



**Provincially Owned Road Naming Process &  
Civic Addressing:  
Roles & Responsibilities, Processes &  
Identification of Potential Improvement Areas**

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**Outcomes from  
Provincial Road Naming Process Workgroup**

6/23/2016



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## Introduction

A primary goal of the *Nova Scotia Civic Addressing Program* is to provide the most authoritative province wide coverage of civic address information for government in a database known as the Nova Scotia Civic Address File (NSCAF). The Program also recognizes that in order to achieve this goal, it requires strong partnerships with key stakeholders. The integrity of the NSCAF dataset is highly dependent upon these relationships, and as such a strong operational team and associated processes are in place to meet the expectations of clients in government.

There are many components that make up the NSCAF. This document provides detailed processes specific to the naming of provincially owned roads. The processes documented deal with managing data, as well as addressing decision support or administrative processes necessary in dealing with road names.

## Background

Naming of provincially owned roads can involve a number of organizations. In some instances, residents may request a name change. All stakeholders need to understand and follow set processes to ensure that the integrity of the data and public interests are being protected.

On May 6, 2013 the GeoNOVA Program office conducted a stakeholder focused *Road Naming Process Workshop*. The aim of this workshop was to have all participants provide input to and approve a single, consistent set of road naming processes. Due to the integrated nature of work from varying stakeholder communities, the workshop discussions included: database management; name reconciliation; signage; and even the handling of road name aliases.

The workshop participants included: Cape Breton Regional Municipality; Halifax Regional Municipality; Municipality of the County of Colchester; Municipality of the County of Kings; Municipality of the District of Lunenburg; representatives from the Department of Transportation and Infrastructure Renewal; Single Address Initiative; Emergency Management Office and Service Nova Scotia and Municipal Relations (NSCAF Program and Operations staff). The purpose of the meeting was to provide background and context from recent discussions regarding the road naming process and to develop an agreed upon process that allows for a shared role in the naming of provincially owned roads within the NSCAF.

Participants of the workshop identified and agreed upon several key services and processes based on different scenarios relative to provincially owned road naming activities underway throughout the province. During the deliberations it was noted that these key processes would rely upon *Department of Transportation and Infrastructure Renewal (TIR)* completing their internal *Business and Workflow Processes* specific to road signage installation, i.e., what the citizen sees on the ground becomes what they seek when using the NSCAF and/or engaging others who use NSCAF (such as EMO). It is critical that all Municipalities understand TIR's business processes for the entire road naming process.

## Purpose of the document

This document captures the agreed upon roles and responsibilities, and several key services and processes identified by workshop participants for naming provincially owned roads. It also provides inputs into the road naming process and aims to improve the overall delivery of the NSCAF.

With regards to road naming processes, this document will cover the following specific workflows:

- Roles and Responsibilities for the maintenance of provincially owned road names, as well as addressing the issues surrounding the spatial elements of the Nova Scotia Road Network
- Data management processes for provincially owned road name changes
- How to deal with road name aliases
- Processes for the identification of provincially owned road changes

With regards to the overall improvement of NSCAF delivery, the workshop also addressed the following areas (please note these same issues will be addressed specifically by GIS Operations):

- Data management of road ownership
- Managing road geometry changes for provincially owned roads

The intended audience for this document includes the broader group of stakeholders of the NSCAF which have a direct impact around provincially owned road naming practices. Future edits to this process documentation will also include or point to the TIR related business processes documentations.

## Roles and Responsibilities for the Maintenance of the Provincially Owned Road Names

When attempting to clarify the roles relative to road naming of provincially owned roads it is recognized that there is a *shared responsibility* amongst the stakeholders. Roles are defined against two components: the road name and the spatial content relative to that named entity. Therefore, for clarification purposes this process document defines roles and responsibilities of both spatial content and non-spatial attributions within the NSCAF.

The following table recognizes four groups having varying levels of responsibilities.

Organization	Roles	Responsibilities
Municipalities/ Planning Commissions	The authoritative source of municipal civic address information that is in compliance with the MGA and supported by local Civic Address By-Laws	To provide - civic address numbers; road information including names and geometry for municipal and privately owned roads (some cases provincially owned roads), road ranges; and community boundary/name information
EMO	To ensure that the needs of 911 emergency services are met and supporting regulations are in place	Promote the importance of civic addressing and road signage for the purpose of emergency service delivery. Assist the Municipalities with the challenges of delivering this information (i.e. training, funding, general direction and support)
TIR	The authoritative source for components of the Provincial Road Network in compliance with Provincial Acts and Regulations that support that role	To provide - Road names and geometry for provincially owned roads, ownership information, signage and regulations. <b>NOTE:</b> unless road naming is delegated to the Municipal Unit and follows TIR's naming process
ISD-ICTS-GIS (formerly SNSMR-GIS)	ISD-ICTS-GIS is the owner and custodian of the NSCAF database which is the single authoritative source of location based addressing for the Province	To provide – guidance, direction, documentation, SME, ensure data integrity, quality control processes , distribution methods and resources to assist in these tasks

Table 1

## Data Management Processes for Provincially Owned Road Name Changes

To ensure that the integrity of the NSCAF data and the public interests are being protected, stakeholders are encouraged to review TIR’s *Road Naming Policy and Procedures* and also their Business and Workflow Processes specific to road signage installation.

There are two workflow processes for providing data management on provincially owned road name changes to the NSCAF. One utilizes the *NSCAF Uplink Service* (see Figure 3) and the other utilizes the *NSCAF Web Editor* (See Figure 4). Both processes require the initiating stakeholder to follow TIR’s *Road Naming Policy and Procedures* (see Figure 1 and Figure 2) and allow each stakeholder to determine which service to use based on each organization’s preference.

It is important that TIR define the workflow and business process of road naming and signage installation with an identified timeline, communication strategy, and policies and procedures before stakeholders can proceed through the data management process workflow as stated in Figure 3 and Figure 4. This process needs to accommodate both big and small stakeholder communities, as resources and business needs differ amongst stakeholders. It also needs to accommodate the timeline that may be imposed by municipal bylaws for notification purposes and for municipalities to use as a baseline when they develop or review their own workflow and business processes in the future. Therefore, working closely with each stakeholder is essential for TIR when they define their business process for road naming and signage installation, and a Service Arrangement could be established by all parties once the process has been defined.

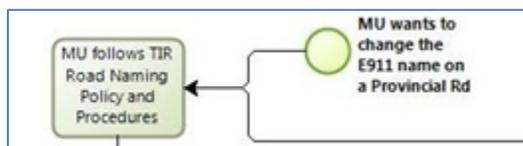


Figure 1

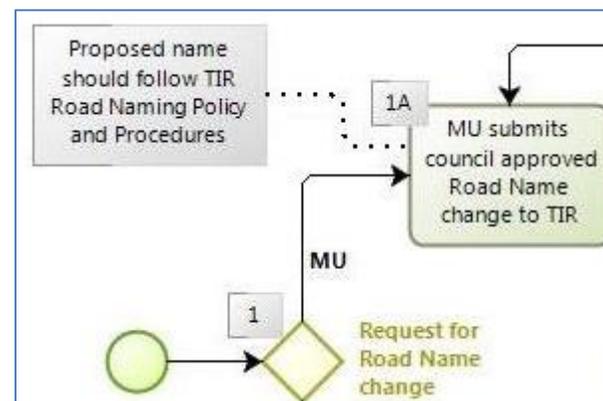


Figure 2

## Process Workflow Diagrams for Data Management Processes for Provincially Owned Road Name Change

The following diagram illustrates the utilization of the NSCAF Uplink Web Service

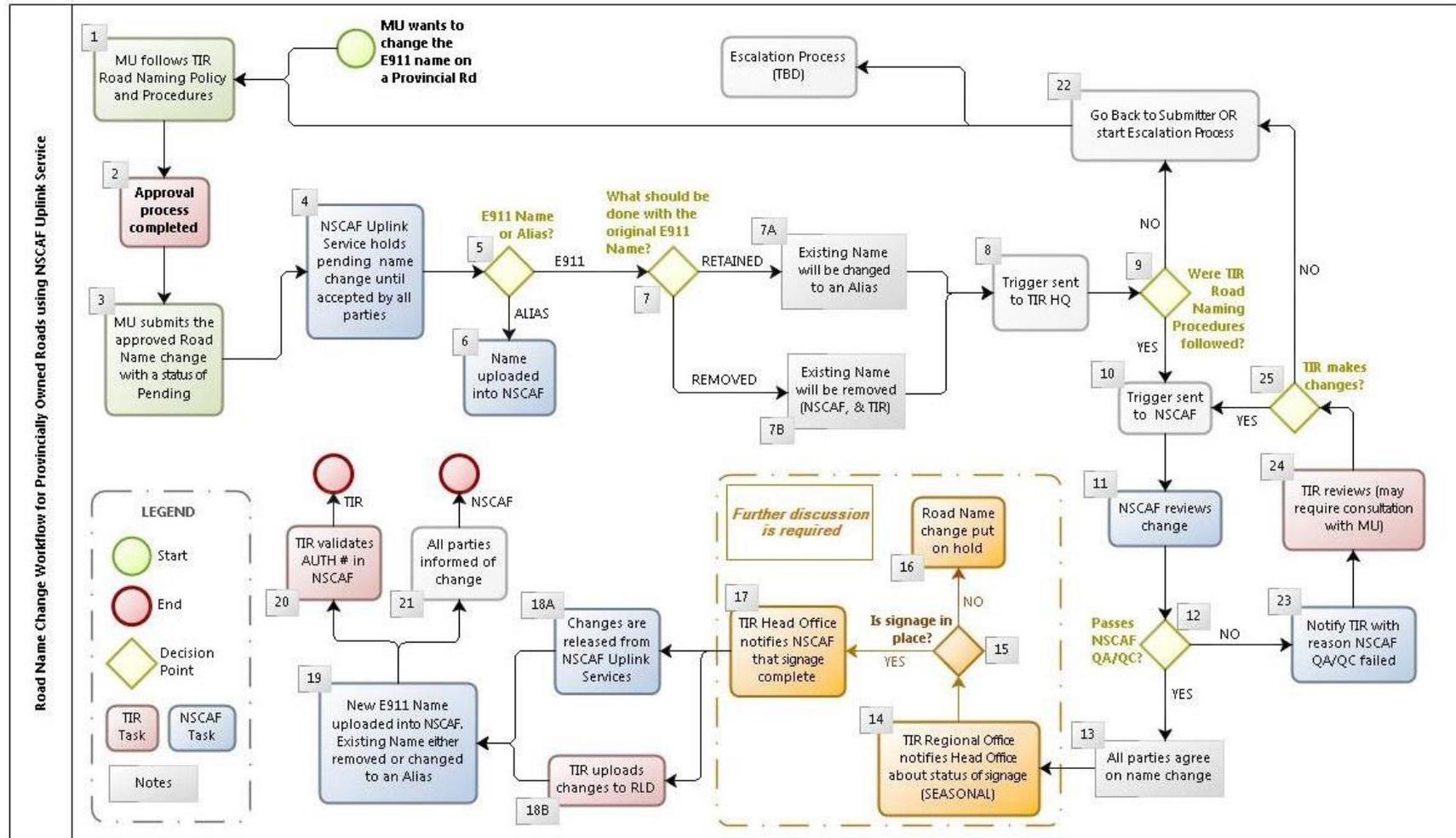


Figure 3

The following diagram illustrates the utilization of the NSCAF Web Editor

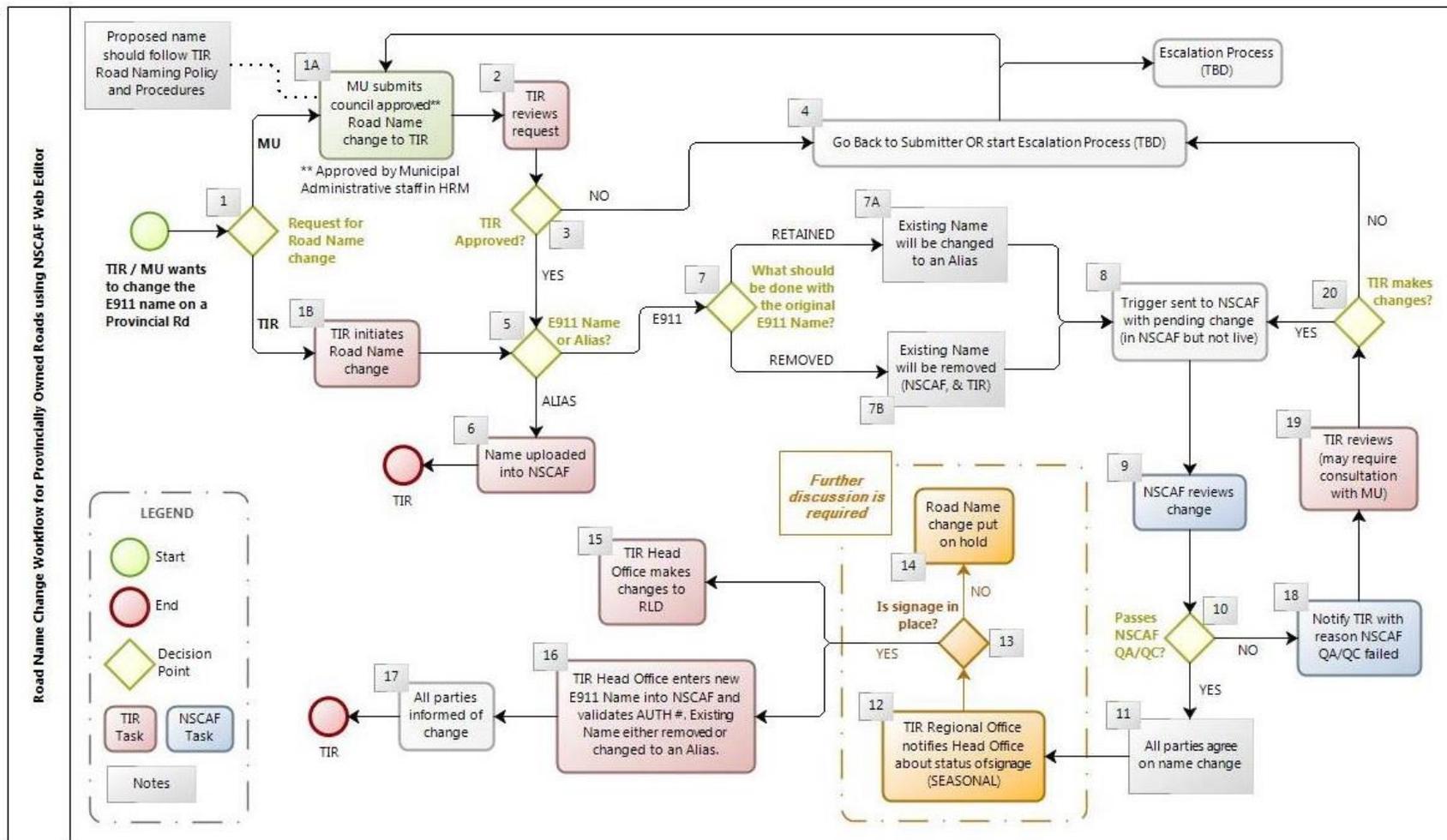


Figure 4

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## How to deal with Road Name Aliases?

EMO would like the PSAPs to be able to search former road names and historic road names along with aliases. An alias is simply an unofficial road name which is not the designated e-911 MSAG name. There is no set standard of how municipalities can or should maintain alias road names. Examples of road aliases can include former road names, historic road names, or possibly "locally-known-as" road names. The NSCAF does not currently distinguish between the different types of alias, but rather stores all names in one table with designated e911 MSAG names.

Municipalities (i.e. HRM) who maintain former names or historic names can provide the data to NSCAF. TIR also maintains an alias field in the Provincial Road listings database, which are not currently provided to the NSCAF. NSCAF notification to EMO could be updated to provide alias information. An alias field could also be incorporated into EMO's PSAP mapping application.

All stakeholders should follow best practices as outlined in NSCAF documentation available online.

## Identification of Provincially Owned Road Changes

Currently, there are several challenges in identifying newly built provincially owned roads. If NSCAF, TIR head office and municipalities have not been notified by contractors, TIR district offices, engineers, etc., the road naming process cannot move forward and road names will not be placed into each respective system.

The following points were identified as possible improvements that could allow TIR to effectively manage, identify and communicate newly built provincially owned roads to NSCAF and municipalities.

- Define a process workflow for notification of new roads constructed in the field
- Work closely with the construction manager to get more detail information on new roads constructed
- Working on bettering a process on reporting what has been constructed (e.g. Seasonal report, report in September etc...)
- Internal relationship needs to be built between head office and district offices
- Develop an asset management program to manage road classifications (e.g. under construction roads etc...)
- Working to have the notification process in a shorter timeline instead of 4 to 6 months, this includes new alignment of roads

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## Data Management: Ownership of Roads in NSCAF

In the NSCAF, there are multiple values for the “ownership” field that identify the authority responsible for providing NSCAF maintenance and access to a particular addressed road (NSCAF road segment). TIR, Municipalities, and Federal bodies (i.e. First Nations or military bases) are the 3 primary owners and source providers of new road geometry, street name, road range, and other associated attribution (e.g., municipal ID, authority number, etc.). However, ownership may not always denote source provision. For example, privately-owned road names and ranges are approved and maintained by the municipality, and private owners typically do not provide new road geometry.

The ownership field in the NSCAF also controls what editing privileges users of the NSCAF Web Editor have over that road segment. For example, a TIR user cannot edit the name of a municipally-owned road and vice-versa. Source providers provide NSCAF with road name changes by email or phone, TIR road minutes, edits in the NSCAF Web Editor, and updates in the NSCAF Uplink Service. When ownership is not definitively established, it is possible that more than one organization may attempt to provide NSCAF with road name changes for the same road geometry. NSCAF currently flags the change, seeking input and agreement from the two parties to determine the ownership. Once the ownership is established it will be updated in NSCAF and the authoritative organization will be able to make the road name change.

It is recognized that there may be other organizations who need to have their respective ownership recognized, outside of the source provision or Road Naming Process. Other roads in Nova Scotia that are not owned by the 3 authoritative sources currently include privately owned, no known ownership (i.e. Unknown), or Crown-owned roads not owned by TIR (e.g., DNR and other provincial entities). *Geographic Information Services* will consider incorporating other ownership flags/attributes within its data model on a go forward basis.

Should NSCAF develop additional ownership classes, it will need to have organizations taking appropriate responsibility to maintain its respective data.

## Process for Managing Road Geometry Changes for Provincially Owned Roads

Managing road geometry changes in the NSCAF are the responsibility of all source providers.

Geometry will be maintained using the following:

- Ownership and associated attribution is assigned as new road geometry is added
- Ownership is stored in the NSCAF attribution
- Addressed roads view of the NSRN is SEGID based, which links to NSCAF attribution (See Figure 5)
- Ownership is associated by SEGID and a change in road ownership will create a break in the NSRN. Change in owner may have no other noticeable effect on the ground, e.g., same road name, continuation of street range, surface type, etc.

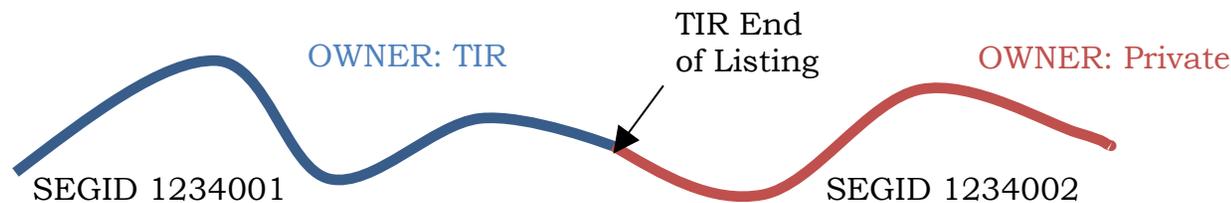


Figure 5

To ensure that the integrity of the road geometry in the NSRN is protected, all road geometry changes for provincially owned roads may require review by stakeholders of adjacent geometry, (e.g. TIR validates AUTH# and name, Municipalities verify ranges that match adjacent road segments) before *Geographic Information Services* makes any changes to the road geometry.

The following workflow processes (see Figure 6, Figure 7, and Figure 8), demonstrates the current and proposed short term and long term processes for managing road geometry changes for provincially owned roads. Ultimately, stakeholders would like to work slowly towards a more simplified and streamlined process as shown in Figure 8 for managing road geometry.

## Process Workflow Diagrams for Managing Road Geometry Changes for Provincially Owned Roads

### Current Road Geometry Changes Workflow Diagram for Provincially Owned Roads

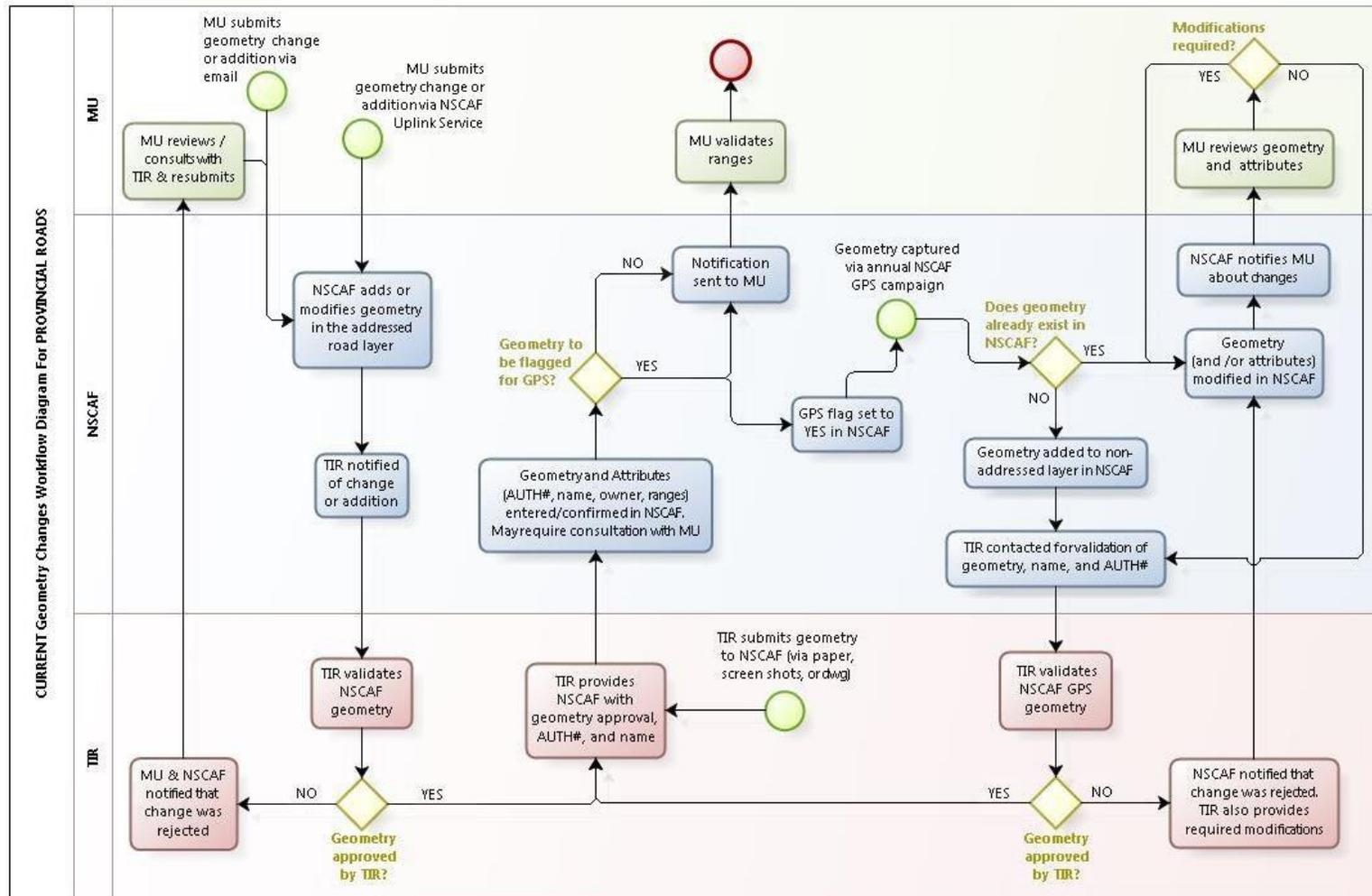


Figure 6

*Proposed Short Term Road Geometry Changes Workflow Diagram for Provincially Owned Roads*

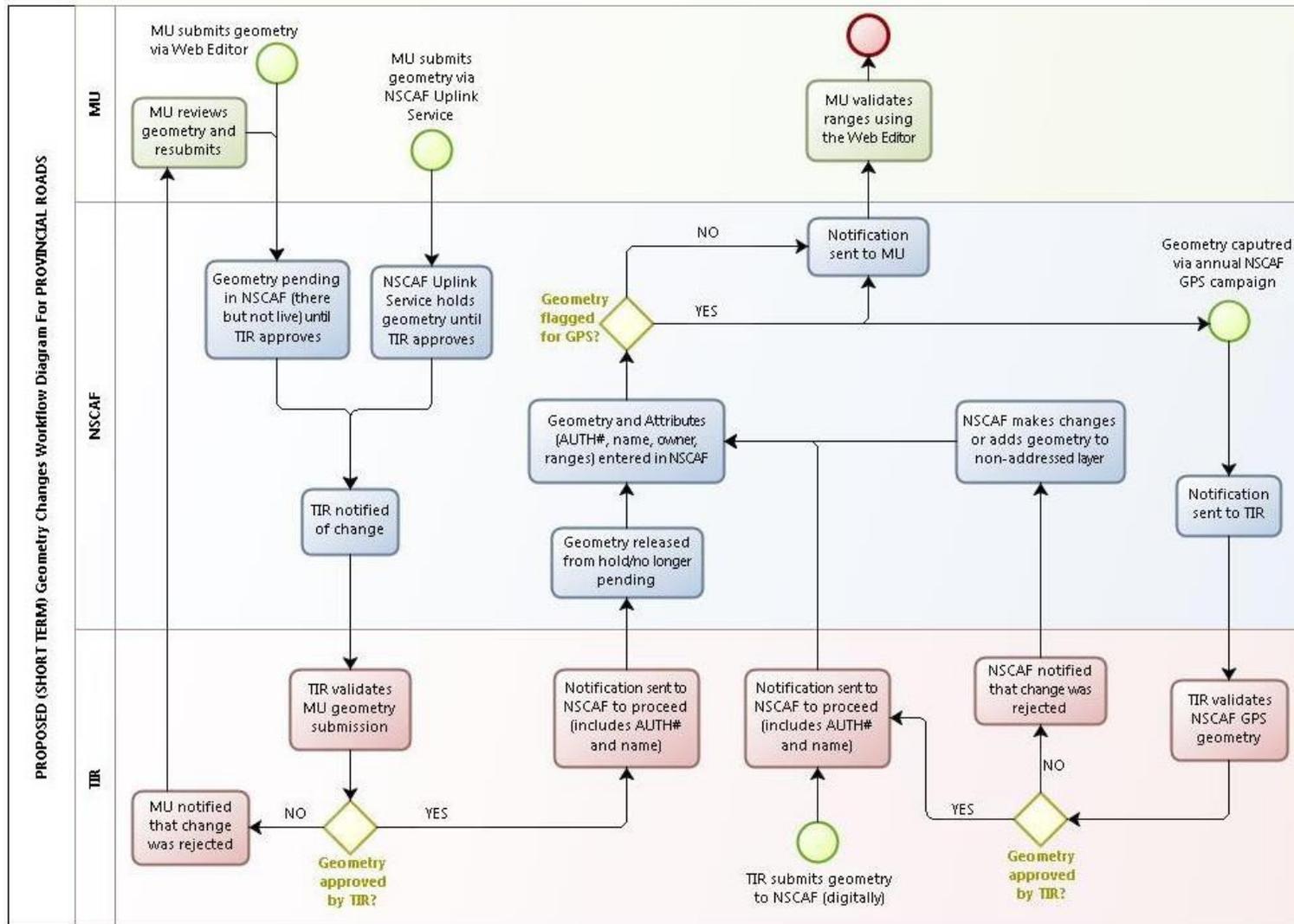


Figure 7

*Proposed Long Term Road Geometry Changes Workflow Diagram for Provincially Owned Roads*

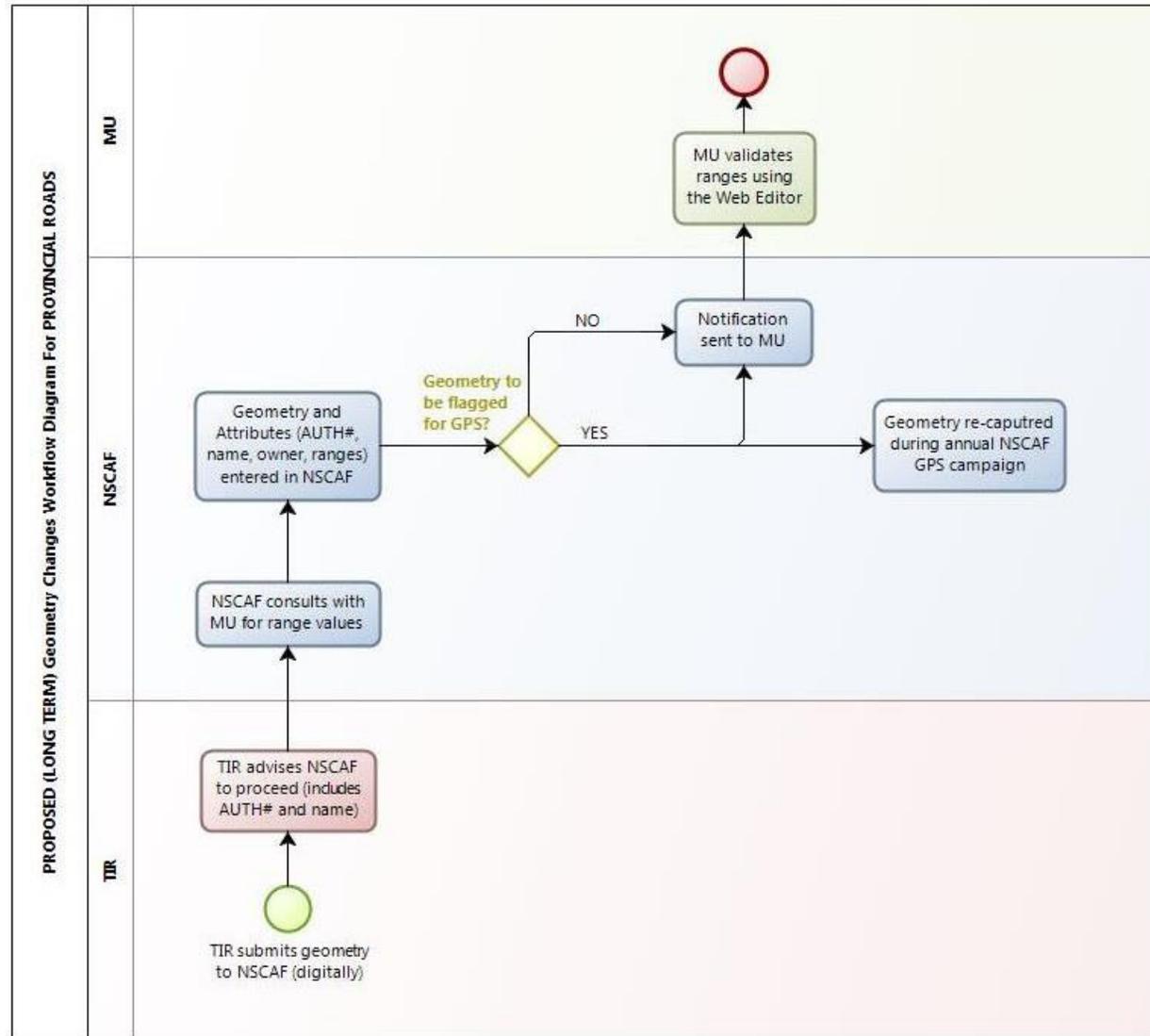


Figure 8

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## Appendix A – Dictionary of Acronyms and Terminology

**EMO** – Emergency Management Office

**MGA** – Municipal Government Act

**MSAG** – Master Street Address Guide

**NSCAF** – Nova Scotia Civic Address File

**Nova Scotia Road Network (NSRN)** - is a 3-D province-wide road centreline and attribute file that is maintained in a segmented form in using ESRI SDE layers, supplemented by linear event tables. It is accurate to 2.5 m (horizontal) and is updated continually, thus making it the definitive source for road centreline data in Nova Scotia. It is the source for the road centreline and attributes for the Nova Scotia Topographic Database (NSTDB) and the Nova Scotia Civic Address File (NSCAF). It is also used to derive NSRN V2 - the source of the geometry for the Nova Scotia contribution to the Federal National Road Network (NRN).

**PSAP** – Public Safety Answering Point

**Road Ownership** - Ownership refers to who has control over the rights of access to that road as defined by legislation or legal documentation (deed). For example, public roads are owned by the level of government that owns and controls those roads as governed by the associated legislation. Private roads are owned by the individuals **or organizations** that **own** the land. (Refer to Appendix B for a more in depth discussion road ownership as it pertains to TIR).

**SEGID** - A primary nine digit unique provincial key for each road segment that are assigned for new entities, although legacy keys (constructed by concatenating the GSA\_KEY and a sequential number) are used for older entities.

**Single Address Initiative** - The Property Innovation Council project that to identified a solution to improve collective methods for sharing accurate and timely civic and mailing addressing information between the multiple organizations, stakeholders and clients.

**SNSMR-SCS-GIS** – Service Nova Scotia and Municipal Relations, Strategy and Corporate Services Division, Geographic Information Services Section. (*\*This unit moved to ISD April 1, 2015*)

**TIR** – Department of Transportation and Infrastructure Renewal

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**ISD – ICTS – GIS** – Internal Services Department, Information, Communications & Technology Services Branch - Geographic Information Services

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## Appendix B – Road Ownership Definition Pertaining to TIR

All public roads are held by the provincial or municipal governments for public use. The roads are defined by legislation: those owned by the Provincial Government are defined by the Public Highways Act (PHA) and those owned by the local Municipal Units are defined by the Municipal Government Act (MGA). Deeds may not exist for many public roads as it would depend on how the road was created and when it was created.

The PHA defines what is or is not a provincial public road. Public roads can be currently used roads, old roads that are used but have very little to no maintenance, roads that have not been used in a 100 years or roads that were designated on surveys and reserved out for roads but never used as roads. What is used to define a road is section 11 of the PHA:

### HIGHWAY BOUNDARIES AND TITLE

Common and public highways and local highways

*11(1) Except in so far as they have been closed according to law,*

- (a) All allowances for highways made by surveyors for the Crown;*
- (b) All highways laid out for highways made by surveyors for the Crown;*
- (c) All roads on which public money has been expended for opening, or on which statute labour has been performed prior to the twenty-first day of March, 1953;*
- (d) All roads passing through Indian lands;*
- (e) All roads dedicated by the owners of the land to public use;*
- (f) Every road now open and used as a public road or highway; and*
- (g) All alterations and deviations of, and all bridges on or along any road or highway, shall be deemed to be common and public highway until the contrary is show.*

In short after March 21, 1953 (Section 11 (c)) any provincially owned road had to be accepted by the Minister to become a public road. In this case a parcel of land would be acquired by the province for the benefit of the community that the road would serve. Other already established roads, I.E. the old #4 Highway, would be roads that was established by the Province for access to granted lands. These older roads would not have a deed as the province would not deed lands to itself. Location of these roads on the

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ground would be established over time and governed by the Highways Act. Should these established roads be realigned the lands used in the new alignment should have been purchased for that purpose. In such a case the new alignment is the currently used road, but the old, now unused alignment is still a public road until closed as per the PHA.

Municipally owned roads would come under the MGA. The Municipality can establish a road as public and can close a road to public use but only through their own process as outlined by the MGA.

Abandoned roads are still considered public roads, they're just not used as public roads. For example, the access routes (which may be old, unused, and/or unmaintained) to unused lands in the highlands of Cape Breton or the back woods of the Musquodoboit Valley, would still be there only for public access. These unmaintained roads may be used by lumber companies for access to their lands, companies to established communication towers, or the general public to access their cottage lot.

TIR maintenance of a road does not signify ownership of a road as in the NSCAF. The Province will have reciprocal maintenance agreements with municipal units for roads or with private lands owners. All these provincial maintained roads should have an authority number that tracks the service provided to that road.