

ASSIGNING SERVICE FUNCTION AND TRAFFIC CHARACTERISTICS TO COLLECTOR ROADS: GUIDANCE PROVIDED BY TRANSPORTATION ASSOCIATION OF CANADA PUBLICATIONS

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BACKGROUND

The Transportation Association of Canada (TAC) is a non-regulatory and non-profit national technical association with corporate membership drawn from all levels of governments, private sector companies, educational institutions and other associations. TAC provides a forum to build knowledge and pool resources to address issues of road and highway infrastructure and urban transportation. The suggestions and recommendations contained in TAC publications represent the outcome of collaborative processes involving TAC member organizations across Canada and are considered to represent good practice. These suggestions and recommendations may inform policy but are not meant to set policy, and are never meant to supersede local laws, design requirements or the engineering judgement of practitioners.

TAC has published two Guides that provide suggestions and recommendations on the assignment of appropriate service function and traffic characteristics to collector roads. The two guides are: (1) Guide is the Geometric Design Guide for Canadian Roads (GDG, 2017) and (2) Canadian Guide to Traffic Calming (CGTC, 2018). The GDG, as the title implies, deals primarily with the design of roads – selection of features, dimensions and materials. The CGTC provides information and guidance for reactive operational retrofits intended to restore a road to its intended service function and traffic characteristics and for a proactive approach for new/reconstructed roadways.

As noted in the GDG *“The first step in any road planning, design, or administration study, is to designate each facility as freeway, expressway, arterial, collector local road, or lane. To identify the classification to which any road belongs, the service function and traffic characteristics should be considered”*. The GDG distinguishes between two possible service functions for roads. These are (1) land access and (2) traffic movement. There are similarly two alternative traffic functions: (1) convey locally-generated traffic and (2) convey through traffic.

The CDG has a short (two page) discussion of classification of roads to provide suggestions and recommendations for assigning a classification to a road. The Classification section of the GDG

deals more completely with service function and less completely with traffic characteristics. The CGTC references the GDG as the primary source of information on road classification systems. The CGTC provides specific suggestions and recommendations for traffic characteristics for roads classified as local or collector roads.

TAC RECOMMENDATIONS FOR SERVICE FUNCTION FOR COLLECTOR ROADS

The Glossary definition for Collector Road in the GDG defines the service function for a Collector Road as: *“A road on which traffic movement and access have similar importance”*. This recommendation is repeated in GDG Table 2.6.5, Characteristics of Urban Roads. The entry in the table for traffic service function for Collectors is *“traffic movement and access of equal importance”*.

The traffic service function of a collector road is described in the CGTC Section 1.4.1 as follows *“For collector streets access to adjacent properties is balanced by the need to collect and distribute traffic travelling into or out of an area or neighbourhood”*.

The TAC recommendation for traffic function for a collector road as expressed in both the GDG and the CGTC is to provide for both access to adjacent properties and the movement of locally-generated traffic, with equal importance attached to each function.

TAC RECOMMENDATIONS FOR TRAFFIC CHARACTERISTICS FOR COLLECTOR ROADS

While the Glossary definition for Freeway, Expressway and Arterial Roads in the DGD contains the specification that the traffic characteristic of these three classes of roads is *“for through traffic”* or *“a road primarily for through traffic”* the Glossary definition for Collector Road provides no guidance for traffic characteristic. The definition only specifies service function. Table 2.6.5 does not have a traffic characteristic specification for any class of roads.

Figure 2.6.1 of the GDG, which shows the variation of proportion between access function and movement function for the seven classes of roads in the GDG Classification System, has an overlay of traffic characteristics. The overlay identifies the traffic function of cul de sac/lanes as *“no through traffic”*. The adjacent classes of local roads and collectors are shown in the general category of increasing proportion of through traffic. This category covers all the remaining road classes including minor arterial, major arterial, expressway and freeway. All four of these classes, either primarily or exclusively, have the traffic function of conveying through traffic. Given the position of local and collector roads in the figure next to the *“no through traffic”* category and next to the minor arterial class it would be logical to assume that the traffic function of local and collector roads was intended to be *“little through traffic”* but this label does not appear on the figure.

The recommended traffic service function for collector streets given in Section 1.4.1. CGTC is as follows: *“As with local streets, collector streets are generally not intended to be through routes or to move significant amounts of traffic from one part of the road system to another”*. To compliment this recommendation for limited through traffic on collectors the Glossary for the CGTC includes a definition for through traffic as *“traffic which travels through a neighbourhood, and does not originate from, nor is destined to allocation within the neighbourhood”*. The TCGTC glossary also includes a similar definition for short-cutting traffic..

The TAC recommendation for traffic characteristic for a collector road as expressed directly in CGTC and indirectly in the GDG is that the road should function to convey locally-generated traffic and that through traffic on a collector should be limited to insignificant volumes.