Data model for traffic and road weather data - Overview

Profile		Static data (s)		DATEX II publication
●	●	1s	Location of travel times for sections	PredefinedLocations
	●	2s	Location travel times for routes	
	●	3s	Location LevelOfService	
●	●	4s	Measurement sites	MeasurementSiteTable
	●	5s	Measurement sites for RWD	

Profile		Dynamic data(d)		DATEX II publication
●	●	1d	Travel times for sections	ElaboratedData
	●	2d	travel times for routes	
	●	3d	LevelOfService	
●	●	4d	Measured values	MeasuredData
	●	5d	Raod weather data	

● Single profile ● Combined profile

Types of data	
1 Travel times for sections	Travel time (current, usual, free flow) Speed on free flow
2 Travel times for routes	Travel time (current, usual, free flow) Speed on free flow
3 LevelOfService	Traffic status Trend
4 Measured data	Concentration Speed (min, max, Ø) Traffic flow
5 Road weather data	*multiple (see section 5.4.3.4 and 5.4.3.5 of German documentation)*

Geo reference methods for German traffic and road weather data	Travel times sections	Travel Times Routes	Level of Service	Measurement sites	Mesaurement sites for road weather data
Point					
ALERT-C (LCL) Point		●	●	●	●
Coordinates		●	●	●	●
Visualisation on map	●	●	●	●	●
TPEG-Loc		○	○	○	○
Point in "ASB"		●	●	●	●
Point on Linear (ISO 19148)		●	●	●	●
OpenLR Point		●	●	●	●
Linear					
ALERT-C (LCL) Linear	●		●		
TPEG-Loc	○		○		
Linear in "ASB"	●		●		
GML line string (polygon-line)	●	●	●		
Linear on Linear (ISO 19148)	●		●		
OpenLR Linear	●		●		
Others					
Lanes, Carriageways			●	●	●
Length	●	●	●		
Number of intersection, Catalogue, GIS	●	●	●	●	●
Usage of PredefinedLocationsPublication	●	●	●	○	○
Route (ordered set of georeferences; Itinerary)		●			
Predfined unordered set of georefrences			●		

Colour key
DATEX Level A Model
DATEX Level B Extension

Text key
○: Method available, but not recommended
●: Method available
●: Method obligatory

German Traffic Data Profile (DATEX II)

Extension Summary

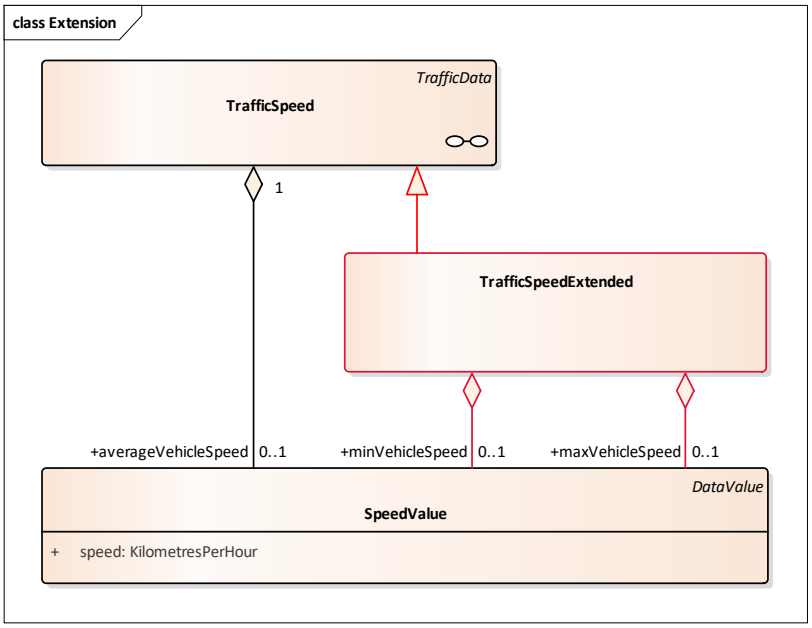
1. Overview

This document summarises the Level B extensions for the German Traffic Data Profile in DATEX II, used for the German MDM (Mobility Data Market Place). Note that the original documentation of the profile is available in German language only.

It is intended to bring in these extensions into CEN standardisation for the current reviews of CEN/EN 16157.

2. Minimum- and Maximum speed

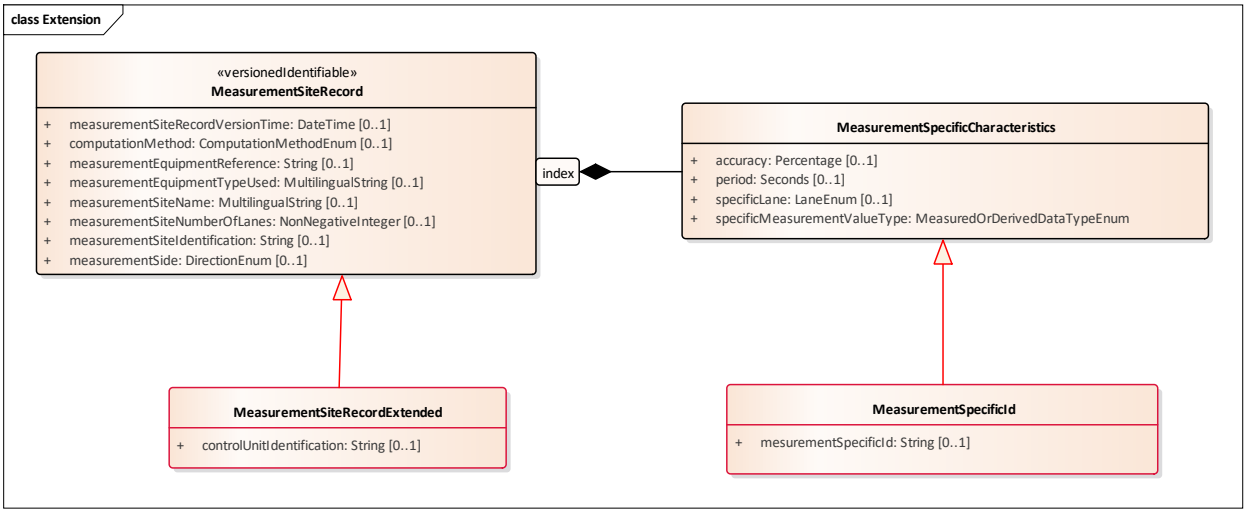
MinVehicleSpeed and maxVehicleSpeed have been added as new roles to describe the traffic speed:



3. Measurement site information

A new attribute controlUnitIdentification has been added to MeasurementSiteRecord, e.g. to declare which traffic signal computer is related to the measurement site.

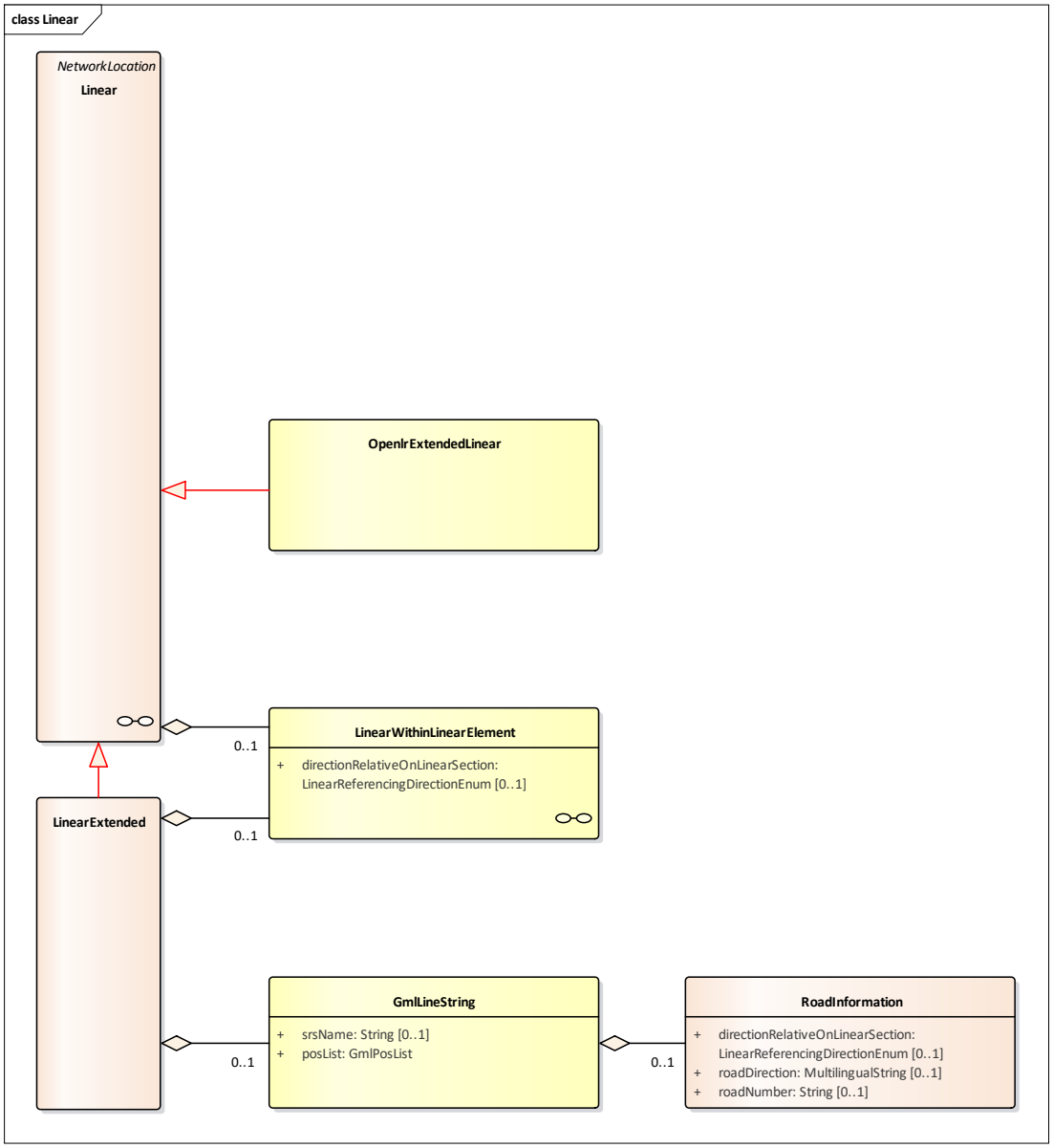
A new attribute measurementSpecificId has been added to MeasurementSpecificCharacteristics to specify the number of the corresponding induction loop, for example.



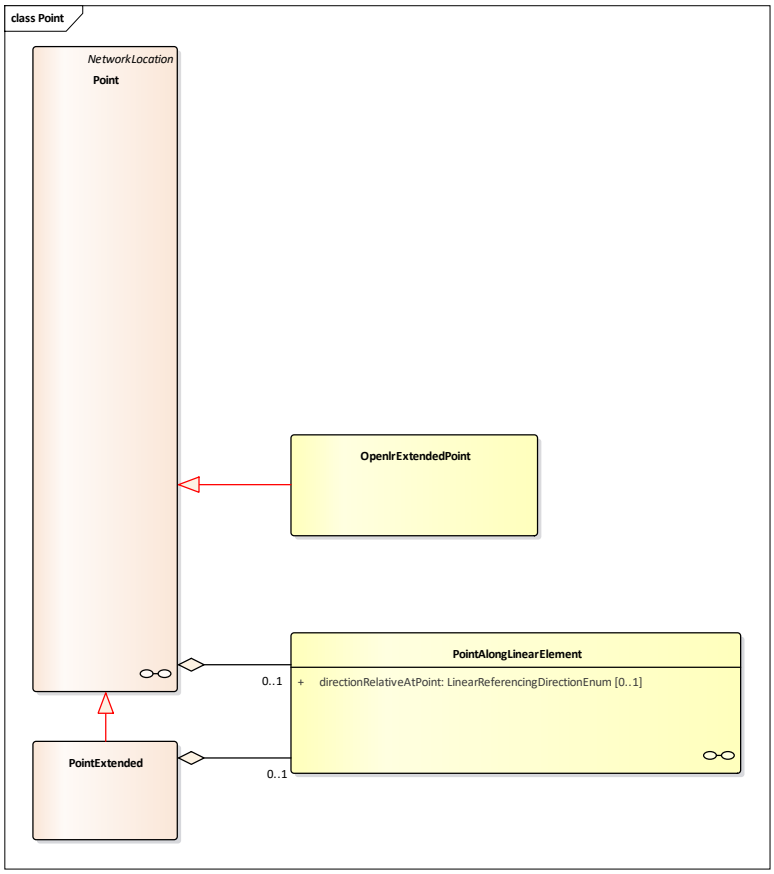
4. Georeference

Note: Not all used Georeference method are listed here! The list and the pictures are limited to extensions.

- OpenLR Linear is used
- LinearWithinLinearElement is used twice (by using two different semantics), thus an extension was necessary to include the second call.
- GmlLineString ist used, a new class RoadInformation was introduced.



The same setting holds for points:

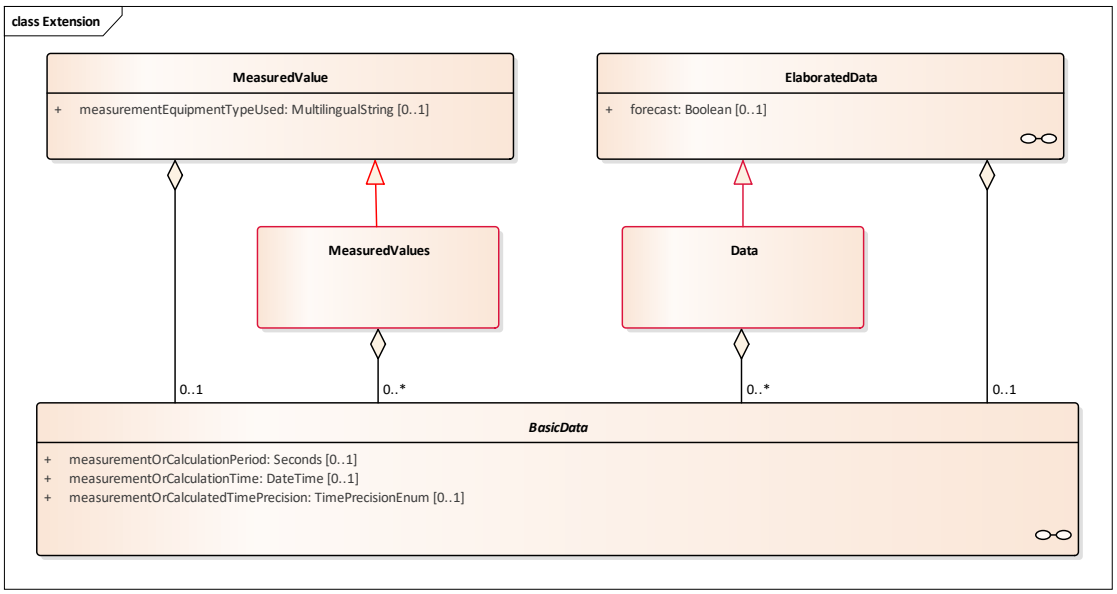


5. Basic data

For MeasuredData as well as for ElaboratedData it is necessary to be able to transfer more than one data value per record. Otherwise, if only one value is allowed (as it is now), it may happen that data values get lost in the communication chain (when the intervals of data supplier and DATEX feed to not match together).

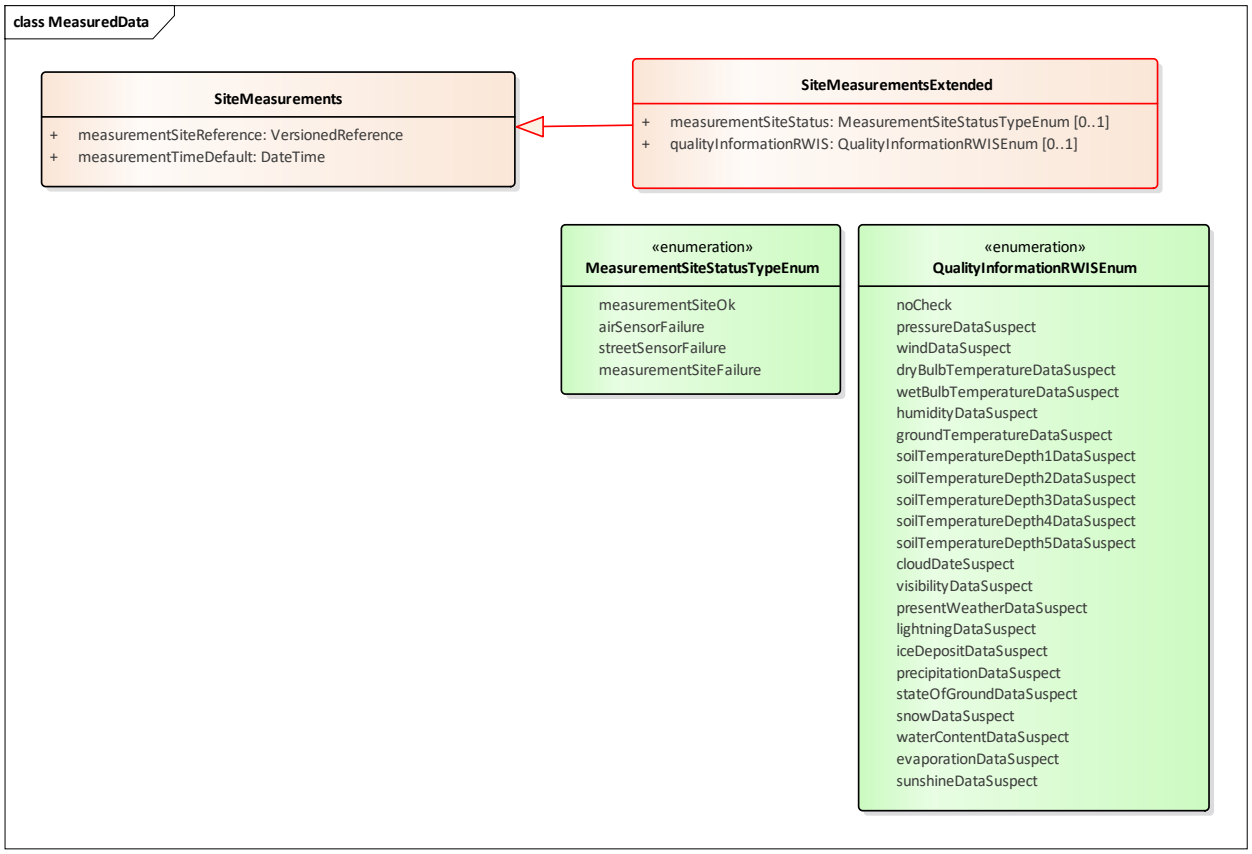
For this reason, two extensions enhance the multiplicity to the BasicData class to 0..*.

Note that the original connections (0..1) shown in the picture below are no longer used by the German Traffic Data profile.

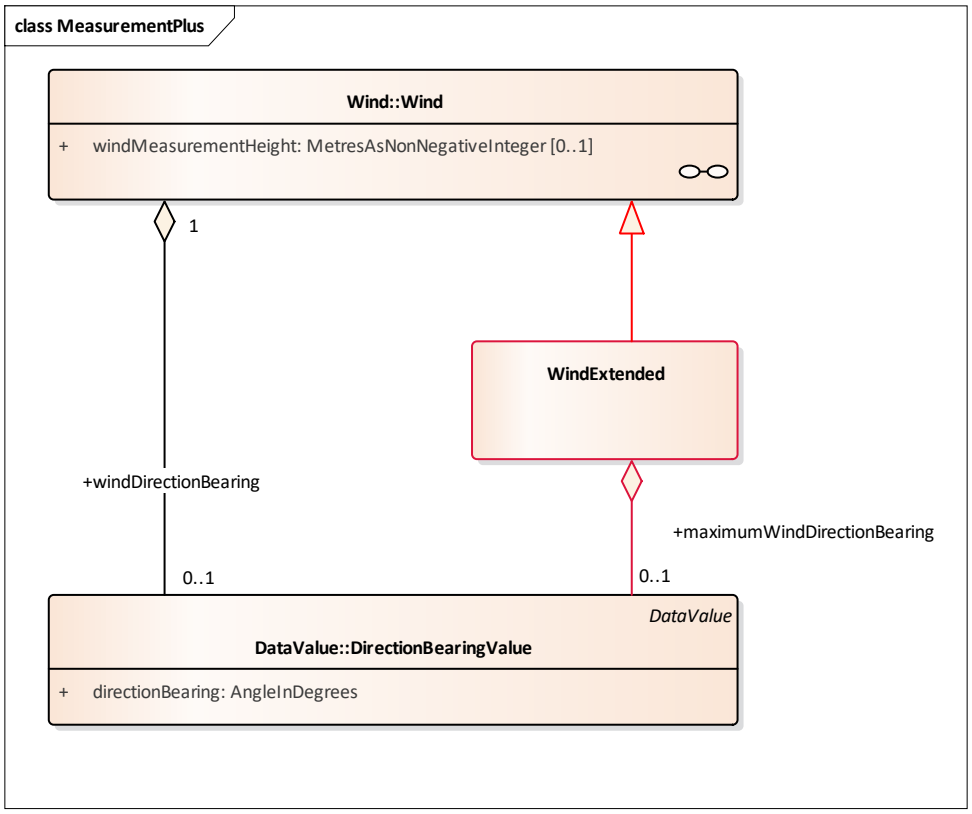


6. Road weather data

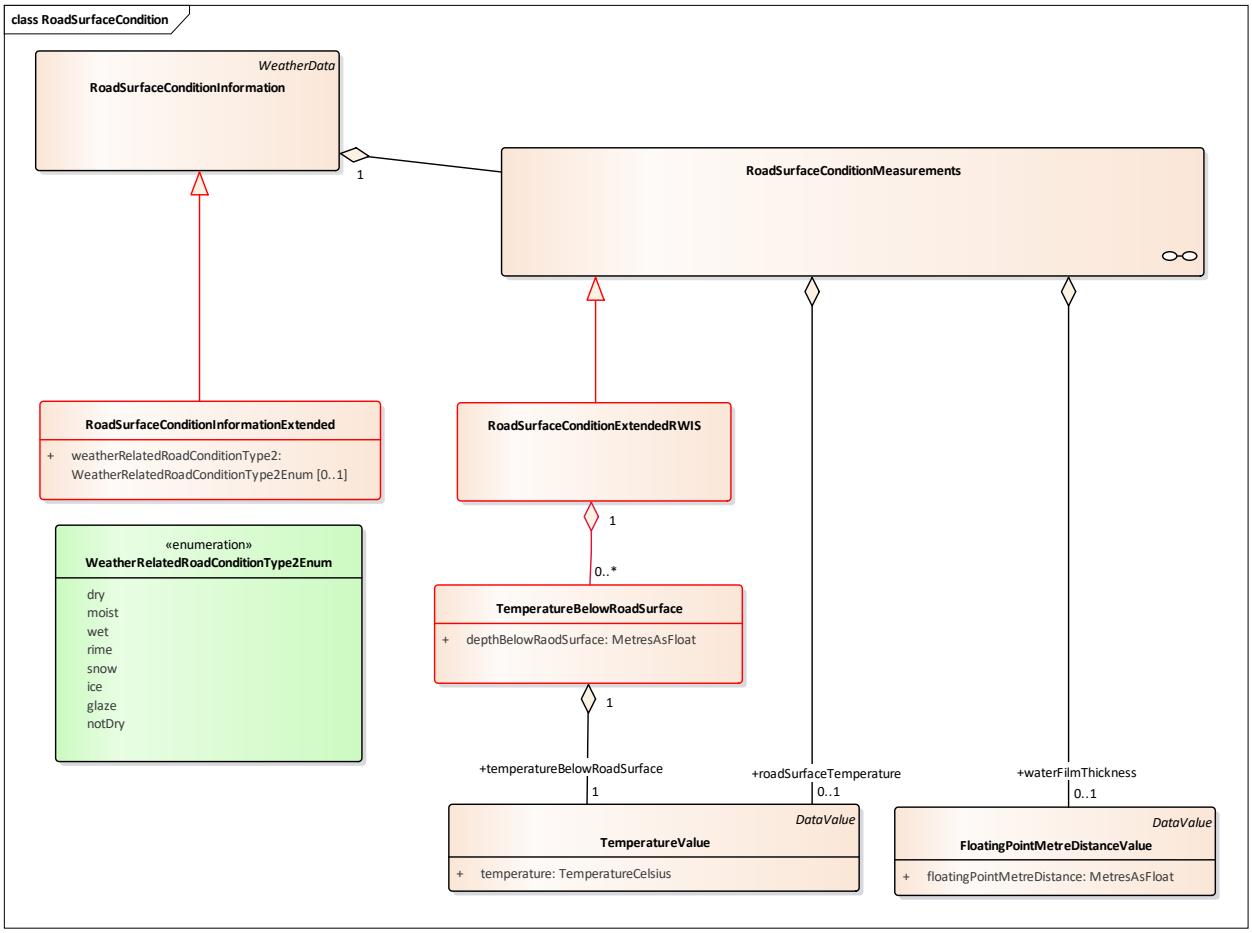
Quality and status information for site measurements was added:



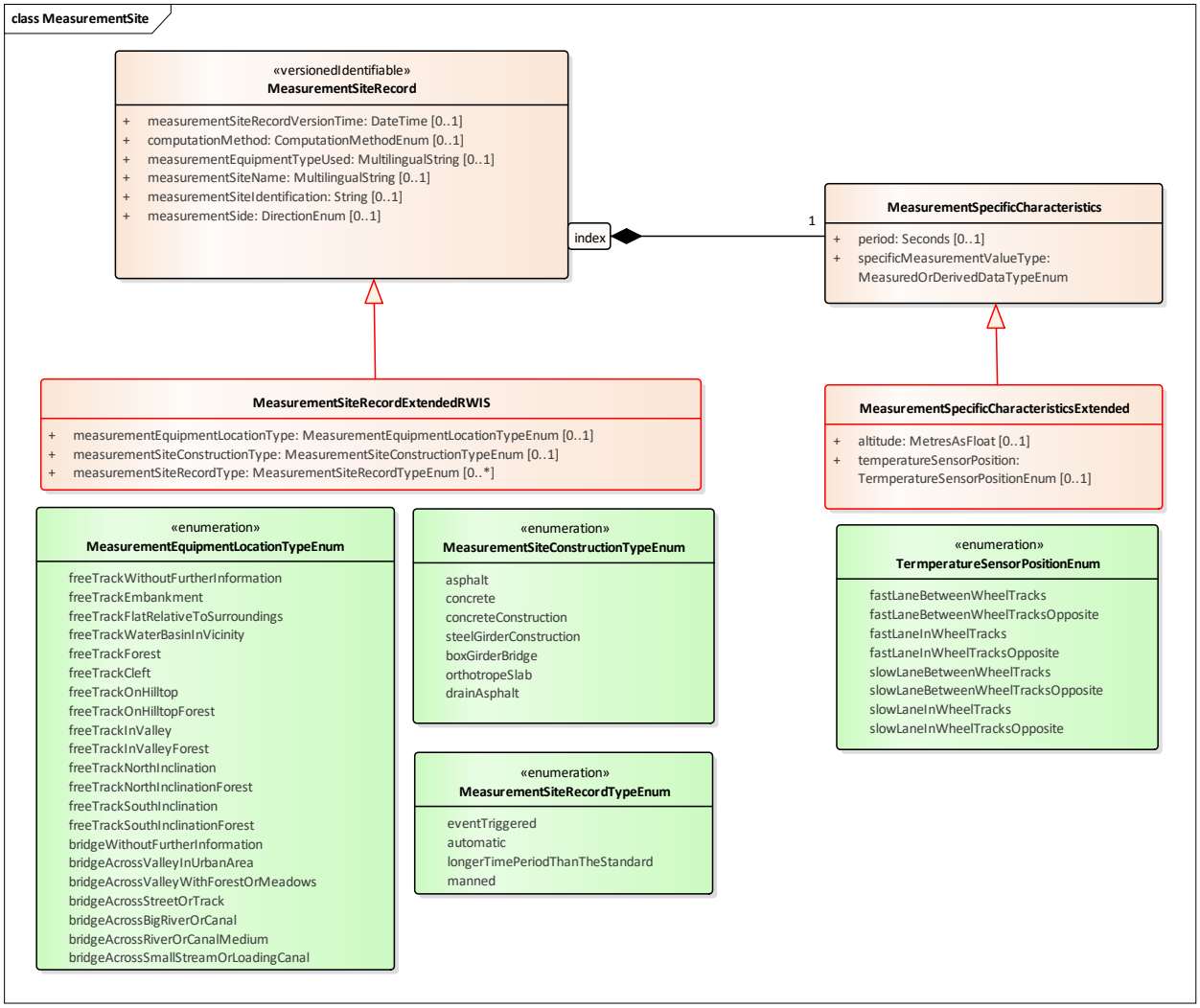
The bearing for the direction of the maximum wind was added:



Some weather related road conditions have been added as well as the possibility to define several temperatures below the road surface:



Extensions for the exact description of the position of measurement sites and its sensors:



More details for the description of precipitation: