

DATEX II

Common

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1 Predefined model elements

1.1 General

Besides regulations for the use of UML constructors and a UML profile providing additional meta information via tagged values and stereotypes, the DATEX II modelling methodology furthermore stipulates a certain top-level model structure for all compliant UML models. These clauses are mainly motivated by the need to create a well-defined structure for DATEX II tools aiming at supporting users.

The types of attributes and the enumerations specific to this part are defined in the normative Annex A.

The XML subschema corresponding to this part of EN 16157 is provided in the normative Annex B.

1.2 Top level model packages and classes

The following rules apply for top level model packages and classes:

- a) DATEX II compliant UML models shall have one single top-level UML package named "D2Payload" of stereotype "D2Namespace".
- b) The DATEX II top level package "D2Payload" shall have four sub-packages with the following names:
 - "Common" of stereotype "D2Namespace"
 - "Extension" of stereotype "D2Namespace"
 - "LocationReferencing" of stereotype "D2Namespace"
 - "PayloadPublication" of stereotype "D2Package"
- c) The "PayloadPublication" package may contain several sub-packages of stereotype "D2Namespace". EN 16157-3 specifies the sub-package "Situation" and its content. The standardisation of further sub-packages may follow in the future.
- d) The usage of the "Extension" package for creating customised DATEX extensions is specified in EN 16157-1.
- e) The "Common" package shall have three sub-packages with the following names:
 - "Classes" of stereotype "D2Package" - see 2
 - "DataTypes" of stereotype "D2Package" - see 1.3
 - "Enumerations" of stereotype "D2Package" - see 1.4

The further content of these packages is specified in the further chapters of this document.

- f) The "Common::Classes" package shall contain one abstract UML Class named "PayloadPublication" of stereotype "D2ModelRoot". It may contain further packages and classes.
- g) The tagged value "rootElement" of the DATEX II class "PayloadPublication" shall be set to "payload".
- h) The tagged value "modelBaseVersion" of the DATEX II class "PayloadPublication" shall be set to "3" which is current DATEX II model version identifier. The tagged value "version" of the DATEX II class "PayloadPublication" shall be set to "3.n" where "n" is the minor version number.

Note: the model base version "3" denotes the third iteration of the second generation of DATEX specifications, denoted "DATEX II". The Arabic version number "3" is not to be mixed up with the Roman "II" used to give this generation a name that distinguishes it from the EDIFACT-based "DATEX" standard developed in the 1990ies, finally resulting in the meanwhile withdrawn CEN ENVs 13106:2000 and 13777:2000.

- i) The tagged values "extensionName" and "extensionVersion" of the DATEX II class "Payload Publication" shall contain the name of the extension(s) contained in the model and a corresponding version identifier in the case that the "Extension" package is non-empty. These values shall be provided by the creator of the model - see also Figure 1.

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The tagged values "profileName" and "profileVersion" of the DATEX II class "Payload Publication" shall contain the name of the profile (sub-model) and a corresponding version identifier in the case a profile is derived from the model. These values shall be provided by the creator of the model - see also Figure 1.

These rules provide a well-defined entry structure into a DATEX II XML publication, which always starts at top level with one concrete instance of a class specialized from "PayloadPublication".

Tag	Value
definition	A payload publication of traffic related information or associated management information created at a specific point in time that can be exchanged via a DATEX II interface.
extensionName	
extensionVersion	
modelBaseVersion	3
profileName	
profileVersion	
regulatoryContext	
rootElement	payload
version	3.0 (minor version is exemplary only)

Figure 1 — Tagged Values of top level class "PayloadPublication"

j) The class "PayloadPublication" shall have the following structure:

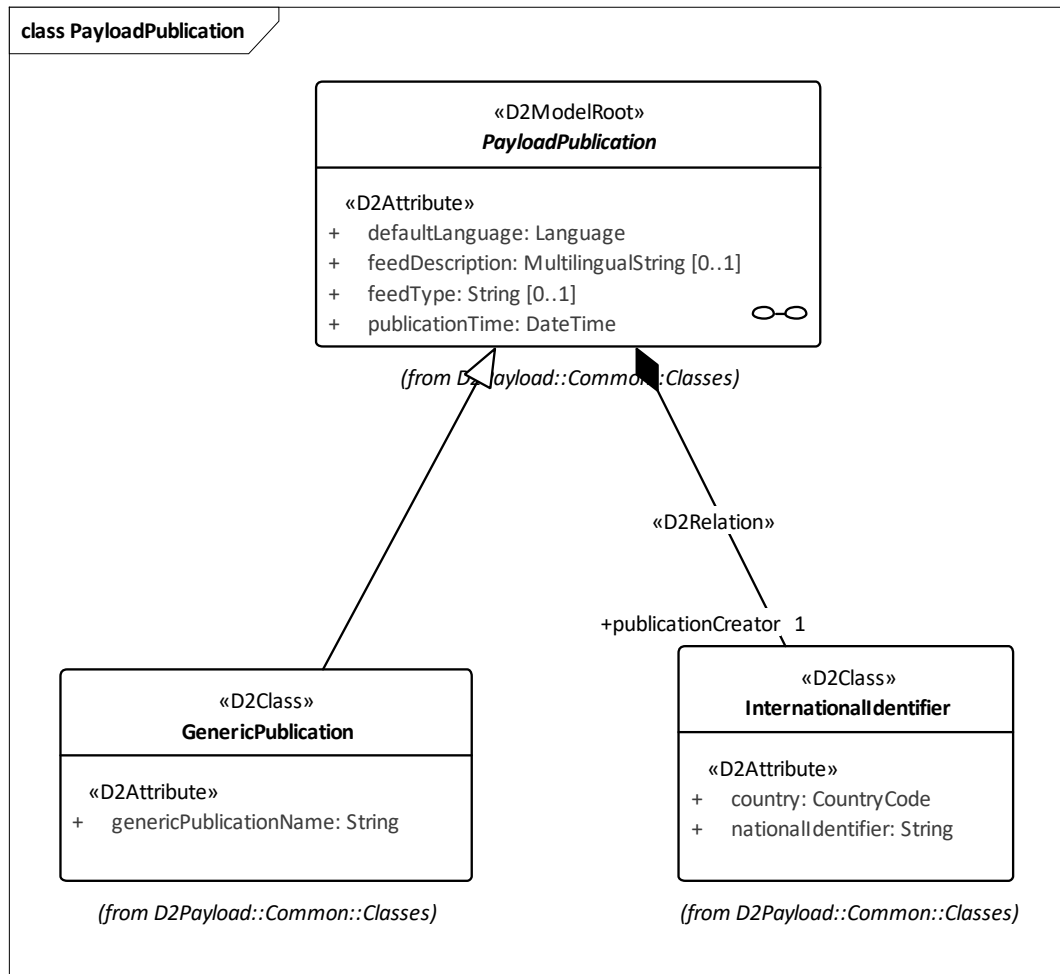


Figure 2 —Top level class "PayloadPublication"

The class "PayloadPublication" shall have a "D2Relation" composition to the "InternationalIdentifier" class.

The "GenericPublication" class (see Figure 2) is a specific realisable case of a "PayloadPublication" and used to make level B extensions at the publication level. Its attribute "genericPublicationName" is used to specify a name for any level B extended publication.

The "InternationalIdentifier" class (see Figure 2) shall provide an identifier/name whose range is specific to the particular country.

Note: The possible upper case two-letter codes related to the "country" attribute of class "InternationalIdentifier" are specified in EN ISO 3166-1 and can be obtained from the Online Browsing Platform of ISO¹.

k) The "DataTypes" package shall have two sub-packages named "Generic" and "Specific" of stereotype "D2Package".

¹ <https://www.iso.org/obp/ui/#search/code/>.

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1.3 Basic datatypes

The "DataTypes::Generic" package (as defined in 1.2 k) shall contain the following classes of stereotype "D2Datatype":

- "Base64Binary", "Boolean", "Date", "DateTime", "Decimal", "Double", "Float", "Integer", "Language", "LongString", "MultilanguageString", "NonNegativeInteger", "Reference", "String", "Time", "Url", "VersionedReference".

According definitions and XML Schema Definition mappings for these datatypes are described in A.3.

The "DataTypes::Specific" package (as defined in 1.2 k) shall contain the following classes of stereotype "D2Datatype":

- "AngleInDegrees", "AxlesPerHour", "ConcentrationKilogramsPerCubicMetre", "Concentration-MicrogramsPerCubicMetre", "CountryCode", "CubicMetres", "Hectopascal", "IntensityKilogramsPer-SquareMetre", "IntensityMillimetresPerHour", "KilometresPerHour", "MetresAsFloat", "MetresAs-NonNegativeInteger", "Percentage", "Seconds", "TemperatureCelsius", "Tonnes", "VehiclesPerHour", "Year".

According definitions and XML Schema Definition mappings for these datatypes are described in A.3.

The datatype "MultilingualString" shall represent text that can be defined in more than one language. For this reason, it shall be defined as an unbounded sequence of pairs of "value" and "lang", with "value" representing a string of max. length 1024 characters and "lang" representing a language. The corresponding XML Schema definition mapping can be found in **Fout! Verwijzingsbron niet gevonden.** (see in "Common.xsd" the complex types "MultilingualString", "MultilingualStringValue" and "MultilingualStringValueType").

If text within a "MultilingualString" is specified in more than one language, the usage of the "lang" attribute shall be mandatory.

1.4 Enumerations

The "Enumerations" package shall contain the "D2Enumeration" stereotyped elements with according definitions and XML Schema Definition mappings as described in A.4.

2 D2Package "Common::Classes"

2.1 The WeatherRelated package

2.1.1 Overview of the WeatherData package

The package "WeatherRelated" shall comprise a collection of classes used to specify road weather related measurements.

2.1.2 Semantics of the WeatherRelated package

2.1.2.1 WeatherRelated package semantics - general

The aspects of weather or pollution measurements modelled in this package relate to humidity, temperature, visibility, wind, pollution, precipitation and road surface conditions.

2.1.2.2 Humidity class

The "Humidity" class shall allow relative humidity measurements to be specified (see Figure 3).

Relative humidity measurements shall be expressed as a percentage. Note that each instance of a measurement may be accompanied by information about the measurement via the PercentageValue class which inherits a number of metadata attributes from the DataValue class.

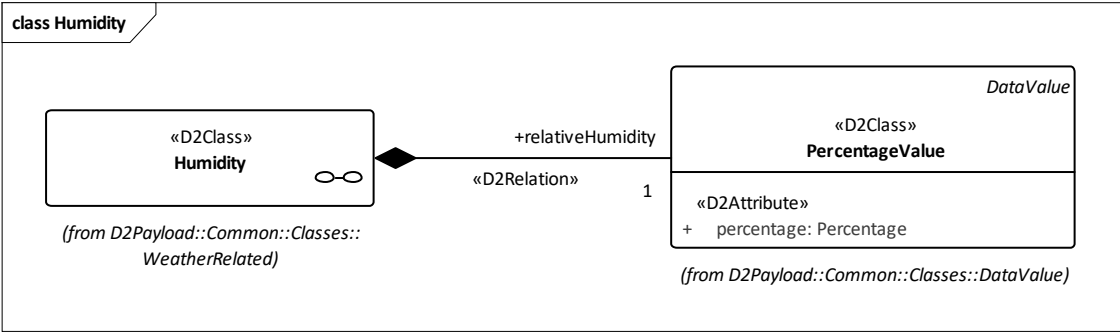


Figure 3 — The Humidity class model

2.1.2.3 Temperature class

The "Temperature" class shall allow a number of different atmospheric temperature measurements to be specified (see Figure 4).

Individual measurements of air temperature, dew point temperature, maximum temperature and minimum temperature may be specified. Note that each instance of a measurement may be accompanied by information about the measurement via the TemperatureValue class which inherits a number of metadata attributes from the DataValue class.

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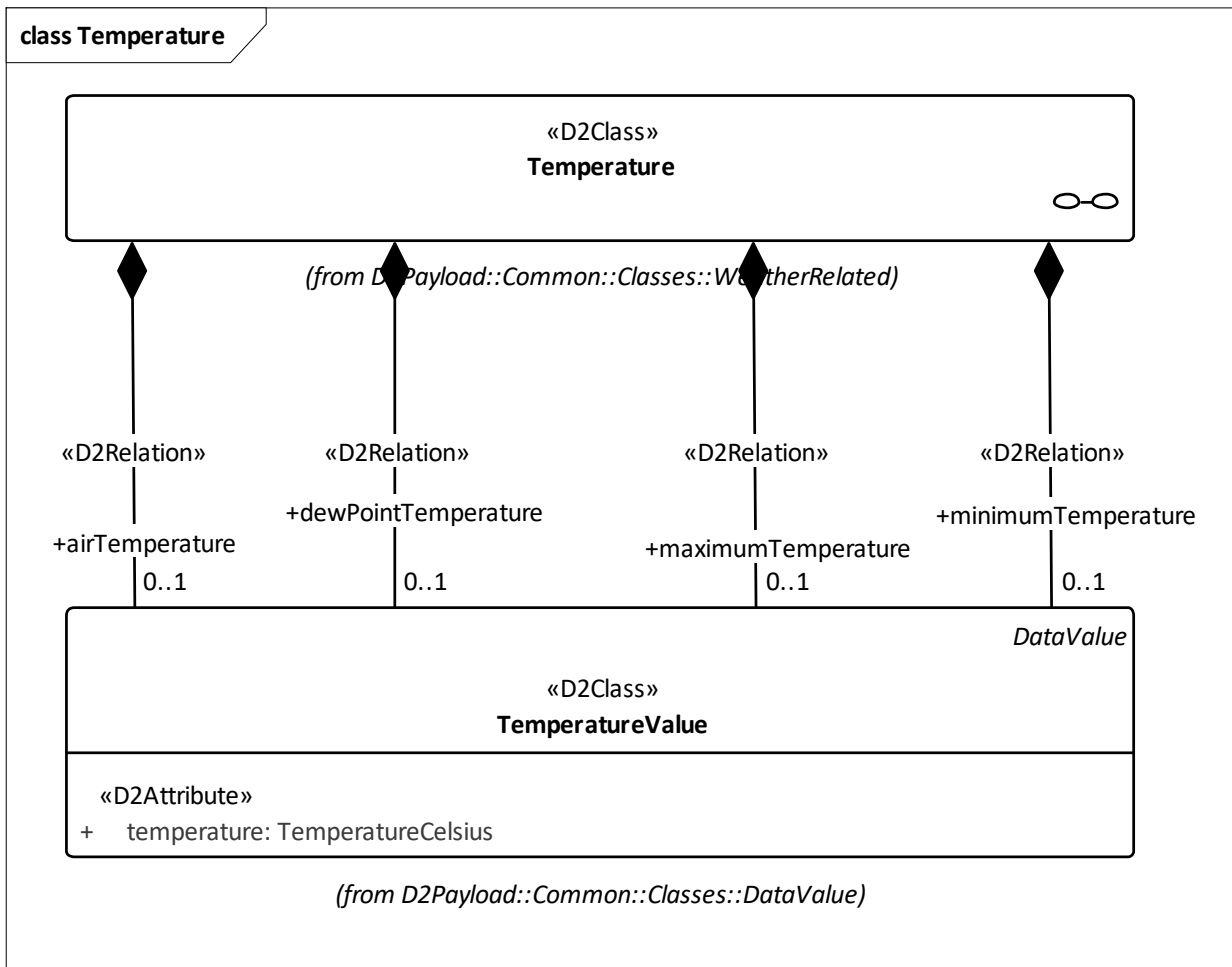


Figure 4 — The Temperature class model

2.1.2.4 Visibility class

The “Visibility” class shall allow minimum visibility distance measurements to be specified (see Figure 5).

Minimum visibility distance measurements shall be given in integer metres. Note that each instance of a measurement may be accompanied by information about the measurement via the IntegerMetreDistanceValue class which inherits a number of metadata attributes from the DataValue class.

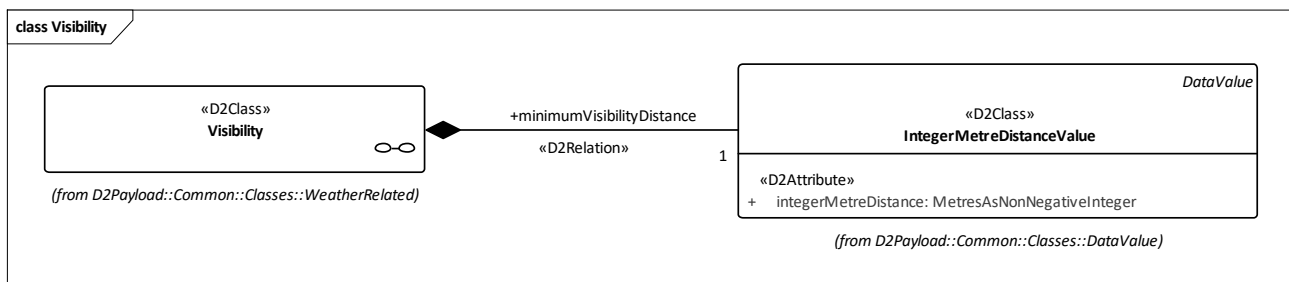


Figure 5 — The Visibility class model

2.1.2.5 Wind class

The "Wind" class shall allow a number of different measurements relating to wind to be specified (see Figure 6).

Individual measurements of wind speed, maximum wind speed, wind direction and direction of maximum wind (both bearing and compass) may be specified. Note that each instance of a measurement may be accompanied by information about the measurement via the WindSpeedValue, DirectionBearingValue and DirectionCompassValue classes which inherit a number of metadata attributes from the DataValue class.

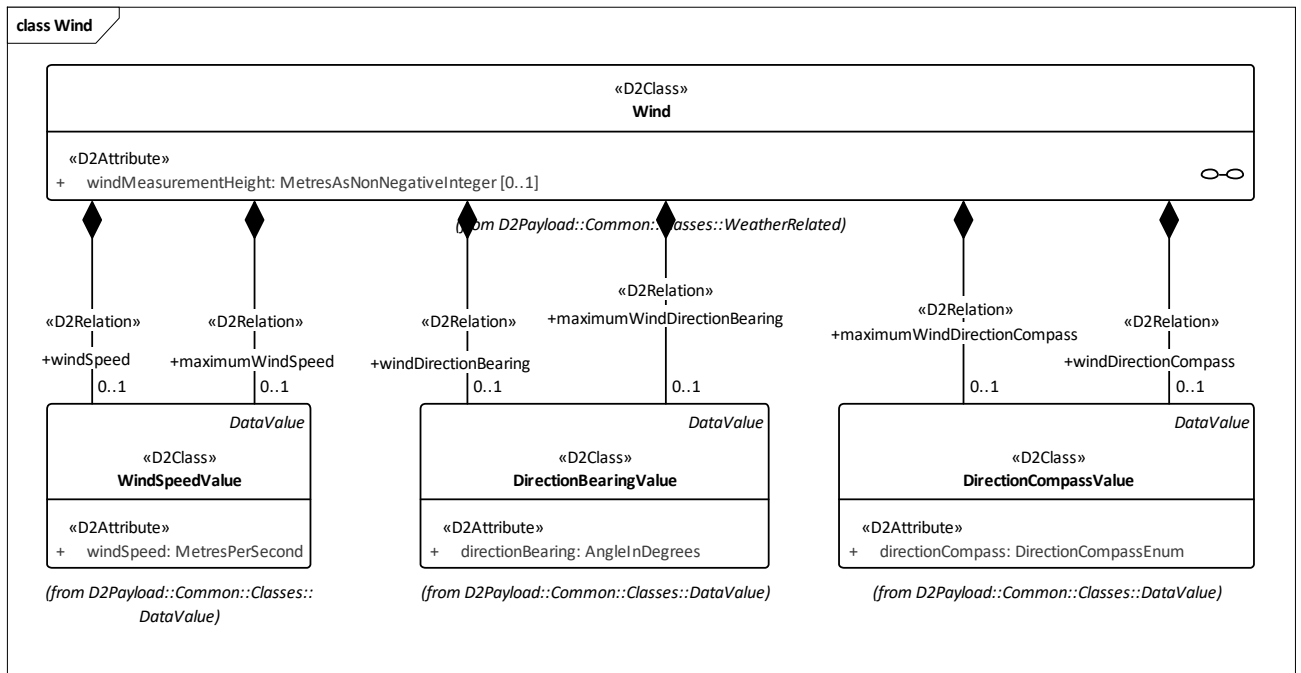


Figure 6 — The Wind class model

2.1.2.6 Pollution class

The "Pollution" class shall allow pollution concentration measurements to be specified (see Figure 7).

Pollution concentration measurements shall be given in micrograms per cubic metre. Note that each instance of a measurement may be accompanied by information about the measurement via the MicrogramsConcentrationValue class which inherits a number of metadata attributes from the DataValue class.

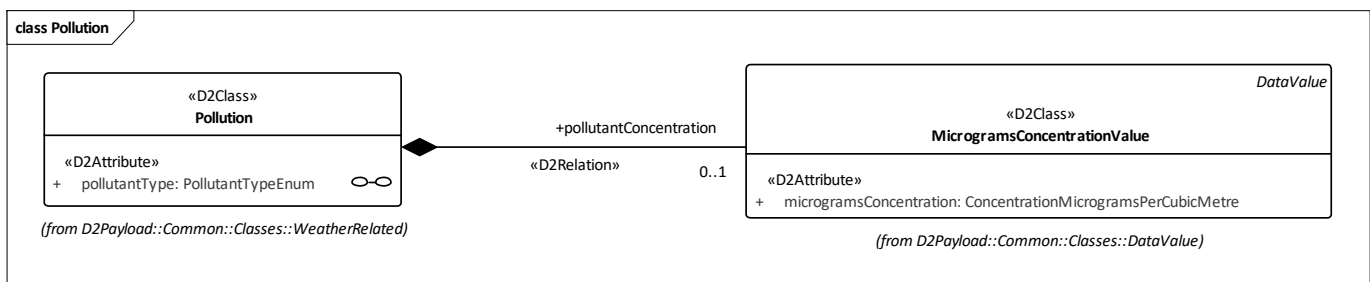


Figure 7 — The Pollution class model

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2.1.2.7 Pressure class

The “Pressure” class shall allow atmospheric pressure measurements to be specified (see Figure 8).

Pressure measurements shall be given in hectopascal. Note that each instance of a measurement may be accompanied by information about the measurement via the PressureValue class which inherits a number of metadata attributes from the DataValue class.

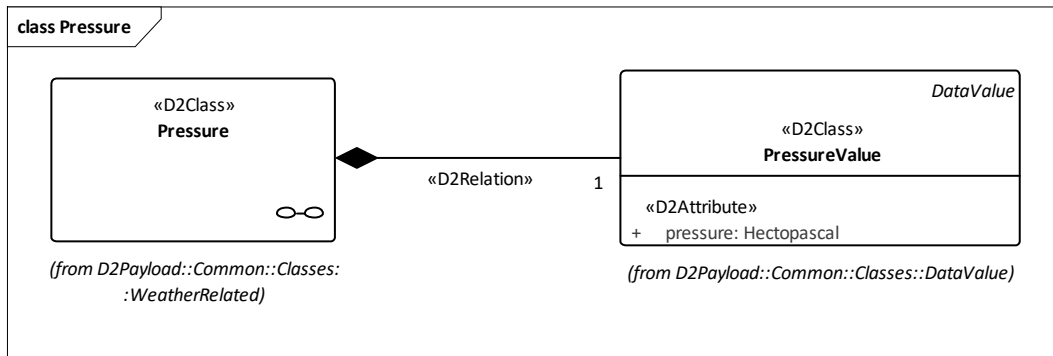


Figure 8 — The Pressure class model

2.1.2.8 PrecipitationDetail class

The “PrecipitationDetail” class shall allow measurements relating to precipitation to be specified (see Figure 9).

Information on the precipitation type and its intensity may be provided by using the enumerations "PrecipitationTypeEnum" and "PrecipitationIntensityEnum" (see data dictionary).

Individual measurements of intensity and depth of precipitation may be specified. Note that each instance of a measurement may be accompanied by information about the measurement via the PrecipitationIntensityValue and FloatingPointMetreDistanceValue classes which inherit a number of metadata attributes from the DataValue class.

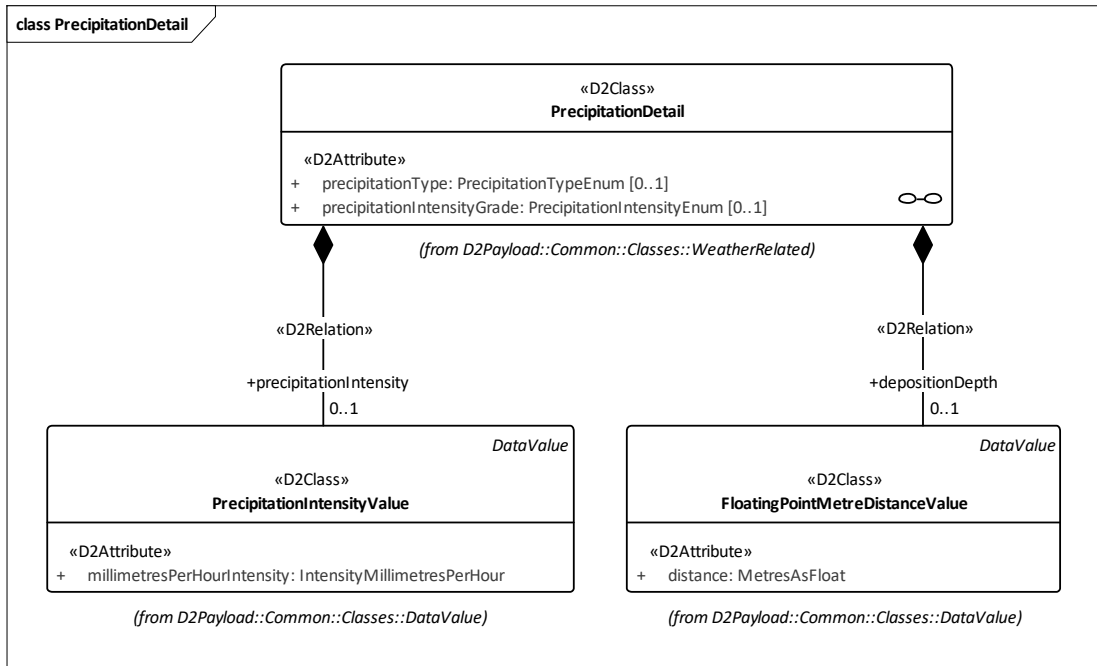


Figure 9 — The PrecipitationDetail class model

2.1.2.9 RoadSurfaceConditionMeasurements and TemperatureAboveOrBelowRoadSurface class

The “RoadSurfaceConditionMeasurements” class shall allow road surface condition measurements which are related specifically to the weather to be specified (see Figure 10).

Individual measurements of road surface temperature, road surface protection temperature, de-icing application rate, de-icing concentration, depth of snow, ice layer thickness and percentage, water film thickness and friction may be specified.

By using the "TemperatureAboveOrBelowRoadSurface" class, it is possible to specify temperatures for individual measurement heights above or below the road surface.

Note that each instance of a measurement may be accompanied by information about the measurement via the TemperatureValue, ApplicationRateValue, KilogramsConcentrationValue, FloatingPointMetreDistanceValue, FrictionValue and PercentageValue classes which inherit a number of metadata attributes from the DataValue class.

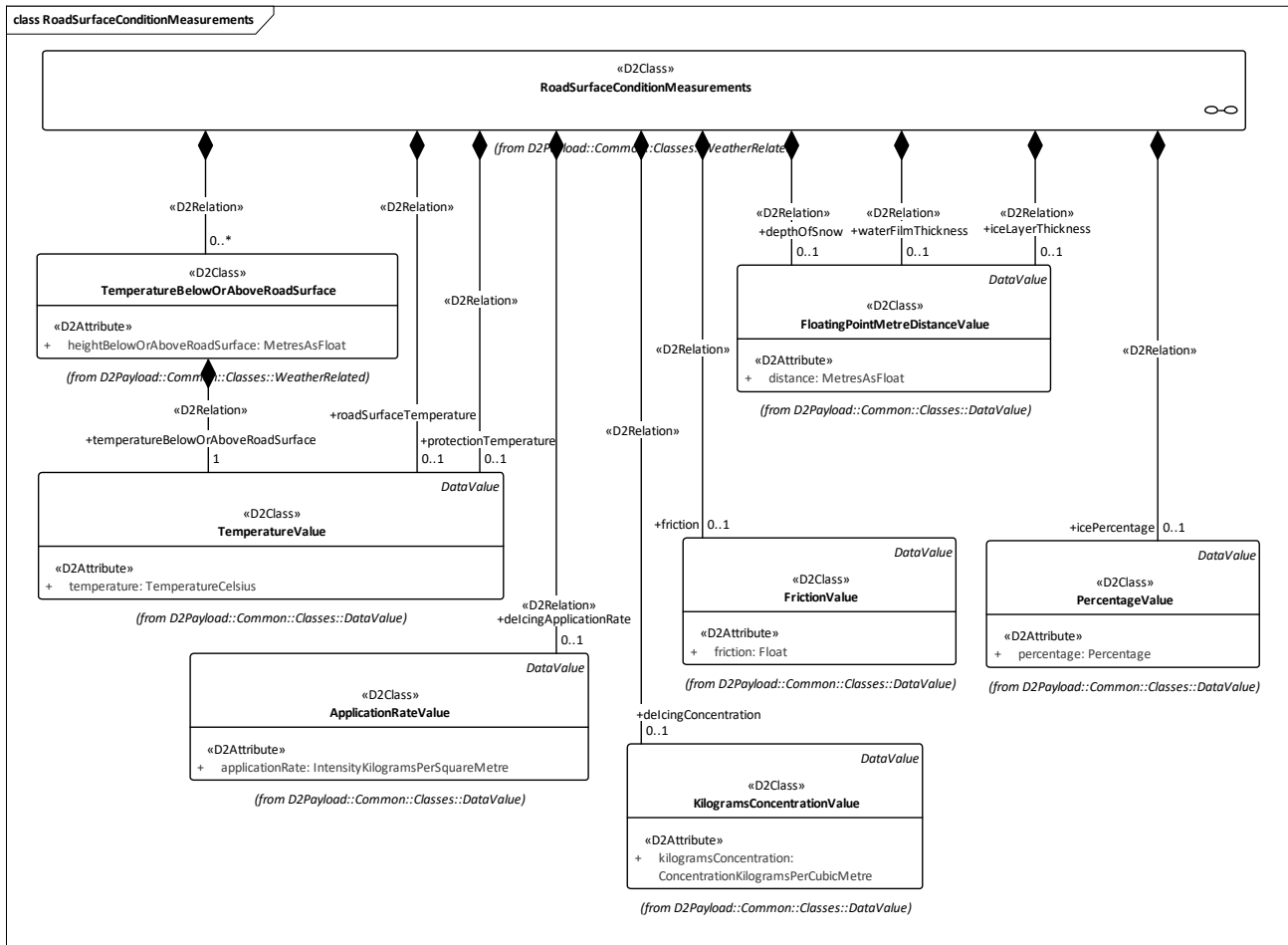


Figure 10 — The RoadSurfaceConditionMeasurements class model

2.2 The DataValue package

2.2.1 Overview of the DataValue package

This package describes data values of something that can be measured or calculated - see Figure 11.

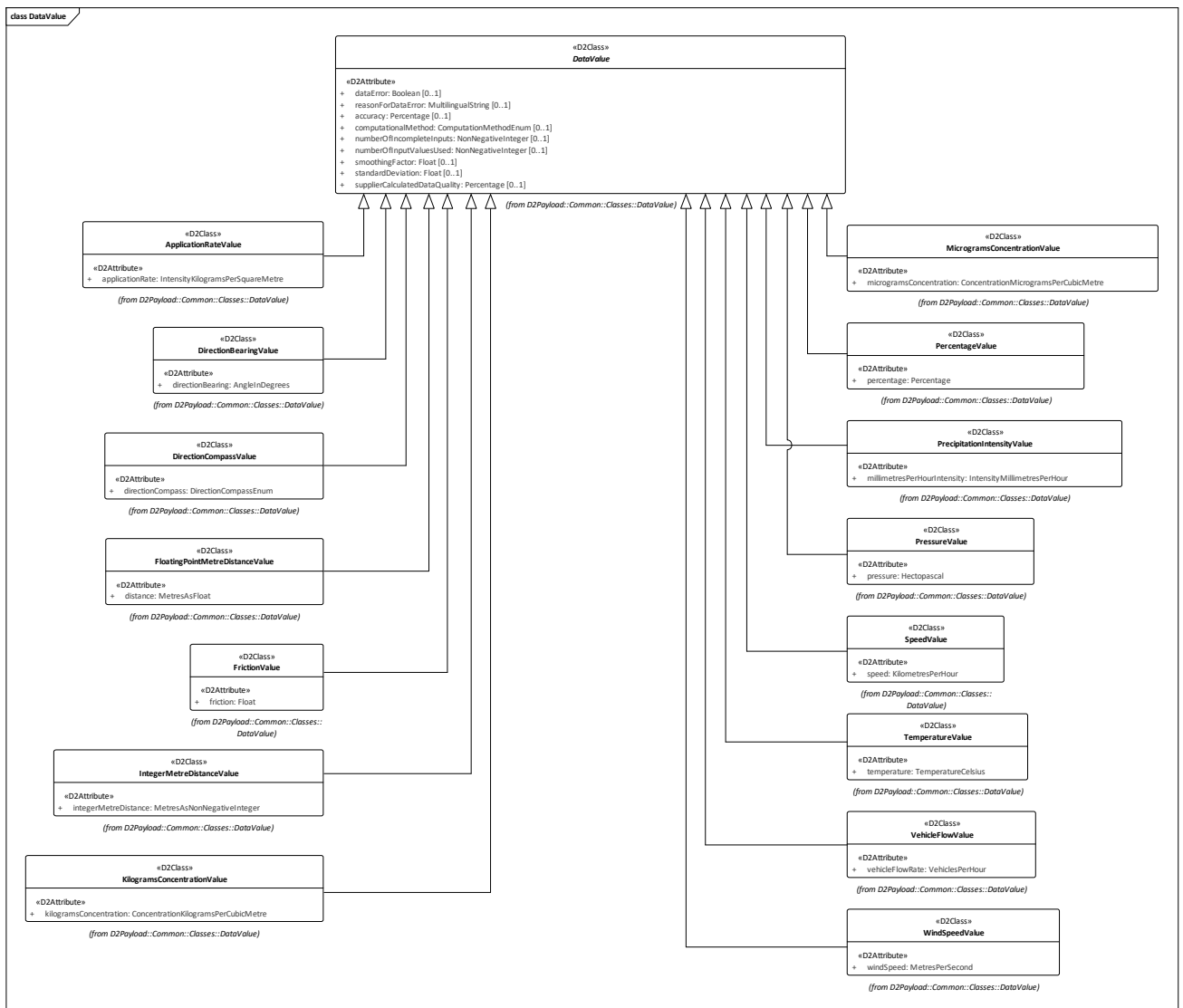


Figure 11 — The DataValue package class model

2.2.2 Semantics of the DataValue package

2.2.2.1 DataValue package semantics – general

This package contains types for data values (see following subclauses) and adds additional quality and error information to these types.

2.2.2.2 DataValue class

The “DataValue” class is an abstract class i.e. shall be specialised by other classes such as those given in this package. It provides the following quality and error information for each specialised data value:

- Information on data error and reason for it
- Accuracy and computation method
- Number of input values used and number of incomplete inputs

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- Smoothing factor and standard deviation
- Information on supplier calculated data quality (in percent)

2.2.2.3 ApplicationRateValue class

A measured or calculated value of the application rate of a substance.

2.2.2.4 DirectionBearingValue class

A measured or calculated value of direction as a bearing.

2.2.2.5 DirectionCompassValue class

A measured or calculated value of direction as a point of the compass.

2.2.2.6 FloatingPointMetreDistanceValue class

A measured or calculated value of distance in metres in a floating point format.

2.2.2.7 FrictionValue class

A measured or calculated value of road surface friction.

2.2.2.8 IntegerMetreDistanceValue class

A measured or calculated value of distance in whole metres.

2.2.2.9 KilogramsConcentrationValue class

A measured or calculated value of concentration of a substance in kilograms per unit volume.

2.2.2.10 MicrogramsConcentrationValue class

A measured or calculated value of concentration of a substance in micrograms per unit volume.

2.2.2.11 PercentageValue class

A measured or calculated value expressed as a percentage.

2.2.2.12 PrecipitationIntensityValue class

A measured or calculated value of the accumulation rate of precipitation.

2.2.2.13 PressureValue class

A measured or calculated value of atmospheric pressure.

2.2.2.14 SpeedValue class

A measured or calculated value of speed.

2.2.2.15 TemperatureValue class

A measured or calculated value of temperature.

2.2.2.16 VehicleFlowValue class

A measured or calculated value of the flow rate of vehicles.

2.2.2.17 WindSpeedValue class

A measured or calculated value of wind speed.

2.3 The Fault package

2.3.1 Overview of the Fault package

This package describes information about faults - see Figure 12.

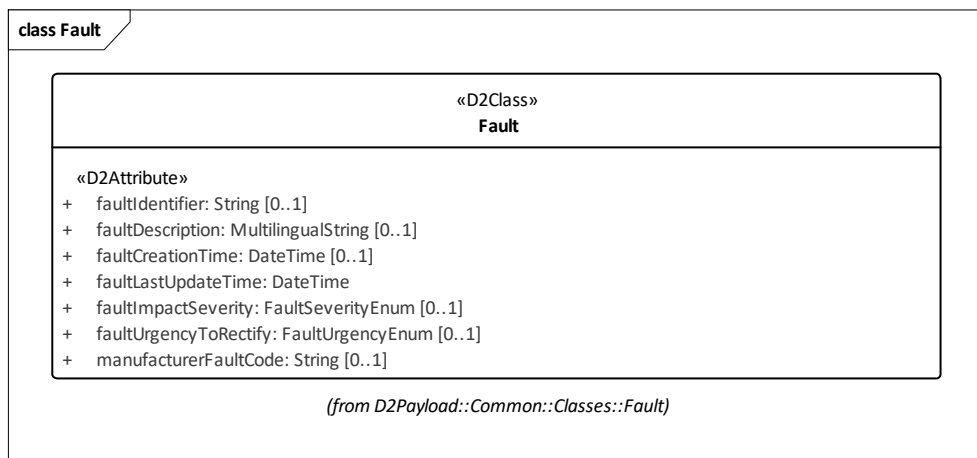


Figure 12 — The Fault package class model

2.3.2 Semantics of the Fault package

2.3.2.1 Fault package semantics – general

This package describes information about faults.

2.3.2.2 Fault class

The "Fault" class specifies information about a fault relating to a specific piece of equipment or process.

2.4 The Validity package

2.4.1 Overview of Validity package

The package "Validity" shall comprise a sub-model for defining the temporal validity of a situation element (for instance described in a "SituationRecord" instance), or the impact of such a situation element, where validity in this context means the time period in which the real world event, activity, action or impact being described actually occurs or is predicted to occur (see Figure 13).

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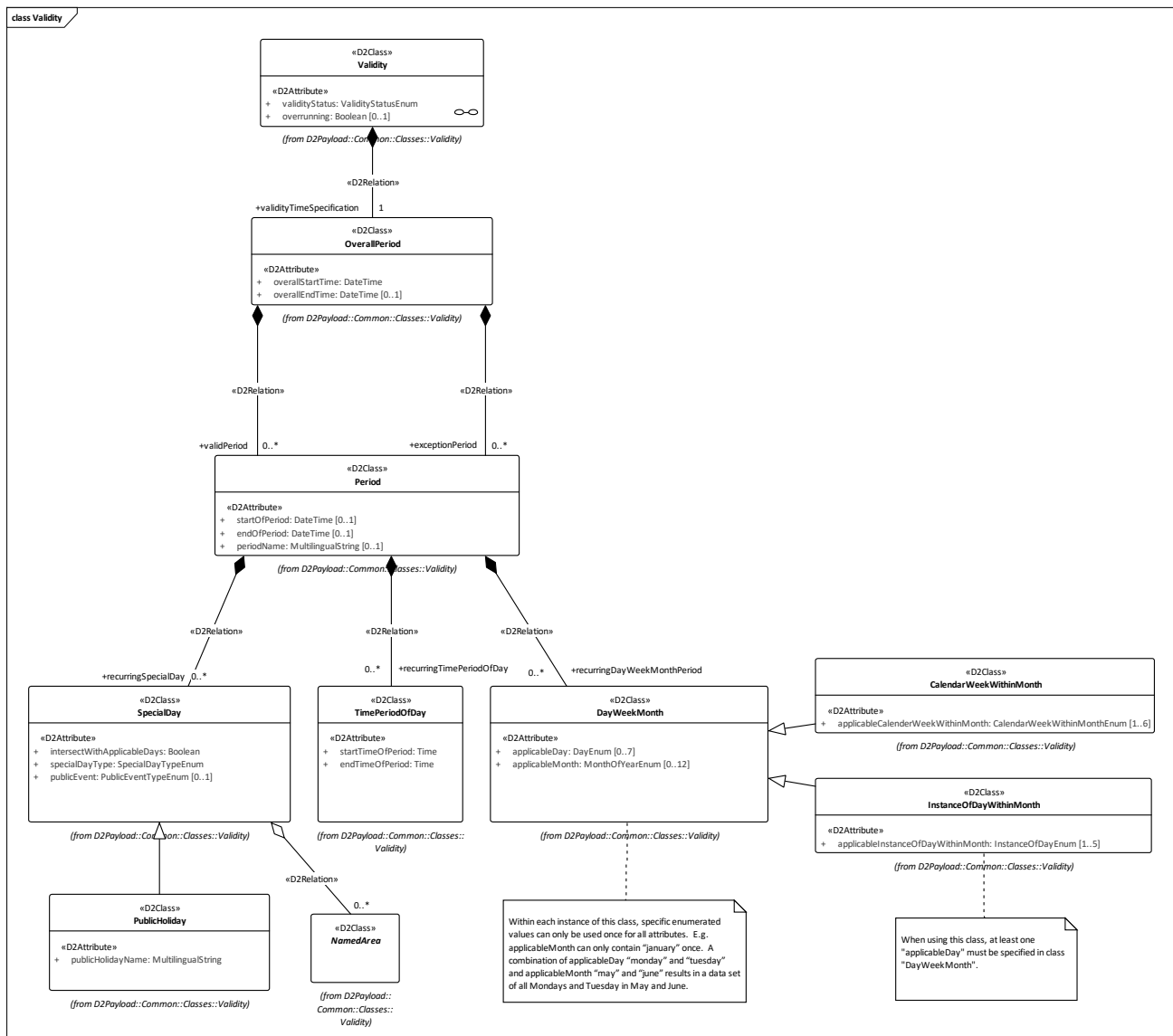


Figure 13 — The Validity package class model

2.4.2 Semantics of the Validity package

2.4.2.1 Validity package semantics - general

The temporal validity of a situation element (for example defined by a "SituationRecord") or its impact can be very simple with just overall start and end times, or complex having several valid and invalid periods within a period defined by overall start and end times. The temporal validity may also be temporarily suspended or active regardless of the validity time specification (i.e. the validity time specification is temporarily overridden).

2.4.2.2 Validity class

The "Validity" class shall allow a supplier to identify whether the temporal validity specified in the remainder of the package is currently overridden and whether the validity period is overrunning that previously stated.

Attribute “validityStatus” shall specify whether the temporal validity is specified by the remainder of this package or not. If not, it shall be specified as being “active” (i.e. temporarily valid regardless of the validity time specification in the remainder of this package) or “suspended” (i.e. temporarily invalid regardless of the validity time specification in the remainder of this package).

Attribute “overrunning” may be used to specify whether the validity period is overrunning its expected duration as defined in previous versions of the publication, or even in current version.

2.4.2.3 OverallPeriod class

The “OverallPeriod” class shall be used to specify the bounding start and end times of the validity period, within which there may be any number of valid and invalid (exception) periods. There shall be at least an overall start time specified here.

2.4.2.4 Period class

The “Period” class may be used to specify either a single valid or invalid (exception) period or a set of repeating valid or invalid periods within a specified period. Hence each period shall be specified as either a single time period, or as a number of recurring time periods within a single time period.

There may be any number of these valid and invalid (exception) periods within the overall validity period. The overall validity period defined in the “OverallPeriod” class by the “startOfPeriod” and “endOfPeriod” attributes shall strictly bound (i.e. override) any periods defined in this class.

Note that where an invalid (exception) period overlaps (intersects) a valid period the validity shall be regarded as invalid.

2.4.2.5 DayWeekMonth class

The “DayWeekMonth” class may be used to allow recurring periods to be specified in terms of days of the week and months of the year. The recurring periods are defined by the intersection of each of these values (see also note below).

This class may be specialised by the class “CalendarWeekWithinMonth” to allow recurring periods to be specified in terms of the calendar week(s) of the month or may be specialised by “InstanceOfDayWithinMonth” to allow recurring periods to be specified in terms of instance(s) of the specified weekday within a month.

This class shall be used with an association that has a role name of “recurringDayWeekMonthPeriod” identifying that it is used for specifying recurring periods.

Attribute “applicableDay” may be used to identify in which day of the week the period resides. Note that where this recurring period is specified in conjunction with a “TimePeriodOfDay” (via the role name “recurringTimePeriodOfDay”) and that specifies a period which spans midnight then this “applicableDay” value relates to the start time of that period.

Attribute “applicableMonth” may be used to identify in which month of the year the period resides.

NOTE Within each instance of this class, specific enumerated values can only be used once for all attributes. E.g. applicableMonth can only contain “january” once. A combination of applicableDay “monday” and “tuesday” and applicableMonth “may” and “june” results in a data set of all Mondays and Tuesday in May and June.

2.4.2.6 CalendarWeekWithinMonth class

The “CalendarWeekWithinMonth” class may be used to allow recurring periods to be specified in terms of the calendar week(s) of the month.

NOTE By default, the WeekofMonth is calculated as follows: The calendar week commences on a Monday (as per ISO 8601). The first week of a month is the calendar week containing the first of the month. Several days of

Fout! Verwijzingsbron niet gevonden.

the first week of the month may occur in the previous calendar month. The last week of the month contains the last day of the month in question.

2.4.2.7 InstanceOfDayWithinMonth class

The "InstanceOfDayWithinMonth" class may be used to allow recurring periods to be specified in terms of instance(s) of the specified weekday within a month.

When using this class, at least one "applicableDay" must be specified in class "DayWeekMonth".

2.4.2.8 TimePeriodOfDay class

The "TimePeriodOfDay" class may be used to allow recurring periods to be specified in terms of start and end time within a day. The recurring periods are defined by the intersection of each of these values.

This class shall be used with an association that has a role name of "recurringTimePeriodOfDay" identifying that it is used for specifying recurring periods.

2.4.2.9 SpecialDay class

The "SpecialDay" class may be used to allow recurring periods to be specified in terms of special days. It is also possible to specialise this class with the "PublicHoliday" class.

This class shall be used with an association that has a role name of "recurringSpecialDay" identifying that it is used for specifying recurring periods.

The special day shall be defined using an enumeration and optional an associated event. It is possible to attach a named area to the "SpecialDay" class.

Attribute "intersectionWithApplicableDays" specifies, whether the intersection or union of days is defined.

2.4.2.10 NamedArea class

The "NamedArea" class shall be an abstract hook class to hook in a model for a named area.

2.4.2.11 PublicHoliday class

The "PublicHoliday" class may be used to specialise the "SpecialDay" class representing a public holiday.

2.5 The Vehicle package

2.5.1 Overview of the Vehicle package

The package "Vehicle" shall comprise a sub-model for defining information about an individual vehicle (see Figure 14).

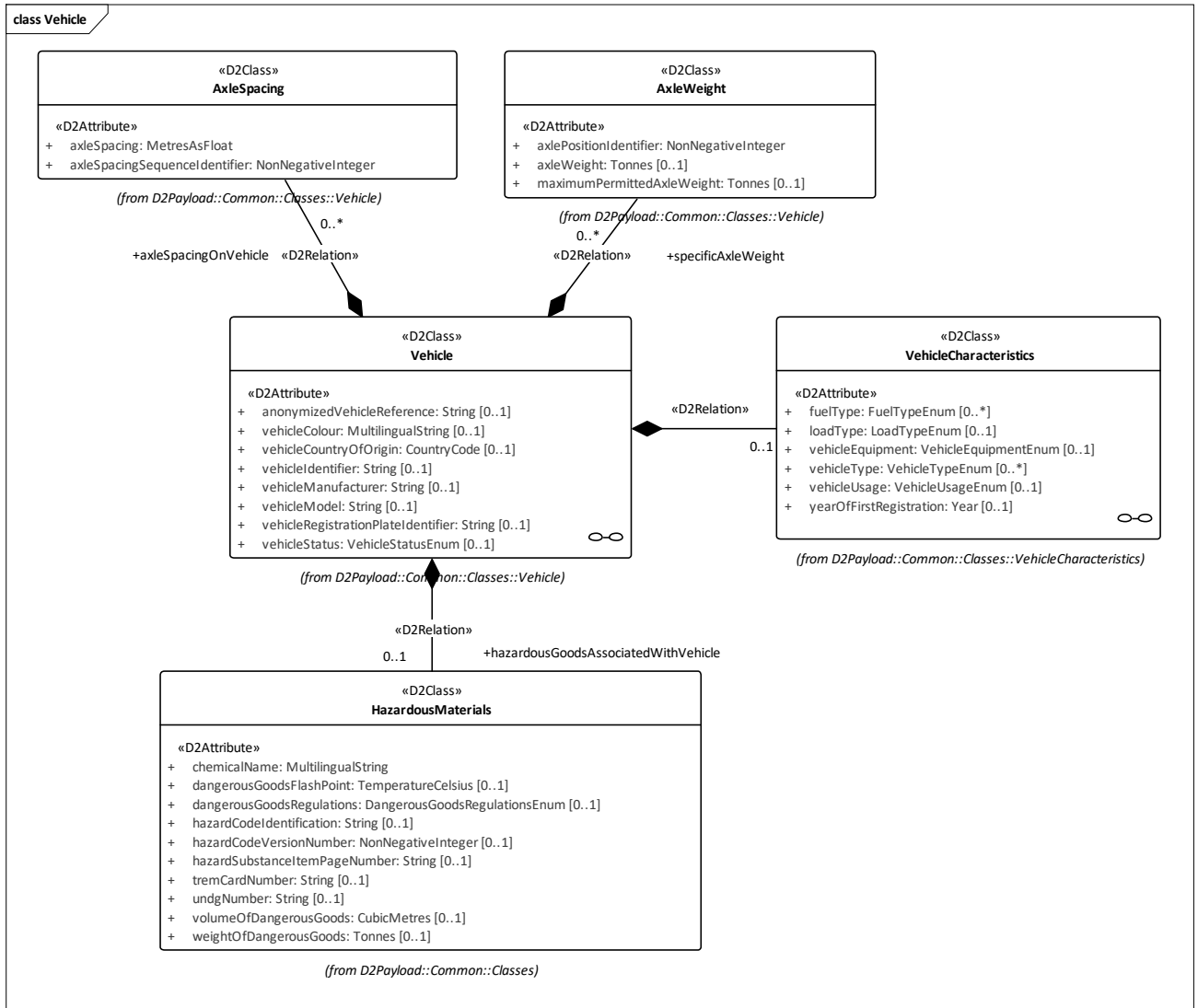


Figure 14 — The Vehicle package class model

2.5.2 Semantics of the Vehicle package

2.5.2.1 Vehicle package semantics – general

The information that is modelled in the “Vehicle” package shall identify details of an individual vehicle and the load which it may be carrying.

2.5.2.2 Vehicle class

An instance of the “Vehicle” class shall allow a supplier to identify the specific details relating to a single individual vehicle and its load.

2.5.2.3 AxleSpacing class

The “AxleSpacing” class may be used to allow a supplier to identify the spacing between adjacent sets of axles on a specific vehicle, indexed from the front of the vehicle.

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Attribute “axleSpacingSequenceIdentifier” shall identify which axle spacing is being specified, e.g. a value of ‘1’ indicates that the “axleSpacing” value relates to the distance between the front axle and the next axle from the front of the vehicle.

2.5.2.4 AxleWeight class

The “AxleWeight” class may be used to allow a supplier to identify the actual weight and the maximum permitted weight on a specified axle on a specific vehicle.

Attribute “axlePositionIdentifier” shall identify to which axle the specified weight values relate, e.g. a value of ‘1’ indicates that it is the front axle weight that is being specified.

2.6 The VehicleCharacteristics package

2.6.1 Overview of the VehicleCharacteristics package

The package “VehicleCharacteristics” shall comprise a sub-model for defining the characteristics of vehicles (see Figure 15).

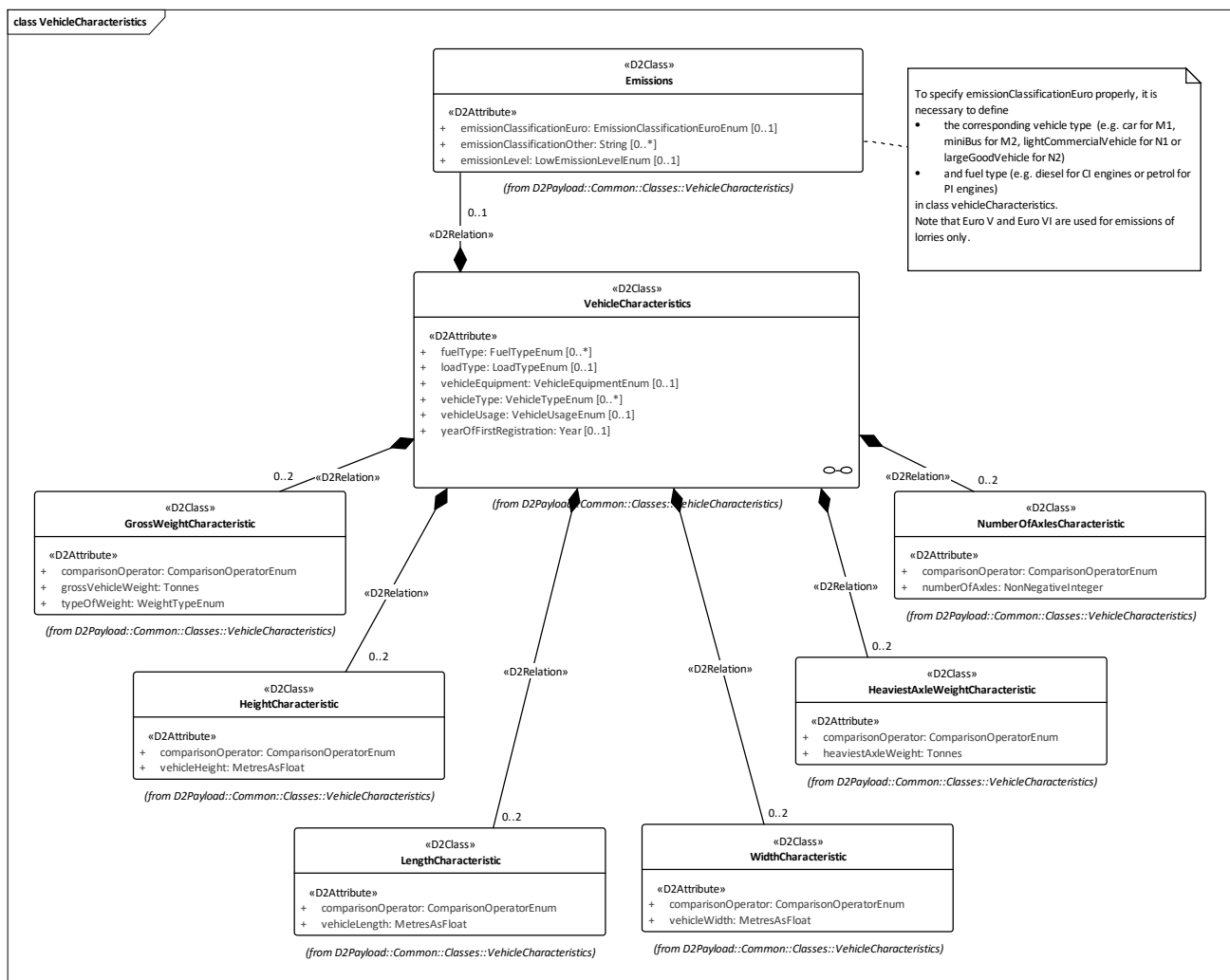


Figure 15 — The VehicleCharacteristics package class model

2.6.2 Semantics of the VehicleCharacteristics package

2.6.2.1 VehicleCharacteristics package semantics – general

The information that is modelled in the “VehicleCharacteristics” package shall identify a set of vehicle characteristics, some of whose values can be specified using comparative operators (e.g. greater than ‘x’ but less than ‘y’).

2.6.2.2 VehicleCharacteristics class

An instance of the “VehicleCharacteristics” class shall allow a supplier to identify a base set of vehicle characteristics.

2.6.2.3 Emissions class

The “Emissions” class may be used to specify a vehicle emission level either by Euro-norm, by self-defined emission categories or by a low emission level flag.

2.6.2.4 GrossWeightCharacteristics class

The “GrossWeightCharacteristics” class may be used to allow a supplier to identify the actual gross weight of a vehicle. By providing two instances of this class a supplier can specify the gross weight as being between a lower and upper limit.

2.6.2.5 HeightCharacteristic class

The “HeightCharacteristic” class may be used to allow a supplier to identify the actual height of a vehicle. By providing two instances of this class a supplier can specify the height as being between a lower and upper limit.

2.6.2.6 LengthCharacteristic class

The “LengthCharacteristic” class may be used to allow a supplier to identify the actual length of a vehicle. By providing two instances of this class a supplier can specify the length as being between a lower and upper limit.

2.6.2.7 WidthCharacteristic class

The “WidthCharacteristic” class may be used to allow a supplier to identify the actual width of a vehicle. By providing two instances of this class a supplier can specify the width as being between a lower and upper limit.

2.6.2.8 HeaviestAxleWeightCharacteristic class

The “HeaviestAxleWeightCharacteristic” class may be used to allow a supplier to identify the actual heaviest axle weight of a vehicle. By providing two instances of this class a supplier can specify the heaviest axle weight as being between a lower and upper limit.

2.6.2.9 NumberOfAxlesCharacteristic class

The “NumberOfAxlesCharacteristic” class may be used to allow a supplier to identify the actual number of axles on a vehicle. By providing two instances of this class a supplier can specify the number of axles as being between a lower and upper limit.

Fout! Verwijzingsbron niet gevonden.

2.7 Other classes of the Common::Classes package

2.7.1 GlobalReference class

The "GlobalReference" class (see Figure 16) shall provide a versioned reference to an object that may be in another publication from another publisher.

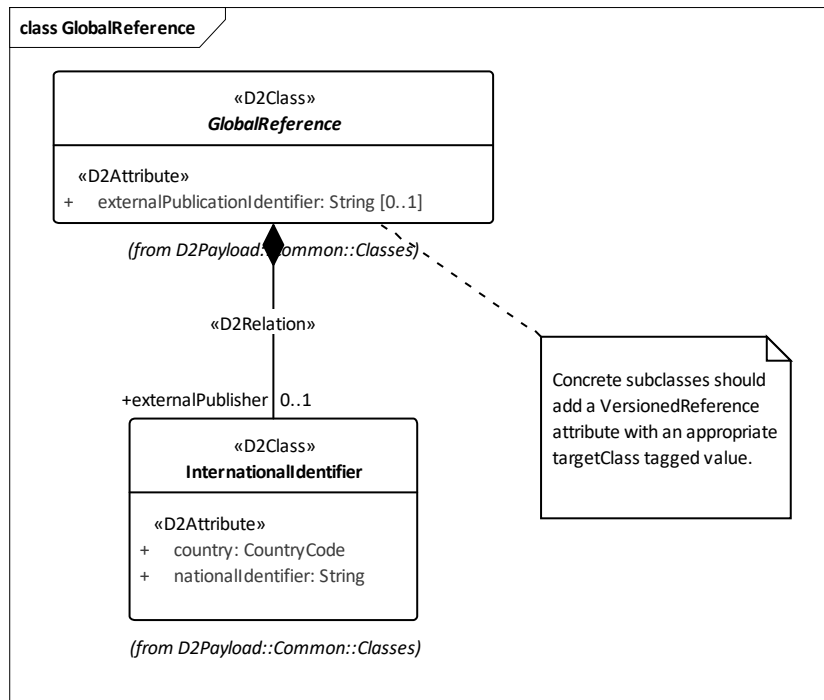


Figure 16 — The GlobalReference class model

2.7.2 GroupOfVehiclesInvolved class

The "GroupOfVehiclesInvolved" (see Figure 17) class may be used for describing a group of vehicles involved having common characteristics ("VehicleCharacteristics", see 2.6) and/or status.

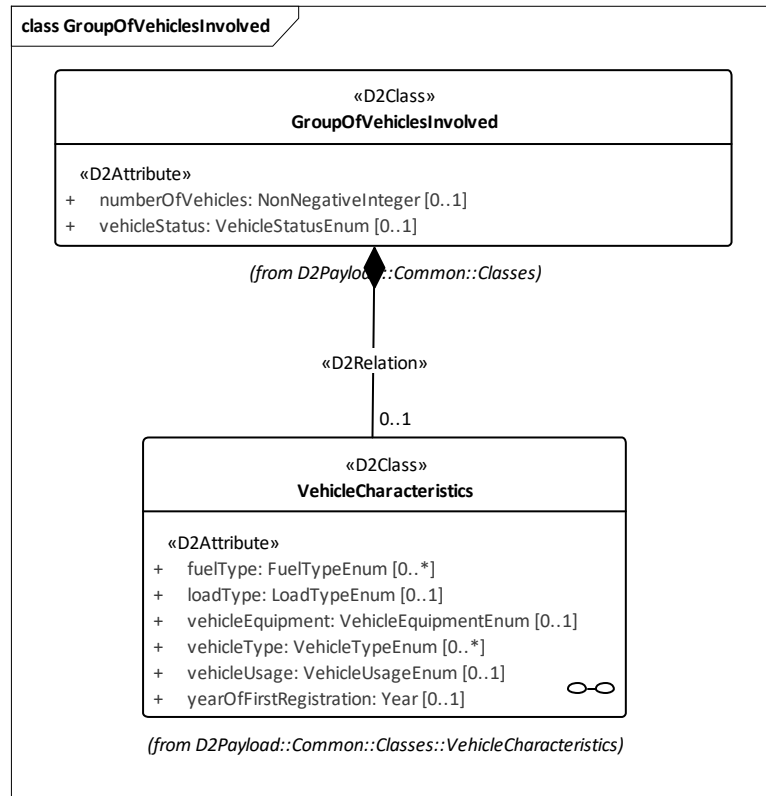


Figure 17 — The GroupOfVehiclesInvolved class model

2.7.3 HazardousMaterials class

The “HazardousMaterials” class (see Figure 18) may be used to allow a supplier to identify the actual details of any hazardous material or dangerous goods that the vehicle is carrying or at least is thought to be carrying.

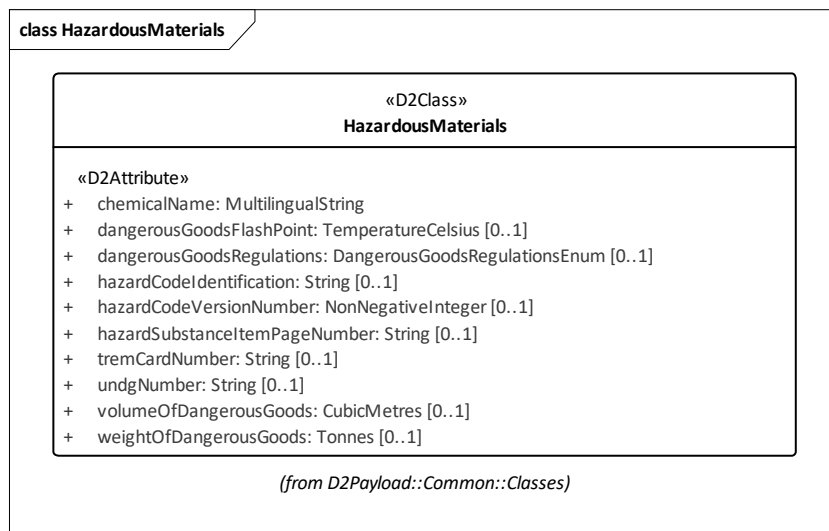


Figure 18 — The HazardousMaterials class model

Fout! Verwijzingsbron niet gevonden.

2.7.4 HeaderInformation class

The “HeaderInformation” class (see Figure 19) shall specify management information relating to the data contained within a publication.

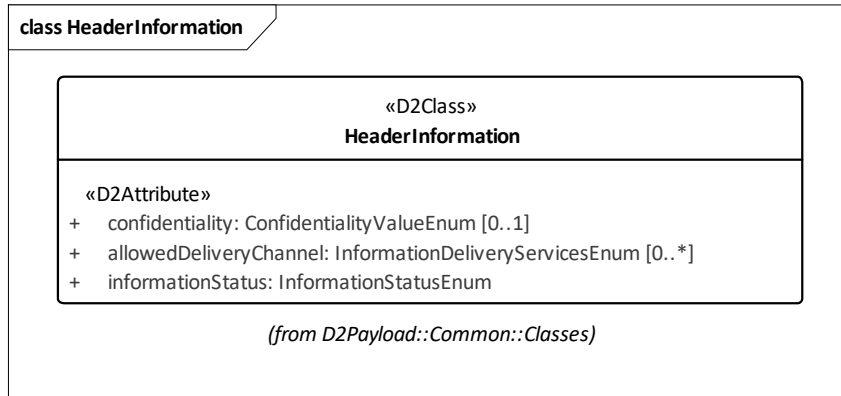


Figure 19 — The HeaderInformation class model

2.7.5 Source class

Language independent textual code or identifier for the organisation or the equipment which has produced the information.

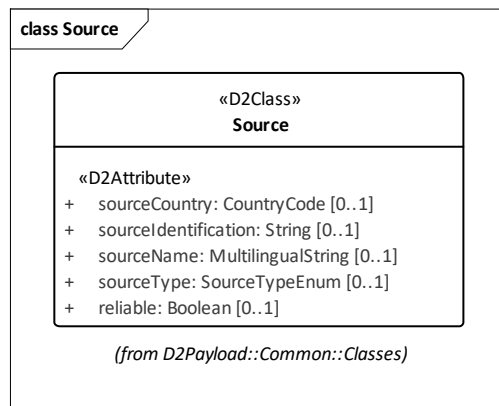


Figure 20 — The Source class model

2.7.6 UrlLink class

The “UrlLink” class (see Figure 21) may provide details of a Uniform Resource Locator (URL) address pointing to a resource available on the Internet from where further relevant information may be obtained.

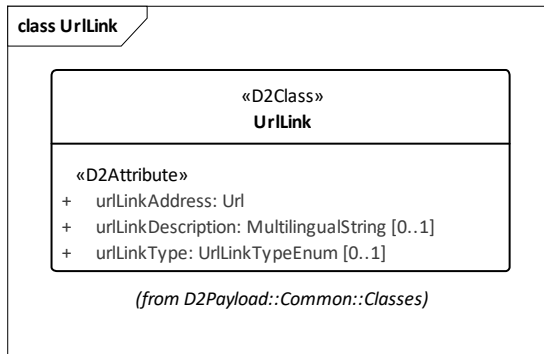


Figure 21 — The UrlLink class model

Fout! Verwijzingsbron niet gevonden.

Annex A (normative) Data Dictionary

A.1 Overview

This data dictionary identifies the definitions and characteristics of the different classes, attributes, association ends, data types and enumerations appearing in the common data model defined in 0 and 2. The data dictionary is specified in three parts, one for packages, one for <<D2Datatypes>> and one for <<D2Enumerations>>, each ordered alphabetically.

The first part of the data dictionary is partitioned into sub-Clauses which relate to each of the UML model packages and each sub-Clause defines the contained classes, their attributes and any association ends defined between the classes within that package.

The Data Dictionary tables use the following columns:

- 1) Column **Class name**: it provides the symbolic name (Upper Camel Case) given to the corresponding class.
- 2) Column **Association end**: it provides the symbolic name (Lower Camel Case) given to the corresponding association end.
- 3) Column **Attribute name**: it provides the symbolic name (Lower Camel Case) given to the corresponding attribute of a class.
- 4) Column **Enumerated value name**: It provides the symbolic name (Lower Camel Case) given to the corresponding enumerated value.
- 5) Column **Designation**: it provides the corresponding name in natural language of the corresponding class, attribute, association end or enumeration value.
- 6) Column **Definition**: it provides a comprehensive definition detailing the class, attribute or association end.
- 7) Column **Stereotype**: it provides a statement of the stereotype that is assigned to the class - see Part 1 of EN 16157 Clause 6.2 for further details.
- 8) Column **Abstract**: it provides a statement as to whether the class is abstract (non realisable) or concrete (realisable).
- 9) Column **Multiplicity**: it provides a statement of the allowed multiplicity for the attribute or association end.
- 10) Column **Target**: It provides the name of the class to which the association end applies.
- 11) Column **Type**: it provides the name of the class used to define the data type relating to the attribute of the Overview

A.2 Data Dictionary for "Common"

A.2.1 "Classes" package

D2Payload/Common/Classes

A.2.1.1 "Classes" package classes

Table A.1— Classes of the "Classes" package

Class name	Designation	Definition	Stereotype	Abstract
GenericPublication	Generic publication	A publication used to make level B extensions at the publication level.	D2Class	no
GlobalReference	Global reference	A versioned reference to an object that may be in another publication from another publisher.	D2Class	yes
GroupOfVehiclesInvolved	Group of vehicles involved	Group of the vehicles involved having common characteristics and/or status.	D2Class	no
HazardousMaterials	Hazardous materials	Details of hazardous materials.	D2Class	no
HeaderInformation	Header information	Management information relating to the data contained within a publication.	D2Class	no
InternationalIdentifier	International identifier	An identifier/name whose range is specific to the particular country.	D2Class	no
PayloadPublication	Payload publication	A payload publication of traffic related information or associated management information created at a specific point in time that can be exchanged via a DATEX II interface.	D2ModelRoot	yes
Source	Source	Details of the source from which the information was obtained.	D2Class	no
UrlLink	URL link	Details of a Uniform Resource Locator (URL) address pointing to a resource available on the Internet from where further relevant information may be obtained.	D2Class	no

A.2.1.2 Associations of "Classes" package

Table A.2— Associations of the "Classes" package

Class name	Association end	Designation	Definition	Multiplicity	Target
GlobalReference	externalPublisher	External publisher	Identifier for an external DATEX II publisher	0..1	InternationalIdentifier

Fout! Verwijzingsbron niet gevonden.

Class name	Association end	Designation	Definition	Multiplicity	Target
GroupOfVehiclesInvolved	vehicleCharacteristics	Vehicle characteristics		0..1	VehicleCharacteristics
PayloadPublication	publicationCreator	Publication creator		1..1	InternationalIdentifier

A.2.1.3 "Classes" package attributes

Table A.3— Attributes of the "Classes" package

Class name	Attribute name	Designation	Definition	Multiplicity	Type
GenericPublication	genericPublicationName	Generic publication name	The name of the generic publication.	1..1	String
GlobalReference	externalPublicationIdentifier	External publication identifier	Identifier for an external DATEX II publication	0..1	String
GroupOfVehiclesInvolved	numberOfVehicles	Number of vehicles	The number of vehicles of this group that are involved.	0..1	NonNegativeInteger
	vehicleStatus	Vehicle status	Vehicle status.	0..1	VehicleStatusEnum
HazardousMaterials	chemicalName	Chemical name	The chemical name of the hazardous substance carried by the vehicle.	1..1	MultilingualString
	dangerousGoodsFlashPoint	Dangerous goods flash point	The temperature at which the vapour from a hazardous substance will ignite in air.	0..1	TemperatureCelsius
	dangerousGoodsRegulations	Dangerous goods regulations	The code defining the regulations, international or national, applicable for a means of transport.	0..1	DangerousGoodsRegulationsEnum
	hazardCodeIdentification	Hazard code identification	The dangerous goods description code.	0..1	String
	hazardCodeVersionNumber	Hazard code version number	The version/revision number of date of issuance of the hazardous material code used.	0..1	NonNegativeInteger

Class name	Attribute name	Designation	Definition	Multiplicity	Type
	hazardSubstanceItemPageNumber	Hazard substance item page number	A number giving additional hazard code classification of a goods item within the applicable dangerous goods regulation.	0..1	String
	tremCardNumber	Trem card number	The identification of a transport emergency card giving advice for emergency actions.	0..1	String
	undgNumber	UNDG number	A unique serial number assigned within the United Nations to substances and articles contained in a list of the dangerous goods most commonly carried.	0..1	String
	volumeOfDangerousGoods	Volume of dangerous goods	The volume of dangerous goods on the vehicle(s) reported in a traffic/travel situation.	0..1	CubicMetres
	weightOfDangerousGoods	Weight of dangerous goods	The weight of dangerous goods on the vehicle(s) reported in a traffic/travel situation.	0..1	Tonnes
HeaderInformation	allowedDeliveryChannel	Allowed delivery channel	The allowed delivery channel.	0..*	InformationDeliveryServicesEnum
	confidentiality	Confidentiality	The extent to which the related information may be circulated, according to the recipient type.	0..1	ConfidentialityValueEnum
	informationStatus	Information status	The status of the related information (real, test, exercise ...).	1..1	InformationStatusEnum
InternationalIdentifier	country	Country	EN ISO 3166-1 two-character country code.	1..1	CountryCode
	nationalIdentifier	National identifier	Identifier or name unique within the specified country.	1..1	String
PayloadPublication	defaultLanguage	Default language	The default language used throughout the payload publication.	1..1	Language
	feedDescription	Feed description	A description of the information which is to be found in the publications originating from the particular feed (URL).	0..1	MultilingualString

Fout! Verwijzingsbron niet gevonden.

Class name	Attribute name	Designation	Definition	Multiplicity	Type
	feedType	Feed type	A classification of the information which is to be found in the publications originating from the particular feed.	0..1	String
	publicationTime	Publication time	Date/time at which the payload publication was created.	1..1	DateTime
Source	reliable	Reliable	An indication as to whether the source deems the associated information to be reliable/correct. "True" indicates it is deemed reliable.	0..1	Boolean
	sourceCountry	Source country	EN ISO 3166-1 two-character country code of the source of the information.	0..1	CountryCode
	sourceIdentification	Source identification	Language independent textual code or identifier for the organisation or the equipment that has produced the information.	0..1	String
	sourceName	Source name	The name of the organisation which has produced the information relating to this version of the information.	0..1	MultilingualString
	sourceType	Source type	Information about the technology used for measuring the data or the method used for obtaining qualitative descriptions relating to this version of the information.	0..1	SourceTypeEnum
UrlLink	urlLinkAddress	URL link address	A Uniform Resource Locator (URL) address pointing to a resource available on the Internet from where further relevant information may be obtained.	1..1	Url
	urlLinkDescription	URL link description	Description of the relevant information available on the Internet from the URL link.	0..1	MultilingualString
	urlLinkType	URL link type	Details of the type of relevant information available on the Internet from the URL link.	0..1	UrlLinkTypeEnum

A.2.2 "DataValue" package

D2Payload/Common/Classes/DataValue

A.2.2.1 "DataValue" package classes

Table A.4— Classes of the "DataValue" package

Class name	Designation	Definition	Stereotype	Abstract
ApplicationRateValue	Application rate value	A measured or calculated value of the application rate of a substance.	D2Class	no
DataValue	Data value	A data value of something that can be measured or calculated. Any provided meta-data values specified in the attributes override any specified generic characteristics such as defined for a specific measurement in the MeasurementSiteTable.	D2Class	yes
DirectionBearingValue	Direction bearing value	A measured or calculated value of direction as a bearing.	D2Class	no
DirectionCompassValue	Direction compass value	A measured or calculated value of direction as a point of the compass.	D2Class	no
FloatingPointMetreDistanceValue	Floating point metre distance value	A measured or calculated value of distance in metres in a floating point format.	D2Class	no
FrictionValue	Friction value	A measured or calculated value of road surface friction.	D2Class	no
IntegerMetreDistanceValue	Integer metre distance value	A measured or calculated value of distance in whole metres.	D2Class	no
KilogramsConcentrationValue	Kilograms concentration value	A measured or calculated value of concentration of a substance in kilograms per unit volume.	D2Class	no
MicrogramsConcentrationValue	Micrograms concentration value	A measured or calculated value of concentration of a substance in micrograms per unit volume.	D2Class	no
PercentageValue	Percentage value	A measured or calculated value expressed as a percentage.	D2Class	no
PrecipitationIntensityValue	Precipitation intensity value	A measured or calculated value of the accumulation rate of precipitation.	D2Class	no
PressureValue	Pressure value	A measured or calculated value of atmospheric pressure.	D2Class	no
SpeedValue	Speed value	A measured or calculated value of speed.	D2Class	no
TemperatureValue	Temperature value	A measured or calculated value of temperature.	D2Class	no
VehicleFlowValue	Vehicle flow value	A measured or calculated value of the flow rate of vehicles.	D2Class	no

Fout! Verwijzingsbron niet gevonden.

Class name	Designation	Definition	Stereotype	Abstract
WindSpeedValue	Wind speed value	A measured or calculated value of wind speed.	D2Class	no

A.2.2.2 Associations of "DataValue" package

There are no defined associations in the "DataValue" package.

A.2.2.3 "DataValue" package attributes

Table A.5— Attributes of the "DataValue" package

Class name	Attribute name	Designation	Definition	Multiplicity	Type
ApplicationRateValue	applicationRate	Application rate	A value of the rate of application of a substance expressed in kilogrammes per square metre.	1..1	IntensityKilogramsPerSquareMetre
DataValue	accuracy	Accuracy	The extent to which the value is expected to be free from error, measured as a percentage of the data value. 100% means fully accurate.	0..1	Percentage
	computationalMethod	Computational method	Method of computation which has been used to compute this data value.	0..1	ComputationMethodEnum
	dataError	Data error	Indication of whether the value is deemed to be erroneous by the supplier (true = erroneous). If not present, the data value is assumed to be ok. This may be used when automatic fault detection information relating to sensors is available.	0..1	Boolean
	numberOfIncompleteInputs	Number of incomplete inputs	The number of inputs detected but not completed during the sampling or measurement period; e.g. vehicles detected entering but not exiting the detection zone.	0..1	NonNegativeInteger
	numberOfInputValuesUsed	Number of input values used	The number of input values used in the sampling or measurement period to determine the data value.	0..1	NonNegativeInteger

Class name	Attribute name	Designation	Definition	Multiplicity	Type
	reasonForDataError	Reason for data error	The reason why the value is deemed to be erroneous by the supplier.	0..1	MultilingualString
	smoothingFactor	Smoothing factor	Coefficient required when a moving average is computed to give specific weights to the former average and the new data. A typical formula is, F being the smoothing factor: New average = (old average) F + (new data) (1 - F).	0..1	Float
	standardDeviation	Standard deviation	The standard deviation of the sample of input values from which this value was derived, measured in the units of the data value.	0..1	Float
	supplierCalculatedDataQuality	Supplier calculated data quality	A measure of data quality assigned to the value by the supplier. 100% equates to ideal/perfect quality. The method of calculation is supplier specific and needs to be agreed between supplier and client.	0..1	Percentage
DirectionBearingValue	directionBearing	Direction bearing	A value of direction expressed in terms of a bearing measured in whole degrees. Unless otherwise specified the reference direction corresponding to 0 degrees is North.	1..1	AngleInDegrees
DirectionCompassValue	directionCompass	Direction compass	A value of direction expressed in terms of points of the compass.	1..1	DirectionCompassEnum
FloatingPointMetreDistanceValue	distance	Distance	A value of distance expressed in metres in a floating point format.	1..1	MetresAsFloat
FrictionValue	friction	Friction	Friction, usually a value between 0 and 1.	1..1	Float
IntegerMetreDistanceValue	integerMetreDistance	Integer metre distance	A value of distance expressed in metres in a non-negative integer format.	1..1	MetresAsNonNegativeInteger
KilogramsConcentrationValue	kilogramsConcentration	Kilograms concentration	A value defining the amount of a substance in a given volume (concentration) expressed in kilograms per cubic metre.	1..1	ConcentrationKilogramsPerCubicMetre

Fout! Verwijzingsbron niet gevonden.

Class name	Attribute name	Designation	Definition	Multiplicity	Type
MicrogramsConcentrationValue	microgramsConcentration	Micrograms concentration	A value of the amount of a substance in a given volume (concentration) expressed in µg/m ³ (micrograms/cubic metre).	1..1	ConcentrationMicrogramsPerCubicMetre
PercentageValue	percentage	Percentage	A value expressed as a percentage.	1..1	Percentage
PrecipitationIntensityValue	millimetresPerHourIntensity	Millimetres per hour intensity	A value of precipitation intensity expressed in units of millimetres per hour.	1..1	IntensityMillimetresPerHour
PressureValue	pressure	Pressure	Atmospheric pressure.	1..1	Hectopascal
SpeedValue	speed	Speed	A value of speed expressed in kilometres per hour.	1..1	KilometresPerHour
TemperatureValue	temperature	Temperature	A value of temperature expressed in degrees Celsius.	1..1	TemperatureCelsius
VehicleFlowValue	vehicleFlowRate	Vehicle flow rate	A value of vehicle flow rate expressed in vehicles per hour.	1..1	VehiclesPerHour
WindSpeedValue	windSpeed	Wind speed	A value of wind speed expressed in metres per second.	1..1	MetresPerSecond

A.2.3 "Fault" package

D2Payload/Common/Classes/Fault

A.2.3.1 "Fault" package classes

Table A.6— Classes of the "Fault" package

Class name	Designation	Definition	Stereotype	Abstract
Fault	Fault	Information about a fault relating to a specific piece of equipment or process.	D2Class	no

A.2.3.2 Associations of "Fault" package

There are no defined associations in the "Fault" package.

A.2.3.3 "Fault" package attributes

Table A.7— Attributes of the "Fault" package

Class name	Attribute name	Designation	Definition	Multiplicity	Type
Fault	faultCreationTime	Fault creation time	The date and time at which the fault was originally recorded/reported.	0..1	DateTime
	faultDescription	Fault description	Textual description of the fault.	0..1	MultilingualString
	faultIdentifier	Fault identifier	Unique identifier of the fault.	0..1	String
	faultImpactSeverity	Fault impact severity	The severity of the fault in terms of how it affects the usability of the equipment or the reliability of the data generated by the equipment.	0..1	FaultSeverityEnum
	faultLastUpdateTime	Fault last update time	The date and time at which the fault information as specified in this instance was last updated.	1..1	DateTime
	faultUrgencyToRectify	Fault urgency to rectify	The urgency to rectify the fault.	0..1	FaultUrgencyEnum
	manufacturerFaultCode	Manufacturer fault code	A manufacturer specific code for the fault.	0..1	String

A.2.4 "Validity" package

D2Payload/Common/Classes/Validity

A.2.4.1 "Validity" package classes

Table A.8— Classes of the "Validity" package

Class name	Designation	Definition	Stereotype	Abstract
CalendarWeekWithinMonth	Calendar week within month	Specification of periods defined by relevant calendar weeks in a month, see ISO8601. Note: Calendar weeks start with Monday. First week is the week containing the first of the month.	D2Class	no
DayWeekMonth	Day week month	Specification of periods defined by the intersection of days or instances of them, calendar weeks and months.	D2Class	no
InstanceOfDayWithinMonth	Instance of day within month	Specification of periods defined by the instance of a specific weekday within a month (e.g. 3rd Tuesday in May)	D2Class	no

Fout! Verwijzingsbron niet gevonden.

Class name	Designation	Definition	Stereotype	Abstract
NamedArea	Named area	An abstract hook class to hook in a model for a named area.	D2Class	yes
OverallPeriod	Overall period	A continuous or discontinuous period of validity defined by overall bounding start and end times and the possible intersection of valid periods (potentially recurring) with the complement of exception periods (also potentially recurring).	D2Class	no
Period	Period	A continuous time period or a set of discontinuous time periods defined by the intersection of a set of criteria all within an overall delimiting interval.	D2Class	no
PublicHoliday	Public holiday	Specification of a specific public holiday in case specialDayType is set to 'publicHoliday'.	D2Class	no
SpecialDay	Special day	Specification of a special type of day, possibly also a public holiday. Can be country or region specific.	D2Class	no
TimePeriodOfDay	Time period of day	Specification of a continuous period of time within a 24 hour period.	D2Class	no
Validity	Validity	Specification of validity, either explicitly or by a validity time period specification which may be discontinuous.	D2Class	no

A.2.4.2 Associations of "Validity" package

Table A.9— Associations of the "Validity" package

Class name	Association end	Designation	Definition	Multiplicity	Target
OverallPeriod	exceptionPeriod	Exception period	A single time period, a recurring time period or a set of different recurring time periods during which validity is false.	0..*	Period
	validPeriod	Valid period	A single time period, a recurring time period or a set of different recurring time periods during which validity is true.	0..*	Period
Period	recurringSpecialDay	Recurring special day	A recurring period in terms of special days.	0..*	SpecialDay
	recurringDayWeekMonthPeriod	Recurring day week month period	A recurring period defined in terms of days of the week, weeks of the month and months of the year.	0..*	DayWeekMonth

Class name	Association end	Designation	Definition	Multiplicity	Target
	recurringTimePeriodOfDay	Recurring time period of day	A recurring period of a day.	0..*	TimePeriodOfDay
SpecialDay	namedArea	Named area		0..*	NamedArea
Validity	validityTimeSpecification	Validity time specification	A specification of periods of validity defined by overall bounding start and end times and the possible intersection of valid periods with exception periods (exception periods overriding valid periods).	1..1	OverallPeriod

A.2.4.3 "Validity" package attributes

Table A.10— Attributes of the "Validity" package

Class name	Attribute name	Designation	Definition	Multiplicity	Type
CalendarWeekWithinMonth	applicableCalendarWeekWithinMonth	Applicable calendar week within month	Calendar week in month. See ISO8601. "All weeks of the month" is expressed by not using the CalendarWeekOfMonth class. Note: Calendar weeks start with Monday. First week is the week containing the first of the month.	1..6	CalendarWeekWithinMonthEnum
DayWeekMonth	applicableDay	Applicable day	Applicable day of the week. "All days of the week" is expressed by non-inclusion of this attribute.	0..7	DayEnum
	applicableMonth	Applicable month	Applicable month of the year. "All months of the year" is expressed by non-inclusion of this attribute.	0..12	MonthOfYearEnum
InstanceOfDayWithinMonth	applicableInstanceOfDayWithinMonth	Applicable instance of day within month	The specified integer instance of the specified applicable day within a month.	1..5	InstanceOfDayEnum
OverallPeriod	overallEndTime	Overall end time	End of bounding period of validity defined by date and time.	0..1	DateTime
	overallStartTime	Overall start time	Start of bounding period of validity defined by date and time.	1..1	DateTime
Period	endOfPeriod	End of period	End of a period.	0..1	DateTime

Fout! Verwijzingsbron niet gevonden.

Class name	Attribute name	Designation	Definition	Multiplicity	Type
	periodName	Period name	The name of the period.	0..1	MultilingualString
	startOfPeriod	Start of period	Start of period.	0..1	DateTime
PublicHoliday	publicHolidayName	Public holiday name	Specification of a specific public holiday by its name.	1..1	MultilingualString
SpecialDay	intersectWithApplicableDays	Intersect with applicable days	When true, the period is the intersection of applicable days and this special day. When false, the period is the union of applicable days and this special day.	1..1	Boolean
	publicEvent	Public event	Type of public event on this special day.	0..1	PublicEventTypeEnum
	specialDayType	Special day type	Specification of a special day, for example schoolDay, publicHoliday, ...	1..1	SpecialDayTypeEnum
TimePeriodOfDay	endTimeOfPeriod	End time of period	End of time period.	1..1	Time
	startTimeOfPeriod	Start time of period	Start of time period.	1..1	Time
Validity	overrunning	Overrunning	The activity or action described by the SituationRecord is still in progress, overrunning its planned duration as indicated in a previous version of this record or even in current version.	0..1	Boolean
	validityStatus	Validity status	Specification of validity, either explicitly overriding the validity time specification or confirming it.	1..1	ValidityStatusEnum

A.2.5 "Vehicle" package

D2Payload/Common/Classes/Vehicle

A.2.5.1 "Vehicle" package classes

Table A.11— Classes of the "Vehicle" package

Class name	Designation	Definition	Stereotype	Abstract
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Class name	Designation	Definition	Stereotype	Abstract
AxleSpacing	Axle spacing	The spacing details between the axle sets of an individual vehicle numbered from the front to the back of the vehicle.	D2Class	no
AxleWeight	Axle weight	The weight details of a specific axle on the vehicle.	D2Class	no
Vehicle	Vehicle	Details of an individual vehicle.	D2Class	no

A.2.5.2 Associations of "Vehicle" package

Table A.12— Associations of the "Vehicle" package

Class name	Association end	Designation	Definition	Multiplicity	Target
Vehicle	vehicleCharacteristics	Vehicle characteristics		0..1	VehicleCharacteristics
	axleSpacingOnVehicle	Axle spacing on vehicle	The spacing between axles on the vehicles.	0..*	AxleSpacing
	hazardousGoodsAssociatedWithVehicle	Hazardous goods associated with vehicle	Details of hazardous goods carried by the vehicle.	0..1	HazardousMaterials
	specificAxleWeight	Specific axle weight	The weight details relating to a specific axle on the vehicle.	0..*	AxleWeight

A.2.5.3 "Vehicle" package attributes

Table A.13— Attributes of the "Vehicle" package

Class name	Attribute name	Designation	Definition	Multiplicity	Type
AxleSpacing	axleSpacing	Axle spacing	The spacing interval, indicated by the axleSpacingSequenceIdentifier, between the axles of an individual vehicle from front to back of the vehicle.	1..1	MetresAsFloat
	axleSpacingSequenceIdentifier	Axle spacing sequence identifier	Indicates the sequence number of the interval between the axles of the individual vehicle from front to back (e.g. 1, 2, 3...). This cannot exceed (numberOfAxles -1) if the numberOfAxles is also given as part of the VehicleCharacteristics.	1..1	NonNegativeInteger

Fout! Verwijzingsbron niet gevonden.

Class name	Attribute name	Designation	Definition	Multiplicity	Type
AxleWeight	axlePositionIdentifier	Axle position identifier	Indicates the position of the axle on the vehicle numbered from front to back (i.e. 1, 2, 3...). This cannot exceed the numberOfAxles if provided as part of VehicleCharacteristics.	1..1	NonNegativeInteger
	axleWeight	Axle weight	The weight of the specific axle, indicated by the axleSequenceIdentifier, on the vehicle numbered from front to back of the vehicle.	0..1	Tonnes
	maximumPermittedAxleWeight	Maximum permitted axle weight	The maximum permitted weight of this specific axle on the vehicle.	0..1	Tonnes
Vehicle	anonymizedVehicleReference	Anonymized vehicle reference	A reference for a vehicle derived from vehicle properties such as registration number but encoded so that it does not allow a human to identify the vehicle directly from the encoded value	0..1	String
	vehicleColour	Vehicle colour	The colour of the vehicle.	0..1	MultilingualString
	vehicleCountryOfOrigin	Vehicle country of origin	Specification of the country in which the vehicle is registered. The code is the 2-alpha code as given in EN ISO 3166-1 which is updated by the ISO 3166 Maintenance Agency.	0..1	CountryCode
	vehicleIdentifier	Vehicle identifier	A vehicle identification number (VIN) comprising 17 characters that is based on either ISO 3779 or ISO 3780 and uniquely identifies the individual vehicle. This is normally securely attached to the vehicle chassis.	0..1	String
	vehicleManufacturer	Vehicle manufacturer	Indicates the stated manufacturer of the vehicle, e.g. Ford.	0..1	String
	vehicleModel	Vehicle model	Indicates the model (or range name) of the vehicle, e.g. Mondeo.	0..1	String

Class name	Attribute name	Designation	Definition	Multiplicity	Type
	vehicleRegistrationPlateIdentifier	Vehicle registration plate identifier	An identifier or code displayed on a vehicle registration plate attached to the vehicle used for official identification purposes. The registration identifier is numeric or alphanumeric and is unique within the issuing authority's region.	0..1	String
	vehicleStatus	Vehicle status	Vehicle status.	0..1	VehicleStatusEnum

A.2.6 "VehicleCharacteristics" package

D2Payload/Common/Classes/VehicleCharacteristics

A.2.6.1 "VehicleCharacteristics" package classes

Table A.14— Classes of the "VehicleCharacteristics" package

Class name	Designation	Definition	Stereotype	Abstract
Emissions	Emissions	Emission characteristics of vehicles.	D2Class	no
GrossWeightCharacteristic	Gross weight characteristic	Gross weight characteristic of a vehicle.	D2Class	no
HeaviestAxleWeightCharacteristic	Heaviest axle weight characteristic	Weight characteristic of the heaviest axle on the vehicle.	D2Class	no
HeightCharacteristic	Height characteristic	Height characteristic of a vehicle.	D2Class	no
LengthCharacteristic	Length characteristic	Length characteristic of a vehicle.	D2Class	no
NumberOfAxlesCharacteristic	Number of axles characteristic	Number of axles characteristic of a vehicle.	D2Class	no
VehicleCharacteristics	Vehicle characteristics	The characteristics of a vehicle, e.g. lorry of gross weight greater than 30 tonnes.	D2Class	no
WidthCharacteristic	Width characteristic	Width characteristic of a vehicle.	D2Class	no

A.2.6.2 Associations of "VehicleCharacteristics" package

Fout! Verwijzingsbron niet gevonden.

Table A.15— Associations of the "VehicleCharacteristics" package

Class name	Association end	Designation	Definition	Multiplicity	Target
VehicleCharacteristics	emissions	Emissions		0..1	Emissions
	grossWeightCharacteristic	Gross weight characteristic		0..2	GrossWeightCharacteristic
	heaviestAxleWeightCharacteristic	Heaviest axle weight characteristic		0..2	HeaviestAxleWeightCharacteristic
	heightCharacteristic	Height characteristic		0..2	HeightCharacteristic
	lengthCharacteristic	Length characteristic		0..2	LengthCharacteristic
	numberOfAxlesCharacteristic	Number of axles characteristic		0..2	NumberOfAxlesCharacteristic
	widthCharacteristic	Width characteristic		0..2	WidthCharacteristic

A.2.6.3 "VehicleCharacteristics" package attributes

Table A.16— Attributes of the "VehicleCharacteristics" package

Class name	Attribute name	Designation	Definition	Multiplicity	Type
Emissions	emissionClassificationEuro	Emission classification euro	The minimum Euro emission classification the vehicle(s) have to comply with according to the 1970 Directive 70/220/EEC and its several amendments. Note that vehicleType and fuelType need to be provided in order to make this classification explicit.	0..1	EmissionClassificationEuroEnum
	emissionClassificationOther	Emission classification other	Some other (probably locally defined) value(s) for emission classification.	0..*	String
	emissionLevel	Emission level	The low emission level of a vehicle.	0..1	LowEmissionLevelEnum

Class name	Attribute name	Designation	Definition	Multiplicity	Type
GrossWeightCharacteristic	comparisonOperator	Comparison operator	The operator to be used in the vehicle characteristic comparison operation.	1..1	ComparisonOperatorEnum
	grossVehicleWeight	Gross vehicle weight	The gross weight of the vehicle and its load, including any trailers.	1..1	Tonnes
	typeOfWeight	Type of weight	The meaning of the weight value	1..1	WeightTypeEnum
HeaviestAxleWeightCharacteristic	comparisonOperator	Comparison operator	The operator to be used in the vehicle characteristic comparison operation.	1..1	ComparisonOperatorEnum
	heaviestAxleWeight	Heaviest axle weight	The weight of the heaviest axle on the vehicle.	1..1	Tonnes
HeightCharacteristic	comparisonOperator	Comparison operator	The operator to be used in the vehicle characteristic comparison operation.	1..1	ComparisonOperatorEnum
	vehicleHeight	Vehicle height	The height of the highest part, excluding antennae, of an individual vehicle above the road surface, in metres.	1..1	MetresAsFloat
LengthCharacteristic	comparisonOperator	Comparison operator	The operator to be used in the vehicle characteristic comparison operation.	1..1	ComparisonOperatorEnum
	vehicleLength	Vehicle length	The overall distance between the front and back of an individual vehicle, including the length of any trailers, couplings, embedded features etc.	1..1	MetresAsFloat
NumberOfAxlesCharacteristic	comparisonOperator	Comparison operator	The operator to be used in the vehicle characteristic comparison operation.	1..1	ComparisonOperatorEnum
	numberOfAxles	Number of axles	The total number of axles of an individual vehicle.	1..1	NonNegativeInteger
VehicleCharacteristics	fuelType	Fuel type	The type of fuel used by the vehicle.	0..*	FuelTypeEnum
	loadType	Load type	The type of load carried by the vehicle, especially in respect of hazardous loads.	0..1	LoadTypeEnum
	vehicleEquipment	Vehicle equipment	The type of equipment in use or on board the vehicle.	0..1	VehicleEquipmentEnum
	vehicleType	Vehicle type	Vehicle type.	0..*	VehicleTypeEnum

Fout! Verwijzingsbron niet gevonden.

Class name	Attribute name	Designation	Definition	Multiplicity	Type
	vehicleUsage	Vehicle usage	The type of usage of the vehicle (i.e. for what purpose is the vehicle being used).	0..1	VehicleUsageEnum
	yearOfFirstRegistration	Year of first registration	Year of first registration of the vehicle	0..1	Year
WidthCharacteristic	comparisonOperator	Comparison operator	The operator to be used in the vehicle characteristic comparison operation.	1..1	ComparisonOperatorEnum
	vehicleWidth	Vehicle width	The maximum width of an individual vehicle, including any features embedded or fixed on it, in metres.	1..1	MetresAsFloat

A.2.7 "WeatherRelated" package

D2Payload/Common/Classes/WeatherRelated

A.2.7.1 "WeatherRelated" package classes

Table A.17— Classes of the "WeatherRelated" package

Class name	Designation	Definition	Stereotype	Abstract
Humidity	Humidity	Details of atmospheric humidity.	D2Class	no
Pollution	Pollution	Details of atmospheric pollution.	D2Class	no
PrecipitationDetail	Precipitation detail	Details of precipitation (rain, snow etc.).	D2Class	no
Pressure	Pressure	Details of atmospheric pressure.	D2Class	no
RoadSurfaceConditionMeasurements	Road surface condition measurements	Measurements of the road surface condition which relate specifically to the weather.	D2Class	no
Temperature	Temperature	Details of atmospheric temperature.	D2Class	no
TemperatureBelowOrAboveRoadSurface	Temperature below or above road surface	Mesurement of temperature below or above the road surface.	D2Class	no
Visibility	Visibility	Details of atmospheric visibility.	D2Class	no
Wind	Wind	Wind conditions on the road.	D2Class	no

A.2.7.2 Associations of "WeatherRelated" package

Table A.18— Associations of the "WeatherRelated" package

Class name	Association end	Designation	Definition	Multiplicity	Target
Humidity	relativeHumidity	Relative humidity	The amount of water vapour in the air, as a percentage of the amount of water vapour in saturated air at the same temperature and at atmospheric pressure. The measurement is taken between 1.5 and 2 m above the ground and behind a meteorological screen.	1..1	PercentageValue
Pollution	pollutantConcentration	Pollutant concentration	The average concentration of the pollutant in the air.	0..1	MicrogramsConcentrationValue
PrecipitationDetail	depositionDepth	Deposition depth	The equivalent depth of the water layer resulting from precipitation or deposition on a non-porous horizontal surface. Non liquid precipitation is considered as melted in water form.	0..1	FloatingPoint metreDistanceValue
	precipitationIntensity	Precipitation intensity	The height of the precipitation received per unit time.	0..1	PrecipitationIntensityValue
Pressure	pressureValue	Pressure value		1..1	PressureValue
RoadSurfaceConditionMeasurements	temperatureBelowOrAboveRoadSurface	Temperature below or above road surface	Temperature measurements below or above the road surface.	0..*	TemperatureBelowOrAboveRoadSurface
	deIcingApplicationRate	De-icing application rate	Indicates the rate at which de-icing agents have been applied to the specified road.	0..1	ApplicationRateValue
	protectionTemperature	Protection temperature	The road surface temperature down to which the surface is protected from freezing.	0..1	TemperatureValue
	depthOfSnow	Depth of snow	The depth of snow recorded on the road surface.	0..1	FloatingPoint metreDistanceValue
	iceLayerThickness	Ice layer thickness	The depth of ice to be found on the road surface.	0..1	FloatingPoint metreDistanceValue
	friction	Friction	The friction value of the road.	0..1	FrictionValue

Fout! Verwijzingsbron niet gevonden.

Class name	Association end	Designation	Definition	Multiplicity	Target
	delcingConcentration	De-icing concentration	Indicates the concentration of de-icing agent present in surface water on the specified road.	0..1	KilogramsConcentrationValue
	icePercentage	Ice percentage	The percentage of ice in the water.	0..1	PercentageValue
	roadSurfaceTemperature	Road surface temperature	The temperature measured on the road surface.	0..1	TemperatureValue
	waterFilmThickness	Water film thickness	The depth of standing water to be found on the road surface.	0..1	FloatingPointMetreDistanceValue
Temperature	minimumTemperature	Minimum temperature	The minimum temperature during the forecast or measurement period.	0..1	TemperatureValue
	dewPointTemperature	Dew point temperature	The temperature to which the air would have to cool (at constant pressure and water vapour content) in order to reach saturation.	0..1	TemperatureValue
	maximumTemperature	Maximum temperature	The maximum temperature during the forecast or measurement period.	0..1	TemperatureValue
	airTemperature	Air temperature	The air temperature measured in the shade between 1.5 and 2 metres above ground level.	0..1	TemperatureValue
TemperatureBelowOrAboveRoadSurface	temperatureBelowOrAboveRoadSurface	Temperature below or above road surface	The temperature measured at the specified height below or above the road surface.	1..1	TemperatureValue
Visibility	minimumVisibilityDistance	Minimum visibility distance	The minimum distance, measured or estimated, beyond which drivers may be unable to clearly see a vehicle or an obstacle.	1..1	IntegerMetreDistanceValue
Wind	maximumWindDirectionBearing	Maximum wind direction bearing	The direction from which the maximum wind blows, in terms of a bearing measured in degrees (0 - 359).	0..1	DirectionBearingValue
	windDirectionBearing	Wind direction bearing	The average direction from which the wind blows, in terms of a bearing measured in degrees (0 - 359).	0..1	DirectionBearingValue

Class name	Association end	Designation	Definition	Multiplicity	Target
	windDirectionCompass	Wind direction compass	The average direction from which the wind blows, in terms of points of the compass.	0..1	DirectionCompassValue
	maximumWindDirectionCompass	Maximum wind direction compass	The direction from which the maximum wind blows, in terms of points of the compass.	0..1	DirectionCompassValue
	windSpeed	Wind speed	The wind speed averaged over at least 10 minutes, measured at a default height of 10 metres (meteorological standard) above the road surface, unless measurement height is specified.	0..1	WindSpeedValue
	maximumWindSpeed	Maximum wind speed	The maximum wind speed in a measurement period of 10 minutes.	0..1	WindSpeedValue

A.2.7.3 "WeatherRelated" package attributes

Table A.19— Attributes of the "WeatherRelated" package

Class name	Attribute name	Designation	Definition	Multiplicity	Type
Pollution	pollutantType	Pollutant type	The type of pollutant in the air.	1..1	PollutantTypeEnum
PrecipitationDetail	precipitationIntensityGrade	Precipitation intensity grade	The intensity of precipitation expressed by enumerated value,	0..1	PrecipitationIntensityEnum
	precipitationType	Precipitation type	The type of precipitation which is affecting the driving conditions.	0..1	PrecipitationTypeEnum
TemperatureBelowOrAboveRoadSurface	heightBelowOrAboveRoadSurface	Height below or above road surface	The height of the measurement either below (negative value) or above (positive value) the road surface.	1..1	MetresAsFloat
Wind	windMeasurementHeight	Wind measurement height	The height in metres above the road surface at which the wind is measured.	0..1	MetresAsNonNegativeInteger

Fout! Verwijzingsbron niet gevonden.

A.3 Data Dictionary of <<D2Datatype>> for "Common"

This clause contains the definitions of all data types which are used in the "Common".

A.3.1 The <<D2Datatype>> "AngleInDegrees"

An integer number representing an angle in whole degrees between 0 and 359.

A.3.2 The <<D2Datatype>> "AxlesPerHour"

Vehicle axles per hour.

A.3.3 The <<D2Datatype>> "Base64Binary"

Binary data in base 64 encoding, for example for image data.

A.3.4 The <<D2Datatype>> "Boolean"

Boolean has the value space required to support the mathematical concept of binary-valued logic: {true, false}.

A.3.5 The <<D2Datatype>> "ConcentrationKilogramsPerCubicMetre"

Concentration defined in kilograms per cubic metre (equivalent to grams per litre under standard conditions).

A.3.6 The <<D2Datatype>> "ConcentrationMicrogramsPerCubicMetre"

A measure of concentration defined in µg/m³ (micrograms/cubic metre).

A.3.7 The <<D2Datatype>> "CountryCode"

EN ISO 3166-1 alpha-2 two-letter country code

A.3.8 The <<D2Datatype>> "CubicMetres"

A volumetric measure defined in cubic metres.

A.3.9 The <<D2Datatype>> "Date"

A combination of year, month and day integer-valued properties plus an optional timezone property. It represents an interval of exactly one day, beginning on the first moment of the day in the timezone, i.e. '00:00:00' up to but not including '24:00:00'.

A.3.10 The <<D2Datatype>> "DateTime"

A combination of integer-valued year, month, day, hour, minute properties, a decimal-valued second property and a time zone property from which it is possible to determine the local time, the equivalent UTC time and the time zone offset from UTC.

Fout! Verwijzingsbron niet gevonden.

A.3.11 The <<D2Datatype>> "Decimal"

A decimal number whose value space is the set of numbers that can be obtained by multiplying an integer by a non-positive power of ten, i.e., expressible as $i \times 10^{-n}$ where i and n are integers and $n \geq 0$.

A.3.12 The <<D2Datatype>> "Double"

A double precision number whose value space consists of the values $m \times 2^e$, where m is an integer whose absolute value is less than 2^{53} , and e is an integer between -1024 and 1023, inclusive.

A.3.13 The <<D2Datatype>> "Float"

A floating point number whose value space consists of the values $m \times 2^e$, where m is an integer whose absolute value is less than 2^{24} , and e is an integer between -149 and 104, inclusive.

A.3.14 The <<D2Datatype>> "Hectopascal"

A measure of pressure defined in hectopascal.

A.3.15 The <<D2Datatype>> "Integer"

An integer number whose value space is the set $\{-2147483648, -2147483647, -2147483646, \dots, -2, -1, 0, 1, 2, \dots, 2147483645, 2147483646, 2147483647\}$.

A.3.16 The <<D2Datatype>> "IntensityKilogramsPerSquareMetre"

A measure of the quantity of application of a substance to an area defined in kilograms per square metre.

A.3.17 The <<D2Datatype>> "IntensityMillimetresPerHour"

A measure of precipitation intensity defined in millimetres per hour.

A.3.18 The <<D2Datatype>> "KilometresPerHour"

A measure of speed defined in kilometres per hour.

A.3.19 The <<D2Datatype>> "Language"

A language datatype, identifies a specified language by an ISO 639-1 2-alpha code.

A.3.20 The <<D2Datatype>> "LongString"

A character string with no specified length limit, whose value space is the set of finite-length sequences of characters. Every character has a corresponding Universal Character Set code point (as defined in ISO/IEC 10646), which is an integer.

A.3.21 The <<D2Datatype>> "MetresAsFloat"

A measure of distance defined in metres in a floating point format.

A.3.22 The <<D2Datatype>> "MetresAsNonNegativeInteger"

A measure of distance defined in metres in a non negative integer format.

A.3.23 The <<D2Datatype>> "MetresPerSecond"

A measure of speed defined in metres per second.

A.3.24 The <<D2Datatype>> "MultilingualString"

A multilingual string, whereby the same text may be expressed in more than one language.

A.3.25 The <<D2Datatype>> "NonNegativeInteger"

An integer number whose value space is the set {0, 1, 2, ..., 2147483645, 2147483646, 2147483647}.

A.3.26 The <<D2Datatype>> "Percentage"

A measure of percentage.

A.3.27 The <<D2Datatype>> "Reference"

A reference to an identifiable managed object where the identifier is unique. It comprises an identifier (e.g. GUID) and a string identifying the class of the referenced object.

A.3.28 The <<D2Datatype>> "Seconds"

Seconds.

A.3.29 The <<D2Datatype>> "String"

A character string whose value space is the set of finite-length sequences of characters. Every character has a corresponding Universal Character Set code point (as defined in ISO/IEC 10646), which is an integer.

A.3.30 The <<D2Datatype>> "TemperatureCelsius"

Fout! Verwijzingsbron niet gevonden.

A measure of temperature defined in degrees Celsius.

A.3.31 The <<D2Datatype>> "Time"

An instant of time that recurs every day. The value space of time is the space of time of day values as defined in § 5.3 of [ISO 8601]. Specifically, it is a set of zero-duration daily time instances.

A.3.32 The <<D2Datatype>> "Tonnes"

A measure of weight defined in metric tonnes.

A.3.33 The <<D2Datatype>> "Url"

A Uniform Resource Locator (URL) address comprising a compact string of characters for a resource available on the Internet.

A.3.34 The <<D2Datatype>> "VehiclesPerHour"

Vehicles per hour.

A.3.35 The <<D2Datatype>> "VersionedReference"

A reference to an identifiable version managed object where the combination of the identifier and version is unique. It comprises an identifier (e.g. GUID), a version (NonNegativeInteger) and a string identifying the class of the referenced object.

A.3.36 The <<D2Datatype>> "Year"

A year.

A.4 Data Dictionary of <<D2Enumeration>> for "Common"

This clause contains the definitions of all enumerations which are used in the "Common".

A.4.1 The <<D2Enumeration>> "CalendarWeekWithinMonthEnum"

Calendar week within month (see ISO8601).

Table A.20— Values contained in the enumeration "CalendarWeekWithinMonthEnum"

Enumerated value name	Designation	Definition
fifthWeek	Fifth week	Fifth week of the month.
firstWeek	First week	Calendar week containing the first of the month. Several days of the first week of the month may occur in the previous calendar month. By construction, the last week of a preceding month can also be the first week of a subsequent month.
fourthWeek	Fourth week	Fourth week of the month.
lastWeek	Last week	Last calendar week within month, regardless of its actual number. The last calendar week is the week beginning with Monday and containing the last of the month.
secondWeek	Second week	Second week of the month.
sixthWeek	Sixth week	Sixth week of the month.
thirdWeek	Third week	Third week of the month.

A.4.2 The <<D2Enumeration>> "ComparisonOperatorEnum"

Logical comparison operations.

Table A.21— Values contained in the enumeration "ComparisonOperatorEnum"

Enumerated value name	Designation	Definition
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Fout! Verwijzingsbron niet gevonden.

Enumerated value name	Designation	Definition
equalTo	Equal to	Logical comparison operator of "equal to".
greaterThan	Greater than	Logical comparison operator of "greater than".
greaterThanOrEqualTo	Greater than or equal to	Logical comparison operator of "greater than or equal to".
lessThan	Less than	Logical comparison operator of "less than".
lessThanOrEqualTo	Less than or equal to	Logical comparison operator of "less than or equal to".

A.4.3 The <<D2Enumeration>> "ComputationMethodEnum"

Types of computational methods used in deriving data values for data sets.

Table A.22— Values contained in the enumeration "ComputationMethodEnum"

Enumerated value name	Designation	Definition
arithmeticAverageOfSamplesBasedOnAFixedNumberOfSamples	Arithmetic average of samples based on a fixed number of samples	Arithmetic average of sample values based on a fixed number of samples.
arithmeticAverageOfSamplesInATimePeriod	Arithmetic average of samples in a time period	Arithmetic average of sample values in a time period.
harmonicAverageOfSamplesInATimePeriod	Harmonic average of samples in a time period	Harmonic average of sample values in a time period.
medianOfSamplesInATimePeriod	Median of samples in a time period	Median of sample values taken over a time period.
movingAverageOfSamples	Moving average of samples	Moving average of sample values.

A.4.4 The <<D2Enumeration>> "ConfidentialityValueEnum"

Values of confidentiality.

Table A.23— Values contained in the enumeration "ConfidentialityValueEnum"

Enumerated value name	Designation	Definition
internalUse	Internal use	For internal use only of the recipient organisation.
noRestriction	No restriction	No restriction on usage.
restrictedToAuthorities	Restricted to authorities	Restricted for use only by authorities.
restrictedToAuthoritiesAndTrafficOperators	Restricted to authorities and traffic operators	Restricted for use only by authorities and traffic operators.

A.4.5 The <<D2Enumeration>> "DangerousGoodsRegulationsEnum"

Types of dangerous goods regulations.

Table A.24— Values contained in the enumeration "DangerousGoodsRegulationsEnum"

Enumerated value name	Designation	Definition
adr	ADR	European agreement on the international carriage of dangerous goods on road.
iatalcao	IATA ICAO	Regulations covering the international transportation of dangerous goods issued by the International Air Transport Association and the International Civil Aviation Organisation.
imolmdg	IMO IMDG	Regulations regarding the transportation of dangerous goods on ocean-going vessels issued by the International Maritime Organisation.

Fout! Verwijzingsbron niet gevonden.

Enumerated value name	Designation	Definition
railroadDangerousGoodsBook	Railroad dangerous goods book	International regulations concerning the international carriage of dangerous goods by rail.

A.4.6 The <<D2Enumeration>> "DayEnum"

Days of the week.

Table A.25— Values contained in the enumeration "DayEnum"

Enumerated value name	Designation	Definition
friday	Friday	Friday.
monday	Monday	Monday.
saturday	Saturday	Saturday.
sunday	Sunday	Sunday.
thursday	Thursday	Thursday.
tuesday	Tuesday	Tuesday.
wednesday	Wednesday	Wednesday.

A.4.7 The <<D2Enumeration>> "DirectionCompassEnum"

Cardinal direction points of the compass.

Table A.26— Values contained in the enumeration "DirectionCompassEnum"

Enumerated value name	Designation	Definition
east	East	East.
eastNorthEast	East north east	East north east.
eastSouthEast	East south east	East south east.
north	North	North.
northEast	North east	North east.

Enumerated value name	Designation	Definition
northNorthEast	North north east	North north east.
northNorthWest	North north west	North north west.
northWest	North west	North west.
south	South	South.
southEast	South east	South east.
southSouthEast	South south east	South south east.
southSouthWest	South south west	South south west.
southWest	South west	South west.
west	West	West.
westNorthWest	West north west	West north west.
westSouthWest	West south west	West south west.

A.4.8 The <<D2Enumeration>> "EmissionClassificationEuroEnum"

Classification of emission according to the Euro emission classification (based on several amendments on 1970 Directive 70/220/EEC). Note that vehicleType as well as fuelType are mandatory to provide to make this classification explicit.

Table A.27— Values contained in the enumeration "EmissionClassificationEuroEnum"

Enumerated value name	Designation	Definition
euro5	Euro5	Euro 5.
euro5a	Euro5a	Euro 5a.
euro5b	Euro5b	Euro 5b.
euro6	Euro6	Euro 6.
euro6a	Euro6a	Euro 6a.
euro6b	Euro6b	Euro 6b.
euro6c	Euro6c	Euro 6c.
euroV	Euro v	Euro V.

Fout! Verwijzingsbron niet gevonden.

Enumerated value name	Designation	Definition
euroVI	Euro v i	Euro VI.
other	Other	Any other level.

A.4.9 The <<D2Enumeration>> "FaultSeverityEnum"

Classification of the severity of faults.

Table A.28— Values contained in the enumeration "FaultSeverityEnum"

Enumerated value name	Designation	Definition
high	High	The fault is of high severity which will render the equipment unusable or any data generated by the equipment to be of no value.
low	Low	The fault is of low severity and has only limited impact on the usability of the equipment or the value of the data generated by the equipment.
medium	Medium	The fault is of medium severity which will significantly limit the usability of the equipment or devalue the usefulness of the data generated by the equipment.
unknown	Unknown	The fault is of unknown severity and hence its effect on the usability of the equipment or the usefulness of the data generated by the equipment can not be assessed.

A.4.10 The <<D2Enumeration>> "FaultUrgencyEnum"

Classification of the urgency to rectify a fault.

Table A.29— Values contained in the enumeration "FaultUrgencyEnum"

Enumerated value name	Designation	Definition
extremelyUrgent	Extremely urgent	The fault is to be rectified extremely urgency.
normal	Normal	The fault is of normal urgency.
unknown	Unknown	The fault is of unknown urgency.
urgent	Urgent	The fault is to be rectified urgent.

A.4.11 The <<D2Enumeration>> "FuelTypeEnum"

Type of fuel used by a vehicle.

Table A.30— Values contained in the enumeration "FuelTypeEnum"

Enumerated value name	Designation	Definition
all	All	All sort of fuel is accepted.
battery	Battery	Battery.
biodiesel	Biodiesel	Biodiesel.
diesel	Diesel	Fuel used for compression-ignition (CI) engines.
dieselBatteryHybrid	Diesel battery hybrid	Diesel and battery hybrid.
ethanol	Ethanol	Ethanol.
hydrogen	Hydrogen	Hydrogen.
liquidGas	Liquid gas	Liquid gas of any type including LPG.
lpg	LPG	Liquid petroleum gas.
methane	Methane	Methane gas.

Fout! Verwijzingsbron niet gevonden.

Enumerated value name	Designation	Definition
other	Other	Other.
petrol	Petrol	Fuel used for positive-ignition (PI) engines.
petrol95Octane	Petrol95 octane	Petrol with 95 octane.
petrol98Octane	Petrol98 octane	Petrol with 98 octane.
petrolBatteryHybrid	Petrol battery hybrid	Petrol and battery hybrid.
petrolLeaded	Petrol leaded	Leaded petrol.
petrolUnleaded	Petrol unleaded	Unleaded petrol.
unknown	Unknown	The sort of fuel is not known.

A.4.12 The <<D2Enumeration>> "InformationDeliveryServicesEnum"

List of service channels or devices on which information or data exchanged can be delivered.

Table A.31— Values contained in the enumeration "InformationDeliveryServicesEnum"

Enumerated value name	Designation	Definition
anyGeneralDeliveryService	Any general delivery service	Includes any general delivery channel such as broadcast channels (e.g. radio, tv, RDS-TMC, TPEG services, etc.) or web publishing available to public or to specific users, depending on Service Provider policies.
safetyServices	Safety services	Specific services which deliver warning alerts to end users to enhance safety via any specific application available to drivers, including C-ITS services.

Enumerated value name	Designation	Definition
vms	Vms	Variable Message Signs or any other visual roadside devices which information are accessible to drivers which aim to affect driving style improving safety and road network LoS.

A.4.13 The <<D2Enumeration>> "InformationStatusEnum"

Status of the related information (i.e. real, test or exercise).

Table A.32— Values contained in the enumeration "InformationStatusEnum"

Enumerated value name	Designation	Definition
real	Real	The information is real. It is not a test or exercise.
securityExercise	Security exercise	The information is part of an exercise which is for testing security.
technicalExercise	Technical exercise	The information is part of an exercise which includes tests of associated technical subsystems.
test	Test	The information is part of a test for checking the exchange of this type of information.

A.4.14 The <<D2Enumeration>> "InstanceOfDayEnum"

Instances of a day of the week in a month

Table A.33— Values contained in the enumeration "InstanceOfDayEnum"

Enumerated value name	Designation	Definition
fifthInstance	Fifth instance	Fifth instance of specified day of week in month.

Fout! Verwijzingsbron niet gevonden.

Enumerated value name	Designation	Definition
firstInstance	First instance	First instance of specified day of week in month.
fourthInstance	Fourth instance	Fourth instance of specified day of week in month.
lastInstance	Last instance	Last instance of specified day of week in month (regardless its actual instance number).
secondInstance	Second instance	Second instance of specified day of week in month.
thirdInstance	Third instance	Third instance of specified day of week in month.

A.4.15 The <<D2Enumeration>> "LoadTypeEnum"

Types of load carried by a vehicle.

Table A.34— Values contained in the enumeration "LoadTypeEnum"

Enumerated value name	Designation	Definition
abnormalLoad	Abnormal load	A load that exceeds normal vehicle dimensions in terms of height, length, width, gross vehicle weight or axle weight or any combination of these. Generally termed an "abnormal load".
ammunition	Ammunition	Ammunition.
chemicals	Chemicals	Chemicals of unspecified type.
combustibleMaterials	Combustible materials	Combustible materials of unspecified type.
corrosiveMaterials	Corrosive materials	Corrosive materials of unspecified type.

Enumerated value name	Designation	Definition
debris	Debris	Debris of unspecified type.
empty	Empty	No load.
explosiveMaterials	Explosive materials	Explosive materials of unspecified type.
extraHighLoad	Extra high load	A load of exceptional height.
extraLongLoad	Extra long load	A load of exceptional length.
extraWideLoad	Extra wide load	A load of exceptional width.
fuel	Fuel	Fuel of unspecified type.
glass	Glass	Glass.
goods	Goods	Any goods of a commercial nature.
hazardousMaterials	Hazardous materials	Materials classed as being of a hazardous nature.
liquid	Liquid	Liquid of an unspecified nature.
livestock	Livestock	Livestock.
materials	Materials	General materials of unspecified type.
materialsDangerousForPeople	Materials dangerous for people	Materials classed as being of a danger to people or animals.
materialsDangerousForTheEnvironment	Materials dangerous for the environment	Materials classed as being potentially dangerous to the environment.
materialsDangerousForWater	Materials dangerous for water	Materials classed as being dangerous when exposed to water (e.g. materials which may react exothermically with water).
oil	Oil	Oil.

Fout! Verwijzingsbron niet gevonden.

Enumerated value name	Designation	Definition
ordinary	Ordinary	Materials that present limited environmental or health risk. Non-combustible, non-toxic, non-corrosive.
other	Other	Other than as defined in this enumeration.
perishableProducts	Perishable products	Products or produce that will significantly degrade in quality or freshness over a short period of time.
petrol	Petrol	Petrol or petroleum.
pharmaceuticalMaterials	Pharmaceutical materials	Pharmaceutical materials.
radioactiveMaterials	Radioactive materials	Materials that emit significant quantities of electro-magnetic radiation that may present a risk to people, animals or the environment.
refrigeratedGoods	Refrigerated goods	Refrigerated goods.
refuse	Refuse	Refuse.
toxicMaterials	Toxic materials	Materials of a toxic nature which may damage the environment or endanger public health.
vehicles	Vehicles	Vehicles of any type which are being transported.

A.4.16 The <<D2Enumeration>> "LowEmissionLevelEnum"

The emission level of a vehicle.

Table A.35— Values contained in the enumeration "LowEmissionLevelEnum"

Enumerated value name	Designation	Definition
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Enumerated value name	Designation	Definition
freeOfEmission	Free of emission	Only vehicles that do not produce emissions (e.g. electric driven). Hybrid driven cars are allowed, when they switch to emission free mode within the considered situation.
lowLevelEmission	Low level emission	Vehicles with low level emission.

A.4.17 The <<D2Enumeration>> "MonthOfYearEnum"

A list of the months of the year.

Table A.36— Values contained in the enumeration "MonthOfYearEnum"

Enumerated value name	Designation	Definition
april	April	The month of April.
august	August	The month of August.
december	December	The month of December.
february	February	The month of February.
january	January	The month of January.
july	July	The month of July.
june	June	The month of June.
march	March	The month of March.
may	May	The month of May.
november	November	The month of November.
october	October	The month of October.
september	September	The month of September.

Fout! Verwijzingsbron niet gevonden.

A.4.18 The <<D2Enumeration>> "PollutantTypeEnum"

Types of pollutant that can be measured in the atmosphere.

Table A.37— Values contained in the enumeration "PollutantTypeEnum"

Enumerated value name	Designation	Definition
benzeneTolueneXylene	Benzene toluene xylene	Benzene, toluene or xylene.
carbonMonoxide	Carbon monoxide	Carbon monoxide.
lead	Lead	Lead.
methane	Methane	Methane.
nitricOxide	Nitric oxide	Nitric oxide.
nitrogenDioxide	Nitrogen dioxide	Nitrogen dioxide.
nitrogenMonoxide	Nitrogen monoxide	Nitrogen monoxide.
nitrogenOxides	Nitrogen oxides	Nitrogen oxides.
nonMethaneHydrocarbons	Non methane hydrocarbons	Non-methane hydrocarbons.
ozone	Ozone	Ozone.
particulates10	Particulates10	Particulate matter which passes through a size-selective inlet with a 50% cut-off efficiency at an aerodynamic diameter of 10 µm (micrometres).
polycyclicAromaticHydrocarbons	Polycyclic aromatic hydrocarbons	Polycyclic aromatic hydrocarbons.
primaryParticulate	Primary particulate	Primary particulate particles.
sulphurDioxide	Sulphur dioxide	Sulphur dioxide.
totalHydrocarbons	Total hydrocarbons	Total hydrocarbons, i.e. including methane and non-methane.

A.4.19 The <<D2Enumeration>> "PrecipitationIntensityEnum"

Intensity of precipitation.

Table A.38— Values contained in the enumeration "PrecipitationIntensityEnum"

Enumerated value name	Designation	Definition
heavy	Heavy	Heavy precipitation.
light	Light	Light precipitation.
moderate	Moderate	Moderate precipitation.
noPhenomena	No phenomena	No precipitation phenomena.
severe	Severe	#
violent	Violent	Violent precipitation.

A.4.20 The <<D2Enumeration>> "PrecipitationTypeEnum"

Types of precipitation.

Table A.39— Values contained in the enumeration "PrecipitationTypeEnum"

Enumerated value name	Designation	Definition
clearIce	Clear ice	Clear ice.
dew	Dew	Dew.
diamondDust	Diamond dust	Diamond dust.
drizzle	Drizzle	Light, fine rain.
freezingRain	Freezing rain	Freezing rain.
glaze	Glaze	Glaze.
hail	Hail	Small balls of ice and compacted snow.
hardRime	Hard rime	Hard rime.
hoarFrost	Hoar frost	Hoar frost.

Fout! Verwijzingsbron niet gevonden.

Enumerated value name	Designation	Definition
iceCrystals	Ice crystals	Ice crystals.
icePellets	Ice pellets	Ice pellets.
liquidFreezing	Liquid freezing	Liquid, freezing precipitation.
liquidNotFreezing	Liquid not freezing	Liquid precipitation but not freezing.
noPrecipitation	No precipitation	No precipitation.
rain	Rain	Rain.
rime	Rime	Rime.
sleet	Sleet	Wet snow mixed with rain.
smallHail	Small hail	Small Hail.
snow	Snow	Snow.
snowGrains	Snow grains	Snow grains.
snowPellets	Snow pellets	Snow pellets.
softRime	Soft rime	Soft rime.
solid	Solid	Solid precipitation.
unknown	Unknown	Unknown type of precipitation.
wetSnow	Wet snow	Wet snow.
whiteDev	White dev	White Dev.

A.4.21 The <<D2Enumeration>> "PublicEventTypeEnum"

Types of public events.

Table A.40— Values contained in the enumeration "PublicEventTypeEnum"

Enumerated value name	Designation	Definition
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Enumerated value name	Designation	Definition
agriculturalShow	Agricultural show	Agricultural show or event which could disrupt traffic.
airShow	Air show	Air show or other aeronautical event which could disrupt traffic.
artEvent	Art event	Art event
athleticsMeeting	Athletics meeting	Athletics event that could disrupt traffic.
ballGame	Ball game	Ball game event that could disrupt traffic.
baseballGame	Baseball game	Baseball game event that could disrupt traffic.
basketballGame	Basketball game	Basketball game event that could disrupt traffic.
beerFestival	Beer festival	Beer festival
bicycleRace	Bicycle race	Bicycle race that could disrupt traffic.
boatRace	Boat race	Regatta (boat race event of sailing, powerboat or rowing) that could disrupt traffic.
boatShow	Boat show	Boat show which could disrupt traffic.
boxingTournament	Boxing tournament	Boxing event that could disrupt traffic.
bullFight	Bull fight	Bull fighting event that could disrupt traffic.
ceremonialEvent	Ceremonial event	Formal or religious act, rite or ceremony that could disrupt traffic.
commercialEvent	Commercial event	Commercial event which could disrupt traffic.

Fout! Verwijzingsbron niet gevonden.

Enumerated value name	Designation	Definition
concert	Concert	Concert event that could disrupt traffic.
cricketMatch	Cricket match	Cricket match that could disrupt traffic.
culturalEvent	Cultural event	Cultural event which could disrupt traffic.
exhibition	Exhibition	Major display or trade show which could disrupt traffic.
fair	Fair	Periodic (e.g. annual), often traditional, gathering for entertainment or trade promotion, which could disrupt traffic.
festival	Festival	Celebratory event or series of events which could disrupt traffic.
filmFestival	Film festival	Film festival
filmTVMaking	Film TV making	Film or TV making event which could disrupt traffic.
fireworkDisplay	Firework display	Firework display
flowerEvent	Flower event	Flower event
foodFestival	Food festival	Food festival
footballMatch	Football match	Football match that could disrupt traffic.
funfair	Funfair	Periodic (e.g. annual), often traditional, gathering for entertainment, which could disrupt traffic.
gardeningOrFlowerShow	Gardening or flower show	Gardening and/or flower show or event which could disrupt traffic.

Enumerated value name	Designation	Definition
golfTournament	Golf tournament	Golf tournament event that could disrupt traffic.
hockeyGame	Hockey game	Hockey game event that could disrupt traffic.
horseRaceMeeting	Horse race meeting	Horse race meeting that could disrupt traffic.
internationalSportsMeeting	International sports meeting	Large sporting event of an international nature that could disrupt traffic.
majorEvent	Major event	Significant organised event either on or near the roadway which could disrupt traffic.
marathon	Marathon	Marathon, cross-country or road running event that could disrupt traffic.
market	Market	Periodic (e.g. weekly) gathering for buying and selling, which could disrupt traffic.
match	Match	Sports match of unspecified type that could disrupt traffic.
motorShow	Motor show	Motor show which could disrupt traffic.
motorSportRaceMeeting	Motor sport race meeting	Motor sport race meeting that could disrupt traffic.
openAirConcert	Open air concert	Open air concert
other	Other	Other than as defined in this enumeration.
parade	Parade	Formal display or organised procession which could disrupt traffic.

Fout! Verwijzingsbron niet gevonden.

Enumerated value name	Designation	Definition
procession	Procession	An organised procession which could disrupt traffic.
raceMeeting	Race meeting	Race meeting (other than horse or motor sport) that could disrupt traffic.
rugbyMatch	Rugby match	Rugby match that could disrupt traffic.
severalMajorEvents	Several major events	A series of significant organised events either on or near the roadway which could disrupt traffic.
show	Show	Entertainment event that could disrupt traffic.
showJumping	Show jumping	Horse showing jumping and tournament event that could disrupt traffic.
soundAndLightShow	Sound and light show	Sound and light show.
sportsMeeting	Sports meeting	Sports event of unspecified type that could disrupt traffic.
stateOccasion	State occasion	Public ceremony or visit of national or international significance which could disrupt traffic.
streetFestival	Street festival	Street festival
tennisTournament	Tennis tournament	Tennis tournament that could disrupt traffic.
theatricalEvent	Theatrical event	Theatrical event
tournament	Tournament	Sporting event or series of events of unspecified type lasting more than one day which could disrupt traffic.

Enumerated value name	Designation	Definition
tradeFair	Trade fair	A periodic (e.g. annual), often traditional, gathering for trade promotion, which could disrupt traffic.
unknown	Unknown	Service provider does not know at time of message generation.
waterSportsMeeting	Water sports meeting	Water sports meeting that could disrupt traffic.
wineFestival	Wine festival	Wine festival
winterSportsMeeting	Winter sports meeting	Winter sports meeting or event (e.g. skiing, ski jumping, skating) that could disrupt traffic.

A.4.22 The <<D2Enumeration>> "SourceTypeEnum"

Type of sources from which situation information may be derived.

Table A.41— Values contained in the enumeration "SourceTypeEnum"

Enumerated value name	Designation	Definition
automobileClubPatrol	Automobile club patrol	A patrol of an automobile club.
cameraObservation	Camera observation	A camera observation (either still or video camera).
freightVehicleOperator	Freight vehicle operator	An operator of freight vehicles.
inductionLoopMonitoringStation	Induction loop monitoring station	A station dedicated to the monitoring of the road network by processing inductive loop information.
infraredMonitoringStation	Infrared monitoring station	A station dedicated to the monitoring of the road network by processing infrared image information.

Fout! Verwijzingsbron niet gevonden.

Enumerated value name	Designation	Definition
microwaveMonitoringStation	Microwave monitoring station	A station dedicated to the monitoring of the road network by processing microwave information.
mobileTelephoneCaller	Mobile telephone caller	A caller using a mobile telephone (who may be or not on the road network).
nonPoliceEmergencyServicePatrol	Non police emergency service patrol	Emergency service patrols other than police.
otherInformation	Other information	Other sources of information.
otherOfficialVehicle	Other official vehicle	Personnel from a vehicle belonging to the road operator or authority or any emergency service, including authorised breakdown service organisations.
policePatrol	Police patrol	A police patrol.
privateBreakdownService	Private breakdown service	A private breakdown service.
publicAndPrivateUtilities	Public and private utilities	A utility organisation, either public or private.
registeredMotoristObserver	Registered motorist observer	A motorist who is an officially registered observer.
roadAuthorities	Road authorities	A road authority.
roadOperatorPatrol	Road operator patrol	A patrol of the road operator or authority.
roadsideTelephoneCaller	Roadside telephone caller	A caller who is using an emergency roadside telephone.
spotterAircraft	Spotter aircraft	A spotter aircraft of an organisation specifically assigned to the monitoring of the traffic network.

Enumerated value name	Designation	Definition
trafficMonitoringStation	Traffic monitoring station	A station, usually automatic, dedicated to the monitoring of the road network.
transitOperator	Transit operator	An operator of a transit service, e.g. bus link operator.
vehicleProbeMeasurement	Vehicle probe measurement	A specially equipped vehicle used to provide measurements.
videoProcessingMonitoringStation	Video processing monitoring station	A station dedicated to the monitoring of the road network by processing video image information.

A.4.23 The <<D2Enumeration>> "SpecialDayTypeEnum"

Collection of special types of days.

Table A.42— Values contained in the enumeration "SpecialDayTypeEnum"

Enumerated value name	Designation	Definition
dayBeforePublicHoliday	Day before public holiday	The day preceding a public holiday.
dayFollowingPublicHoliday	Day following public holiday	A day following a public holiday.
inLieuOfPublicHoliday	In lieu of public holiday	A holiday in lieu of a public holiday that falls on a weekend.
longWeekendDay	Long weekend day	A day between a public holiday and the weekend.
other	Other	Some other special day.
publicEventDay	Public event day	A day of a public event. You may use the publicEvent attribute to specify the corresponding event.
publicHoliday	Public holiday	A public holiday in general. You may use the PublicHoliday class to refer on a specific public holiday.
schoolDay	School day	A school day.

Fout! Verwijzingsbron niet gevonden.

Enumerated value name	Designation	Definition
schoolHolidays	School holidays	A day within the school holidays.

A.4.24 The <<D2Enumeration>> "TimePrecisionEnum"

List of precisions to which times can be given.

Table A.43— Values contained in the enumeration "TimePrecisionEnum"

Enumerated value name	Designation	Definition
halfHour	Half hour	Time given to the nearest half hour.
hour	Hour	Time given to the nearest hour.
minute	Minute	Time given to the nearest minute.
quarterHour	Quarter hour	Time given to the nearest quarter hour.
second	Second	Time given to the nearest second.
tenthsOfSecond	Tenths of second	Time given to the nearest tenth of a second.

A.4.25 The <<D2Enumeration>> "TrafficTrendTypeEnum"

List of terms used to describe the trend in traffic conditions.

Table A.44— Values contained in the enumeration "TrafficTrendTypeEnum"

Enumerated value name	Designation	Definition
trafficBuildingUp	Traffic building up	Traffic conditions are changing from free-flow to heavy or slow service levels. Queues may also be expected.
trafficEasing	Traffic easing	Traffic conditions are changing from heavy or slow service levels to free-flow.

Enumerated value name	Designation	Definition
trafficStable	Traffic stable	Traffic conditions are currently stable.
unknown	Unknown	The trend of traffic conditions is currently unknown.

A.4.26 The <<D2Enumeration>> "UrlLinkTypeEnum"

Types of URL links.

Table A.45— Values contained in the enumeration "UrlLinkTypeEnum"

Enumerated value name	Designation	Definition
documentPdf	Document PDF	URL link to a pdf document.
html	HTML	URL link to an html page.
image	Image	URL link to an image.
other	Other	Other than as defined in this enumeration.
rss	RSS	URL link to an RSS feed.
videoStream	Video stream	URL link to a video stream.
voiceStream	Voice stream	URL link to a voice stream.

A.4.27 The <<D2Enumeration>> "ValidityStatusEnum"

Values of validity status that can be assigned to a described event, action or item.

Table A.46— Values contained in the enumeration "ValidityStatusEnum"

Enumerated value name	Designation	Definition
active	Active	The described event, action or item is currently active regardless of the definition of the validity time specification.

Fout! Verwijzingsbron niet gevonden.

Enumerated value name	Designation	Definition
definedByValidityTimeSpec	Defined by validity time spec	The validity status of the described event, action or item is in accordance with the definition of the validity time specification.
planned	Planned	The described event, action or item is currently planned regardless of the definition of the validity time specification.
suspended	Suspended	The described event, action or item is currently suspended, that is inactive, regardless of the definition of the validity time specification.

A.4.28 The <<D2Enumeration>> "VehicleEquipmentEnum"

Types of vehicle equipment in use or on board.

Table A.47— Values contained in the enumeration "VehicleEquipmentEnum"

Enumerated value name	Designation	Definition
notUsingSnowChains	Not using snow chains	Vehicle not using snow chains.
notUsingSnowChainsOrTyres	Not using snow chains or tyres	Vehicle not using either snow tyres or snow chains.
snowChainsInUse	Snow chains in use	Vehicle using snow chains.
snowChainsOrTyresInUse	Snow chains or tyres in use	Vehicle using snow tyres or snow chains.
snowTyresInUse	Snow tyres in use	Vehicle using snow tyres.
withoutSnowTyresOrChainsOnBoard	Without snow tyres or chains on board	Vehicle which is not carrying on board snow tyres or chains.

A.4.29 The <<D2Enumeration>> "VehicleStatusEnum"

The status of a vehicle.

Table A.48— Values contained in the enumeration "VehicleStatusEnum"

Enumerated value name	Designation	Definition
abandoned	Abandoned	Abandoned vehicle.
brokenDown	Broken down	Broken down vehicle (i.e. it is immobile due to mechanical breakdown).
burntOut	Burnt out	Burnt out vehicle, but fire is extinguished.
damaged	Damaged	Vehicle is damaged following an incident or collision. It may be able or not to move by itself.
damagedAndImmobilized	Damaged and immobilized	Vehicle is damaged following an incident or collision. It is immobilized and therefore needs assistance to be moved.
inDitch	In ditch	Vehicle has left roadway and ended in a ditch next to the roadway
jackknifed	Jackknifed	The pulling vehicle is in a jackknifed position with its trailer
offRoad	Off road	Vehicle has left the carriageway
onFire	On fire	Vehicle is on fire.
onTopOfCrashBarrier	On top of crash barrier	Vehicle is on top of the crash barrier, and cannot leave that position autonomously
onWheels	On wheels	Vehicle is in its upright position after the accident. No special lifting equipment is needed to put it on its wheels

Fout! Verwijzingsbron niet gevonden.

Enumerated value name	Designation	Definition
overturned	Overturned	Vehicle is on its side or upside down
rollable	Rollable	The vehicle can be rolled on its own wheels. There is no special equipment needed to lift the vehicle, because of blocked wheels or other mechanical problems.
spunAround	Spun around	Vehicle has come to rest not facing its intended line of travel.

A.4.30 The <<D2Enumeration>> "VehicleTypeEnum"

Types of vehicle.

Table A.49— Values contained in the enumeration "VehicleTypeEnum"

Enumerated value name	Designation	Definition
agriculturalVehicle	Agricultural vehicle	Vehicle normally used for agricultural purposes, e.g. tractor, combined harvester etc.
anyVehicle	Any vehicle	Vehicle of any type.
articulatedBus	Articulated bus	Articulated bus
articulatedTrolleyBus	Articulated trolley bus	Articulated trolley bus
articulatedVehicle	Articulated vehicle	Articulated vehicle.
bicycle	Bicycle	Bicycle.
bus	Bus	Bus.

Enumerated value name	Designation	Definition
car	Car	Vehicles designed and constructed for the carriage of passengers and comprising no more than eight seats in addition to the driver's seat, and having a maximum mass ("technically permissible maximum laden mass") not exceeding 3.5 tons (M1).
caravan	Caravan	Caravan.
carOrLightVehicle	Car or light vehicle	Car or light vehicle.
carWithCaravan	Car with caravan	Car towing a caravan.
carWithTrailer	Car with trailer	Car towing a trailer.
constructionOrMaintenanceVehicle	Construction or maintenance vehicle	Vehicle normally used for construction or maintenance purposes, e.g. digger, excavator, bulldozer, lorry mounted crane etc.
fourWheelDrive	Four wheel drive	Four wheel drive vehicle.
heavyDutyTransporter	Heavy duty transporter	A transporter for heavy duty (usually with abnormal dimensions).
heavyGoodsVehicle	Heavy goods vehicle	Vehicles with a total weight above 3,500 kg (vehicle and load).
heavyGoodsVehicleWithTrailer	Heavy goods vehicle with trailer	Heavy goods vehicle with trailer
heavyVehicle	Heavy vehicle	Vehicle whose weight means it should be classed as a heavy vehicle
highSidedVehicle	High sided vehicle	High sided vehicle.
largeCar	Large car	Large car

Fout! Verwijzingsbron niet gevonden.

Enumerated value name	Designation	Definition
largeGoodsVehicle	Large goods vehicle	Vehicles for the carriage of goods and having a maximum mass exceeding 3.5 tonnes (belonging to class N2 when not exceeding 12 tonnes, otherwise class N3).
lightCommercialVehicle	Light commercial vehicle	Vehicles for the carriage of goods and having a maximum mass not exceeding 3.5 tonnes (class N1).
lightCommercialVehicleWithTrailer	Light commercial vehicle with trailer	Light goods vehicle with trailer
longHeavyLorry	Long heavy lorry	A heavy lorry that is longer than normal.
lorry	Lorry	Lorry of any type.
metro	Metro	Metro
minibus	Minibus	Vehicles designed and constructed for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum mass not exceeding 5 tonnes (class M2).
moped	Moped	Moped (a two wheeled motor vehicle characterized by a small engine typically less than 50cc and by normally having pedals).
motorcycle	Motorcycle	Motorcycle.
motorcycleWithSideCar	Motorcycle with side car	Three wheeled vehicle comprising a motorcycle with an attached side car.
motorhome	Motorhome	Motorhome

Enumerated value name	Designation	Definition
motorscooter	Motorscooter	Motorscooter (a two wheeled motor vehicle characterized by a step-through frame and small diameter wheels).
other	Other	Other than as defined in this enumeration.
passengerCar	Passenger car	Passenger car
smallCar	Small car	Small car
tanker	Tanker	Vehicle with large tank for carrying bulk liquids.
threeWheeledVehicle	Three wheeled vehicle	Three wheeled vehicle of unspecified type.
trailer	Trailer	Trailer.
tram	Tram	Tram.
trolleyBus	Trolley bus	Trolley bus
twoWheeledVehicle	Two wheeled vehicle	Two wheeled vehicle of unspecified type.
unknown	Unknown	Unknown.
van	Van	Van.
vehicleWithCaravan	Vehicle with caravan	Vehicle (of unspecified type) towing a caravan.
vehicleWithCatalyticConverter	Vehicle with catalytic converter	Vehicle with catalytic converter.
vehicleWithoutCatalyticConverter	Vehicle without catalytic converter	Vehicle without catalytic converter.
vehicleWithTrailer	Vehicle with trailer	Vehicle (of unspecified type) towing a trailer.
withEvenNumberedRegistrationPlates	With even numbered registration plates	Vehicle with even numbered registration plate.

Fout! Verwijzingsbron niet gevonden.

Enumerated value name	Designation	Definition
withOddNumberedRegistrationPlates	With odd numbered registration plates	Vehicle with odd numbered registration plate.

A.4.31 The <<D2Enumeration>> "VehicleUsageEnum"

Types of usage of a vehicle.

Table A.50— Values contained in the enumeration "VehicleUsageEnum"

Enumerated value name	Designation	Definition
agricultural	Agricultural	Vehicle used for agricultural purposes.
carSharing	Car sharing	Vehicles operated by a car-sharing company.
cityLogistics	City logistics	Vehicles that are used to deliver goods in a city area.
commercial	Commercial	Vehicle which is limited to non-private usage or public transport usage.
emergencyServices	Emergency services	Vehicle used by the emergency services.
military	Military	Vehicle used by the military.
nonCommercial	Non commercial	Vehicle used for non-commercial or private purposes.
patrol	Patrol	Vehicle used as part of a patrol service, e.g. road operator or automobile association patrol vehicle.
recoveryServices	Recovery services	Vehicle used to provide a recovery service.

Enumerated value name	Designation	Definition
roadMaintenanceOrConstruction	Road maintenance or construction	Vehicle used for road maintenance or construction work purposes.
roadOperator	Road operator	Vehicle used by the road operator.
taxi	Taxi	Vehicle used to provide an authorised taxi service.

A.4.32 The <<D2Enumeration>> "WeatherRelatedRoadConditionTypeEnum"

Types of road surface conditions which are related to the weather.

Table A.51— Values contained in the enumeration "WeatherRelatedRoadConditionTypeEnum"

Enumerated value name	Designation	Definition
blackIce	Black ice	Severe skid risk due to black ice (i.e. clear ice, which is impossible or very difficult to see).
deepSnow	Deep snow	Deep snow on the roadway.
dry	Dry	There is no humidity over the sensor.
freezingOfWetRoads	Freezing of wet roads	The wet road surface is subject to freezing.
freezingPavements	Freezing pavements	The pavements for pedestrians are subject to freezing.
freezingRain	Freezing rain	Severe skid risk due to rain falling on sub-zero temperature road surface and freezing.
freshSnow	Fresh snow	Fresh snow (with little or no traffic yet) on the roadway.
glaze	Glaze	Glaze of the road surface.
ice	Ice	Increased skid risk due to ice (of any kind).

Fout! Verwijzingsbron niet gevonden.

Enumerated value name	Designation	Definition
iceBuildUp	Ice build up	Ice is building up on the roadway causing a serious skid hazard.
iceWithWheelBarTracks	Ice with wheel bar tracks	Ice on the road frozen in the form of wheel tracks.
icyPatches	Icy patches	Severe skid risk due to icy patches (i.e. intermittent ice on roadway).
looseSnow	Loose snow	Powdery snow on the road which is subject to being blown by the wind.
moist	Moist	From (0,01 mm) water film thickness over the sensor
normalWinterConditionsForPedestrians	Normal winter conditions for pedestrians	Conditions for pedestrians are consistent with those normally expected in winter.
notDry	Not dry	The road surface is not dry.
other	Other	Other than as defined in this enumeration.
packedSnow	Packed snow	Packed snow (heavily trafficked) on the roadway.
rime	Rime	Fresh snow (with little or no traffic yet) on the roadway.
roadSurfaceMelting	Road surface melting	The road surface is melting, or has melted due to abnormally high temperatures.
slippery	Slippery	Detection at least of the presence of partly or wholly solidified aqueous solution over the sensor.
slushOnRoad	Slush on road	Increased skid risk due to melting snow (slush) on road.

Enumerated value name	Designation	Definition
slushStrings	Slush strings	Melting snow (slush) on the roadway is formed into wheel tracks.
snow	Snow	Fresh snow (with little or no traffic yet) on the roadway.
snowDrifts	Snow drifts	Snow drifting is in progress or patches of deep snow are present due to earlier drifting.
snowOnPavement	Snow on pavement	Snow is on the pedestrian pavement.
snowOnTheRoad	Snow on the road	Snow is lying on the road surface.
streamingWater	Streaming water	From (2 mm) water film thickness over the sensor.
surfaceWater	Surface water	Water is resting on the roadway which provides an increased hazard to vehicles.
wet	Wet	From (0,2 mm) water film thickness over the sensor
wetAndIcyRoad	Wet and icy road	Increased skid risk due to partly thawed, wet road with packed snow and ice, or rain falling on packed snow and ice.
wetIcyPavement	Wet icy pavement	Partly thawed, wet pedestrian pavement with packed snow and ice, or rain falling on packed snow and ice.

Fout! Verwijzingsbron niet gevonden.

A.4.33 The <<D2Enumeration>> "WeightTypeEnum"

Type of weight - describing the meaning of a vehicle weight value

Table A.52— Values contained in the enumeration "WeightTypeEnum"

Enumerated value name	Designation	Definition
actual	Actual	The weight is the actual weight of a specific vehicle
maximumPermitted	Maximum permitted	The weight is the maximum permitted weight for a vehicle

A.4.34 The <<D2Enumeration>> "WinterEquipmentManagementTypeEnum"

Instructions relating to the use of winter equipment.

Table A.53— Values contained in the enumeration "WinterEquipmentManagementTypeEnum"

Enumerated value name	Designation	Definition
doNotUseStudTyres	Do not use stud tyres	Do not use stud tyres.
other	Other	Other than as defined in this enumeration.
useSnowChains	Use snow chains	Use snow chains.
useSnowChainsOrTyres	Use snow chains or tyres	Use snow chains or snow tyres.
useSnowTyres	Use snow tyres	Use snow tyres.
winterEquipmentOnBoardRequired	Winter equipment on board required	The carrying of winter equipment (snow chains and/or snow tyres) is required.