



PROGRAM UPDATE

Transportation Association of Canada

Association des transports du Canada

April 1994

NATIONAL ROADWAY STANDARDS AND GUIDELINES PROGRAM

The Transportation Association of Canada has a long history as a national focus for highway transportation, and for nearly 80 years has served as the primary Canadian forum for highway engineering practitioners to exchange experience, work collaboratively on research projects, and to develop national roadway standards and guidelines.

Prior to 1970, the development of standards and guidelines for the then Canadian Good Roads Association were prepared through all volunteer efforts where agency staff were assigned to an activity for extended periods. In the 1970s the Roads and Transportation Association of Canada manuals and revisions were conducted by consultants working under the direction of volunteer steering and standing committees.

In 1991 the Chief Engineers' Committee was formed. The Committee reports to the Council of Deputy Ministers Responsible for Transportation and Highway Safety and is responsible for approving all projects which involve the development of national roadway standards and guidelines. These standards and guidelines, which are generally prepared by standing committees of TAC's Infrastructure Council, are reviewed and if appropriate endorsed by the Chief Engineers prior to being passed to the Council of Deputy Ministers and the TAC Board of Directors for approval and publication.

This update has been prepared as a means of informing TAC members and the Canadian transportation community as a whole of the progress made in the area of roadway standards and guidelines since the formation of the Chief Engineers' Committee and the initiation of TAC's Roadway Standards and Guidelines Program.

CHIEF ENGINEERS' COMMITTEE OF THE COUNCIL OF DEPUTY MINISTERS

Committee Composition

The Committee contains 23 voting members and includes representatives from the federal, provincial and territorial departments of transportation and ten of Canada's larger municipalities.

Committee Responsibility and Role

- The Committee has overall responsibility for the program of development of standards and guidelines for roadway design and operation within TAC.
- The Committee shall also recommend an appropriate level of funding for the program of standards and

guidelines updating, revision and development; and shall approve priorities for the use of these funds.

- The Committee may also identify additional funding sources and identify additional areas for standards and guidelines development.
- The Committee must approve all projects leading to the development of national standards and guidelines, and any changes proposed to the scope or content of work in progress.
- The Committee must endorse all proposed standards or guidelines prior to their being forwarded to the Council of Deputy Ministers and the TAC Board of Directors for approval and publication.

CRITERIA AND PROCEDURE USED TO ISSUE A TAC ROADWAY STANDARD OR GUIDELINE

Project Selection and Approval Requirements

Projects proposed for the program are prioritized in accordance with:

- Safety for all types of road users and consistency for users.
- Efficiency and effectiveness in the design, construction and maintenance of the roadway system.
- Ensuring national availability of appropriate guidelines and manuals particularly to those agencies who would otherwise be unable independently to develop and adopt such guidelines and manuals.
- Optimizing the opportunities for cost-effective joint development of common guidelines.

TYPICAL PROCEDURES USED TO PREPARE A ROADWAY STANDARD OR GUIDELINE

Standard or Guideline Prepared by
Consultant Team and/or Project Steering Committee
**Funds Provided by the
Chief Engineers' Committee**



Standing Committee Review
Addressed at Standing Committee Meetings



Infrastructure Council Review
Addressed at Council Meetings



Chief Engineers' Committee Endorsement
Discussed at Meeting
50% Endorsement Required by Members Present
Issued as Letter Ballot
75% Endorsement Required of
Full Committee Membership
75% Response Rate Required for
Letter Ballot to be Valid



Council of Deputy Ministers Approval
Issued as Letter Ballot
75% Approval Rate Required



TAC Board of Directors
Provided for Information and Comment



TAC Publication

Project Proposal Requirements

Project proposals pertaining to roadway standards and guidelines are to be prepared such that the information noted below is provided. All projects requesting funds from the program are to submit proposals which follow this format.

In general, these proposals are prepared by standing committees of the Infrastructure Council and are reviewed by the Council prior to being forwarded to the Chief Engineers' Committee. These standing committees include: Geometric Design; National Committee on Uniform Traffic Control; Operations; Pavements; Soils and Materials; and Structures.

The following information and proposal format is to be observed:

- (i) project title;
- (ii) background information and previous work conducted;
- (iii) viable alternatives to standard or guideline proposed;
- (iv) description of the need and statement of the problem;
- (v) objective and scope of the work to be performed;
- (vi) proposed workplan or study design to develop the standard/guideline
- (vii) benefits and deliverables to be produced by the work;
- (viii) estimated cost and intended schedule for the project;
- (ix) estimated cost to prepare project documentation in French;
- (x) proposal originator or contact person and indication of their anticipated role (i.e. Project Steering Committee member, possible respondent to project's RFP or no direct involvement with project).

Project Conduct and Contracted Professional Services

In general, proposals approved are initiated under the direction of the Infrastructure Council as follows:

- Selection and formation of a Project Steering Committee.
- Preparation of Terms of Reference for the project.
- Issue of Solicitation of Letters of Interest to consultant and academic members of TAC.
- Selection of short list from letters of interest received.
- Preparation and issue of request for proposals.
- Presentation of proposals to Project Steering Committee and selection of project consultant team.
- Conduct of project.

PROGRAM CONTENTS

Guidelines Approved Since the Formation of the Program

To date, the following new guidelines have been approved by the Chief Engineers:

- Audible Pedestrian Indicators
- Reserved Lane Signing and Pavement Marking
- Advisory Note concerning Lead-Free Yellow Paint for Highway Equipment and Vehicles
- Revised Title and Introductory Sections for the Manual of Geometric Design Standards for Canadian Roads

Projects Initiated Since the Inception of the Program

Currently, in addition to the numerous initiatives being carried out on a volunteer basis by TAC's standing committees, six roadway standards and guidelines projects have been supported by the program.

PROJECT TITLE	PROJECT TEAM or CONSULTANT	EXPECTED COMPLETION DATE
Discrepancies between the Geometric Design Guide for Canadian Roads and the Manual of Uniform Traffic Control Devices for Canada	City of Winnipeg and Manitoba H&T	Report submitted January, 1994
Feasibility Study for a National Maintenance Standards Manual	DELCAN Management, New Brunswick DOT and British Columbia T&H	June, 1994
Feasibility Study on the Update of the Guide to Bridge Hydraulics	Reid Crowther and Partners Ltd. and Alberta T&U	June 1994
Urban Geometric Design Supplement	Infrastructure Systems Ltd. and DELCAN Corporation	October 1994
Update to the Pavement Design and Management Guide	Eleven member project team coordinated through the University of Waterloo	Estimated completion date: September, 1995
Update to the Manual of Uniform Traffic Control Devices for Canada	Marshall, Macklin, Monaghan	Estimated completion date: September, 1996

Program Operating Budget

Funding to carry out the projects contained in the program is provided by the Council of Deputy Ministers.

Fiscal Year (April to March)	Program Funds
1992-93	\$110,000
1993-94	\$220,000
1994-95	\$220,000
Total	\$550,000

Multi-year Program Planning

In 1993 a review of the program was conducted to determine:

- What projects are to continue in 1994-95?
- What level of funding will these projects require?
- What new projects should TAC initiate in the road-way standards and guidelines area?

- What are the estimated costs for these projects for 1995-96, 1996-97 and beyond?

The results of this review are presented below as conducted by the Chief Engineers in cooperation with the Infrastructure Council and its standing committees.

PROPOSED PROJECTS AS OF MARCH, 1994
(Projects Partially or Fully Funded are Highlighted)

Project Title Activity	Standing Committee Sponsorship and Comments	1992-93	1993-94	1994-95	1995-96	1996-97 and beyond	Total Funds
Urban Geometric Design Supplement	Geometric Design - guidelines for urban geometric design (Phase 1 costs = \$50,000) - supplement will also be available in French.	\$65,000	\$80,000				\$145,000
Feasibility Study on the Drainage Manual	Geometric Design - multi disciplinary committee needed to determine basic need for manual.				\$10,000		\$ 10,000
Turning Vehicle Templates: Selection of Design Vehicles	Geometric Design - terms of reference for project are complete.			\$40,000			\$ 40,000
Turning Vehicle Templates: Computer Model and Preparation of Templates	Geometric Design - project to be based on results from design vehicle study. - assumes software available from NRC or elsewhere with no testing required.				\$ 5,000		\$ 5,000
Update of Chapter G of the Geometric Design Guide for Canadian Roads - GDGCR (Capacity and Level of Service)	Geometric Design						NIL - printing costs only
Update of Chapter F of the GDGCR (Traffic Barriers) - General Update and Incorporation of Urban Situations	Geometric Design - subcommittee now carrying out project review and preparation of terms of reference			\$10,000	\$50,000		\$ 60,000
Sub-total		\$65,000	\$80,000	\$50,000	\$65,000	NIL	\$260,000

PROPOSED PROJECTS AS OF MARCH, 1994 (cont'd)
(Projects Partially or Fully Funded are Highlighted)

Project title Activity	Standing Committee Sponsorship and Comments	1992-93	1993-94	1994-95	1995-96	1996-97 and beyond	Total Funds
4R/3R Guidelines	Geometric Design - Alberta T&U feasibility study to be completed by the end of 1994.				\$ 20,000	\$ 20,000	\$ 40,000
Revisions to Chapter H of the GDGCR (Low Volume Roads) - Bridge Cross Section - Volume Definition - Trip Lengths	Geometric Design				\$ 15,000		\$ 15,000
Preparation of Manual or Chapter of GDGCR on HOV Lanes	Geometric Design - possibly a major undertaking					\$ 40,000 \$ 20,000	\$ 60,000
Revisions to Chapter D of the GDGCR (Railway Crossings)	Geometric Design - update almost completed by Transport Canada						NIL - printing costs only
General Updating of the GDGCR	Geometric Design - difficult to estimate actual project costs.				\$ 20,000	\$ 20,000 \$ 60,000	\$100,000
Identification of Discrepancies between GDGCR and the Manual of Uniform Traffic Control Devices for Canada - MUTCDC	National Committee on Uniform Traffic Control - NCUTC and Geometric Design - report finalized - the \$10,000 originally provided has not been used.						NIL
Update of the MUTCDC	NCUTC - Phase 1 underway. - Update will also be available in French.		\$ 25,000	\$100,000	\$ 95,000		\$220,000
Guide for the Design of Roadway Lighting	NCUTC				\$ 25,000	\$ 25,000	\$ 50,000
Pedestrian Crosswalk Guide	NCUTC						NIL -printing costs only
Sign Letter Size	NCUTC			\$ 5,000			\$ 5,000
Blankout and Variable Message Signs	NCUTC			\$ 10,000			\$ 10,000
Update of Sign Pattern Manual	NCUTC				\$ 10,000		\$ 10,000
Reprint of the Model Rules of the Road	NCUTC - final revisions to document have been prepared						NIL - printing costs only
Sub-total		\$65,000	\$105,000	\$165,000	\$250,000	\$185,000	\$770,000

PROPOSED PROJECTS AS OF MARCH, 1994 (cont'd)
(Projects Partially or Fully Funded are Highlighted)

Project title Activity	Standing Committee Sponsorship and Comments	1992-93	1993-94	1994-95	1995-96	1996-97 and beyond	Total Funds
Bicycle Facilities Standards	NCUTC - complementary to Urban Geometric Design work on Bikeways			\$ 10,000			\$ 10,000
National Maintenance Manual	Operations - feasibility study to be completed by June, 1994.		\$ 10,000	\$ 40,000	\$ 70,000		\$ 120,000
Pavement Design and Management Guide	Pavements Soils and Materials - work underway to prepare the first draft of an updated guide.	\$ 40,000	\$ 75,000	\$ 85,000			\$ 200,000
Translation of the Pavement Design and Management Guide	Pavements Soils and Materials - second draft of the guide to be translated so as to incorporate comments from French users into the final document.			\$ 15,000			\$ 15,000
Critical Review of Pave- ment Design Methods	Pavements				\$ 20,000	\$ 30,000	\$ 50,000
Update to the Guide to Bridge Hydraulics	Structures - feasibility study to be completed by June, 1994.		\$ 10,000	\$ 40,000	\$ 35,000		\$ 85,000
Total Funds Required		\$105,000	\$200,000	\$355,000	\$375,000	\$215,000	\$1,250,000

This **Update** was written with input from the Chief Engineers' Committee, TAC's Infrastructure Council and its standing committees. For this assistance, TAC is grateful. It was prepared by Russ Smith, Secretary of the Chief Engineers' Committee, Secretary of the Infrastructure Council, and a member of the TAC Secretariat staff.

TAC is a national non-profit, non-partisan association of more than 550 voluntary corporate members including the federal, all provincial and territorial and many municipal governments, passenger transport services, goods carriers, contractors, manufacturers, consultants, academic and research groups, and others. Its interests cover all modes of transportation. It acts as a neutral forum for the discussion of transportation issues and concerns, and as a technical focus in the roadway transportation area. It was founded in 1914 as the *Canadian Good Roads Association*, became the *Roads and Transportation Asso-*

ciation of Canada in 1970 and the *Transportation Association of Canada* in 1990.

For more information on TAC's Roadway Standards and Guidelines Program contact:

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For information about TAC, the benefits of membership and membership application forms contact:

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