

## 4.1.7 Terrain object examples

### 4.1.7.1 Identification

Name : Terrain object examples  
Identifier : ViaNova.Dbdd.ConceptualSchema.TerrainObjectExamples

### 4.1.7.2 Description

In this schema the location reference aspects of some terrain objects are modelled as examples of the applicability of the road network schemas.

The terrain object examples are:

- the porous asphalt locations
- the max 100 km/hour roads
- incidents.

### 4.1.7.3 Conceptual schema

---

```
SCHEMA TERRAINOBJECTEXAMPLES;

USE FROM CARRIAGEWAYNETWORK
  (CwSegment,
   CwIntermediateNode,
   CwUpstreamRoutes);

ENTITY PorousAsphalt;
  onCarriageways : SET [1:?] OF CwSegment;
END_ENTITY;

ENTITY Max100roads;
  onCarriageways : SET [1:?] OF CwSegment;
END_ENTITY;

ENTITY Incident;
  terrainLocation : CwIntermediateNode;
  secondaryLocation : OPTIONAL CwIntermediateNode;
  upstreamQueues : CwUpstreamRoutes;
  secondaryQueues : OPTIONAL CwUpstreamRoutes;
WHERE
  QueueEnds : upstreamQueues.endsAt = terrainLocation;
  SecondaryEnds : secondaryQueues.endsAt = secondaryLocation;
END_ENTITY;

END_SCHEMA;
```

---

#### Schema 4-7 Terrain object examples schema

### 4.1.7.4 Entity descriptions

The various entities together with some auxiliary definitions are described below.

#### Porous asphalt

For ice warning systems it is important to know whether not porous asphalt is used for the road surface. Model presented assumes that:

- all parallel lanes on a carriageway do have the same type of surface (as far as relevant for our applications)
- the use of porous asphalt may begin and end at each point on a carriageway element, i.e. not necessarily at its begin or end.

#### Max 100 km/hour roads

Carriageway with a 100 km/hour speed limit is modelled in the same way as the use of porous asphalt, i.e. as a set of carriageway segments with a 100 km/hour speed limit.

#### Incidents

A little more complicated entity is an incidents. Restricting our view to the location, it happens at some location, it may cause upstream queues form both its own location and (secondary queues) on the carriageway in the other direction because of curious slowing-down traffic.

This is modelled by means of:

- the point on a carriageway at which the incident occurred,
- a set of upstream queues (carriageway routes) ending at this point
- an optional secondary point at the carriageway in the other direction
- a set of upstream queues (carriageway routes) ending at this secondary point

#### **4.1.7.5 Type descriptions**

The various types together with some auxiliary definitions are described below.

#### **4.1.7.6 Integrity constraints**

There are no integrity rules specified.

#### **4.1.7.7 Other security aspects**

There are no additional security requirements

#### **4.1.7.8 Performance aspects**

There are no additional performance requirements

#### **4.1.7.9 Implementation aspects**

There are no additional implementation requirements.

#### **4.1.7.10 Abbreviations**

... ..

#### **4.1.7.11 References**

See section 2 for a complete reference description.

[...] ...

