# DIGIROAD

Description of data objects 1/2025

Picture: Finnish Transport Infrastructure Agency
E-publication (pdf) ([www.vayla.fi/digiroad](www.vayla.fi/digiroad))

- Latest:
  [https://ava.vaylapilvi.fi/ava/Tie/Digiroad/Aineistojulkaisut/latest/Julkaisu-dokumentit](https://ava.vaylapilvi.fi/ava/Tie/Digiroad/Aineistojulkaisut/latest/Julkaisu-dokumentit)
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# 1    Digiroad

Digiroad is a national database that contains the geometry of the Finnish road and street network featured with the most important road attribute data.

This document provides a detailed description on the Digiroad data features. More info on Digiroad can be found at our website:

https://vayla.fi/en/transport-network/data/digiroad

We are happy to help with all matters concerning Digiroad:

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# 2    Glossary

**Digiroad Information System**
The Digiroad information system is a national road and street database for which Finnish transport infrastructure agency is responsible, and which includes center line geometry of streets and roads and traffic attribute data.

**JHS**
Central and local government information management is governed by JHS recommendations (Public Administration Recommendation). JHS refers to a uniform method, specification or guideline issued for the use of central and local government administration. The JHS system was abolished with the entry into force of the Data Management Act (January 1, 2020), but the contents of the recommendations can still be used, bearing in mind that in some respects they are no longer up to date. Geospatial information-related JHS recommendations are available on the GeoForum website maintained by GeoForum Finland ry.

**Centre line geometry**
Digiroad centre line geometry is formed by line segments that describe the positions of centre lines of roads, streets, walking and cycling lanes and ferry connections.

**Traffic network**
Traffic network is an entity consisting of road links connected to each other with nodes. The Digiroad traffic network is topologically consistent, with the exception of certain road links, for example, on islands.

**Linear referencing**
Linear referencing is a method of indirect spatial referencing in which a position is located by a known point in a linear reference frame (a road link in Digiroad).

**Linear reference frame**
Linear reference frame is a line geometry from which position in relation to a known point on a line can be determined, for example according to a measure value like in Digiroad.

**Linearly referenced object**
Linearly referenced feature is a section in the Digiroad road network without geometry. The feature is located from the road network dynamically by measure values.

**Measure value, M value**
Measure or M value is attribute data of linear geometry that helps to define the position on a line unambiguously.

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**Attribute data**
Attribute data is an entity of identifiable, timetable and descriptive properties of a feature. Data objects themselves are attribute data for the road network. In addition, there are data object specific attribute data, such as the type of public transport stop and validity direction.

**Features of traffic system**
A feature of traffic systems is an independent part of the system. For example, a public transport stop is a feature of traffic system with its unique attribute data. The position of the feature may be saved by linear referencing, or it may have a position outside the traffic system, indicated by coordinate data.

**Point attribute data**
Point attribute data refers to attribute data that has a point as the geometric shape of its position. Point attribute data has no M value, with which it could be referenced on the road link geometry. That makes point attribute data separate from the road network. In Digiroad, point attribute data refers to a service.

**Point segment**
Point segment refers to attribute data whose indirect position is a location in the road link, i.e. a measure. The geometric shape, formed by linear referencing of the attribute data, is a point.

**Segment**
In Digiroad, a segment refers to road link attribute data that has no geometry of its own. A segment is dynamically located in the road link with M values. There are point and line segments.

**Position**
In Digiroad, position refers to feature attribute data given by coordinates.

**Road link**
A linear data object describing the traffic network geometry.

**Road link attribute data**
Road link attribute data refers to attribute data describing a road link across its entire length. Road link attribute data includes data such as functional class, direction of traffic flow and Link-ID.

**Data object**
Data object refers to traffic network attribute data such as a speed limit or a public transport stop.

**Line segment**
Line segment refers to attribute data whose indirect position is the distance between two measures on a road link. Line is the geometric shape formed by linear referencing of attribute data.

# 3   General information on Digiroad

Digiroad is a national road and street information system which includes centre line geometry of streets and roads, traffic attribute data and the features of the traffic system.

Centre line geometry includes vehicle accessible roads, ferry and cable ferry connections for vehicles, and separate pedestrian and cycle lanes.

Traffic attribute data refer to data such as speed limits, permitted traffic flow directions as well as weight and height limits.

Digiroad data can be applied to e.g. services, analyzes and applications related to traffic and navigation.

This document describes the structure and data objects of Digiroad. In this description, data objects have been divided into attribute data of road links, point attribute data, and linear attribute data.

| Name and identifiers | Digiroad, FI1000018 |
|---|---|
| References | INSPIRE Data Specification on Transport Networks (17.4.2014) <br> INSPIRE Generic Conceptual Model (18.6.2010) <br> JHS 177 Paikkatietotuotteiden määrittely (21.10.2010) |
| Information about definition | Name: Digiroad <br> Date: 23rd May 2016 <br> Author: Finnish transport infrastucture agency <br> Language: Finnish |
| Metadata | http://www.paikkatietohakemisto.fi/geonetwork/srv/fin/catalog.search;jsessionid=1656b74wyr8aj1a46qg3gievzt#/metadata/34155a94-b58b-4ad0-87e6-f96d2db0f3ba |

## 3.1 Data sources and data collection

The National Land Survey of Finland, the Finnish Transport Infrastructure Agency, municipalities, private roads road associations and a few other authorities provide source data for Digiroad. Digiroad data covers the entire Finland. Data collection is based on the Law of the data system of road and street network 28.11.2003/991. The primary data sources are specified according to the data objects in appendix 3. The Digiroad operator is responsible for harmonizing and integrating the material produced by different vendors into one country-wide material.

### 3.1.1 Data quality

For the time being, quality reports or other documents related to data quality are not published regarding Digiroad data objects.

| | |
|---|---|
| Coverage and accuracy | Digiroad data covers the entire Finland. The quarter who utilizes the data should take into account that the mainte- nance of Digiroad data objects by municipalities is varied. Therefore, the data quality in different parts of the material varies considerably. The road network data is mostly main- tained in the Finnish Transport infrastructure agency`s Tievelho. This data may also vary regionally. |
| Logical integrity | The data is conceptually and topologically sound. |
| Geometric accuracy | The geometric accuracy of the road links is approximately 3 metres. |
| Temporal accuracy | The date when the geometry has been extracted from the NLS topographic database is announced when the material is released. All features in Digiroad data have a last modi- fied date in the release. Digiroad data is maintained conti- nuously. |
| Thematic accuracy | Not known. |

## 3.2   Data structure in Digiroad

The Digiroad information system contains information on the centre line geometry of the road network as well as traffic attribute data. The centre line geometry of the Digiroad network of roads and streets consists of road links joined together with nodes. Each road link has a node at both ends. Regarding geometry, road links are linear objects whereas nodes are point objects.

### 3.2.1 Road link

A road link is the basic unit of centre line geometry. As regards their length, road links usually cover the distance between intersections, but they can also be shorter. Road links may be split between intersections if an administrative class or road link attribute data (name, surface type) changes. A more detailed description of road links can be found in the JHS188 recommendation. The length of road links is already defined in the NLS topographic database in which the road links utilized in Digiroad are maintained. Some of the data objects in Digiroad are attributed data of road links, and these attribute data always cover the length of the entire road

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link. Examples of such data objects are road name, road address, and traffic flow direction.
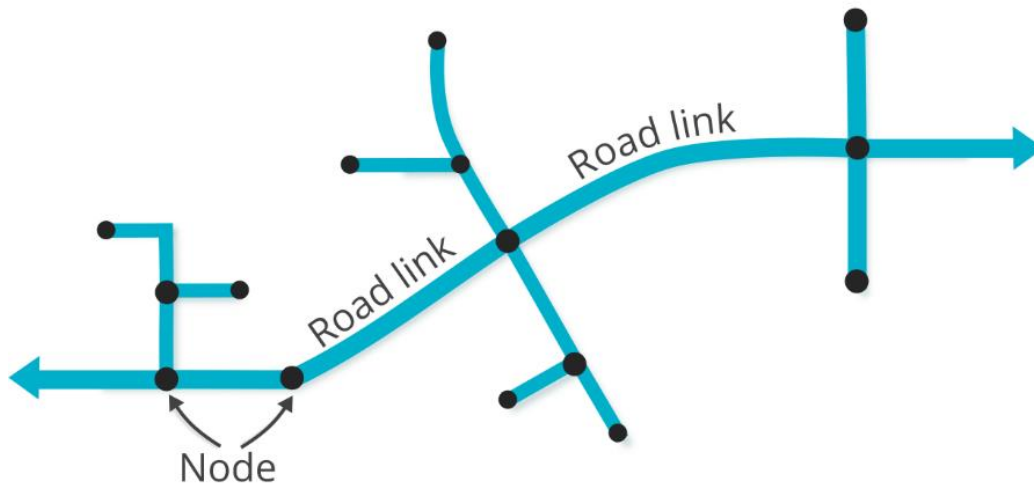


**Image 1.** Digiroad network of roads and streets consists of road links.

An M value has been attached to the geometry of a road link. The M value and the road link are used for locating attribute data by means of linear referencing.

### 3.2.2 Lineary referred attribute data

Some of Digiroad's data objects are attribute data that have been attached to road links by means of linear reference frame. These data objects can be either linear or point-form, and they need not be of the same length as the entire road link. Linearly referenced attribute data do not have their own geometry but refer to a road link and a position on the road link. In Digiroad, however, a geometry has been generated for each attribute data based on road link geometry.
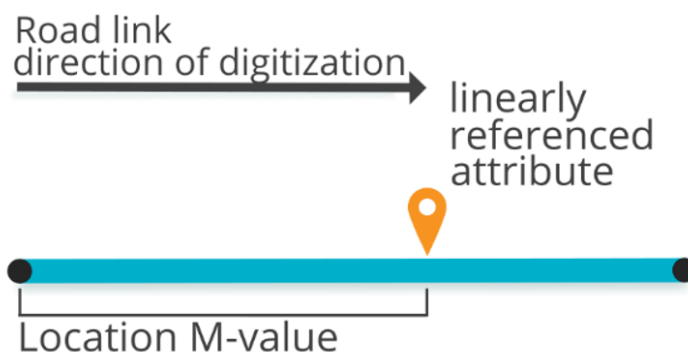


**Image 2.** Linearly referenced point attribute data for road links (e.g. public transport stop).

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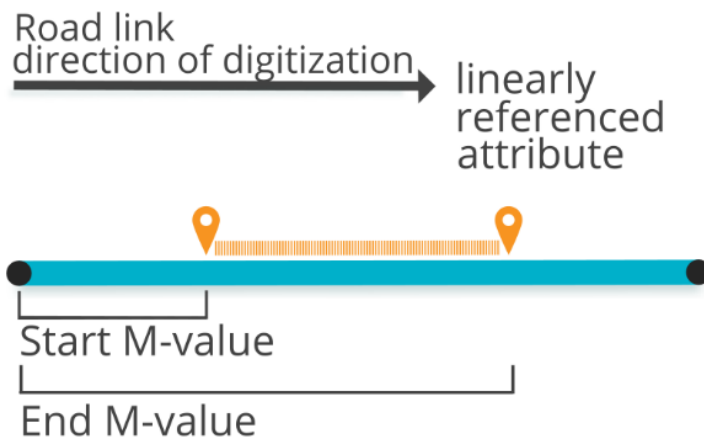
**Image 3**. Linearly referenced line attribute data for road links (e.g. speed limit).

The M value represents a position on the road link, i.e. the distance from the starting points of the road link. The start M value determines the distance from the start point of the road link to the start of the attribute data, and the end M value determines the distance from the start point of the road link to the end of the attribute data. A single M value refers to point reference data whereas line attribute data has both start and end M values. The start M value for all road links is 0. Moreover, the start M value is a calculatory measure and does not directly correspond to e.g. the actual length of a road link in meters although the difference is usually not significant.

## 3.3   Coordinate reference systems and height systems

Digiroad uses the EUREF-FIN coordinate reference system as well as the ETRS-TM35FIN projection (EPSG: 3067) which is based on UTM projection. Moreover, Digiroad uses a rectangular coordinate system in which coordinate points have a north coordinate and an east coordinate. The coordinates are given in meters and marked with letters 'P' and 'I'. The heights of road network objects in Digiroad are based on height data in the topographic database, and the height data derives from elevation model 2 m which covers the whole of Finland. If elevation model 2 m is unavailable, the height data will be derived from elevation model 10 m.

As the EUREF-FIN coordinate reference system deviates from the WGS84 co-ordinate reference system by less than one meter, the two systems can be considered congruent for most purposes.

### 3.3.1 Release and delivery formats

The latest Digiroad data can be downloaded from the Finnish Transport infrastructure Agency's distribution service for open datasets: https://aineistot.vayla.fi/ava/Tie/Digiroad/Aineistojulkaisut/latest

Previous releases are available in the same distribution service:
https://aineistot.vayla.fi/ava/Tie/Digiroad/Aineistojulkaisut /

The file format for extracted data is ESRI Shapefile. From publication 2/2018 onwards the data is available also in GeoPackage format.

The data itself is released in two different exports:

- Digiroad R export files according to the export area
- Digiroad K export, files according to the export area

Both delivery formats contain road link geometry as well as linear and point data objects as their own separate shapefiles. Thus, each data object and its attribute data can be utilized as independent material.

Both delivery formats have the exact same data content as regards data objects and their attribute data.

Below is a more detailed description of the characteristics of both delivery formats.

### 3.3.2 Digiroad R

Digiroad R is a delivery format in which the length of both road link geometry and linear data objects generally equals to the distance between intersections. Point objects do not split road links or linear objects.

When necessary, data objects can be attached to road links by linear referencing. The referencing process utilizes the LINK_ID tag included in each shapefile as well as the m-values for objects. The location of linear objects as well as the start and end points of their length are given as m-values.

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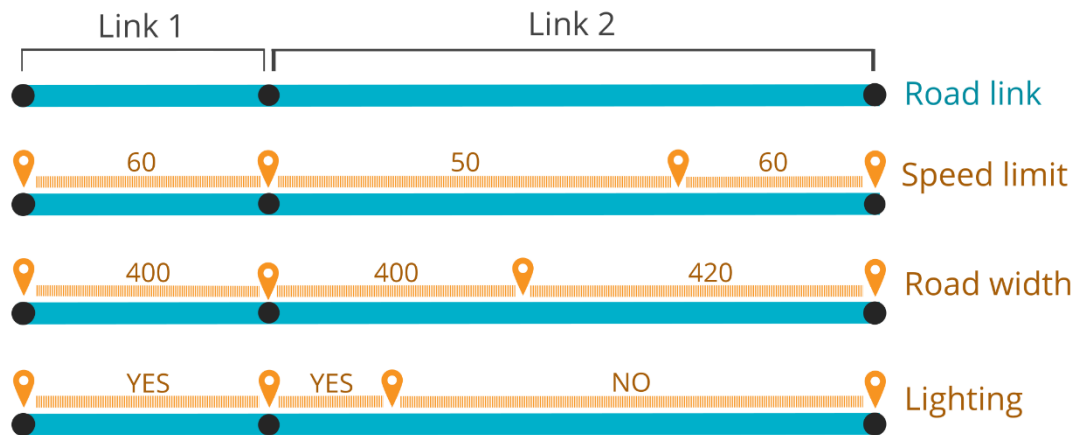
**Image 4.** In Digiroad R, the position of data objects has been referenced linearly.

### 3.3.3 Digiroad K

Digiroad K is a delivery format in which road links and shapes that contain linear data objects have been formed in the way that the geometry of both road links and all data objects is split if any attribute data changes. Consequently, the data may also contain very short links. Point data objects do not, however, split the geometry of road links or linear data objects. The split links have the same link_ID if they form a single uniform object in the topographic database (or in Digiroad R). Furthermore, the split links have been identified by a separate identifier, SEGM_ID.

This identifier consists of the code or number for the municipality where the segment is located as well as a consecutive number generated in the splitting order. If the links in the image below were located in the Helsinki area, their segment IDs would be as follows: LINK_ID = 1; SEGM_ID = 91_1, LINK_ID = 2; SEGM_ID = 91_2, 91_3, 91_4, 91_5). The same SEGM_ID is inherited to all shapefiles describing different data objects. The identifier for a disconnected link is delivery specific. The delivery format of Digiroad K export is suitable for use with e.g. MapInfo.

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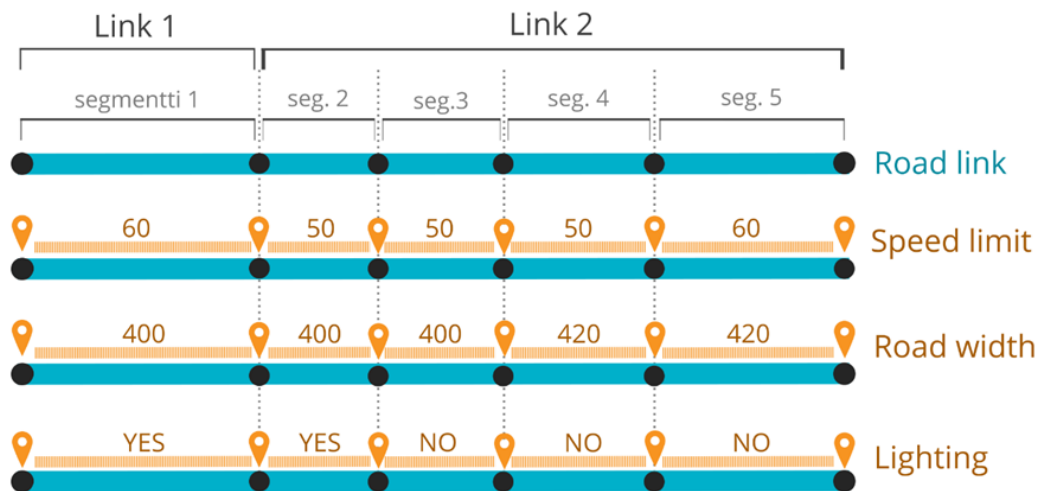
**Image 5.** In Digiroad K, the road links have been split into homogenous parts based on their attribute data.

## 3.3.4  WMS ja WFS interfaces

Digiroad is published on the Finnish transport infrastructure agencys Suomen Väylät -mapservice by data type via the WMS and WFS interface service. The WFS interface works best with municipal boundaries and instructions for utilization can be found on the Digiroad interfaces page.

## 3.3.5  TN-ITS interface

Changes related to speed and weight limits in Digiroad data are released once a day as an xml file through the TN-ITS interface. A link to the interface can be found on the Digiroad website.

# 4    Roadlink attribute data

This chapter provides information on the data objects used in the new Digiroad system. The definition of the object, attribute data, code values and data type of attribute data, and data coverage are given for each data object.

For the fields corresponding to the attribute data in the Digiroad export, please see Appendix 1, Description of data content.

## 4.1    Roadlink attribute data

The Digiroad traffic network includes vehicle accessible roads, vehicle tracks, ferry and cable ferry connections for vehicles, and separate pedestrian and cycle paths. The road link geometry is provided by the National Land Survey of Finland. The road link attribute data applies to the entire distance of a road link.

### 4.1.1  Administrative class

**Definition**
The administrative class assigns a state, municipality, or private owner to a road link. The administrative class does not describe which municipality or road association owns the road. The administrative class is maintained by the National Land Survey of Finland from the beginning of 2016.

**Coverage**
Data is included for all road links excluding walking and cycling paths and vehicle tracks.

**Abbreviation in the Road Link table**
HALLINN_LK

| ADMINISTRATIVE CLASS | | |
|---|---|---|
| Owner type | Code value | Description |
| State | 1 | Road is owned by the state (road). |
| Municipality | 2 | Road is owned by a municipality (street). |
| Private | 3 | The road is privately owned, for example by a road association. |
| Not known | 99 | No data |

### 4.1.2  Functional class

**Definition**
The functional class describes the importance of a route for traffic. Functional class describes:
- Service level of route to the traffic
- Intention of the route maintainer to direct traffic to the route.

The functional classes of roads largely follow the Finnish Transport Infrastructure Agency's Road classification (class I, class II, regional and connecting roads). Functional classes of streets may be determined by municipalities. The basis for the classification is the one used in the land use plan. If a road continues as a street, municipal boundaries and the functional class of the road also affect the classification. The functional classes of private roads are determined in accordance with the importance, width and condition of the road.

**Coverage**
Data applies to all road links.

**Abbreviation in the Road Link table**
TOIMINN_LK

| FUNCTIONAL CLASS | | |
|---|---|---|
| Functional class | Code value | Description |
| Class I main road or regional main street | 1 | Main roads are the principal roads in the Finnish road network. In the Finnish road numbering system, main roads are numbered from 1 to 39.<br><br>Regional main street serves mainly long distance or transit traffic and incoming traffic. There may also be traffic within the municipality on a regional main street. In terms of traffic, more important than code value 2 regional main street. |
| Class II main road or regional main street | 2 | Class II main roads are part of the Finnish road network complementing the class I network and serving regional traffic. Together with the class I main roads they form the network of Finland's main roads.<br><br>Regional main street serves mainly long distance or transit traffic and incoming traffic. There may also be traffic within the municipality on a regional main street. |
| Regional road or local main street | 3 | Regional roads belong to the Finnish road network serving regional traffic and providing connections to class I and II main roads.<br><br>Local main street serves mainly traffic within a municipality, e.g. from a suburb to the city centre or the traffic between different surrounding areas. There may also be long-distance, transit or incoming traffic on a local main street. |
| Connecting road or collector street | 4 | Connecting roads are roads in the Finnish road network that are not class I or II main roads or regional roads.<br><br>Collector street collects traffic from a traffic cell to main streets and roads. There should be no |

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| | | through traffic on collector streets in the traffic cells. |
|---|---|---|
| Feeder street, rest area or important private road | 5 | Feeder street connects land use with collector streets and roads. There is a direct connection from a feeder street to a plot of land or a building site.<br><br>A rest area is an area for stopping and resting along the roads.<br><br>The use of important private road is commonly allowed, and it can be used throughout the year. Typically, an important private road is very important for the traffic in the area and there is also a road association that has been established, and it has received funds from the state or municipality. |
| Other private road | 6 | Other private roads include all other private roads, excluding private and forest roads, which are not in other private roads, and which are accessible by vehicles. |
| Vehicle track | 7 | Vehicle tracks are other private or forest roads, which may not be accessible by car but can be used by pedestrians, bicycles or off-road vehicles. Vehicle tracks can connect with the road network without a common end point. This is a new class added to the Digiroad data model. |
| Pedestrian and cycle path | 8 | Walking and cycling paths are mainly used by pedestrians and bicycles and, in some cases, mopeds. |
| Service opening or special transport connection | 9 | A maintenance hole is a road connection built on a two-lane road for maintenance purposes. It is not allowed to use the service opening for normal traffic.<br>The special transport connection is a detour built for special transports. |
| | 99 | No data, when the road link status is under construction. |

## 4.1.3 Direction of traffic flow

**Definition**
The direction of traffic flow is determined in relation to the direction of digitization of a road link.

Walking and cycling paths may also be described as one-way if the traffic is only allowed in one direction.

**Coverage**
Data applies to all road links.

**Abbreviation in the Road Link table**
AJOSUUNTA

| DIRECTION OF TRAFFIC FLOW | |
|---|---|
| Direction of traffic flow | Code value |
| Traffic is permitted in both directions | 2 |
| Traffic is permitted against the direction of digitization | 3 |
| Traffic is permitted in the direction of digitization | 4 |

## 4.1.4 Road link type

**Definition**
The road link type describes the physical or traffic attribute data of a road link.

The type of ferry / ferry link describes the ferry and ferry routes that are an extension of the road network, they do not describe waterways

**Coverage**
Data applies to all road links.

**Abbreviation in the Road Link table**
LINKKITYYP

| ROAD LINK TYPE | |
|---|---|
| Road link type | Code value |
| Part of a motorway | 1 |
| Part of a multiple carriageway, which is not a motorway | 2 |
| Part of single carriageway | 3 |
| Part of a semi-motorway | 4 |
| Part of a roundabout | 5 |
| Slip road | 6 |
| Rest area | 7 |
| Walking and cycling path | 8 |
| Part of a pedestrian zone, e.g. a pedestrian street or foot-path | 9 |
| Part of a service or emergency road | 10 |
| Enclosed traffic area | 11 |
| Vehicle track, roads accessible by off-road vehicles | 12 |
| Service access point on a motorway | 13 |
| Route for special deliveries without a locked barrier structure | 14 |
| Route for special deliveries with a locked barrier structure | 15 |
| Ferry/cable ferry | 21 |
| Two-way onelane road | 22 |
| Not known | 99 (not known, when the status of the road link is under construction) |

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## 4.1.5 Bridge, underpass or tunnel

**Definition**
Road link, which is a bridge, underpass or tunnel.  The other one of the centre line geometries crossing each other on different levels has a definition underpass while at the same point the other link gets the definition bridge (although in fact lowest/upper road link is at the ground level).

The bridges that cross each other are classified according to their level in the following way: the first bridge from the ground level gets the value 1, the second one gets the value 2, etc.
The levels below the ground are marked with values -2 and -3 in the way that the -2 level is closer to the ground level.

**Coverage**
Data applies to all road links.

**Abbreviation in the Road Link table**
SILTA_ALIK

| BRIDGE, UNDERPASS OR TUNNEL | |
|---|---|
| Bridge, underpass or tunnel | Code value |
| Tunnel | -11 |
| Underground level | -3 |
| Underground level | -2 |
| Underpass | -1 |
| At the Ground level | 0 |
| Bridge, level 1 | 1 |
| Bridge, level 2 | 2 |
| Bridge, level 3 | 3 |
| Bridge, level 4 | 4 |
| Bridge, level 5 | 5 |

## 4.1.6 Address data

**Definition**
A roads name, which has a road number, road part number, carriageway in-formation and start and end distance from the beginning of the road part.
The name of the road is the name of the road according to the official address system of the municipality. The address numbers of the house are always in proportion to the digitization direction of the road link.

The road link address data include street names in Finnish, Swedish and Sami (if present), the first house on the right and left, the last house on the right and left, and the municipality code.

If the road link does not have address numbers, the field value is null in Digiroad publications. The road link's municipality number is marked with the municipality

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in which it is located for the most part. The municipality codes consist of one to three digits, no initial zeros are added (eg. Helsinki 91).

**Abbreviation in the Road Link table**
TIENIMI_SU; TIENIMI_RU; TIENIM_PSA; TIENIM_ISA; TIENIM_KSA; ENS_TALO_V; ENS_TALO_O; VIIM_TAL_V; VIIM_TAL_O; KUNTAKOODI

## 4.1.7 Road address data

**Definition**
Road link including a road number and the number of the part of the road, carriage way and start and end distance for the road link (from the beginning of the road part).

Since Aland and the mainland share the same road numbering space, the road links in Aland have the same road numbers as in the continental Finland.

**Coverage**
Information applies to all state-owned roads.

**Abbreviation in the Road Link table**
TIENUMERO; TIEOSANRO; AJORATA; AET; LET

## 4.1.8 Geometric accuracy

**Definition**
The accuracy of the horizontal position of the road link is a metric class, for example 3 metres.

**Abbreviation in the Road Link table**
SIJ_TARK; KOR_TARK

| GEOMETRIC ACCURACY | |
|---|---|
| Accuracy of the horizontal position | Code value |
| Not defined | 0 |
| 0,5 m | 0.5 |
| 0,8 m | 0.8 |
| 1 m | 1 |
| 2 m | 2 |
| 3 m | 3 |
| 4 m | 4 |
| 7 m | 5 |
| 7,5 m | 7.5 |
| 8 m | 8 |
| 10 m | 10 |
| 12,5 m | 12.5 |
| 15 m | 15 |

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| 20 m | 20 |
|---|---|
| 25 m | 25 |
| 30 m | 30 |
| 40 m | 40 |
| 80 m | 80 |
| 100 m | 100 |

If the height information of the road links is interpolated from the height model, the code is either:

- "KM2" (derived from the 2 m grid size height model)
- "KM10" (derived from the 10 m grid size height model)

| VERTICAL ACCURACY | |
|---|---|
| Vertical accuracy | Code value |
| KM 2 m | 0.4 |
| 0,5 m | 0.5 |
| 0,8 m | 0.8 |
| 1 m | 1 |
| 2 m | 2 |
| 3 m | 3 |
| 4 m | 4 |
| 5 m | 5 |
| 7,5 m | 7.5 |
| 8 m | 8 |
| 10 m | 10 |
| 12,5 m | 12.5 |
| 15 m | 15 |
| 20 m | 20 |
| 25 m | 25 |
| 30 m | 30 |
| 40 m | 40 |
| 80 m | 80 |
| 100 m | 100 |
| KM 10 m | 5.8 |

## 4.1.9 Digitization direction in relation to the geometry of National Land

Survey of Finland

**Definition**
With the assistance of this field, it can be deduced, if the direction of the digit-ization has changed in relation to the direction of digitization mentioned in the topographic database of the National Land Survey of Finland.

**Abbreviation in the Road Link table**
GEOM_FLIP

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| DIRECTION OF TRAFFIC FLOW | |
|---|---|
| Direction of traffic flow | Code value |
| Direction of digitization remained the same | 0 |
| Changed direction of digitization | 1 |
| Not known | null |

## 4.1.10    Link phase

**Definition**

Road link phase specifies whether the road link is in use, under construction or planned. Link will be defined as "planned" if an investment decision has been made.

**Abbreviation in the Road Link table**

LINK_TILA

| LINK PHASE | |
|---|---|
| Link phase | Code value |
| Planned | 1 |
| Under construction | 2 |
| In use | 3 |
| Temporarily disabled | 4 |

## 4.1.11    Source of the link geometry

**Definition**

The source of the road link specifies whether the link geometry derives from the National Land Survey or some other data source. Other sources remain unspecified at least at this stage. If a need for more detailed information concerning the sources arises in the future, this classification can be specified.

**Abbreviation in the Road Link table**

GEOM_LAHDE

| SOURCE OF LINK GEOMETRY | |
|---|---|
| Geometry source | Code value |
| National Land Survey | 1 |
| Other, not specified | 2 |

## 4.1.12    Road address growth direction

**Definition**

The growth direction of the road address indicates the direction of storage of the road address in the Tievelho.

**Abbreviation in the Road Link table**
TIEN_KASVU

| ROAD ADDRESS GROWTH DIRECTION | |
|---|---|
| Road address growth direction | Code value |
| The road link in the direction of digitization | 1 |
| The road link against the direction of digitization | 2 |
| Not known | Null |

### 4.1.13    Other attribute data of the road link

The other attribute data of the road link include:
- The date of the last edition MUOKKAUSPV
  - Editing time or, if there is no editing time, the object's creation time.
- Link ID
- LINK_MML_ID
- The M value of the start and the end point of the link ALKU_PAALU ja LOPP_PAALU
- The attribute data also includes road classification according to the topographic database by the National Land Survey (MTK_TIE_LK). The information included in the classification is described more specifically in National Land Survey's website (https://www.maanmittauslaitos.fi/en).

# 4.2  Restricted manoeuvre

**Definition**
Restricted manoeuvre indicates prohibited or blocked manoeuvres.

Restricted manoeuvre data refers to the relation between road links. Restricted manoeuvre consists at least of the related start and end links (U-turns can consist of up to four links), period of validity, exceptions and additional data. Exceptions indicate the vehicles to which the restriction is not applied.

Manoeuvre data is carriageway specific, not lane specific. Restricted manoeuvre can exist between road links only if turning to another road link is forbidden from each lane.

In Digiroad, no such restricted manoeuvre is maintained that is forbidden by the Road Traffic Act. These include, for example turning to one-way road link against the direction of the traffic flow or turning to walking and cycling path.

**Coverage**
Information applies to roads, streets and private roads.

**Link to the restricted manoeuvre table**
Restricted manoeuvre

| RESTRICTED MANOEUVRE | |
| --- | --- |
| Exception to the restricted manoeuvre | Code value |
| Truck | 4 |
| Bus | 5 |
| Van | 6 |
| Passenger car | 7 |
| Taxi | 8 |
| Motorcycle | 9 |
| Moped | 10 |
| Articulated vehicle | 13 |
| Tractor or farm vehicle | 14 |
| Car with trailer / recreational vehicle | 15 |
| Military vehicle | 19 |
| Driving in service purposes | 21 |
| Driving to a lot | 22 |
| Snow mobile | 27 |
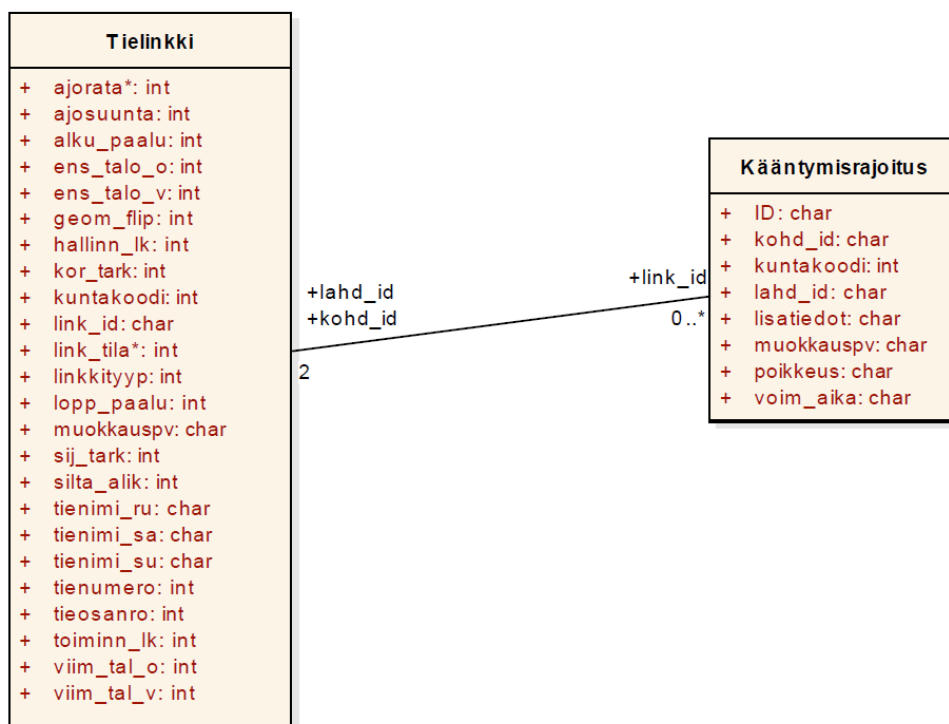


**Image 6.** Restricted manoeuvre can be joined to road links according to the source link ID information and the object link ID information.

The connected start (source), intermediate, and end (destination) links for the turn restriction are in the Turn Restriction_Link table. The table is a .dbf file in the

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Digiroad publication and is currently only included in the Digiroad R delivery format.

**Link to the restricted manoeuvre_link table**
Restricted manoeuvre   link

| RESTRICTED MANOEUVRE_LINK | | | |
|---|---|---|---|
| Feature information | Data type | Description | Code value |
| Restricted manoeuvre ID | Numeric | Identification of the Restricted manoeuvre. The identifier is Digiroad's technical identifier, and it can change during the life of the real-world object. | - |
| Link-ID | Numeric | Identification of the road link | - |
| Status | Code value | Road links role in Restricted manoeuvre | 1 start (source) link 2 intermediate links 3 end (destination) link |
| Sequence number in Restricted manoeuvre | Numeric | Road link sequence number in a turn restriction. The sequence number of the Al-ku (source) link is zero | - |

## 4.3   Point attribute data

Point attribute data refers to linear referencing attribute data that have only one M value which is the distance from the start of the link. All point attribute data objects have at least the following data:

| POINT ATTRIBUTE DATA | | |
|---|---|---|
| Attribute data | Data type | Description |
| ID* | Numerical | The ID identifying the object. The ID is Digiroad's technical ID and it can change during the life of the real-world object. |
| Link ID | Numerical | The link ID of the link where the object is located. |
| Distance from the start of the link | Numerical | The position of the object on a road link measured from the start. |
| Last edited | Character string | Time last edited or added to the system. |
| Municipality code | Code value | Municipality code of the object. |

```
┌─────────────────────────────┐
│          Tielinkki          │
├─────────────────────────────┤
│  +   ajorata*: int          │
│  +   ajosuunta: int         │
│  +   alku_paalu: int        │
│  +   ens_talo_o: int        │
│  +   ens_talo_v: int        │
│  +   geom_flip: int         │
│  +   hallinn_lk: int        │
│  +   kor_tark: int          │
│  +   kuntakoodi: int        │
│  +   link_id: char          │
│  +   link_tila*: int        │
│  +   linkkityyp: int        │
│  +   lopp_paalu: int        │
│  +   muokkauspv: char       │
│  +   sij_tark: int          │
│  +   silta_alik: int        │
│  +   tienimi_ru: char       │
│  +   tienimi_sa: char       │
│  +   tienimi_su: char       │
│  +   tienumero: int         │
│  +   tieosanro: int         │
│  +   toiminn_lk: int        │
│  +   viim_tal_o: int        │
│  +   viim_tal_v: int        │
└─────────────────────────────┘
```

Pistemäinen ominaisuustieto
+   ID: char
+   kuntakoodi: int
+   link_id: char
+   muokkauspv: char
+   sijainti_m: float

+link_id    0..*    +link_id    1

**Image 7.** Point attribute data can be joined to the road links by linear reference, according to the link ID attribute data and M values.

## 4.3.1 Public transport stop

**Definition**

A stop used by public transport.
The position of the public transport stops either refers to the position in the material provided or a position assigned to the stop in the user interface. In the interface, the position of the stop is generated by linear referencing. In this case, the road link of the stop and the M value determining its position on the road link are known. In addition, the stop is assigned by its coordinates (x, y) in the interface. The position given by the data provider is indicated in the fields X (east coordinate), Y (north coordinate) and Z (height). These coordinates are assigned in the user interface and do not necessarily match with the linearly referenced positions.

For public transport stop facility data and other attribute data, please see Appendix 2.

**Coverage**

A public transport stop can be located on any road link with the exception of walking and cycling paths, ferries and cable ferries.

**Link to the Public transport stop table**

Public transport stop

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| PUBLIC TRANSPORT STOP | | | |
|---|---|---|---|
| Attribute data | Data type | Description | Code values |
| Coordinate X (east coordinate) | Numerical | X coordinate of the stop in the Digiroad database. Calculated using the road link and M value. | |
| Coordinate Y (north coordinate) | Numerical | Y coordinate of the stop in the Digiroad database. Calculated using the road link and M value. | |
| Link ID | Numerical | The Link-ID of the road link where the stop is located* | |
| M value | Numerical | Stop position on the road link* | |
| Validity direction | Code value | Stop validity direction in relation to the direction of digitization of a road link* | 2 In the direction of digitization<br><br>3 Against the direction of digitization |
| Last edited | Character string | The objects editing time or, if there is no editing time, the object's creation time. | |
| National ID | Numerical | Nationally unique identifier for the stop. | |
| Name in Finnish | Character string | Name of the stop in Finnish. | |
| Name in Swedish | Character string | Name of the stop in Swedish. | |
| Data administrator | Code value | Authority administering the data in Digiroad. | 1 Municipality<br><br>2 Centre for Economic Development, Transport and the Environment (ELY Centre)<br><br>3 Helsinki Regional Transport<br><br>4 Not known |
| Administrator identifier | Character string | The unique identifier assigned to the stop by the administrator in their own system. | |
| Livi identifier | Character string | The stop Livi identifier that corresponds to the identifier in the road register. Only applies to stops on the roads. | |

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| Traveller identifier | Character string | The stop identifier physically displayed at the public transport stop. | |
| --- | --- | --- | --- |
| Ground coordinate X<br><br>(east coordinate) | Character string | The calculated X coordinate of the stop's location. Ground coordinates are provided by the data administrator and may not correspond to those given in the application. | |
| Ground coordinate Y<br><br>(north coordinate) | Character string | The calculated Y coordinate of the stop's location. Ground coordinates are provided by the data administrator and may not correspond to those given in the application. | |
| Ground coordinate Z | Character string | The calculated Z coordinate of the stop's location. Ground coordinates are provided by the data administrator and may not correspond to those given in the application. | |
| Direction of travel | Character string | Free description of the direction of the stop. | |
| Traffic bearing | Numerical | Degree between 0 and 360. Describes the stop validity direction. | |
| Valid from date | Time stamp | Date when the stop is first used. | |
| Valid to date | Time stamp | Date when the stop is used for the last time. | |
| Stop type | Code value | The stop type indicates the type of traffic served by the stop. A stop may be assigned more than one type. | 1 Tram<br>2 Local transport<br>3 Long-distance transport<br>4 Express bus<br>5 Virtual stop<br>6 Terminal<br>99 No data |
| Disconnected from geometry** | Code value | The geometry of the road link where the stop is located has changed considerably, disconnecting the stop from the geometry. | 1 Connected to geometry.<br><br>2 Disconnected from the geometry |
| Zone | Character string | Zone Information for VVH Areas Using Flag Zones: eg A, B, C | |
| Service level class | Code value | Stops are classified according to the use of the stop into eight service level categories | 1 Terminal<br>2 Central knots stop<br>3 Lively stop<br>4 Basic stop |

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| | | | 5 Little used stop |
|---|---|---|---|
| | | | 6 Leaving stop |
| | | | 7 Virtual stop |
| | | | 8 Stops not used for bus services |
| | | | 99 No data |

*) If the stop is disconnected from geometry, its Link-ID, M value and validity direction are null.

**) The expired stops are not updated to the link geometry if the geometry is changed.

## 4.3.2 Barrier

**Definition**

Barriers are blocked passages or traffic barrier gates which can be opened. Blocked passage refers to a physical barrier on the road and street network that prevents passing through. For example, the connection of the streets may be blocked with stones, ditch or a traffic barrier gate which cannot be opened.

A traffic barrier gate which can be opened is a point in a central line geometry which is locked but can be opened.

**Coverage**

Information applies to streets and private roads.

**Link to the Barrier table**

Barrier

| BARRIER | |
|---|---|
| Barrier type | Code value |
| Blocked passage | 1 |
| Traffic barrier gate which can be opened | 2 |

## 4.3.3 Traffic Light

**Definition**

Intersection traffic light control is marked as a point segment at the distance of 5 meters from the intersection. It applies on all the links that have direction of travel towards the intersection.

A traffic light that is between intersections is described as a point e.g. beside a pedestrian crossing guided by traffic lights in the case that no intersecting geometry exists.

**Coverage**

Information applies to roads and streets.

**Link to the Traffic light table**
Traffic light

## 4.3.4 Pedestrian crossing

**Definition**
A pedestrian crossing marked with a traffic sign and road markings.

**Coverage**
Information applies to streets.

**Link to the Pedestrian crossing table**
Pedestrian crossing

## 4.3.5 Directional traffic sign

**Definition**
Directional traffic signs and their information are the signposts which are situated on or directing motorways or semi-motorways. Typically, directional signs are located at a junction or just before it. There may be several directions (pieces of information on a directional sign) on a directional traffic sign.



**Image 8:** Image shows four directions, i.e. four pieces of information, on a directional traffic sign (in a directional traffic sign segment).

Directional traffic sign information contains the following data, separated by a

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semicolon:
PLACE NAMES; COLOUR; LOCATION

Within the fields, the information is separated by a colon, for example:
"HELSINKI:HELSINGFORS;1;500"

**More detailed description of the parts of the character string:**
Place names:
- Names of places written as in the directional traffic sign (all CAPITAL letters).

Background colour:
- no data
- green (motorway or semi-motorway)
- blue (road)
- white (local, e.g. a town district))

**Location**
Distance of the directional traffic sign from the junction in metres.

**Coverage**
Information applies to streets, roads (1-299), and some private roads. Information is not particularly comprehensive and its quality may vary according to the area.

**Link to the Directional traffic sign table**
Directional traffic sign

| DIRECTIONAL TRAFFICSIGN | | | |
|---|---|---|---|
| Attribute data | Data type | Description | Code values |
| Validity direction | Code value | Direction of travel in relation to the direction of the digitation on link. | 2 In the direction of the digitization<br><br>3 Against the direction of the digitization |
| Bearing | Numerical | Degree | |
| Text | Character string | List of content | |

## 4.3.6 Traffic signs

**Definition**
Traffic control device that points the start and end point of traffic rules for example speed limits. Traffic sign data include warning signs, priority and give-way signs, prohibitory and restrictive signs, additional panels, mandatory signs, information signs, regulatory signs and service signs. In this data extraction the additional panels are on their individual points. In the future there will be a batch run that joins the correct additional panels to the main traffic signs.

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**Coverage**

The data covers state roads from Tievelho, municipality street network and some private roads. On the street network, the information is maintained by the municipal administrator and on private roads, the information is maintained by the road association. Data is not yet comprehensive for the whole country and there may occur errors in state roads and municipality street network. We are working to improve the quality and coverage of the data in the future.

| TRAFFIC SINGS | | | | |
|---|---|---|---|---|
| Attribute data | Data type | Description | Code values | |
| Value | Numerical | Traffic sign value, for example 80 on speed limit sign | | |
| Text at headsing | Character string | The textual information contained in the traffic sign | | |
| Additional info | Character string | Value of the traffic sign if not numerical | | |
| Status | Code value | The state of the traffic sign | 1<br>2<br>3<br><br>4<br>5<br>6 | In the works<br>Under construction<br>Permanently enabled (default)<br>Used temporarily.<br>Temporarily disabled.<br>Permanently disabled |
| Location | Code value | Where the traffic sign is located on the road | 1<br><br>2<br>3<br>4<br><br>5<br><br>6<br><br><br><br>null | Right side of the lane (default)<br>Left side of the lane<br>Above the lane<br>Central island or traffic divider<br>Longitudinal to the direction of lane<br>Outside the road and street network, for example on a parking area<br>Not known |
| Damage type | Code value | Damages on a traffic sign | 1<br>2<br>3<br>4<br>null | Rusted<br>Battered<br>Painting<br>Other damage<br>Not known |
| Size | Code value | The size of the traffic sign | 1<br>2<br>3<br>Null | Small sign<br>Normal sign<br>Large sign<br>Not known |
| Lane | Code value | Indicates the lane number where the traffic | | Lane numbering can be checked from the Finnish |

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| | | | | |
|---|---|---|---|---|
| | | sign is located. Information only with lane-specific traffic signs.<br><br>Lanes are not yet maintained, so this property information is not yet available. | | |
| Lane type | Code value | Indicates the lane number where the traffic sign is located. Information only with lane-specific traffic signs.<br><br>Lanes are not yet maintained, so this property information is not yet available. | | |
| Structure | Code value | Specifies the location of the traffic sign | 1<br>2<br>3<br>4<br>5<br>6<br><br>7<br>Null | Pillar<br>Wall<br>Bridge<br>Portals<br>Half portal<br>Boom or other barrier structure<br>Other<br>Not known |
| Condition | Code value | The condition of the traffic sign | 1<br>2<br>3<br>4<br>5<br>Null | Ver y bad<br>Bad<br>Satisfactory<br>Good<br>Very good<br>Not known |
| Film type | Code value | The film on a traffic sign | 1<br>2<br>3<br>Null | R1 class film<br>R2 class film<br>R3 class film<br>known |
| Urgency of repair | Code value | The urgency of repair | 1<br>2<br>3<br>4<br>Null | Great urgency<br>Urgent<br>Somewhat urgent<br>Not urgent<br>Not known |
| Material | Code value | Traffic sign material | 1<br>2<br>3<br>Null | Plywood<br>Aluminium<br>Other<br>Not known |

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| Additional plate color | Code value | Color of additional plate | 1 2 Null | Blue Yellow Not known |
|---|---|---|---|---|
| Additional plate size and film | Code value | The size and film on an additional plate | - | Same as main traffic signs |
| **TRAFFIC SIGN TYPE** | **New** | **Old** | **Name** | |
| New: Legal number 729/2018 | A1.1 | 111 | Right bend | |
| Old: Old regulation | A1.2 | 112 | Left bend | |
| | A2.1 | 113 | Several bends, first bend right | |
| | A2.2 | 114 | Several bends, first bend left | |
| | A3.1 | 116 | Steep ascent | |
| | A3.2 | 115 | Dangerous descent | |
| | A4 | 121 | Road narrows | |
| | A5 | 122 | Two-way traffic | |
| | A6 | 131 | Open bridge | |
| | A7 | 132 | Ferry, quay, or riverbank | |
| | A8 | 133 | Traffic congestion | |
| | A9 | 141 | Uneven road | |
| | A10 | 1411 | Speed humps | |
| | A11 | 142 | Road works | |
| | A12 | 143 | Loose gravel | |
| | A13 | 144 | Slippery road | |
| | A14 | 147 | Dangerous shoulders | |
| | A15 | 151 | Pedestrian Crossing | |
| | A16 | - | Pedestrians | |
| | A17 | 152 | Children | |
| | A18 | 153 | Cyclists | |
| | A19 | 154 | Ski track | |
| | A20.1 | 155 | Elks | |
| | A20.2 | 156 | Reindeers | |
| | A20.3 | - | Deers | |
| | A21 | 161 | Crossroad (Intersection with equal roads and priority for vehicles coming from the right) | |
| | A22.1 | 162 | Crossroad (Intersection with major and minor road) | |
| | A22.2 | - | Crossroad (Intersection with major and minor road) | |
| | A22.3 | 163 | Crossroad (Intersection with major and minor road) | |
| | A22.4 | 164 | Crossroad (Intersection with major and minor road) | |
| | A23 | 165 | Light signals | |

| | A24 | 166 | Roundabout |
|---|---|---|---|
| | A25 | 167 | Tramway line |
| | A26 | 171 | Level crossing without gate |
| | A27 | 172 | Level crossing with gate |
| | A28.1 | 173 | First marker indicating level crossing ahead /// |
| | A28.2 | 174 | Middle marker indicating closer distance to level crossing (equidistant between other two markers) // |
| | A28.3 | 175 | Last marker indicating closest distance to level crossing / |
| | A29.1 | 176 | Level-crossing |
| | A29.2 | 177 | Level-crossing |
| | A30 | 181 | Fallen rocks |
| | A31 | 182 | Aircrafts flying at low altitude |
| | A32 | 183 | Cross wind |
| | A33 | 189 | Other danger |
| | B1 | 211 | Priority road |
| | B2 | 212 | End of priority |
| | B3 | 221 | Priority over oncoming traffic |
| | B4 | 222 | Priority for oncoming traffic |
| | B5 | 231 | Give way |
| | B6 | 232 | Stop |
| | B7 | - | Give way for cycles |
| | C1 | 311 | Closed to all vehicles |
| | C2 | 312 | No power-driven vehicles |
| | C3 | 313 | No lorries and vans |
| | C4 | 314 | No trailers or tows |
| | C5 | 315 | No power-driven agricultural vehicles |
| | C6 | 316 | No motorcycles |
| | C7 | 317 | No motor sledges |
| | C8 | 318 | No vehicles carrying dangerous goods |
| | C9 | 319 | No buses |
| | C10 | 321 | No mopeds |
| | C11 | - | No cycles |
| | C12 | 322 | No cycles or mopeds |
| | C13 | 323 | No pedestrians |
| | C14 | - | No pedestrians or cycles |
| | C15 | 324 | No pedestrians or cycles or mopeds |
| | C16 | 325 | No horseback riders |
| | C17 | 331 | No entry |
| | C18 | 332 | No left turn |

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| | C19 | 333 | No right turn |
|---|---|---|---|
| | C20 | 334 | No U-turns |
| | C21 | 341 | No vehicles having an overall width exceeding... metres |
| | C22 | 342 | No vehicles having an overall height exceeding... metres |
| | C23 | 343 | No vehicles or combinations of vehicles exceeding ...meters in length |
| | C24 | 344 | No vehicles exceeding...tons laden mass |
| | C25 | 345 | Maximum permissible total mass of combination of vehicles |
| | C26 | 346 | No vehicles having a mass exceeding...tons on one axle |
| | C27 | 347 | Maximum permissible mass on bogie |
| | C28 | 351 | No overtaking |
| | C29 | 352 | End of no overtaking |
| | C30 | 353 | No overtaking by lorries |
| | C31 | 354 | End of no overtaking by lorries |
| | C32 | 361 | Speed limit |
| | C33 | 362 | End of speed limit |
| | C34 | 363 | Speed limit zone |
| | C35 | 364 | End of speed limit zone |
| | C36 | 365 | Prohibition or other regulation applying to one or more traffic lanes |
| | C37 | 371 | No standing or parking |
| | C38 | 372 | No parking |
| | C39 | 373 | No parking zone |
| | C40 | 374 | End of no parking zone |
| | C41 | 375 | Taxi station zone (beginning) |
| | C42 | 376 | Standing place for taxi |
| | C43 | - | Loading place |
| | C44.1 | 381 | Alternative parking odd days |
| | C44.2 | 382 | Alternative parking even days |
| | C45 | 391 | No passing without stopping (customs control) |
| | C46 | 392 | No passing without stopping (police control or other reason) |
| | C47 | 393 | No driving of vehicles less than x meters apart |
| | C48 | - | No entry for motor vehicles with studded tyres |
| | D1.1 | 411 | Direction to be followed, right |

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| | D1.2 | - | Direction to be followed, left |
|---|---|---|---|
| | D1.3 | 412 | Direction to be followed, straight |
| | D1.4 | 413 | Direction to be followed, turning right |
| | D1.5 | - | Direction to be followed, turning left |
| | D1.6 | 414 | Direction to be followed, straight or turning right |
| | D1.7 | - | Direction to be followed, straight or turning left |
| | D1.8 | 415 | Direction to be followed, turning right or left |
| | D1.9 | - | Direction to be followed, straight or turning right or left |
| | D2 | 416 | Roundabout |
| | D3.1 | 417 | Pass on this side |
| | D3.2 | 417 | Pass on this side |
| | D3.3 | 418 | Pass on this side |
| | D4 | 421 | Pedestrian path |
| | D5 | 422 | Cycle path |
| | D6 | 423 | Shared for pedestrians and cyclists |
| | D7.1 | 424 | Divided for pedestrians and cyclists, cycle track on left |
| | D7.2 | 425 | Divided for pedestrians and cyclists, cycle track on right |
| | D8 | 426 | Path for motor sledges |
| | D9 | 427 | Path for horseback riders |
| | D10 | - | Compulsory minimum speed |
| | D11 | - | Compulsory minimum speed ends |
| | E1 | 511 | Pedestrian crossing |
| | E2 | 521 | Parking lot |
| | E3.1 | - | Park and ride, train |
| | E3.2 | - | Park and ride, bus |
| | E3.3 | - | Park and ride, tram |
| | E3.4 | - | Park and ride, metro |
| | E3.5 | - | Park and ride, public transport |
| | E4.1 | 5211 | Placement of vehicles at a parking lot |
| | E4.2 | 5212 | Placement of vehicles at a parking lot |
| | E4.3 | 5213 | Placement of vehicles at a parking lot |
| | E5 | 522 | Meeting point |
| | E6 | 531, 532 | Bus stop |
| | E7 | 533 | Tram stop |
| | E8 | 534 | Taxi station |
| | E9.1 | 5411 | Bus lane |
| | E9.2 | 5412 | Bus and taxi lane |
| | E10.1 | 5421 | Bus lane ends |

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| | | | |
|---|---|---|---|
| | E10.2 | 5422 | Bus and taxi lane ends |
| | E11.1 | 5431 | Tram lane |
| | E11.2 | 5432 | Tram and taxi lane |
| | E12.1 | 5441 | Tram lane ends |
| | E12.2 | 5442 | Tram and taxi lane ends |
| | E13.1 | - | Cycle lane right |
| | E13.2 | - | Cycle lane |
| | E14.1 | 551 | One way road |
| | E14.2 | 551 | One way road |
| | E15 | 561 | Motorway |
| | E16 | 562 | Motorway ends |
| | E17 | 563 | Road for motor vehicles |
| | E18 | 564 | Road for motor vehicles ends |
| | E19 | 565 | Tunnel |
| | E20 | 566 | Tunnel ends |
| | E21 | 567 | Emergency stopping place |
| | E22 | 571 | Built-up area |
| | E23 | 572 | Built-up area ends |
| | | | |
| | E24 | 573 | Residential zone |
| | E25 | 574 | Residential zone ends |
| | E26 | 575 | Pedestrian zone |
| | E27 | 576 | Pedestrian zone ends |
| | E28 | - | Cycle zone |
| | E29 | - | Cycle zone ends |
| | E30 | - | Traffic lanes merging |
| | F1.1 | 611 | Advance direction sign |
| | F1.2 | - | Advance direction sign |
| | F1.3 | - | Advance direction sign |
| | F2.1 | 612 | Advance direction sign |
| | F2.2 | - | Advance direction sign |
| | F2.3 | - | Advance direction sign |
| | F3 | - | Advance direction sign of traffic lanes |
| | F4.1 | 614 | Advisory sing for diversion |
| | F4.2 | 613 | Advisory sing for diversion |
| | F5 | 615 | Detour |
| | F6 | 616 | Route to be followed |
| | F7.1 | 621 | Information on traffic lanes |
| | F7.2 | 622 | Information on traffic lanes |
| | F7.3 | 6225 | Information on traffic lanes |
| | F7.4 | - | Information on traffic lanes |
| | F7.5 | - | Information on traffic lanes |

| | F7.6 | - | Information on traffic lanes |
|---|---|---|---|
| | F8.1 | 623 | End of lane |
| | F8.2 | - | End of lane |
| | F9 | - | Combined direction sign |
| | F10 | 631 | Advance direction sign (Above the lane) |
| | F11 | 632 | Advance direction sign (Above the lane) |
| | F12 | 633 | Exit sign (Above the lane) |
| | F13 | 641 649 643 648 646 | Direction sign (with distance) |
| | F14 | 642 | Exit sign |
| | F15 | 647, 921 | Direction sign for detour |
| | F16 | 644 | Location sign |
| | F17 | 6441 | Advance location sign |
| | F18.1 | 650 | Direction sign showing park-and-ride facilities |
| | F18.2 | - | Direction sign showing park-and-ride facilities |
| | F18.3 | - | Direction sign showing park-and-ride facilities |
| | F18.4 | - | Direction sign showing park-and-ride facilities |
| | F18.5 | - | Direction sign showing park-and-ride facilities |
| | F19 | - | Direction to pedestrian route |
| | F20.1 | - | Direction to cycle route (without distance) |
| | F20.2 | - | Direction to cycle route (with distance) |
| | F21.1 | - | Advance direction sign for cycling |
| | F21.2 | - | Advance direction sign for cycling |
| | F22 | - | Sign showing distances for cycling |
| | F23 | - | Place name for cycling |
| | F24.1 | 651 | No trough road |
| | F24.2 | 652 | No trough road |
| | F24.3 | - | No trough road for motor vehicles (cyclists may proceed) |
| | F25 | 653 | Recommended maximum speed) |
| | F26 | 661 | Sign with distances |
| | F27.1 | 10, 11, 662 | Place name |
| | F27.2 | - | Place name |
| | F28 | 663 | Road number (E-road) |
| | F29 | 664 | Road number (primary road) |

| | F30 | 665 | Road number (secondary road) |
| --- | --- | --- | --- |
| | F31 | 6651 | Road number (regional road) |
| | F32 | 666 | Road number (ordinary road) |
| | F33 | - | Ring road number |
| | F34 | 6679 | Interchange number |
| | F35 | 667 | Direction to the numbered road |
| | F36 | - | Substitute road |
| | F37 | 671 | Symbol of motorway |
| | F38 | 672 | Symbol of road for motor vehicles |
| | F39 | 673 | Airport |
| | F40 | 674 | Ferry |
| | F41 | - | Cruise home port |
| | F42 | 675 | Goods harbour |
| | F43 | - | Goods terminal |
| | F44 | 676 | Industrial area |
| | F45 | - | Shopping area |
| | F46.1 | 677 | Parking |
| | F46.2 | 6771 | Indoor parking |
| | F47 | 678 | Railway station |
| | F48 | 679 | Bus station |
| | F49 | - | Centre |
| | F50 | 681 | Advisory route for indicated vehicle |
| | F50.1 | 6811 | Advisory route for indicated vehicle (lorries) |
| | F50.2 | 6812 | Advisory route for indicated vehicle (passenger car) |
| | F50.3 | 6813 | Advisory route for indicated vehicle (bus) |
| | F50.4 | 6814 | Advisory route for indicated vehicle (van) |
| | F50.5 | 6815 | Advisory route for indicated vehicle (motorcycle) |
| | F50.6 | 6816 | Advisory route for indicated vehicle (moped) |
| | F50.7 | 6817 | Advisory route for indicated vehicle (tractor) |
| | F50.8 | 6818 | Advisory route for indicated vehicle (camper van) |
| | F50.9 | 6819 | Advisory route for indicated vehicle (cycle) |
| | F51 | 684 | Advisory route (vehicles carrying dangerous goods) |
| | F52 | 682 | Advisory route (pedestrians) |
| | F53 | 683 | Advisory route (disabled persons) |
| | F54.1 | 685 | Underpass with steps |
| | F54.2 | - | Overpass with steps |
| | F55.1 | 686 | Underpass with ramp |

| | F55.2 | - | Overpass with ramp |
|---|---|---|---|
| | F55.3 | - | Accessible route, down |
| | F55.4 | - | Accessible route, up |
| | F56.1 | 690 | Emergency exit, left |
| | F56.2 | - | Emergency exit, right |
| | F57.1 | 691 | Direction to emergency exit |
| | F57.2 | - | Directions to emergency exits |
| | G1 | 701 | Information sign for services |
| | G2 | 702 | Information sign for services |
| | G3 | 703 | Advance iinformation sign for services |
| | G4 | 704 | Location sign for services |
| | G5 | 7041 | Advance location sign for services |
| | G6 | 710 | Radio station frequency |
| | G7 | 711 | Information point |
| | G8 | 712 | Indoor information centre |
| | G9 | 715 | First aid |
| | G10 | 721 | Breakdown service |
| | G11.1 | 722 | Filling station |
| | G11.2 | - | Filling station |
| | G11.3 | - | Filling station |
| | G11.4 | - | Filling station |
| | G12 | 723 | Hotel or motel |
| | G13 | 724 | Restaurant |
| | G14 | 725 | Cafeteria or refreshments |
| | G15 | 726 | Public lavatory |
| | G16 | 731 | Youth hostel |
| | G17 | 733 | Camping site |
| | G18 | 734 | Caravan and camper van parking |
| | G19 | 741 | Picnic site |
| | G20 | 742 | Recreational area |
| | G21 | 791 | Emergency telephone |
| | G22 | 792 | Extinguisher |
| | G23 | 7721 | Museum or historic building |
| | G24 | 7723 | World heritage site |
| | G25 | 7722 | Nature site |
| | G26 | 7724 | Viewpoint |
| | G27 | 7725 | Zoo |
| | G28 | 7726 | Other tourist attraction |
| | G29 | 7731 | Swimming place |
| | G30 | 7732 | Fishing place |
| | G31 | 7733 | Ski lift |
| | G32 | - | Cross country skiing resort |

| | G33 | 7734 | Golf course |
|---|---|---|---|
| | G34 | 7735 | Pleasure or theme park |
| | G35 | 7741 | Cottage accommodation |
| | G36 | 7742 | Bed and breakfast |
| | G37 | 7743 | Direct sale |
| | G38 | 7744 | Handicrafts |
| | G39 | 7745 | Farm Park |
| | G40 | 7746 | Horseback riding |
| | G41.1 | 7711 | Tourist route (text) |
| | G41.2 | 7712 | Tourist route (picture and text) |
| | G42 | - | Temporary guide sign |
| | I1 | | Boom barrier |
| | I2.1 | | Fence barrier |
| | I2.2 | | Fence barrier |
| | I3.1 | | Column barrier |
| | I3.2 | | Column barrier |
| | I3.3 | | Column barrier |
| | I4 | | Cone barrier |
| | I5 | 9151 | Background sign |
| | I6 | 916 | Curve direction sing |
| | I7.1 | 931 | Edge sign |
| | I7.2 | 931 | Edge sign |
| | I8 | 935 | Height sign |
| | I9 | 941 | Underpass height measurement |
| | I10.1 | 932 | Road sign post visibility enhancer (blue/white) |
| | I10.2 | - | Road sign post visibility enhancer (black/yellow) |
| | I11 | 911 | Leaving road sign |
| | I12.1 | | Edge column |
| | I12.2 | | Edge column |
| | I13 | - | Request to remove vehicles |
| | I14 | - | Location sign |
| | I15 | 9901 | Automatic traffic control |
| | I16 | - | Technological supervision |
| | I17.1 | 95123 | Area of reindeer husbandry |
| | I17.2 | 95122 | Area of reindeer husbandry |
| | I18 | 95119 | General speed limit |
| | I19 | 9512 | National border |
| 2030 outgoing signs: | - | 9998 | Muu merkki (mm. ei numeroa) |
| | - | 9999 | Tyhjä varsi (ei merkkiä) |

| | - | 1612 | 1612 |
|---|---|---|---|
| | - | 6152 | Kiertosuositustaulu |
| | - | 9511 | Ajovalojen käyttö |
| | - | 9512 | Ajovalojen käyttö |
| | - | 9513 | Ajovalojen käyttö |
| | - | 9514 | Ajovalojen käyttö |
| | - | 716 | Nähtävyys (sininen pohja) |
| | - | 862 | Tukkitie |
| | - | 9516 | Väistämisvelvollisuus muuttunut |
| | - | 9902 | Tiekirkko |
| | - | 9152 | Taustamerkki varalaskupaikalla |
| | - | 9511 | Yleiset nopeusrajoitukset |
| | - | 9512 | Maantie päättyy |
| ADDITIONAL SIGN TYPE | New | Old | Name |
| New:<br>Legal number 729/2018 | H1 | 811 | Direction of sign applicability (turn ahead) |
| Old:<br>Old regulation | H2.1 | 812 | Direction of sign applicability (turn here) |
| | H2.2 | 813 | Direction of sign applicability (turn here) |
| | H2.3 | - | Direction of sign applicability (turn here) |
| | H3 | 814 | Direction of signs applicability (turn here) |
| | H4 | 815 | Distance from sign to start of hazard or regulation |
| | H5 | 816 | Distance to the compulsory stop |
| | H6 | 821 | No vehicle wider than XX meters |
| | H7 | 822 | No vehicle taller than XX meters |
| | H8 | 823 | Height of electrical cable |
| | H9.1 | 824 | Regulation applies to both directions |
| | H9.2 | 825 | Regulation applies to both directions |
| | H10 | 826, 827 | Regulation applies to the direction of the narrow |
| | H11 | 828 | Regulation ends at the sign |
| | H12.1 | 831 | Passenger car |
| | H12.2 | 832 | Busses |
| | H12.3 | 833 | Lorries |
| | H12.4 | 834 | Vans |
| | H12.5 | 835 | Caravans |
| | H12.6 | - | Motor homes |
| | H12.7 | 836 | Vehicle for disabled person |
| | H12.8 | 841 | Motorcycles |
| | H12.9 | 842 | Mopeds |
| | H12.10 | 843 | Cycles |
| | H12.11 | - | Motor sledges |

| | H12.12 | - | Power driven agricultural vehicles |
|---|---|---|---|
| | H12.13 | - | Low-emission vehicles |
| | H13.1 | 845 | Method of parking |
| | H13.2 | 844 | Method of parking |
| | H14 | 848 | No vehicles carrying dangerous goods (class A) |
| | H15 | 849 | No vehicles carrying dangerous goods (class B) |
| | H16 | - | Tunnel class |
| | H17.1 | 851 | Sign applies Monday-Friday |
| | H17.2 | 852 | Sign applies Saturdays |
| | H17.3 | 853 | Sign applies Sundays and holidays |
| | H18 | 854 | Time limit |
| | H19.1 | 8561 | Disc parking |
| | H19.2 | 8562 | Disc parking |
| | H20 | 8551 , 8552 | Parking fee |
| | H21 | - | Charging point |
| | H22.1 | 861, 8611 | Direction of priority and non-priority roads |
| | H22.2 | 8612 | Direction of priority and non-priority roads |
| | H23.1 | 863 | Cycle cross traffic in both directions |
| | H23.2 | - | Cycle cross traffic in both directions |
| | H24 | 871 | Additional panel with text |
| | H25 | 872 | Additional panel with text "Driving in service purpose allowed" |
| | H26 | 880 | Emergency telephone and extinguisher |

## 4.3.7 Railway crossing

**Definition**
Railway crossing includes:

- a name
- type of safety device
- A level crossing symbol that can be used to connect to a track information system

**Coverage**
Information applies to roads, streets and some private roads.

**Link to the Railway crossing table**
Railway crossing

| RAILWAY CROSSING | |
|---|---|
| Type of safety device | Code value |
| Railway not in use | 1 |
| No safety device | 2 |
| Only light and/or sound signal | 3 |
| Half barrier and possible light and/or sound signal | 4 |
| Full barrier and possible light and/or sound signal | 5 |

## 4.4   Line Attribute data

### 4.4.1  Speed limit

**Definition**
The maximum vehicle speed assigned to a route.

**Values**
Arvo (value) field indicates the speed limit value (km/h). Speed limit 90 km/h is only used in Aland.

**Coverage**
Speed limit applies to all road links excluding pedestrian and cycle paths and vehicle tracks. If the administrator has not updated the road link speed limit, an empty speed limit with null value is generated for the link. The null speed limit does not have an ID.

**Link to the Speed limit table**
Speed Limit

| SPEED LIMIT | | | |
|---|---|---|---|
| Attribute data | Data type | Description | Code values |
| Validity direction | Code value | Validity direction in relation to the direction of digitization of a road link. | 1 Both directions<br><br>2 In the direction of digitization<br><br>3 Against the direction of digitization |

### 4.4.2  Maximum allowed restrictions… x 7

Maximum allowed restrictions:
- Maximum weight allowed for a vehicle
- Maximum weight allowed for an articulated vehicle
- Maximum weight per axle allowed for a vehicle
- Maximum weight per tandem-axle allowed for a vehicle
- Maximum height allowed for a vehicle
- Maximum length allowed for a vehicle or articulated vehicle
- Maximum width allowed for a vehicle

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**Definition**
The 'maximum allowed...' attribute data are line attribute data that cover all the area where the restriction is valid.  The weight restrictions are indicated with an accuracy of 100 kilograms and the height, length and width restrictions as centimeters. For roads, height restrictions below 440 cm are indicated. The unit of weight restrictions is kg, and the unit of height, length and width restrictions is cm.

**Values**
Arvo (value) field indicates the value of the restriction (kg or cm).

**Coverage**
Information applies to roads, streets and some private roads. The information is to be saved for all the areas where the restriction is valid.

**Link to the Maximum allowed... table**
Maximum weight allowed for a vehicle
Maximum weight allowed for an articulated vehicle
Maximum weight per axle allowed for a vehicle
Maximum weight per tandem-axle allowed for a vehicle
Maximum height allowed for a vehicle
Maximum length allowed for a vehicle or articulated vehicle
Maximum width allowed for a vehicle

## 4.4.3  Lit road

**Definition**
The road has lighting. Lit road is line attribute data which may apply to the whole link or only to a part of it.

**Coverage**
Information applies mainly to roads and streets.

**Link to Lit road table**
Lit road

## 4.4.4  Paved road

**Definition**
All pavement types are classified as pavements. There is no pavement segment on the part of road network covered with gravel. Nearly always the pavement information covers the whole link. The data source for road links is Tievelho and for street and private roads the topographic database of The National Land Survey of Finland or municipalities.

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**Coverage**
Information applies to all route types.

**Link to Paved Road table**
Paved road

| PAVED ROAD | | | |
|---|---|---|---|
| Attribute value | Data type | Description | Code values |
| Class | Code value | Describes the pavement type of the road. | 1 Asphalt<br>2 Stone<br>3 Unbound wear layers<br>4 Other pavement categories<br>99 Paved, type unknown |

## 4.4.5 Road affected by thawing

**Definition**
Road affected by thawing is the part of the traffic network that tends to suffer from thawing's. A temporary weight restriction may be in force on the road during a thawing.

**Values**
Arvo (value) field indicates the maximum load-bearing capacity (kg) of road damaged by thawing.

**Coverage**
Information applies mainly to main roads and to private roads.

**Link to Road affected by thawing table**
Road_thawing

## 4.4.6 Width

**Definition**
Road width is the width of the part of the carriageway meant for vehicle traffic. On paved roads the carriageway is often separated from the shoulders with a white border line. If a border line doesn't exist, the width equals the width of the paving. On gravel roads the width equals the width of the whole road, since gravel roads don't have shoulders.

For roads, the source of information is Tievelho. For streets and private roads, the information comes from the road line category of the National Land Survey of Finland or from the municipal administrator.

**Values**
Arvo (value) field indicates the value of the width (cm).

**Coverage**
Information is available for all road links except driving path, walking and cycling paths and ferry's.

**Link to Width table**
Width

## 4.4.7 Road work

**Definition**
Road work includes targets in which road works are being carried out. Road links can be either partially or fully broken. An estimation of the starting and ending date should be reported. Also, road work ID can be notified.

**Coverage**
Road work information is currently only on street network.

**Link to Road work table**
Road work

## 4.4.8 Parking restriction

**Definition**
Parking restriction is linear data which indicates areas where parking / stopping are forbidden. You can also report an estimation of the starting and ending date. Targets are also derived from traffic signs that indicate parking restriction.

**Coverage**
Mainly on street network

**Link to Parking restriction table**
Parking restriction

| PARKING RESTRICTION | | | |
|---|---|---|---|
| Attribute data | Data type | Description | Code values |
| Class | Code values | Describes road treatment class | 1 Stopping forbidden 2 Parking forbidden |

## 4.4.9 Road treatment class

**Definition**
Treatment class is linear road data. Roads and streets have their own winter-treatment classes. Winter treatment class classifications are the same than in Tievelho. The streets have a three-tier classification for roadways and walking and cycling routes. There are no treatment classes for private roads.

**Coverage**
Mainly on street network

**Link to Parking restriction table**
Treatment class

| TREATMENT CLASS | | | |
|---|---|---|---|
| Attribute data | Data type | Description | Code values |
| Treatment class | Code values | Describes road treatment class | |
| | | State roadways (highways) | 1 Anti-slip without operating time<br>2 Normally always exposed.<br>3 Normally exposed<br>4 Mostly salted, occasionally slightly slippery.<br>5 Mainly sandable, thin snow is allowed.<br>6 Mostly snowy<br>7 Mostly snowy, longest operating time |
| | | State walking and cycling lanes | 8 Light traffic quality lanes<br>9 Fairly busy light traffic lanes<br>10 Basic winter care level for light traffic lanes<br>11 Light traffic lanes with no winter care |
| | | Municipal carriageways (streets) | 20 Class I (Main streets and busy fairways)<br>30 Class II (Collector streets)<br>40 Class III (Pkot streets) |
| | | Municipal walking and cycling routes | 50 Class A<br>60 Class B<br>70 Class C |

## 4.4.10    Private roads with road associations

**Definition**
This level shows all the private roads with road associations. The information is stored with the accuracy of the road link, which allows it to generalize the location of private roads in the city. For more information, see if the municipality has submitted a private road announcement to Digiroad for the road and whether weight- and / or vehicle-specific restrictions have been submitted to the road. The name of the road association will not be published.

**Coverage**
All the private roads in Finland

**Link to Parking restriction table**
Private roads with road associations

| PRIVATE ROADS WITH ROAD ASSOCIATIONS | | | |
|---|---|---|---|
| Attribute data | Data type | Description | Code values |
| Additional information | Code value | Restrictions on a road | Not delivered<br>Delivered, restrictions<br>Delivered, no restriction |

## 4.4.11    Traffic volume

**Definition**
Traffic volume is the average number of vehicles passing per day. If the road that consists of one carriageway is split into two carriageways, both carriageways get the same traffic volume value that existed for the road before the splitting.

**Values**
The value field indicates the traffic volume (vehicles per day).

**Coverage**
Information applies to roads and partially to the road network. Information is pro-duced directly from Tievelho. The inventory information is updated once a year and it is based on measurements made during the previous fall.

**Link to Traffic volume table**
Traffic volume

## 4.4.12    Vehicle-specific restriction

**Definition**
A part of the road network where driving with a certain vehicle type(s) is prohibited by traffic signs. Validity period can be given by vehicle specific restriction. The vehicles that are not covered by the restriction can be added as exceptions to the vehicle, motor vehicle and passage through restrictions.
In Digiroad, the vehicle specific restrictions which the Road Traffic Act imposes, or which are indicated by the selection of the road link type are not maintained on motorways and other corresponding road types (including semi-motorway, pedes-trian and cycle path).

If one position includes several prohibited vehicle types, objects that overlap by geometry are formed to the R and K releases of Digiroad. These objects have the same restriction ID, position information and last edited time data.

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## Coverage
Information applies mainly to roads, streets and private roads.

## Link to Vehicle specific restriction table
Vehicle specific restriction

| VEHICLE SPECIFIC RESTRICTION | | | |
|---|---|---|---|
| Attribute data | Data type | Description | Code values |
| Validity direction | Code value | Validity direction in relation to the direction of digitiza-tion of a road link. | 1 Both directions<br>2 In the direction of digitization<br>3 Against the direc-tion of digitization |
| Type of prohibited vehicle | Code value | Type of prohibited vehicle | 2 Motor vehicle<br>3 Vehicle<br>4 Truck<br>5 Bus<br>6 Delivery vehicle<br>7 Passenger car<br>8 Taxi<br>9 Motorcycle<br>10 Moped<br>11 Cycle<br>12 Pedestrian<br>13 Articulated vehi-cles<br>14 Tractor or farm vehicle<br>15 Car with trailer / recreational vehicle<br>19 Military vehicle<br>21 Driving in service purposes<br>22 Driving to a lot<br>23 Passage through<br>26 Horse riding<br>27 Snow mobile<br>28 Special transport |
| Validity period | Character string | Validity period of the re-striction, time domain | |
| Validity period, in plain language | Character string | | |
| Exceptions | Code value | Vehicle types not covered by the restriction. Excep-tions can apply to re-strictions of vehicle, motor vehicle and passage through. | Same code values as in the type of prohibited vehicle. |

## 4.4.13    Restriction for the transportation of dangerous goods (VAK)

**Definition**
A part of the road network where the transportation of dangerous goods (VAK) is prohibited.

The value of VAK restriction can be A-VAK or B-VAK which is shown in a plate of the restriction sign.

If the restriction includes both A-VAK and B-VAK, they will be formed as geo-met-rically overlapping objects to the R and K releases of Digiroad. A-VAK and B-VAK are never valid simultaneously, so the overlapping objects have al-ways a period of validity for the restriction. These objects have the same re-striction ID, position information and last edited time data.

**Coverage**
Information applies to roads and streets.

**Link to Restriction for the transportation of dangerous goods table**
Restriction for the transportation of dangerous goods

| RESTRICTION FOR THE TRANSPORTATION OF DANGEROUS GOODS (VAK) | | |
|---|---|---|
| Attribute data | Data type | Description |
| Validity direction | Code value | Validity direction in relation to the direction of dig-itization of a road link.<br>1 Both directions<br>2 In the direction of digitization<br>3 Against the direction of digitization |
| Type of prohibited vehicle | Code value | 24 A-VAK<br>25 B-VAK |
| Validity period | Character string | Validity period of the restriction, time domain |
| Validity period, in plain language | Character string | |

## 4.4.14    Number of lanes

**Definition**
Information on the number of lanes is given according to the direction when there is more than one lane in a particular direction on one carriageway roads, and more than two lanes on two carriageway roads. Diverging lanes on the junctions are not included.

In the following cases, there is no information on the number of lanes in Digiroad:
- one-way road with one carriageway: 1 lane (one lane in the direction of the traffic flow)
- two-way road with one carriageway: 1+1 lanes (one lane in the direction of the traffic flow)

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- two-way road with two carriageways: 2+2 lanes (two lanes in the direction of the traffic flow)

Example 1: In a one carriageway road at the point where there is a passing/fast lane in the direction of the digitization, the validity direction is 2 and the number of lanes 2.

Example 2: In a one carriageway road at the point where there are passing/fast lanes to both directions, the validity direction is 1 and the number of lanes 2.

**Coverage**
Information applies to roads and streets.

**Link to Number of lanes table**
Number of Lanes

| NUMBER OF LANES | | |
|---|---|---|
| Attribute data | Data type | Description |
| Validity direction | Code value | Validity direction in relation to the direction of digitization of a road link.<br>1 Both directions<br>2 In the direction of the digitization<br>3 Against the direction of digitization |
| Number of lanes | Numerical | Number of lanes according to the direction (>1) |

## 4.4.15    Public transport lane

**Definition**
A road with a public transport lane.

**Coverage**
Information applies to roads and streets.

**Link to Public transport lane table**
Public transport lane

| PUBLIC TRANSPORT LANE | | |
|---|---|---|
| Attribute data | Data type | Description |
| Validity direction | Code value | Validity direction in relation to the direction of digitization of a road link.<br>1 Both directions<br>2 In the direction of the digitization<br>3 Against the direction of digitization |

## 4.4.16    E-road number

**Definition**

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E-road numbers are of the form E+<number>. One road can have many E-road numbers.

If a road has two or more E-road numbers, they are listed in R and K releases of Digiroad and separated from each other by a comma.

**Coverage**
Information applies to roads and in a few cities also to streets.

**Link to E-Road number table**
E-Road number

## 4.4.17    Exit number

**Definition**
Exit numbers are numbers given to ramps on motorways or semi-motorways. Exit numbers can consist of both a number and a letter, for example exit numbers 9A and 9B in Vantaankoski.

If one road has two or more exit numbers, they are listed in R and K releases of Digiroad and separated from each other by a comma.

**Coverage**
Information applies to the motorway and semi-motorway ramps (on the roads).

**Link to Exit number table**
Exit number

## 4.4.18    Winter speed limit

**Definition**
Speed limit during winter data is based on decisions made by local road authorities (ELY) in autumn 2016. Speed limits during winter is no longer applied on the road segments (in the intersections) where regular speed limit is lower than speed limit during winter.
Values
Arvo (value) field indicates the value of the winter speed limit (km/h).

**Coverage**
Information applies to roads.

**Link to Winter speed limit table**
Winter speed limit

## 4.5   Other features

### 4.5.1  Service

**Definition**
Service means the kind of service that helps and supports the users of a traffic network, e.g. a parking building or bus station. Service has a point geometry (service point) which is located at the point where the service exists (in the middle/center point of a building or property), not on a road link. One service point may have many services.

If one service point has many services, objects that overlap the geometry are formed to the shapefiles of the R and K releases of Digiroad. These overlap-ping objects have the same service point ID, position information and last edited time.

**Coverage**
The coverage of data varies according to the service.

**Link to Service table**
Service

| SERVICE | | |
|---|---|---|
| Attribute data | Data type | Description |
| Service point ID | Numerical | The ID identifying the service point |
| Service ID | Numerical | The ID identifying the service |
| Service type | Code value | The type of the service |
| Specifier of the rest area | Code value | The type of the rest area on rest areas or lay-bys, parking areas and bus and truck parking areas |
| Type of railway station | Code value | |
| Name of service | Character string | |
| Number of parking spaces | Numerical | Number of parking spaces on parking areas and houses |
| Additional information of the service | Character string | |

| TYPE OF SERVICE | | |
|---|---|---|
| Type of service | Code value | Description |
| Customs | 4 | |
| Frontier crossing | 5 | |
| Rest area (or lay-by) | 6 | Rest area, petrol station, kiosk, cafeteria, restaurant or accommodation services. |
| Airport | 8 | An airport which accommodates either cargo or passenger traffic of a commercial or private nature. |
| Ferry terminal | 9 | The access point or check-in area for a ferry company. |

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| Taxi stand | 10 | |
|---|---|---|
| Railway station | 11 | |
| Parking lot | 12 | Parking lot where there are usually at least 40-50 general parking spaces. There may be a charge for parking but there may not be other restrictions (e.g. parking only allowed for customers of a particular store). In addition, parking lot object can also include more accurate information about facilities. |
| Car shipping terminal | 13 | A location where cars may be loaded onto trains or ferries. |
| Coach and lorry parking (area / lot) | 14 | |
| Parking house/building | 15 | Parking house/building which has at least 40–50 public parking spaces. There may be a charge for parking but there may not be other restrictions (e.g. parking only allowed for customers of a particular store). |
| Bus station | 16 | |
| E18 Truck Park | 18 | |
| Drum tube | 19 | |

| TYPE OF REST AREA | | |
|---|---|---|
| Type of rest area | Code value | Description |
| Rest area, comprehensive facilities | 1 | Comprehensive facilities include other facilities and services in addition to the basic ones |
| Rest area, basic facilities | 2 | Basic facilities include the following facilities or services:<br>- parking area<br>- waste container<br>- toilets<br>- table and bench |
| Private service area | 3 | Privately run service area has e.g. a petrol station, kiosk, cafeteria, restaurant or accommodation services. |
| No data | 4 | |
| Important railway station | 5 | Passenger transport station, where possibly also freight traffic |
| Less important railway station | 6 | Not necessarily passenger traffic |
| Underground/metro station | 7 | |

# 5   Appendices

Appendix 1
Description of data content - field names, data types and code values
Appendix 2
Public transport stop facility data and other attribute data
Appendix 3
Primary data sources by data objects
Appendix 4
Time domain character string

## 5.1 Appendix 1. Description of data content - field names, data types and code values

## Road line
Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| Link breakpoints | shape/ points | geometry (polylineZm) | X and Y coordinates: ETRS-TM35FIN Z coordinate: N60 M value: meter (X, Y level) |
| Link ID | LINK_ID | text, 20 | The identifier of the road link, which is formed from the identifier of the national terrain database of the National land survey of Finland and the version number of the road link. |
| ID (by the National Land Survey of Finland) * | LINK_MML_ID | text, 20 | |
| Administrative class | HALLINN_LK | integer | code value |
| Functional class | TOIMINN_LK | integer | code value |
| Direction of traffic flow | AJOSUUNTA | integer | code value |
| Link type | LINKKITYYP | integer | code value |
| Bridge, underpass or tunnel | SILTA_ALIK | integer | code value |
| Link phase | LINK_TILA | integer | code value (to be published later) |
| Name of road or street in Finnish | TIENIMI_SU | text, 200 | |
| Name of road or street in Swedish | TIENIMI_RU | text, 200 | |
| Name of road or street in Sami | TIENIMI_SA | text, 200 | |
| Address first house on the left | ENS_TALO_V | integer | |
| Address first house on the right | ENS_TALO_O | integer | |
| Address last house on the left | VIIM_TAL_V | integer | |
| Address last house on the right | VIIM_TAL_O | integer | |
| Municipality code | KUNTAKOODI | integer | |
| Road number | TIENUMERO | integer | |

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| Number of the part of a road | TIEOSANRO | integer | |
|---|---|---|---|
| Carriageway | AJORATA | integer | code value |
| Start measure from the beginning of the road part | AET | integer | |
| End measure from the beginning of road part | LET | integer | |
| Horizontal accuracy | SIJ_TARK | integer | code value |
| Vertical accuracy | KOR_TARK | integer | code value |
| Digitization direction in relation to the geometry of National Land Survey of Finland | GEOM_FLIP | integer | code value |
| Link start M value | ALKU_PAALU | double | |
| Link end M value | LOPP_PAALU | double | |
| Last edited | MUOKKAUSPV | text, 20 | time stamp "12.06.2014 13:29:17" Editing time or, if there is no editing time, the object's creation time. |
| Source geometry | GEOM_LAHDE | integer | code value |
| Road classification according to the topographic database (National Land Survey) | MTK_TIE_LK | integer | code value, explanations can be found in the description by the National Land Survey |
| Road address growth direction | TIEN_KASVU | integer | Code value |

\* If the link does not have an MML-ID, this means that its' source is some other than the National Land Survey of Finland.

| Name | Code value | Description |
|---|---|---|
| Administrative class | 1 | Road owned by the state |
| | 2 | Road owned by a municipality |
| | 3 | Road owned privately, e.g. by a road association |
| | 99 | No data |
| Functional class | 1 | Class I main road or regional main street |
| | 2 | Class II main road or regional main street |
| | 3 | Regional road or local main street |
| | 4 | Connecting road or collector street |
| | 5 | Feeder street, rest area or important private road |
| | 6 | Other private road |
| | 7 | Vehicle track |
| | 8 | Walking and cycling path |
| | 9 | Maintenance opening or special transport connection |

Väylävirasto
Trafikledsverket

| | | 99 | No data (Only road links under construction) |
|---|---|---|---|
| Direction of traffic flow | | 2 | Traffic is permitted in both directions |
| | | 3 | Traffic is permitted against the direction of digitization |
| | | 4 | Traffic is permitted in the direction of digitization |
| | | | |
| Link type | | 1 | Part of a motorway |
| | | 2 | Part of a multiple carriageway, which is not a motorway |
| | | 3 | Part of single carriageway |
| | | 4 | Part of a semi-motorway |
| | | 5 | Part of a roundabout |
| | | 6 | Slip road |
| | | 7 | Rest area |
| | | 8 | Cycling path or combined walking and cycling path |
| | | 9 | Part of a pedestrian zone, e.g. a pedestrian street or footpath |
| | | 10 | Part of a service or emergency road |
| | | 11 | Enclosed traffic area |
| | | 12 | Vehicle track, roads accessible by off-road vehicles |
| | | 13 | Service access point on a motorway |
| | | 14 | Route for special deliveries without a locked barriere structure |
| | | 15 | Route for special deliveries with a locked barriere structure |
| | | 21 | Ferry/cable ferry |
| | | 99 | No data (Only road links under construction) |
| Bridge, underpass or tunnel | | -11 | Tunnel |
| | | -3 | Underground |
| | | -2 | Underground |
| | | -1 | Underpass |
| | | 0 | At ground level |
| | | 1 | Bridge, level 1 |
| | | 2 | Bridge, level 2 |
| | | 3 | Bridge, level 3 |
| | | 4 | Bridge, level 4 |
| Link phase | | Null | Valid |

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Trafikledsverket

| | 1 | Under construction |
|---|---|---|
| | 3 | Planned |
| Carriageway | 1 | First carriageway on the right in the direction of the road number |
| | 2 | Second carriageway on the right in the direction of the road number |
| | 0 | Single carriageway road |
| Accuracy for the geometries | 0 | Not defined |
| | 0.5 | 0,5 m |
| | 0.8 | 0,8 m |
| | 1 | 1 m |
| | 2 | 2 m |
| | 3 | 3 m |
| | 4 | 4 m |
| | 5 | 7 m |
| | 7.5 | 7,5 m |
| | 8 | 8 m |
| | 10 | 10 m |
| | 12.5 | 12,5 m |
| | 15 | 15 m |
| | 20 | 20 m |
| | 25 | 25 m |
| | 30 | 30 m |
| | 40 | 40 m |
| | 80 | 80 m |
| | 100 | 100 m |
| Vertical accuracy | 0 | Not defined |
| | 0.4 | KM (EM) (traced from the 2 m resolution model) |
| | 0.5 | 0,5 m |
| | 0.8 | 0,8 m |
| | 1 | 1 m |
| | 2 | 2 m |
| | 3 | 3 m |
| | 4 | 4 m |
| | 5 | 5 m |

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| | 7.5 | 7,5 m |
|---|---|---|
| | 8 | 8 m |
| | 10 | 10 m |
| | 12.5 | 12,5 m |
| | 15 | 15 m |
| | 20 | 20 m |
| | 25 | 25 m |
| | 30 | 30 m |
| | 40 | 40 m |
| | 80 | 80 m |
| | 100 | 100 m |
| | 5.8 | KM (EM) 10 m (traced from the 10 m resolution model) |
| Digitization direction in relation with the geometry of National Land Survey of Finland | 0 | Direction of digitization remained the same. |
| | 1 | Changed direction of digitization |
| Source geometry | 1 | National Land Survey |
| | 2 | other, not specified |
| Street address growth direction | 1 | A road link towards digitization |
| | 2 | Against the digitization direction of the road link |

# Restricted manoeuvre
## Relationship between the links

Restricted manoeuvre information is complementary data for road links. Its utilization requires that the road link material/data is in use. For visualization, the geometry for the restricted manoeuvre has been formed in the release from the geometry of the source and object links.

Väylävirasto
Trafikledsverket

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/ points | geometry (pol- ylineZ) | ETRS-TM35FIN, formed from the source and object link geometry |
| Source link ID | LAHD_ID | text, 20 | |
| Object link ID | KOHD_ID | text, 20 | |
| Vehicles not covered by restricted manoeuvre | POIKKEUS | text, 40 | comma-separated list of vehicle types |
| Validity period | VOIM_AIKA | text, 200 | time domain |
| Validity period, in plain language | VOIM_AIKA | text, 200 | |
| Additional information | LISATIEDOT | text, 200 | |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.6.2014 13:29:17" Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

| Name | Code value | Description |
|---|---|---|
| Vehicle type | 4 | Truck |
| | 5 | Bus |
| | 6 | Van |
| | 7 | Passenger car |
| | 8 | Taxi |
| | 9 | Motorcycle |
| | 10 | Moped |
| | 13 | Articulated vehicle |
| | 14 | Tractor or farm vehicle |
| | 15 | Car with trailer/ recreational vehicle |
| | 19 | Military vehicle |
| | 21 | Driving in service purposes |
| | 22 | Driving to a lot |

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Trafikledsverket

| | 27 | Snow mobile |
|---|---|---|

## Restricted manoeuvre_link
(Digiroad R delivery mode only)

| Description | Field (dbf) | Data type (dbf) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Restricted manoeuvre ID | KAANRAJ_ID | text, 20 | |
| Link-ID | LINK_ID | text, 20 | |
| Status | STATUS | integer | |
| Serial number in Restricted manoeuvre | JARJES_NRO | integer | The order difference of the start (source) link is zero. |
| Municipal code | KUNTAKOODI | integer | |

| Name | Code value | Additional information |
|---|---|---|
| Status | 1 | start (source) link |
| | 2 | intermediate link |
| | 3 | end (destination) link |

## Public transport stop
Point

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| National ID | VALTAK_ID | integer | |
| Position | shape/point | geometry (pointZ) | ETRS-TM35FIN |
| Coordinate X | KOORD_X | double | ETRS-TM35FIN |
| Coordinate Y | KOORD_Y | double | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |

Väylävirasto
Trafikledsverket

| Sijainti linkillä | SIJAINTI_M | double | M value: metre (x, y level) |
|---|---|---|---|
| Validity direction | VAIK_SUUNT | integer | code value |
| Name in Finnish | NIMI_SU | text, 200 | |
| Name in Swedish | NIMI_RU | text, 200 | |
| Data administrator | YLLAPITAJA | integer | code value |
| Administrator identifier | YLLAP_TUNN | text, 50 | |
| Livi identifier | LIVI_TUNN | text, 50 | |
| Traveller identifier | MATK_TUNN | text, 50 | |
| Ground coordinate X | MAAST_X | text, 50 | |
| Ground coordinate Y | MAAST_Y | text, 50 | |
| Ground coordinate Z | MAAST_Z | text, 50 | |
| Direction of travel | LIIK_SUUNTA | text, 200 | |
| Traffic bearing | L_SUUNTIMA | integer | degree 0-360 |
| Valid from date | ENS_VO_PV | text, 50 | time stamp "12.06.2014" |
| Valid to date | VIIM_VO_PV | text, 50 | time stamp "12.06.2014" |
| Stop type | PYS_TYYPPI | text, 20 | comma-separated list of types |
| Timetable | AIKATAULU | integer | code value |
| Shelter | KATOS | integer | code value |
| Bench | PENKKI | integer | code value |
| Advertising shelter | MAINOSKAT | integer | code value |
| Cycle rack | PYORATELIN | integer | code value |
| Electronic timetable board | S_AIKATAUL | integer | code value |
| Lighting | VALAISTUS | integer | code value |
| Accessibility to people with re-duced mobility | ESTETTOMYY | text, 200 | |
| Possibility to escort by car | SAATTOMAHD | integer | code value |
| Number of park-and-ride places | LIIT_LKM | text, 200 | |
| Additional information on park-and-ride facilities | LIIT_LISAT | text, 200 | |
| Stop owner | PYS_OMIST | text, 200 | |
| Feedback address | PALAUTE_OS | text, 200 | |

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| Additional information | LISATIEDOT | text, 200 | |
|---|---|---|---|
| Disconnected from geometry | IRTI_GEOM | integer | code value |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |
| Berth number | LAITURINUM | text, 254 | |
| Connected to terminal | LIIT_TERM | text, 254 | Terminal stop ID, if the stop is connected to a stop terminal (e.g. bus station) |
| Zone information | VYOHYKETIET_ | text, 254 | Traffic zone of the stop |
| Service class | PALVELUTASOLUOKKA | integer | |

| Name | Code value | Description |
|---|---|---|
| Data administrator | 1 | Municipality |
| | 2 | Center for Economic Development, Transport and the Environment |
| | 3 | Helsinki Regional Transport |
| | 99 | Unknown |
| Validity direction | 2 | In the direction of digitization |
| | 3 | Against the direction of digitization |
| Stop type | 1 | Tram |
| | 2 | Local transport |
| | 3 | Long-distance transport |
| | 4 | Express |
| | 5 | Virtual stop |
| | 6 | Terminal |
| | 99 | No data |
| Disconnected from geometry | 1 | Connected to geometry |
| | 2 | Disconnected from geometry |
| Timetable | 1 | No |
| | 2 | Yes |
| | 99 | No data |
| Shelter | 1 | No |

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| | 2 | Yes |
|---|---|---|
| | 99 | No data |
| Advertising shelter | 1 | No |
| | 2 | Yes |
| | 99 | No data |
| Bench | 1 | No |
| | 2 | Yes |
| | 99 | No data |
| Cycle rack | 1 | No |
| | 2 | Yes |
| | 99 | No data |
| Electronic timetable board | 1 | No |
| | 2 | Yes |
| | 99 | No data |
| Lighting | 1 | No |
| | 2 | Yes |
| | 99 | No data |
| Possibility to escort by car | 1 | No |
| | 2 | Yes |
| | 99 | No data |
| Service type class | 1 | Terminal |
| | 2 | Central knot stop |
| | 3 | Lively stop |
| | 4 | Basic stop |
| | 5 | Little used stop |
| | 6 | Leaving stop |
| | 7 | Virtual stop |
| | 8 | Stops not used for bus services |
| | 99 | No data |

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# Barrier

Point

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/ point | geometry (pointZ) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Distance from the start of the link | SIJAINTI_M | double | |
| Barrier type | EST_TYYPPI | integer | code value |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17" Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

| Name | Code value | Description |
|---|---|---|
| Barrier type | 1 | Blocked passage |
| | 2 | Traffic barrier gate which can be opened |

# Traffic light

Point

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/ point | geometry (pointZ) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Distance from the start of the link | SIJAINTI_M | double | |

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| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
|---|---|---|---|
| Municipality code | KUNTAKOODI | integer | |

# Pedestrian crossing
Point

| Description | Field (shape/GPKG)/<br>Element (WFS) | Data type<br>(shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/<br>point | geometry (pointZ) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Distance from the start of the link | SIJAINTI_M | double | |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

# Directional traffic sign
Point

| Description | Field (shape/GPKG)/<br>Element (WFS) | Data type<br>(shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Sijainti | shape/<br>point | geometry (pointZ) | ETRS-TM35FIN |

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| Link ID | LINK_ID | text, 20 | |
|---|---|---|---|
| Distance from the start of the link | SIJAINTI_M | double | |
| Validity direction | VAIK_SUUNT | integer | code value |
| Bearing | SUUNTIMA | integer | degree |
| Text | TEKSTI | text, 200 | comma-separated list of texts |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17" <br> Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

| Name | Code value | Selite |
|---|---|---|
| Validity direction | 2 | In the direction of digitization |
| | 3 | Against the direction of digitization |

# Traffic sign

Point

| Description | Field (shape/GPKG)/ Element (WFS) | Data (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/point | geometry (pointZ) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Distance from the start of the link | SIJAINTI_M | double | |
| Value | ARVO | integer | Code value |
| Type of traffic sign | TYYPPI | integer | Code value for the traffic sign type |
| Additional info for the traffic sign | LISATIEDOT | text, 200 | Additional info for the traffic sign as text |
| Terrain coordinate X | MAASTO_X | integer | Road sign terrain coordinate X |

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| Terrain coordinate Y | MAASTO_Y | integer | Road sign terrain coordinate Y |
|---|---|---|---|
| First day of validity | ENS_VO_PV | text 50 | |
| Last day of validity | VIIM_VO_PV | text 50 | |
| Traffic sign status | TILA | integer | |
| Main traffic sign text | PAAMERKTXT | text 50 | Added text for main traffic sign |
| Road name | TIEN_NIMI | text 50 | |
| Location specification | SIJAINTITR | integer | Location specification of the traffic sign as a code value |
| Type of damage | VAURIOTYYPPI | integer | Traffic sign damage type as a code value |
| Old traffic sign code | VANHAKOODI | integer | Type code of the traffic sign according to the old road traffic law, information only with traffic signs according to the old regulation |
| Size | KOKO | integer | Traffic sign size as a code value |
| Height | KORKEUS | integer | The height of the lower edge of the traffic sign from the road surface cm |
| Lane | KAISTA | integer | Lane number where the traffic sign is located koo-diarvo (lane maintenance has not yet started in Digiroad, so it is not yet possible to give lane numbers to traffic signs) |
| Lane type | KAISTATYYP | integer | The type of lane on which the traffic sign is located (lane maintenance has not yet started on Digiroa, so road signs cannot yet be given a lane type) |
| Structure | RAKENNE | integer | Additional information about the character structure as a code value |
| Condition | KUNTO | integer | Code value describing the condition of the traffic sign |
| Film type | KALVONTYYP | integer | Road sign film type code value |
| Urgency of repair | KORJKIIRE | integer | Code value of the urgency of road sign correction |
| Estimated service life | ARVKAYTIKA | integer | Estimated service life of the road sign in years |
| Additional panel 1 type | KILPITYYP1 | integer | Additional panel 1 code type |
| Additional panel 1 value | KILPIARVO1 | integer | Additional panel 1 value |
| Additional panel 1 info | KILPIINFO1 | text, 50 | Additional panel 1 info |

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| Additional panel 1 text | KILPI_TXT0 | text 50 | Additional panel 1 |
|---|---|---|---|
| Additional panel 1 size | KILPiKOKO1 | integer | Additional panel 1 size as code value |
| Additional panel 1 film | KILPIKALV1 | integer | Additional panel 1 film type |
| Additional panel 1 colour | KILPIVARI1 | integer | Additional panel 1 colour as code value |
| Additional panel 2 type | KILPITYYP2 | integer | Additional panel 2 tyoe as code value |
| Additional panel 2*… | | | |
| Last modified | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | code value |
| Validity direction | LIIKSUUNTA | integer | code value |

*) The fields of additional plates 2-5 are the same as those of additional plate 1, except for the number of the additional plate.

| Name | Code value | Description |
|---|---|---|
| Traffic sign type | A1-A33, B1-B2, C1-C48, D1-D11, E1-E30, H1-H26, F1- F57.2, G1-G42, I5-I11 ja I13-I19 | See Traffic Sign Type for exact code values |
| Traffic sign status | 1 | In the works |
| | 2 | Under construction |
| | 3 | Permanently enabled (default) |
| | 4 | Temporary used |
| | 5 | Temporarily disabled |
| | 6 | Permanently disabled |
| Location specification | 1 | Right side of lane (default) |
| | 2 | Left side of the lane |
| | 3 | Above the lane |
| | 4 | Central island or traffic divider |
| | 5 | Longitudinal to the direction of travel |
| | 6 | Outside the road and street network, for example a parking area |
| Type of damage | 1 | Rusted |
| | 2 | Battered |
| | 3 | Painting |

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| | 4 | Other damage |
|---|---|---|
| | null | Not known |
| Old traffic sign code | | See Traffic Sign Type for exact code values |
| Size | 1 | Compact traffic sign |
| | 2 | Normal-sized traffic sign (default) |
| | 3 | Large sign |
| Lane | 11 ja/tai 21 tai 31<br>12, 13, 14…<br>22,23, 24… | The lane numbering can be checked in the lane definition of the Finnish Transport Infrastructure Agency |
| Lane type | 1 | Main lane |
| | 2 | Fast lane |
| | 3 | Turn right |
| | 4 | Turn left |
| | 5 | Extra lane for direct drivers |
| | 6 | Access lane (if not part of the ramp) |
| | 7 | Separation lane (if not part of the ramp) |
| | 8 | Mixing lane |
| | 9 | Public transport lane / taxi lane |
| | 10 | Heavy traffic lane |
| | 11 | Reversible lane |
| | 12 | Bicycle lane |
| | 20 | Combined bike path and sidewalk |
| | 21 | Sidewalk |
| | 22 | Cycle path |
| | 23 | Pedestrian zone |
| | 24 | Bicycle street |
| Structure | 1 | Pillar |
| | 2 | Wall |
| | 3 | Bridge |
| | 4 | Portal |
| | 5 | Half portal |
| | 6 | Boom or other barrier structure |

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| | 7 | Other |
|---|---|---|
| | null | Not known |
| Condition | 1 | Very bad |
| | 2 | Bad |
| | 3 | Satisfying |
| | 4 | Good |
| | 5 | Very good |
| | null | Not known |
| Type of film | 1 | R1-class film |
| | 2 | R2-class film |
| | 3 | R3-class film |
| | null | Not known |
| Urgency of repair | 1 | Of great urgency |
| | 2 | Urgent |
| | 3 | Somewhat urgent |
| | 4 | Not urgent |
| | null | Not known |
| The substance of the sign | 1 | Plywood |
| | 2 | Aluminum |
| | 3 | Other |
| | null | Not known |
| The colour of Additional plate | 1 | Blue |
| | 2 | Yellow |
| | null | Not known |
| Validity direction | 0 | Outside the road link. Only used together with location specification 6 (Outside the road and street network, for example parking area). |
| | 3 | Against the direction of digitization |
| | 4 | In the direction of digitization |

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# Railway crossing
Point

| Description | Field (shape/GPKG)/ Element (WFS) | Data (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/point | geometry (pointZ) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Distance from the start of the link | SIJAINTI_M | double | |
| Name of the railway crossing | NIMI | text, 200 | |
| Type of safety device | TURVA_VAR | Integer | code value |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17" Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

| Name | Code value | Description |
|---|---|---|
| Type of safety device | 1 | Railway not in use |
| | 2 | No safety device |
| | 3 | Only light and/or sound signal |
| | 4 | Half barrier and possible light and/or sound signal |
| | 5 | Full barrier and possible light and/or sound signal |

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# Speed limit

Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/ points | geometry (pol- ylineZ) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Validity direction | VAIK_SUUNT | integer | code value |
| Value | ARVO | integer | code value, km/h |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17" Editing time or, if there is no editing time, the object's crea- tion time. |
| Municipality code | KUNTAKOODI | integer | |

| Name | Code value | Description |
|---|---|---|
| Validity direction | 1 | Both directions |
| | 2 | In the direction of digitization |
| | 3 | Against the direction of digitization |
| Value | 20 | 20 km/h |
| | 30 | 30 km/h |
| | 40 | 40 km/h |
| | 50 | 50 km/h |
| | 60 | 60 km/h |
| | 70 | 70 km/h |
| | 80 | 80 km/h |
| | 90 | 90 km/h (Åland) |

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| | 100 | 100 km/h |
| | 120 | 120 km/h |

# Maximum total weight

Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/ points | geometry (pol-ylineZ) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Validity direction | VAIK_SUUNT | integer | code value |
| Value | ARVO | integer | kilogramme |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17" |
| Municipality code | KUNTAKOODI | integer | |

# Maximum total weight allowed for an articulated vehicle

Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/ points | geometry (pol-ylineZ) | ETRS-TM35FIN |

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| Link ID | LINK_ID | text, 20 | |
|---|---|---|---|
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Validity direction | VAIK_SUUNT | integer | code value |
| Value | ARVO | integer | kilogramme |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

# Maximum weight per axle

Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/points | geometry (pol-ylineZ) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Validity direction | VAIK_SUUNT | integer | code value |
| Value | ARVO | integer | kilogramme |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

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## Maximum weight per tandem-axle
Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/points | geometry (polylineZ) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Validity direction | VAIK_SUUNT | integer | code value |
| Value | ARVO | integer | kilogramme |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17" Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

## Maximum height
Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/points | geometry (polylineZ) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |

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| Start distance from the start of the link | ALKU_M | double | |
|---|---|---|---|
| End distance from the start of the link | LOPPU_M | double | |
| Validity direction | VAIK_SUUNT | integer | code value |
| Value | ARVO | integer | centimetre |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

# Maximum length allowed for a vehicle or articulated vehicle

Line

| Description | Field (shape/GPKG)/<br>Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/points | geometry (polylineZ) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Validity direction | VAIK_SUUNT | integer | code value |
| Value | ARVO | integer | centimetre |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

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# Maximum width

Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/points | geometry (polylineZ) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Validity direction | VAIK_SUUNT | integer | code value |
| Value | ARVO | integer | centimeter |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17" |
| Municipality code | KUNTAKOODI | integer | |

# Lit road

Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/ points | geometry (polyline Z) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |

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| End distance from the start of the link | LOPPU_M | double | |
|---|---|---|---|
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.6.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

# Paved road

Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/points | geometry (polyline Z) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Value | ARVO | integer | |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.6.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

| Name | Code value | Definition |
|---|---|---|
| Value | 1 | Asphalt |
| | 2 | Stone |
| | 3 | Unbound wear layer |
| | 4 | Other paved categories |

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| | 99 | Paved, type unknown |
|---|---|---|

# Road affected by thawin
Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/points | geometry (polyline Z) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17" Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

# Width
Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/ points | geometry (polyline Z) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |

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| Start distance from the start of the link | ALKU_M | double | |
|---|---|---|---|
| End distance from the start of the link | LOPPU_M | double | |
| Carriageway width | ARVO | integer | centimetre |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.6.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

# Road work

Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/points | geometry (polyline Z) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Traffic volume | ARVO | integer | vehicle per day |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.6.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |
| Work ID | TYONUMERO | string | Work ID |
| Estimated Start Date | KESTOALKU_1 | text, 50 | Timestamp of estimated start date |
| Estimated end Date | KESTOLOPP_1 | text, 50 | Timestamp of estimated ready date |

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# Treatment class

Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/points | geometry (polyline Z) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Validity direction | VAIK_SUUNT | integer | code value |
| Treatment class | ARVO | integer | Treatment class |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.6.2014 13:29:17" Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

# Parking ban

Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/points | geometry (polyline Z) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |

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| Start distance from the start of the link | ALKU_M | double | |
|---|---|---|---|
| End distance from the start of the link | LOPPU_M | double | |
| Validity direction | VAIK_SUUNT | integer | code value |
| Parking ban | KIELL_TYYP | integer | Type of restriction |
| Validity period | VOIM_AIKA | text, 50 | |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.6.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

## Private roads with road associations
Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/points | geometry (polyline Z) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.6.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |
| Road name finnish | TIENIMI_SU | text, 50 | |

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| Road name svedish | TIENIMI_RU | text, 50 | |
|---|---|---|---|
| Additional information | LISATIEDOT | text, 200 | The status of delivery of the private road notification:<br>"Not delivered"<br>"Information provided - restrictions."<br>"Information provided - no restrictions" |

# Traffic volume

Line

| Description | Field (shape/GPKG)/<br>Element (WFS) | Data type<br>(shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/<br>points | geometry (polyline Z) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Traffic volume | ARVO | integer | vehicles per day |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.6.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

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# Vehicle specific restriction
Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | If one restriction includes several prohibited vehicle types, overlapping objects are included in the shapefile. These objects have the same restriction ID. The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/ points | geometry (polyline Z) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Validity direction | VAIK_SUUNT | integer | code value |
| Type of prohibited vehicle | KIELL_AJON | integer | code value |
| Validity period | VOIM_AIKA | Text, 200 | |
| Validity period, in plain language | VOIM_AIKA | Text, 200 | |
| Exceptions | POIKKEUS | text, 40 | comma-separated list of exceptions |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17" Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

| Name | Code value | Description |
|---|---|---|
| Validity direction | 1 | Both directions |
| | 2 | In the direction of digitization |
| | 3 | Against the direction of digitization |
| Vehicle type | 2 | Motor vehicle |
| | 3 | Vehicle |

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| | 4 | Truck |
|---|---|---|
| | 5 | Bus |
| | 6 | Delivery vehicle |
| | 7 | Passenger car |
| | 8 | Taxi |
| | 9 | Motorcycle |
| | 10 | Moped |
| | 11 | Cycle |
| | 12 | Pedestrian |
| | 13 | Articulated vehicle |
| | 14 | Tractor or farm vehicle |
| | 15 | Car with trailer / recreational vehicle |
| | 19 | Military vehicle |
| | 21 | Driving in service purposes |
| | 22 | Driving to a lot |
| | 23 | Passage through |
| | 26 | Horse riding |
| | 27 | Snow mobile |
| | 28 | Special transport |

# Restriction for the transportation of dangerous goods (VAK)
Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | If A- and B-VAK are prohibited in the same restriction, then they become geometrically overlapping object. These objects have the same restriction ID. The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |

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| Position | shape/ points | geometry (pol-yline Z) | ETRS-TM35FIN |
|---|---|---|---|
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Validity direction | VAIK_SUUNT | integer | code value |
| Type of prohibited vehicle | KIELL_AJON | integer | code value |
| Validity period | VOIM_AIKA | Text, 200 | |
| Validity period, in plain language | VOIM_AIKA | Text, 200 | |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17" Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

| Name | Code value | Description |
|---|---|---|
| Validity direction | 1 | Both directions |
| | 2 | In the direction of digitization |
| | 3 | Against the direction of digitization |
| Vehicle type | 24 | A-VAK |
| | 25 | B-VAK |

# Number of lanes*

Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/ points | geometry (pol-yline Z) | ETRS-TM35FIN |

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| Link ID | LINK_ID | text, 20 | |
|---|---|---|---|
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Validity direction | VAIK_SUUNT | integer | code value |
| Number of lanes* | ARVO | integer | number of lanes per carriage way |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

*) The number of lanes is not yet maintained by Digiroad or included in the publication

# Public transport lane
Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/points | geometry (polyline Z) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Validity direction | VAIK_SUUNT | integer | code value |
| Validity period* | VOIM_AIKA | text, 200 | time domain |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

*) The feature information in gray is not yet maintained by Digiroad or included in the publication

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# E-road number

Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/points | geometry (polyline Z) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| E-road number | EURTIENRO | text, 20 | comma-separated list of E-road numbers |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17" Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

# Exit number

Line

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/points | geometry (polyline Z) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |

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| End distance from the start of the link | LOPPU_M | double | |
|---|---|---|---|
| Exit number | LIITT_NRO | text, 20 | comma-separated list of exit numbers<br>exit number can also include letters |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

# Winter speed limit

Line

| Description | Field (shape/GPKG)/<br>Element (WFS) | Data type<br>(shape/GPKG) | Additional information |
|---|---|---|---|
| ID | ID | text, 20 | The ID is Digiroad's technical identifier, and it can change during the life cycle of the real-world object. |
| Position | shape/points | geometry (polyline Z) | ETRS-TM35FIN |
| Link ID | LINK_ID | text, 20 | |
| Start distance from the start of the link | ALKU_M | double | |
| End distance from the start of the link | LOPPU_M | double | |
| Validity direction | VAIK_SUUNT | integer | code value |
| Value | ARVO | integer | code value, km/h |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17"<br>Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

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| Name | Code value | Description |
|---|---|---|
| Validity direction | 1 | Both directions |
| | 2 | In the direction of digitization |
| | 3 | Against the direction of digitization |
| Value | 60 | 60 km/h |
| | 70 | 70 km/h |
| | 80 | 80 km/h |
| | 100 | 100 km/h |

# Service

## Point

| Description | Field (shape/GPKG)/ Element (WFS) | Data type (shape/GPKG) | Additional information |
|---|---|---|---|
| Service point ID | PALVPISTID | text, 20 | If one service point has many services, each of them is presented as an individual data object in service shapefile. |
| Service ID | PALVELUID | text, 20 | |
| Position | shape/point | geometry (point Z) | ETRS-TM35FIN |
| Type of service | TYYPPI | integer | code value |
| Specifier of the service type | TYYPPI_TAR | integer | code value |
| Name of service | NIMI | text, 200 | |
| Additional information of the service | LISATIEDOT | text, 200 | |
| Number of parking spaces | PYSPAIKLKM | integer | |
| Last edited | MUOKKAUSPV | text, 50 | time stamp "12.06.2014 13:29:17" Editing time or, if there is no editing time, the object's creation time. |
| Municipality code | KUNTAKOODI | integer | |

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| Name | Code value | Description |
|---|---|---|
| Type of service | 4 | Customs |
| | 5 | Border crossing |
| | 6 | Rest area (or lay-by) |
| | 8 | Airport |
| | 9 | Ferry terminal |
| | 10 | Taxi stand |
| | 11 | Railway station |
| | 12 | Parking lot |
| | 13 | Car shipping terminal |
| | 14 | Coach and lorry parking (lot?) |
| | 15 | Parking house/building |
| | 16 | Bus station |
| | 19 | Drum tube |
| Type of rest area | 1 | Rest area, comprehensive facilities |
| | 2 | Rest area, basic facilities |
| | 3 | Private service area |
| | 4 | No data |
| Type of railway station | 5 | Important railway station |
| | 6 | Less important railway station |
| | 7 | Underground/metro station |

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## 5.2  Appendix 2. Public transport stops facility data and other attribute data

| Attribute data | Datatype | Description | Code values |
|---|---|---|---|
| Timetable | Code value | Paper copy of a timetable in a frame attached to the stop wall or post. Provides information on departure times for the routes serving the stop and, where applicable, stop-specific estimated passing times. | 1 No<br>2 Yes<br>99 No data |
| Shelter | Code value | A weather shelter located in the stop area for the use of waiting for public transport passengers. | 1 No<br>2 Yes<br>99 No data |
| Advertising shelter | Code value | A weather shelter displaying advertising, located in the stop area for the use of waiting for public transport passengers. In this case, the advertiser will be responsible for the stop maintenance. | 1 No<br>2 Yes<br>99 No data |
| Bench | Code value | A bench located in the stop area for the use of waiting public transport passengers. Usually placed under the stop shelter. | 1 No<br>2 Yes<br>99 No data |
| Bike rack | Code value | Bicycle rack intended for parking lot users | 1 No<br>2 Yes<br>99 No data |
| Electronic timetable board | Code value | An electronic timetable board found in the stop area and providing real-time information for the routes serving the stop. | 1 No<br>2 Yes<br>99 No data |
| Lighting | Code value | Stop lighting usually refers to the recessed lighting elements in the stop ceiling that provide light inside the shelter. | 1 No<br>2 Yes<br>99 No data |
| Accessibility to persons with reduced mobility | Text field | A stop is accessible if it enables independent travelling and waiting by special passenger groups, such as wheelchair users. Stop accessibility is affected by the stop and platform structures, the station and terminal structures and accessibility of the timetable information. | |
| Possibility to escort by car | Code value | Indicates whether a stop (by a class I road) has a separate passenger drop-off/pick-up area. | 1 No<br>2 Yes<br>99 No data |

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| | | | |
|---|---|---|---|
| Number of park-and-ride places | Character string | Number of park-and-ride parking spaces by a stop. | |
| Additional information on park-and-ride | Character string | Free text field for additional information on park-and-ride. | |
| Stop owner | Character string | Stop owner may be other than the data administrator. | |
| Feedback address | Character string | Address for sending feedback for the stop. For example, an email address. | |
| Additional information | Text field | Public comments. | |

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## 5.3 Appendix 3. Primary data sources by data objects

Primary data sources refer to a party that provides or offers data for the Digiroad database. Digiroad also receives feedback maintenance data from other administrators and users. Feedback data is passed on to the primary data source for checking.

| Data object | Road owner* | Primary data source |
|---|---|---|
| Road link: geometry | State | National Land Survey of Finland |
| | Municipality | National Land Survey of Finland |
| | Private | National Land Survey of Finland |
| Road link: Link ID | State | Digiroad operator |
| | Municipality | Digiroad operator |
| | Private | Digiroad operator |
| Road link: administrative class | State | National Land Survey of Finland / Digiroad operator |
| | Municipality | National Land Survey of Finland / Finnish Transport infrastructure Agency |
| | Private | National Land Survey of Finland / Municipality |
| Road link: functional class | State | Finnish Transport infrastructure Agency/Digiroad operator |
| | Municipality | Municipality |
| | Private | Municipality |
| Road link: direction of traffic flow** | State | National Land Survey of Finland / Digiroad operator |
| | Municipality | Municipality |
| | Private | Municipality |
| Road link: link type | State | Finnish Transport infrastructure Agency/Digiroad operator |
| | Municipality | Municipality |
| | Private | Municipality / road association |
| Road link: bridge, underpass or tunnel | State | National Land Survey of Finland / Digiroad operator |
| | Municipality | Municipality |
| | Private | Municipality |
| Road link: Road name and address data | State | National Land Survey of Finland |
| | Municipality | National Land Survey of Finland |
| | Private | National Land Survey of Finland |
| Road link: road address data | State | Finnish Transport infrastructure Agency |
| | Municipality | Finnish Transport infrastructure Agency |
| | Private | Finnish Transport infrastructure Agency |

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| Road link: restricted manoeuvre | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | Municipality |
| Public transport stop*** | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | Municipality |
| Barrier | State | Finnish Transport infrastructure Agency |
| | Municipality | National Land Survey /Municipality |
| | Private | National Land Survey/Municipality |
| Traffic light | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | Municipality |
| Pedestrian crossing | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | Municipality |
| Directional traffic sign | State | Finnish Transport infrastructure Agency |
| | Municipality | - |
| | Private | - |
| Traffic sing | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipailty |
| | Private | Municipality / road association |
| Railway crossing**** | State | Finnish Transport infrastructure Agency |
| | Municipality | Finnish Transport infrastructure Agency |
| | Private | Finnish Transport infrastructure Agency |
| Speed limit | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | Municipality/ road association |
| Maximum allowed x 7 | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | Municipality/ road association |
| Lit road | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | Municipality |
| Paved road | State | National Land Survey / Finnish Transport infrastructure Agency |
| | Municipality | National Land Survey |
| | Private | National Land Survey |

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| Road affected by thawing | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | Municipality / road association |
| Width | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | Municipality |
| Construction zone | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | - |
| No parking | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | - |
| Treatment class | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | - |
| Private roads with road association | State | - |
| | Municipality | - |
| | Private | Road assosication |
| Traffic volume | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | Municipality |
| Vehicle specific restriction | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | Municipality / Roas association |
| Carriage of dangerous goods (VAK) | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | Municipality |
| Number of lanes | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | Municipality |
| Public transport lane | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | Municipality |
| E-road number | State | Finnish Transport infrastructure Agency |
| | Municipality | - |
| | Private | - |
| Exit number | State | Finnish Transport infrastructure Agency |
| | Municipality | - |
| | Private | - |

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| Winter speed limit | State | Finnish Transport infrastructure Agency |
| | Municipality | - |
| | Private | - |
| Service point | State | Finnish Transport infrastructure Agency |
| | Municipality | Municipality |
| | Private | Municipality |

*) Road owner corresponds to the road link attribute 'administrative class'.

**) Direction of traffic flow is provided by the National Land Survey of Finland, but this data can be edited in the Digiroad database, and the National Land Survey of Fin-land data will not reverse the data edited in Digiroad.

***) Public transport stops are maintained jointly by municipalities and ELY Centers. Some municipalities are also competent transport authorities and are responsible for the stop material for several municipalities.

****) The rail track register only provides data on state-owned railway crossings.

# 5.4 Appendix 4. Time domain character string

## 5.4.1 General

Time Domain is defined in GDF, and it is a way to indicate precise and complex validity periods for various features and attributes. Notation consists of starting time of the validity period and duration of the validity in the following way: [(starting time) {duration}].

For example, [(M5d1) {d1}] means:

- Starting time: any year in the fifth month on the 1st day at 00:00:00
- Duration: one day (i.e., 24 hours or 1440 minutes)

| STARTING TIME | | | | |
|---|---|---|---|---|
| Notations of Time Domain starting time | | | | |
| Unit of time | Compared time | Code | Values (n,x) | Comment |
| year | | ynnnn | 0…9999 | |
| month | of year | Mnn | 1…12 | |
| week | of year | wnn | 1…53 | |
| day | of month | dnn | 1…28/29/30/31 | maximum depends on month |
| day | of week | tn | 1…7 | from Sunday to Saturday |
| day of week | week of month | fxn | x: 1…5 | week from beginning of month from where validity begins |
| | day of week | | n: 1…7 | from Sunday to Saturday |
| day of week | week of month | lxn | x: 1…5 | week from end of month from where validity begins |
| | day of week | | n: 1…7 | from Sunday to Saturday |
| hour | of day | hnn | 0…23 | |
| minute | of hour | mnn | 0…59 | |
| second | of minute | snn | 0…59 | |
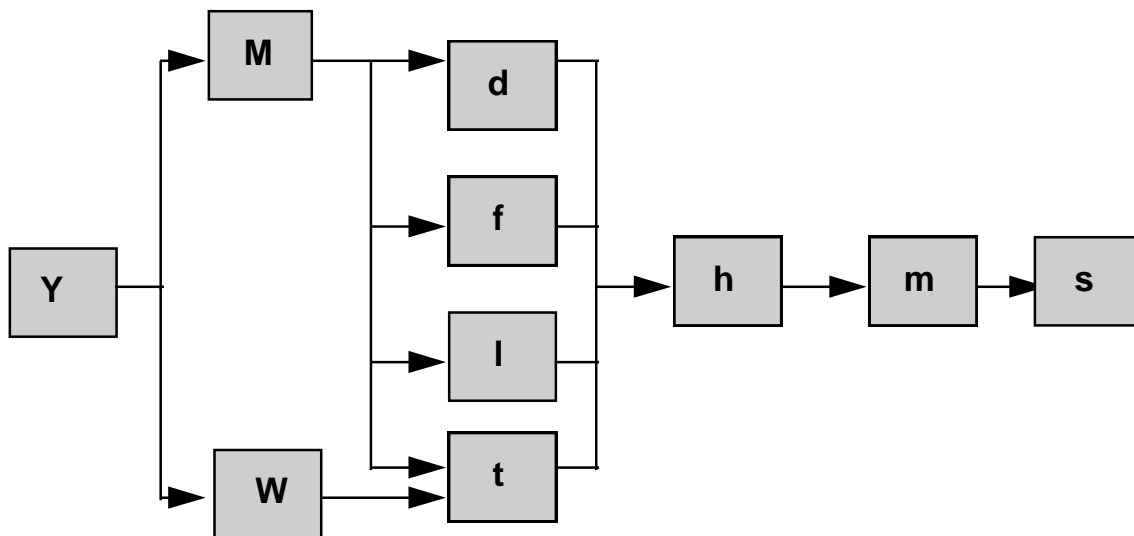
**Image 10.** Possible combinations of starting times codes.

Codes are listed from the longest period to the shortest one (y…s). If there is no unit of time marked in the beginning, all values are valid. If there is no unit of time marked in the middle or at the end, the value of the unit is its presumption value, i.e. the smallest possible unit (e.g. M1, w1, d1, h0, m0, s0).

Examples of the notations of starting times:

| | |
|---|---|
| (y2001) | 1.1.2001, 00:00:00 |
| (M5) | every year, 1.5. 00:00:00 |
| (w12) | every year, Sunday on the12th week, 00:00:00 |
| (d14) | every year, 14th of every month 00:00:00 |
| (t2) | every year, Monday of every week 00:00:00 |
| (f23) | every year, Tuesday of the second week of every month 00:00:00 |
| (l12) | every year, Monday of the last week of every month 00:00:00 |
| (h6) | every year, every day of every month 06:00:00 |
| (m30) | every year, every day of every month, every hour 30:00 |
| (s15) | every year, every day of every month, every hour, every minute :15 |
| (w9h11m30) | every year, every day of the 9th week 11:30:00 |
| (M4m30) | every year, every day of every April, every hour 30:00 |

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Correspondingly:

| | |
|---|---|
| 14th November 2001 (00:00:00) | (y2001M11d14) |
| every year 2.5. 17:31:00 | (M5d2h17m31) |
| every year, last Sunday of February | (M2l11) |

Duration

Duration is the total time of Time Domain notations of time units, e.g. {y2M2w1d2}, which means the validity from starting time onwards, for two years + two months + one week + two days.

A minus sign can be added in front of the duration, e.g. {-d5}, which means the validity on the preceding five days.

| Notations of Time Domain duration | | | | |
|---|---|---|---|---|
| Unit of time | Code | Values (n) | Correspondence | Comments |
| year | ynn | 0…99 | | Duration ends on the last day of the month if there is no such day in the year when duration ends, e.g. [(y2000M2d29) {y2}). |
| month | Mnn | 1…99 | {M12} ={y1} | Duration ends on the last day of the month if there is no such day in the month when duration ends, e.g. [(y2001M1d31){M1}). |
| week | wnn | 1…99 | | |
| day | dnn | 1…99 | {d7} ={w1} | |
| hour | hnn | 0…99 | {h24} ={d1} | |
| minute | mnn | 0…99 | {m60} ={h1} | |
| second | snn | 0…99 | {s60} ={m1} | |



**Image 11.** Possible combinations of duration.

## 5.4.2 Time Domain combinations

There is combination options defined in the Time Domain notations that make it possible to indicate more complex durations. The following options are in use:

- A+B: property is valid in both cases (OR)
- A*B: property is valid when both are valid (AND)
- A-B: property is valid when only A is valid (A AND NOT B)

With combinations the same result can be achieved in several different ways, because e.g. A*(B+C) = (A*B) +(A*C).

## 5.4.3 Examples

- Every day from 9 a.m. to 1 p.m.

[(h9){h4}]

- Every Friday in March from 7.30 p.m. to 10 p.m.

[(M3t6h19m30){h2m30}]

- The last 15 minutes of the year 2001 (15 minutes before the year 2002)

[(y2002){-m15}]

- Every day from Monday to Saturday between 9 a.m. and 12 noon and between 1.30 and 7 p.m., except on the last Tuesday in January, 1st of May and in August

[[[[(h9){h3}]+[(h13m30){h5m30}]]*[(t2){d6}]]-[(M1l13){d1}]-[(M5){d1}]-[(M8){M1}]]