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RDT-overview

1 Introduction

This document is a summarized description of the RDT project (National database for traffic regulations). The goal of the document is to provide readers with a tool to help them gain an overview of the purpose, the processes, and the system surrounding the RDT.

By commission from the government, the Swedish Road Administration (SRA) has made available a specific website for traffic regulations. The system that supports and administrates the website includes a database called RDT, an acronym for “a nation-wide database for traffic regulations”. Government authorities and municipalities that decide certain traffic regulations shall publish them on the Swedish Road Administration’s website. At the publishing moment, the regulations are stored in the database. The website gives, first and foremost, the road-user access to traffic regulations via the Internet. It modernises the handling of traffic regulations, makes it easier to find regulations and improves the rule of law.

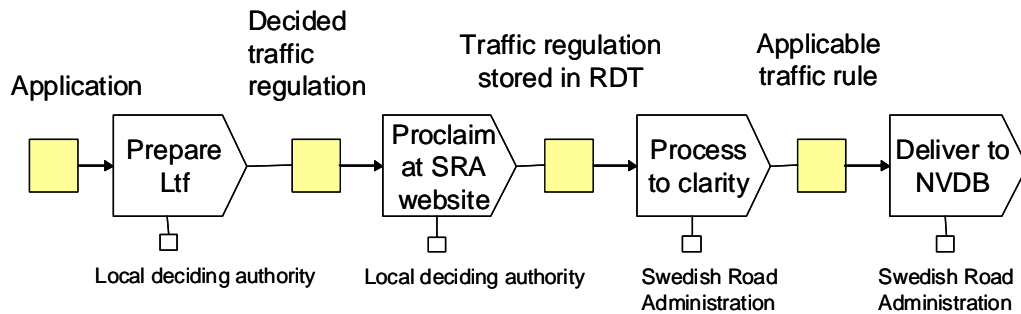
The Swedish Road Administration’s leadership has additionally decided that the RDT must also be able to accept both process-able and road-network connected information about a traffic regulation. This happens through a coupling to the NVDB (national road database). That coupling makes it possible to process data in traffic regulations so that they can be used in IT-support traffic systems, to improve driver behaviour, reduce vehicle emissions, and improve accessibility. The regulations are sent to the Swedish Road Administration and entered into the database by local municipalities, county administrative boards, the SRA, and the police.

2 The RDT project

In 2006, a project was formed to develop and introduce the RDT. The project consisted of two parts. One part worked with the formation of business processes, the organisation, and establishment of the RDT. The other part dealt with the technical development of the RDT. The scope of the RDT system, and the project work, was controlled in the highest degree by the government’s commission, as well as the SRA’s internal requirements for increasing the effective handling of information about traffic rules. The SRA’s traffic attorneys contribute to the interpretation of the judicial requirements.

3 The RDT process

The work with traffic regulations and the RDT can be generally described in the processes below. Included in those processes, are the deciding authority's preparations and decisions concerning traffic regulations as well as public notifications in the RDT.



Process steps

1. **Prepare Ltf (local traffic regulations)** – the deciding authority's handling of regulations all the way to the final decision.
2. **Proclaim at SRA website** – the deciding authority transfers the traffic regulation over to the SRA, where it is published at a web-site.
3. **Process to clarity** traffic rule for a certain section. Sometimes the traffic rules overlap each other, but some of them apply before the others. In this process step, the information is re-worded so that the result is clear and concise; a "prevailing" – an applicable – traffic rule.
4. **Deliver to the NVDB** – those prevailing traffic regulations are sent to the NVDB, the National Road Database.

Security and identification

Only the authority that decides a certain traffic regulation can transfer it to the RDT. In order to fulfil the authorisation requirements, an extensive security system has been built. Each regulation is protected from unauthorised influence. All responsible parties at the deciding authority who enter information into the database must be identified to guarantee authenticity. This is accomplished through e-legitimizing.

4 Traffic regulation – formal requirements on structure

A traffic regulation must contain the following parts:

- **Heading** – summarizes what the traffic rule means
- **Preamble** – refers to the section of statutory law that is the foundation for the decision
- **Traffic rule** – contains detailed text about classification of roads as motorways, priority roads etc or how road users shall do or may not do as well as where and when the rules apply
- **Takes effect** – specifies when the regulation takes effect and, if the regulation is temporary, when it ceases to apply

An example of a local traffic regulation:

0093 2002:4

Aby municipality local traffic regulation concerning prohibited traffic on Blekingegatan;

Decided July 9th, 2002

Aby municipality prescribes, with support of chapter 10, paragraph 1, part 2, point 5, and paragraph 3, part 1, traffic statute (1998:1276), the following:

Vehicles may not be driven at Blekingegatan between Utvägen and Skolgatan.

These regulations take effect September 10th, 2002.

On the local municipality's roads

Gun Gunnarsson

Karl Karlsson

5 BTR – process-able and road-network connected information

Included in the RDT is information about traffic rules that are both process-able and road-network connected, BTR. BTR stands for process-able traffic rules, which means that the traffic regulations are stored with all information broken down according to defined concepts. The concepts are defined in the SRA's IT-customised templates and when BTR-information is transferred within the RDT system, it can be interpreted automatically. The BTR information is voluntarily entered by the deciding authorities and can only be created with RDT-customised preparation systems. When BTR information is left out, the SRA will add supplementary information to it.

The law where a traffic regulation applies is coupled in general to sections represented in the national road database.

Example of a concept in the SRA's templates:

Regulation's designation → (deciding authority code, year ordered, and seq. #)

0093-2002-4

Abo kommuns local traffic regulations concerning prohibited traffic with motor-driven vehicles on Blekingegatan;

Decided **July 9, 2002.**

Abo municipality prescribes, with support from Chapter 10, paragraph 1, part 2 point 5, and paragraph 3, part 1, traffic regulation (1998:1276), the following:

Vehicles may not be driven at Blekingegatan between Utvägen and Skolgatan.

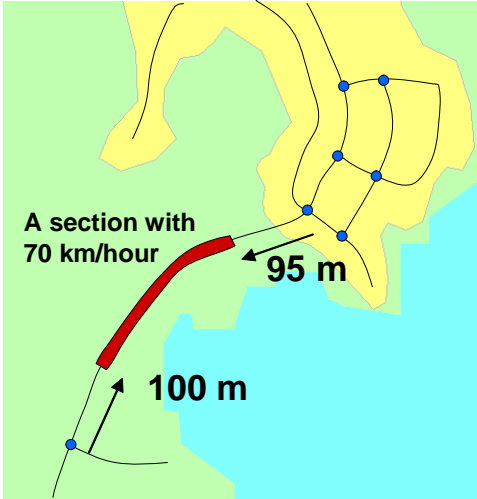
These regulations take effect **September 10, 2002.**

Gun Gunnarsson Karl Karlsson

Everything within the red boxes are examples of BTR-information.

They are stored as specific concepts that are handled by a software program.

Example of road-network connected information (that is included in BTR information):



The road network in the national road database NVDB consists of

- **Nodes – the blue dots**
- **Links – logical connections between nodes**

Links are represented by a geometry (the black line). A road network connected traffic regulation has a position on one or more links. The given distance is from the nodes. The example shows a regulations placement on a link.

6 Categories in the RDT database

The RDT database stores mainly the following types of information about each traffic regulation:

1. **Statutory document**, in a format that the National Archives has specified for long-term storage of documents.
2. **Register information**, a few chose key concepts.
3. **BTR information**, processable and road-network connected information, that is to say, traffic rules that have been connected to the national road network in the NVDB (National Road Database).

7 Positional reporting

Is must be easy to determine from the regulation *where* it applies. The position is specified partially in the **statutory text**, partially in the **road-network connection form**. This makes it possible to interpret the position by machine. Coordinates can be gathered in when the position is measured at the time a specific traffic rule applies, but they are used only as supporting information during connection to the road network.

Accuracy in positional reporting

There are no specific requirements for positional accuracy when one writes traffic regulations. The deciding authority must judge what is required to make the traffic rule unambiguous. Sometimes, it is enough to describe the position with a street name, sometimes is requires a more precise positional report. Two examples illustrate this:

- Långgatan is now a pedestrian street.
- On Långgatan, 20 – 35 metres north of the intersection with Kortgatan, vehicles are prohibited from standing and parking..

8 Templates for statutory text and road-network connection

The SRA has created templates for statutory instruments that are traffic regulations. The templates are basically a proposal for a way to write traffic regulations. At the same time the templates work as a framework for BTR information which makes it possible to mechanically translate traffic regulations. The templates even contain rules for how traffic rules are connected to the road network, or are connected to an area.

9 Quality

The management of traffic regulations is controlled by legal provisions, statutes, and regulations. These rules express the formal requirements that exist regarding the management of traffic regulations and their contents.

However, legal provisions do not concern the work-process from a qualitative perspective other than at a very high level. To maintain a quality-controlled work-process, the deciding authority is required to follow fundamental concepts for:

- governance
- internal control
- follow-up
- continual improvements

10 RDT – technical solution

The technical solution for the RDT involves supplying traffic regulations as a document that is published on the Internet. The regulation can also be received from a system, which has been customised to deliver information directly to the RDT. The information supplied in this manner is interpreted automatically.

Data catalogue

RDT contains a data catalogue that describes the formulation of concepts in the statutory text. The data catalogue has two purposes:

- To constitute a template for statutory text when regulations are designed with IT-support
- To be an instrument of control for the BTR information delivered to the RDT.

BTR – contents

The BTR information is stored in a hierarchical structure. The information makes it possible for users to have access to automatically process-able traffic rules.

RDT XML-format specification

An XML-format is used to transfer information into, and out of, the RDT. This format is based on the Swedish standard for information about roads.