be independent of the project.

The road safety audit report, together with the developer’s response report, should be submitted as part of the planning application for the development. The City will reserve the right to agree or disagree with the developer’s responses to the road safety audit, and can request changes to the design to the satisfaction of the City based on road safety grounds.

If the developer fails to follow the road safety audit Procedures, the City will request a road safety audit as part of its “Additional Information” requirement. Continued failure to follow the road safety audit procedures can result in refusal of development on road safety grounds.

The City will process the development application in one of three ways. First, development permission may be refused on road safety (or other) grounds. Standard road safety grounds for refusal are set out in Table 2. Second, development permission may be granted, subject to special conditions being applied on road safety grounds. And third, development approval may be granted without any special conditions being applied on road safety grounds.

In all cases where development permission is granted for developments that have been subject to the initial road safety audit process, the project will proceed subject to standard conditions as summarized in Table 2 to ensure that road safety audits are carried out at subsequent stages of the project development as described in the TAC Canadian Road Safety Audit Guide and summarized in Table 3.

TABLE 2: STANDARD ROAD SAFETY GROUNDS FOR REFUSAL, AND STANDARD CONDITIONS FOR ACCEPTANCE OF DEVELOPMENT PROPOSALS

Standard grounds for refusal

- The development is not permitted because the developer has failed to comply with the road safety audit process requirements of the City.

or

- The development is not permitted because following the adherence of the road safety audit process, fundamental road safety issues remain. These issues have not been resolved, and it is therefore considered that were the development to go ahead in its present form it would pose a significant traffic and/or safety hazard to road users.

Standard conditions of acceptance

- The development shall not commence until the road safety audit process has been carried out by the developer in accordance with the City’s road safety audit procedures;

and/or

- The development shall not open for the approved use intended by the developer until the road safety audit process has been complied with by the developer in accordance with the City’s road safety audit procedures;

and/or

- The agreed suggestions from the road safety audit process must be completed by the developer to the satisfaction of the City, as the roads authority, before the public road hereby permitted is taken into charge by the City.

Development Size	Preliminary Design	Detailed Design	Pre-opening
Major	Required	Required	Required
Minor	Combined, Required		Optional

A major project is defined where the total cost of road works on the entire project is greater than \$500,000. In addition, such a project can be defined at the discretion of the Transportation Engineering Manager.

Once development permission has been granted, the developer should follow the procedure outlined in these Guidelines.

For those projects due to be designed and constructed by the City, road safety audits should be carried out in accordance with the procedures detailed within this document. The developer will be expected to pay the City for the provision of road safety audits through development cost charges.

For those projects designed and constructed by the developer, the developer should appoint a suitably experienced road safety audit team as detailed in section 7.3. The Audit Team should carry out road safety audits at the appropriate stages as determined by the Transportation Engineering Manager. The developer should submit a response report at each stage.

The project will be taken into charge by the City when each of the road safety issues raised during the road safety audit process have been satisfactorily addressed.

At all stages of road safety audit, the response report should clearly state which (if any) of the road safety audit report suggestions have not been adopted, and provide reasons why suggestions have not been adopted. The Response Report should also provide details of alternative proposals to road safety audit suggestions where appropriate. The road safety audit report and the response report, should be submitted to the City at each stage of the road safety audit process.