DATEX II profile for RWW

ECo-AT

Version 00-01-00

A.1 Overview

This profile describes the message content for the RWW use case as described by the project ECo-AT using the Situation publication. This profile distinguishes between 21 different message types in the context of roadworks, using beside the Roadwork class also the NetworkManagement or GeneralObstruction classes.

Location referencing is done using "ItineraryByIndexedLocations" in form of coordinates and ALERT-C. The extension "LinearByCoordinates" is used.

A.2 Data Dictionary for "RWW"

A.2.1 "AlertCMethod4Linear" package

A.2.1.1 "AlertCMethod4Linear" package classes

Class name	Designation	Definition	Stereotype	Abstract
AlertCMethod4Linear	ALERT-C method4 linear	A linear section along a road between two points, Primary and Secondary, which are pre-defined ALERT-C locations plus offset distance. Direction is FROM the Secondary point TO the Primary point, i.e. the Primary point is downstream of the Secondary point.		no

Table 1— Classes of the "AlertCMethod4Linear" package

A.2.1.2 "AlertCMethod4Linear" package association roles

There are no defined association roles in the "AlertCMethod4Linear" package.

A.2.1.3 "AlertCMethod4Linear" package attributes

There are no defined attributes in the "AlertCMethod4Linear" package.

A.2.2 "AlertCMethod4Point" package

A.2.2.1 "AlertCMethod4Point" package classes

Class name	Designation	Definition	Stereotype	Abstract
AlertCMethod4Point	ALERT-C method4 point	A single point on the road network defined by reference to a point in a pre-defined ALERT-C location table plus an offset distance and which has an associated direction of traffic flow.		no

Table 2— Classes of the "AlertCMethod4Point" package

A.2.2.2 "AlertCMethod4Point" package association roles

There are no defined association roles in the "AlertCMethod4Point" package.

A.2.2.3 "AlertCMethod4Point" package attributes

There are no defined attributes in the "AlertCMethod4Point" package.

A.2.3 "Exchange " package

A.2.3.1 "Exchange" package classes

Class name	Designation	Definition	Stereotype	Abstract
Exchange	Exchange	Details associated with the management of the exchange between the supplier and the client.		no
InternationalIdentifier	International identifier	An identifier/name whose range is specific to the particular country.		no

Table 3— Classes of the "Exchange" package

A.2.3.2 "Exchange" package association roles

Class name	Role name	Designation	Definition	Multiplicity	Target
Exchange	supplierIdentification	Supplier identification	An identifier/name whose range is specific to the particular country.	1..1	InternationalIdentifier

Table 4— Associations of the "Exchange" package

A.2.3.3 "Exchange" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type

Class name	Attribute name	Designation	Definition	Multiplicity	Type
Exchange	clientIdentification	Client identification	In a data exchange process, an identifier of the organisation or group of organisations which receives information from the DATEX II supplier system.	0..1	String

Table 5— Attributes of the "Exchange" package

A.2.4 "D2LogicalModel " package

A.2.4.1   "D2LogicalModel" package classes

Class name	Designation	Definition	Stereotype	Abstract
Exchange	Exchange	Details associated with the management of the exchange between the supplier and the client.		no
D2LogicalModel	D2 logical model	The DATEX II logical model comprising exchange, content payload and management sub-models.		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.		yes

Table 6— Classes of the "D2LogicalModel" package

A.2.4.2   " D2LogicalModel" package association roles

There are no (or not used) association roles in the "D2LogicalModel" package

A.2.4.3   " D2LogicalModel" package attributes

There are no (or not used) package attributes in the "D2LogicalModel" package

A.2.5 "GroupOfLocations " package

A.2.5.1   "GroupOfLocations" package classes

Class name	Designation	Definition	Stereotype	Abstract

Class name	Designation	Definition	Stereotype	Abstract
AffectedCarriagewayAndLanes	Affected carriageway and lanes	Supplementary positional information which details carriageway and lane locations. Several instances may exist where the element being described extends over more than one carriageway.		no
AlertCDirection	ALERT-C direction	The direction of traffic flow along the road to which the information relates.		no
AlertCLocation	ALERT-C location	Identification of a specific point, linear or area location in an ALERT-C location table.		no
AlertCMethod4PrimaryPointLocation	ALERT-C method4 primary point location	The point (called Primary point) which is either a single point or at the downstream end of a linear road section. The point is specified by a reference to a point in a pre-defined ALERT-C location table plus a non-negative offset distance.		no
AlertCMethod4SecondaryPointLocation	ALERT-C method4 secondary point location	The point (called Secondary point) which is at the upstream end of a linear road section. The point is specified by a reference to a point in a pre-defined Alert-C location table plus a non-negative offset distance.		no
GroupOfLocations	Group of locations	One or more physically separate locations. Multiple locations may be related, as in an itinerary (or route), or may be unrelated. It is not for identifying the same physical location using different Location objects for different referencing systems.		yes
Itinerary	Itinerary	Multiple (i.e. more than one) physically separate locations arranged as an ordered set that defines an itinerary or route.		yes
ItineraryByIndexedLocations	Itinerary by indexed locations	Multiple physically separate locations arranged as an ordered set that defines an itinerary or route. The index qualifier indicates the order.		no
Location	Location	The specification of a location either on a network (as a point or a linear location) or as an area. This may be provided in one or more referencing systems.		yes
NetworkLocation	Network location	The specification of a location on a network (as a point or a linear location).		yes
OffsetDistance	Offset distance	The non negative offset distance from the ALERT-C referenced point to the actual point.		no
Point	Point	A single geospatial point.		no
PointCoordinates	Point coordinates	A pair of coordinates defining the geodetic position of a single point using the European Terrestrial Reference System 1989 (ETRS89).		no

Class name	Designation	Definition	Stereotype	Abstract
SupplementaryPositionalDescription	Supplementary positional description	A collection of supplementary positional information which improves the precision of the location.		no

Table 7— Classes of the "GroupOfLocations" package

A.2.5.2 "GroupOfLocations" package association roles

Class name	Role name	Designation	Definition	Multiplicity	Target
ItineraryByIndexedLocations	locationContainedInItinerary	Location contained in itinerary	A location contained in an itinerary (i.e. an ordered set of locations defining a route or itinerary).	0..*	Location
Point	pointByCoordinates	Point by coordinates	A single point defined only by a coordinate set with an optional bearing direction.	0..1	PointByCoordinates
PointByCoordinates	pointCoordinates	Point coordinates	A pair of coordinates defining the geodetic position of a single point using the European Terrestrial Reference System 1989 (ETRS89).	1..1	PointCoordinates

Table 8— Associations of the "GroupOfLocations" package

A.2.5.3 "GroupOfLocations" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type
AffectedCarriagewayAndLanes	carriageway	Carriageway	Indicates the section of carriageway to which the location relates.	1..1	CarriagewayEnum
	lane	Lane	Indicates the specific lane to which the location relates.	0..*	LaneEnum
	specificLocation	Specific location	Unique code within the ALERT-C location table which identifies the specific point, linear or area location.	1..1	AlertCLocationCode
AlertCDirection	alertCDirectionCoded	ALERT-C direction coded	The direction of traffic flow to which the situation, traffic data or information is related. Positive is in the direction of coding of the road.	1..1	AlertCDirectionEnum
	alertCDirectionNamed	ALERT-C direction named	ALERT-C name of a direction e.g. Brussels -> Lille.	0..1	MultilingualString

Class name	Attribute name	Designation	Definition	Multiplicity	Type
	alertCDirectionSense	ALERT-C direction sense	Indicates for circular routes (i.e. valid only for ring roads) the sense in which navigation should be made from the primary location to the secondary location, to avoid ambiguity. TRUE indicates positive RDS direction, i.e. direction of coding of road.	0..1	Boolean
AlertCLocation	alertCLocationName	ALERT-C location name	Name of ALERT-C location.	0..1	MultilingualString
	specificLocation	Specific location	Unique code within the ALERT-C location table which identifies the specific point, linear or area location.	1..1	AlertCLocationCode
OffsetDistance	offsetDistance	Offset distance	The non negative offset distance from the ALERT-C referenced point to the actual point. The ALERT-C locations in the Primary and Secondary locations must always encompass the linear section being specified, thus Offset Distance is towards the other point.	1..1	MetresAsNonNegativeInteger
PointByCoordinates	bearing	Bearing	A bearing at the point measured in degrees (0 - 359). Unless otherwise specified the reference direction corresponding to 0 degrees is North.	0..1	NonNegativeInteger
PointCoordinates	latitude	Latitude	Latitude in decimal degrees using the European Terrestrial Reference System 1989 (ETRS89).	1..1	Float
	longitude	Longitude	Longitude in decimal degrees using the European Terrestrial Reference System 1989 (ETRS89).	1..1	Float
SupplementaryPositionalDescription	locationDescriptor	Location descriptor	Specifies a descriptor which helps to identify the specific location.	0..*	LocationDescriptorEnum

Table 9— Attributes of the "GroupOfLocations" package

A.2.6 "Impact" package

A.2.6.1 "Impact" package classes

Class name	Designation	Definition	Stereotype	Abstract
Impact	Impact	An assessment of the impact that an event or operator action defined by the situation record has on the driving conditions.		no

Table 10— Classes of the "Impact" package

A.2.6.2 "Impact" package association roles

There are no defined association roles in the "Impact" package.

A.2.6.3 "Impact" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type
Impact	numberOfLanesRestricted	Number of lanes restricted	The number of normally usable lanes on the carriageway which are now restricted either fully or partially (this may include the hard shoulder if it is normally available for operational use, e.g. in hard shoulder running schemes).	0..1	NonNegativeInteger
	numberOfOperationalLanes	Number of operational lanes	The number of usable lanes in the specified direction which remain fully operational (this may include the hard shoulder if it is being used as an operational lane).	0..1	NonNegativeInteger
	originalNumberOfLanes	Original number of lanes	The normal number of usable lanes in the specified direction that the carriageway has before reduction due to roadworks or traffic events.	0..1	NonNegativeInteger
	trafficConstrictionType	Traffic constriction type	The type of constriction to which traffic is subjected as a result of an event or operator action.	0..1	TrafficConstrictionTypeEnum

Table 11— Attributes of the "Impact" package

A.2.7 "Linear" package

A.2.7.1 "Linear" package classes

Class name	Attribute name	Designation	Definition	Multiplicity	Type
Impact	numberOfLanesRestricted	Number of lanes restricted	The number of normally usable lanes on the carriageway which are now restricted either fully or partially (this may include the hard shoulder if it is normally available for operational use, e.g. in hard shoulder running schemes).	0..1	NonNegativeInteger
	trafficConstrictionType	Traffic constriction type	The type of constriction to which traffic is subjected as a result of an event or operator action.	0..1	TrafficConstrictionTypeEnum

Table 12— Classes of the "Linear" package

A.2.7.2 "Linear" package association roles

There are no defined association roles in the "Linear" package.

A.2.7.3 "Linear" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type
AlertCLinear	alertCLocationCountryCode	ALERT-C location country code	EBU country code.	1..1	String
	alertCLocationTableNumber	ALERT-C location table number	Number allocated to an ALERT-C table in a country. Ref. EN ISO 14819-3 for the allocation of a location table number.	1..1	String
	alertCLocationTableVersion	ALERT-C location table version	Version number associated with an ALERT-C table reference.	1..1	String

Table 13— Attributes of the "Linear" package

A.2.8 "LinearByCoordinates" package

A.2.8.1 "LinearByCoordinates" package classes

Class name	Designation	Definition	Stereotype	Abstract
ExtendedLinear	Extended linear	Extension point for linear Locations.		no
LinearByCoordinates	Linear by coordinates	A linear location defined by coordinates.		no

Table 14— Classes of the "LinearByCoordinates" package

A.2.8.2 "LinearByCoordinates" package association roles

Class name	Role name	Designation	Definition	Multiplicity	Target
LinearByCoordinates	end	End	End point of a LinearByCoordinates	1..1	PointCoordinates
	intermediate	Intermediate	Points of a LinearByCoordinates object that are neither start or end point.	1..1	PointCoordinates
	start	Start	Start point of a LinearByCoordinates	1..1	PointCoordinates

Table 15— Associations of the "LinearByCoordinates" package

A.2.8.3 "LinearByCoordinates" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type
LinearByCoordinates	directed	Directed	Whether this linear is directed or not. Default is directed=true	0..1	Boolean
	roadName	Road name	Name of the road of which the linear element forms a part.	0..1	MultilingualString
	roadNumber	Road number	Identifier/number of the road of which the linear element forms a part.	0..1	String

Table 16— Attributes of the "LinearByCoordinates" package

A.2.9 "NetworkManagement" package

A.2.9.1 "NetworkManagement" package classes

Class name	Designation	Definition	Stereotype	Abstract
NetworkManagement	Network management	Network management action which is applicable to the road network and its users.		yes
RoadOrCarriagewayOrLaneManagement	Road or carriageway or lane management	Road, carriageway or lane management action that is instigated by the network/road operator.		no
SpeedManagement	Speed management	Speed management action that is instigated by the network/road operator.		no

Table 17— Classes of the "NetworkManagement" package

A.2.9.2 "NetworkManagement" package association roles

There are no defined association roles in the "NetworkManagement" package.

A.2.9.3 "NetworkManagement" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type
NetworkManagement	complianceOption	Compliance option	Defines whether the network management instruction or the control resulting from a network management action is advisory or mandatory.	1..1	ComplianceOptionEnum
RoadOrCarriagewayOrLaneManagement	roadOrCarriagewayOrLaneManagementType	Road or carriageway or lane management type	Type of road, carriageway or lane management action instigated by operator.	1..1	RoadOrCarriagewayOrLaneManagementTypeEnum
SpeedManagement	speedManagementType	Speed management type	Type of speed management action instigated by operator.	0..1	SpeedManagementTypeEnum
SpeedManagement	temporarySpeedLimit	Temporary speed limit	Temporary limit defining the maximum advisory or mandatory speed of vehicles.	0..1	KilometresPerHour

Table 18— Attributes of the "NetworkManagement" package

A.2.10 "Obstruction" package

A.2.10.1 "Obstruction" package classes

Class name	Designation	Definition	Stereotype	Abstract
GeneralObstruction	General obstruction	Any stationary or moving obstacle of a physical nature, other than of an animal, vehicle, environmental, or damaged equipment nature.		no
Obstruction	Obstruction	Any stationary or moving obstacle of a physical nature (e.g. obstacles or vehicles from an earlier accident, shed loads on carriageway, rock fall, abnormal or dangerous loads, or animals etc.) which could disrupt or endanger traffic.		yes

Table 19— Classes of the "Obstruction" package

A.2.10.2 "Obstruction" package association roles

There are no defined association roles in the "Obstruction" package.

A.2.10.3 "Obstruction" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type
GeneralObstruction	obstructionType	Obstruction type	Characterization of the type of general obstruction.	1..*	ObstructionType Enum

Table 20— Attributes of the "Obstruction" package

A.2.11 "OperatorAction" package

A.2.11.1 "OperatorAction" package classes

Class name	Designation	Definition	Stereotype	Abstract
OperatorAction	Operator action	Actions that a traffic operator can decide to implement to prevent or help correct dangerous or poor driving conditions, including maintenance of the road infrastructure.		no

Table 21— Classes of the "OperatorAction" package

A.2.11.2 "OperatorAction" package association roles

There are no defined association roles in the "OperatorAction" package.

A.2.11.3 "OperatorAction" package attributes

There are no defined attributes in the "OperatorAction" package.

A.2.12 "PayloadPublication" package

A.2.12.1 "PayloadPublication" package classes

Class name	Designation	Definition	Stereotype	Abstract
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.		no

Table 22— Classes of the "PayloadPublication" package

A.2.12.2 "PayloadPublication" package association roles

Class name	Role name	Designation	Definition	Multiplicity	Target
PayloadPublication	publicationCreator	Publication creator	An identifier/name whose range is specific to the particular country.	1..1	InternationalIdentifier

Table 23— Associations of the "PayloadPublication" package

A.2.12.3 "PayloadPublication" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type
PayloadPublication	publicationTime	Publication time	Date/time at which the payload publication was created.	1..1	DateTime
PayloadPublication	lang	Language	The default language used throughout the payload publication.	1..1	Language

Table 24— Attributes of the "PayloadPublication" package

A.2.13 "ReusableClasses" package

A.2.13.1 "ReusableClasses" package classes

Class name	Designation	Definition	Stereotype	Abstract
HeaderInformation	Header information	Management information relating to the data contained within a publication.		no
InternationalIdentifier	International identifier	An identifier/name whose range is specific to the particular country.		no
Language	Language	A language datatype, identifies a specified language by an ISO 639-1 2-alpha / ISO 639-2 3-alpha code.		no
Source	Source	Details of the source from which the information was obtained.		no

Table 25— Classes of the "ReusableClasses" package

A.2.13.2 "ReusableClasses" package association roles

There are no defined association roles in the "ReusableClasses" package.

A.2.13.3 "ReusableClasses" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type
HeaderInformation	confidentiality	Confidentiality	The extent to which the related information may be circulated, according to the recipient type. Recipients must comply with this confidentiality statement.	1..1	ConfidentialityValueEnum
	informationStatus	Information status	The status of the related information (real, test, exercise ....).	1..1	InformationStatusEnum
InternationalIdentifier	country	Country	ISO 3166-1 two character country code.	1..1	CountryEnum
	nationalIdentifier	National identifier	Identifier or name unique within the specified country.	1..1	String
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	ISO 3166-1 two character country code of the source of the information.	0..1	CountryEnum
	sourceIdentification	Source identification	Identifier of the organisation or the traffic equipment which has produced the information relating to this version of 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

Table 26— Attributes of the "ReusableClasses" package

A.2.14 "Roadworks" package

A.2.14.1 "Roadworks" package classes

Class name	Designation	Definition	Stereotype	Abstract
ConstructionWorks	Construction works	Roadworks involving the construction of new infrastructure.		no
MaintenanceWorks	Maintenance works	Roadworks involving the maintenance or installation of infrastructure.		no
Mobility	Mobility	An indication of whether the associated instance of a SituationRecord is mobile (e.g. a march or parade moving along a road) or stationary		no
Roadworks	Roadworks	Highway maintenance, installation and construction activities that may potentially affect traffic operations.		yes
Subjects	Subjects	The subjects with which the roadworks are associated.		no

Table 27— Classes of the "Roadworks" package

A.2.14.2 "Roadworks" package association roles

There are no defined association roles in the "Roadworks" package.

A.2.14.3 "Roadworks" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type
ConstructionWorks	constructionWorkType	Construction work type	The type of construction work being performed.	0..1	ConstructionWorkTypeEnum
MaintenanceWorks	roadMaintenanceType	Road maintenance type	The type of road maintenance or installation work at the specified location.	1..*	RoadMaintenanceTypeEnum
Mobility	mobilityType	Mobility type	An indication of whether the associated instance of a SituationRecord is mobile (e.g. a march or parade moving along a road) or stationary	1..1	MobilityEnum
Roadworks	roadworksDuration	Roadworks duration	Indicates in general terms the expected duration of the roadworks	0..1	RoadworksDurationEnum
Subjects	subjectTypeOfWorks	Subject type of works	The subject type of the roadworks (i.e. on what the construction or maintenance work is being performed).	1..1	SubjectTypeOfWorksEnum

Table 28— Attributes of the "Roadworks" package

A.2.15   "SituationPublication" package

A.2.15.1 "SituationPublication" package classes

Class name	Designation	Definition	Stereotype	Abstract
Situation	Situation	An identifiable instance of a traffic/travel situation comprising one or more traffic/travel circumstances which are linked by one or more causal relationships. Each traffic/travel circumstance is represented by a Situation Record.	versionedIdentifiable	no
SituationPublication	Situation publication	A publication containing zero or more traffic/travel situations.		no

Table 29— Classes of the "SituationPublication" package

A.2.15.2 "SituationPublication" package association roles

There are no defined association roles in the "SituationPublication" package.

A.2.15.3 "SituationPublication" package attributes

There are no defined attributes in the "SituationPublication" package.

A.2.16   "SituationRecord" package

A.2.16.1 "SituationRecord" package classes

Class name	Designation	Definition	Stereotype	Abstract
Comment	Comment	A free text comment with an optional date/time stamp that can be used by the operator to convey un-coded observations/information.		no
SituationRecord	Situation record	An identifiable versioned instance of a single record/element within a situation.	versionedIdentifiable	yes

Table 30— Classes of the "SituationRecord" package

A.2.16.2 "SituationRecord" package association roles

Class name	Role name	Designation	Definition	Multiplicity	Target
SituationRecord	generalPublicComment	General public comment	A comment which may be freely distributed to the general public	0..*	Comment

Table 31— Associations of the "SituationRecord" package

A.2.16.3 "SituationRecord" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type
Comment	comment	Comment	A free text comment that can be used by the operator to convey un-coded observations/information.	1..1	MultilingualString
SituationRecord	probabilityOfOccurrence	Probability of occurrence	An assessment of the degree of likelihood that the reported event will occur.	1..1	ProbabilityOfOccurrenceEnum
	situationRecordCreationTime	Situation record creation time	The date/time that the SituationRecord object (the first version of the record) was created by the original supplier.	1..1	DateTime
	situationRecordVersionTime	Situation record version time	The date/time that this current version of the SituationRecord within the situation was written into the database of the supplier which is involved in the data exchange. Identity and version of record are defined by the class stereotype implementation.	1..1	DateTime

Table 32— Attributes of the "SituationRecord" package

A.2.17 "TrafficElement" package

A.2.17.1 "TrafficElement" package classes

Class name	Designation	Definition	Stereotype	Abstract
TrafficElement	Traffic element	An event which is not planned by the traffic operator, which is affecting, or has the potential to affect traffic flow.		yes

Table 33— Classes of the "TrafficElement" package

A.2.17.2 "TrafficElement" package association roles

There are no defined association roles in the "TrafficElement" package.

A.2.17.3 "TrafficElement" package attributes

There are no defined attributes in the "TrafficElement" package.

A.2.18 "Validity" package

A.2.18.1 "Validity" package classes

Class name	Designation	Definition	Stereotype	Abstract
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).		no
Validity	Validity	Specification of validity, either explicitly or by a validity time period specification which may be discontinuous.		no

Table 34— Classes of the "Validity" package

A.2.18.2 "Validity" package association roles

Class name	Role name	Designation	Definition	Multiplicity	Target
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

Table 35— Associations of the "Validity" package

A.2.18.3 "Validity" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type
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
Validity	validityStatus	Validity status	Specification of validity, either explicitly overriding the validity time specification or confirming it.	1..1	ValidityStatusEnum

Table 36— Attributes of the "Validity" package

A.3 Data Dictionary of <<datatypes>> for "RWW Profile"

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

A.3.1 The <<datatype>> "KilometresPerHour"

A measure of speed defined in kilometres per hour.

A.3.2 The <<datatype>> "MetresAsFloat"

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

A.3.3 The <<datatype>> "MetresAsNonNegativeInteger"

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

A.4 Data Dictionary of <<enumerations>> for "RWW Profile"

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

A.4.1 The <<enumeration>> "AlertCDirectionEnum"

The direction of traffic flow concerned by a situation or traffic data. In ALERT-C the positive (resp. negative) direction corresponds to the positive offset direction within the RDS location table.

Enumerated value name	Designation	Definition
both	Both	Indicates that both directions of traffic flow are affected by the situation or relate to the traffic data.
negative	Negative	The direction of traffic flow concerned by a situation or traffic data. In ALERT-C the negative direction corresponds to the negative offset direction within the RDS location table.
positive	Positive	The direction of traffic flow concerned by a situation or traffic data. In ALERT-C the positive direction corresponds to the positive offset direction within the RDS location table.
unknown	Unknown	Unknown direction.

Table 37— Values contained in the enumeration "AlertCDirectionEnum"

A.4.2 The <<enumeration>> "CarriagewayEnum"

List of descriptors identifying specific carriageway details.

Enumerated value name	Designation	Definition
mainCarriageway	Main carriageway	On the main carriageway.
slipRoads	Slip roads	On the slip roads.

Table 38— Values contained in the enumeration "CarriagewayEnum"

A.4.3 The <<enumeration>> "ComplianceOptionEnum"

Types of compliance.

Enumerated value name	Designation	Definition
advisory	Advisory	Advisory compliance.
mandatory	Mandatory	Mandatory compliance.

Table 39— Values contained in the enumeration "ComplianceOptionEnum"

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

Values of confidentiality.

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	Restricted for use only by authorities and traffic operators.
restrictedToAuthoritiesTrafficOperatorsAndPublishers	Restricted to authorities traffic operators and publishers	Restricted for use only by authorities, traffic operators and publishers (service providers).
restrictedToAuthoritiesTrafficOperatorsAndVms	Restricted to authorities traffic operators and Vms	Restricted for use only by authorities, traffic operators, publishers (service providers) and variable message signs.

Table 40— Values contained in the enumeration "ConfidentialityValueEnum"

A.4.5 The <<enumeration>> "ConstructionWorkTypeEnum"

Types of works relating to construction.

Enumerated value name	Designation	Definition
constructionWork	Construction work	Construction work of a general nature at the specified location.
roadImprovementOrUpgrading	Road improvement or upgrading	Construction work associated with improvements to the road or its layout or with it upgrading.
roadWideningWork	Road widening work	Road widening work at the specified location.

Table 41— Values contained in the enumeration "ConstructionWorkTypeEnum"

A.4.6 The <<enumeration>> "CountryEnum"

List of countries.

Enumerated value name	Designation	Definition
at	at	Austria
de	de	Germany

Table 42— Values contained in the enumeration "CountryEnum"

A.4.7 The <<enumeration>> "InformationStatusEnum"

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

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.

Table 43— Values contained in the enumeration "InformationStatusEnum"

A.4.8 The <<enumeration>> "LaneEnum"

List of descriptors identifying specific lanes.

Enumerated value name	Designation	Definition
allLanesCompleteCarriageway	All lanes complete carriageway	In all lanes of the carriageway.
emergencyLane	Emergency lane	In the emergency lane.
hardShoulder	Hard shoulder	On the hard shoulder.
lane1	Lane1	In the first lane numbered from nearest the hard shoulder to central median.
lane2	Lane2	In the second lane numbered from nearest the hard shoulder to central median.
lane3	Lane3	In the third lane numbered from nearest the hard shoulder to central median.
lane4	Lane4	In the fourth lane numbered from nearest the hard shoulder to central median.
lane5	Lane5	In the fifth lane numbered from nearest the hard shoulder to central median.
lane6	Lane6	In the sixth lane numbered from nearest the hard shoulder to central median.
middleLane	Middle lane	In the middle lane.
turningLane	Turning lane	In the turning lane.

Table 44— Values contained in the enumeration "LaneEnum"

A.4.9 The <<enumeration>> "LocationDescriptorEnum"

List of descriptors to help to identify a specific location.

Enumerated value name	Designation	Definition
atTunnelEntryOrExit	At tunnel entry or exit	At entry or exit of tunnel.
inTunnel	In tunnel	In tunnel.
onBridge	On bridge	On bridge.
onTheRoadway	On the roadway	On the roadway.

Table 45— Values contained in the enumeration "LocationDescriptorEnum"

A.4.10 The <<enumeration>> "MobilityEnum"

Types of mobility relating to a situation element defined by a SituationRecord.

Enumerated value name	Designation	Definition
mobile	Mobile	The described element of a situation is moving.
stationary	Stationary	The described element of a situation is stationary.
unknown	Unknown	The mobility of the described element of a situation is unknown.

Table 46— Values contained in the enumeration "MobilityEnum"

A.4.11 The <<enumeration>> "ObstructionTypeEnum"

Types of obstructions on the roadway.

Enumerated value name	Designation	Definition
other	Other	Other than as defined in this enumeration.

Table 47— Values contained in the enumeration "ObstructionTypeEnum"

A.4.12 The <<enumeration>> "ProbabilityOfOccurrenceEnum"

Levels of confidence that the sender has in the information, ordered {certain, probable, risk of}.

Enumerated value name	Designation	Definition
certain	Certain	The source is completely certain of the occurrence of the situation record version content.
probable	Probable	The source has a reasonably high level of confidence of the occurrence of the situation record version content.
riskOf	Risk of	The source has a moderate level of confidence of the occurrence of the situation record version content.

Table 48— Values contained in the enumeration "ProbabilityOfOccurrenceEnum"

A.4.13 The <<enumeration>> "RoadMaintenanceTypeEnum"

Types of road maintenance.

Enumerated value name	Designation	Definition
grassCuttingWork	Grass cutting work	Grass cutting work.
maintenanceWork	Maintenance work	Maintenance of road, associated infrastructure or equipments.
other	Other	Other than as defined in this enumeration.
repairWork	Repair work	Repair work to road, associated infrastructure or equipments.
resurfacingWork	Resurfacing work	Work associated with relaying or renewal of worn-out road surface (pavement).
roadMarkingWork	Road marking work	Striping and repainting of road markings, plus placement or replacement of reflecting studs (cats' eyes).
roadworks	Roadworks	Road maintenance or improvement activity of an unspecified nature which may potentially cause traffic disruption.
sweepingOfRoad	Sweeping of road	Sweeping of the roadway.

Table 49— Values contained in the enumeration "RoadMaintenanceTypeEnum"

A.4.14 The <<enumeration>> "RoadOrCarriagewayOrLaneManagementTypeEnum"

Management actions relating to road, carriageway or lane usage.

Enumerated value name	Designation	Definition
carriagewayClosures	Carriageway closures	Carriageway closures are in operation at the specified location.
singleAlternateLineTraffic	Single alternate line traffic	Traffic is being controlled to move in alternate single lines. This control may be undertaken by traffic lights or flagman.

Table 50— Values contained in the enumeration "RoadOrCarriagewayOrLaneManagementTypeEnum"

A.4.15   The <<enumeration>> "RoadworksDurationEnum"

Expected durations of roadworks in general terms.

Enumerated value name	Designation	Definition
longTerm	Long term	The roadworks are expected to last for a long term (duration > 6 months)
mediumTerm	Medium term	The roadworks are expected to last for a medium term (1 month < duration <= 6 months).
shortTerm	Short term	The roadworks are expected to last for a short term (duration < = 1 month)

Table 51— Values contained in the enumeration "RoadworksDurationEnum"

A.4.16   The <<enumeration>> "SourceTypeEnum"

Type of sources from which situation information may be derived.

Enumerated value name	Designation	Definition
roadAuthorities	Road authorities	A road authority.
trafficMonitoringStation	Traffic monitoring station	A station, usually automatic, dedicated to the monitoring of the road network.

Table 52— Values contained in the enumeration "SourceTypeEnum"

A.4.17   The <<enumeration>> "SpeedManagementTypeEnum"

Management actions relating to speed.

Enumerated value name	Designation	Definition
speedRestrictionInOperation	Speed restriction in operation	A speed restriction is in operation.

Table 53— Values contained in the enumeration "SpeedManagementTypeEnum"

A.4.18 The <<enumeration>> "SubjectTypeOfWorksEnum"

Subject types of construction or maintenance work.

Enumerated value name	Designation	Definition
bridge	Bridge	Bridge on, over or under the highway.
gantry	Gantry	Gantry over or above the roadway.
levelCrossing	Level crossing	Level-crossing or associated equipment.
lightingSystem	Lighting system	Road lighting system.
noiseProtection	Noise protection	Installations along the roadway designed to reduce road noise in the surrounding environment.
road	Road	Road.
roadsideDrains	Roadside drains	Roadside drains.
roadsideEmbankment	Roadside embankment	Roadside embankment.
roadsideEquipment	Roadside equipment	Roadside equipment.
tunnel	Tunnel	Road tunnel.
waterMain	Water main	Water main under or along the highway.

Table 54— Values contained in the enumeration "SubjectTypeOfWorksEnum"

A.4.19 The <<enumeration>> "TrafficConstrictionTypeEnum"

Types of constriction to which traffic is subjected as a result of an event.

Enumerated value name	Designation	Definition
carriagewayBlocked	Carriageway blocked	The carriageway is totally obstructed in the specified direction due to an unplanned event.
lanesBlocked	Lanes blocked	One or more lanes is totally obstructed in the specified direction due to an unplanned event.
roadBlocked	Road blocked	The road is totally obstructed, for all vehicles in both directions, due to an unplanned event.

Table 55— Values contained in the enumeration "TrafficConstrictionTypeEnum"

A.4.20 The <<enumeration>> "ValidityStatusEnum"

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

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.
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.
suspended	Suspended	The described event, action or item is currently suspended, that is inactive, regardless of the definition of the validity time specification.

Table 56— Values contained in the enumeration "ValidityStatusEnum"

A.5 Alphabetical list of attributes

Attribute name	Class name	Designation	Definition	Multiplicity	Type
alertCDirectionCoded	AlertCDirection	ALERT-C direction coded	The direction of traffic flow to which the situation, traffic data or information is related. Positive is in the direction of coding of the road.	1..1	AlertCDirectionEnum
alertCDirectionNamed	AlertCDirection	ALERT-C direction named	ALERT-C name of a direction e.g. Brussels -> Lille.	0..1	MultilingualString
alertCDirectionSense	AlertCDirection	ALERT-C direction sense	Indicates for circular routes (i.e. valid only for ring roads) the sense in which navigation should be made from the primary location to the secondary location, to avoid ambiguity. TRUE indicates positive RDS direction, i.e. direction of coding of road.	0..1	Boolean
alertCLocationCountryCode	AlertCLinear	ALERT-C location country code	EBU country code.	1..1	String
alertCLocationName	AlertCLocation	ALERT-C location name	Name of ALERT-C location.	0..1	MultilingualString
alertCLocationTableNumber	AlertCLinear	ALERT-C location table number	Number allocated to an ALERT-C table in a country. Ref. EN ISO 14819-3 for the allocation of a location table number.	1..1	String
alertCLocationTableVersion	AlertCLinear	ALERT-C location table version	Version number associated with an ALERT-C table reference.	1..1	String
bearing	PointByCoordinates	Bearing	A bearing at the point measured in degrees (0 - 359). Unless otherwise specified the reference direction corresponding to 0 degrees is North.	0..1	NonNegativeInteger
carriageway	AffectedCarriagewayAndLanes	Carriageway	Indicates the section of carriageway to which the location relates.	1..1	CarriagewayEnum
clientIdentification	Exchange	Client identification	In a data exchange process, an identifier of the organisation or group of organisations which receives information from the DATEX II supplier system.	0..1	String
comment	Comment	Comment	A free text comment that can be used by the operator to convey un-coded	1..1	MultilingualString

			observations/information.		
complianceOption	NetworkManagement	Compliance option	Defines whether the network management instruction or the control resulting from a network management action is advisory or mandatory.	1..1	ComplianceOptionEnum
confidentiality	HeaderInformation	Confidentiality	The extent to which the related information may be circulated, according to the recipient type. Recipients must comply with this confidentiality statement.	1..1	ConfidentialityValueEnum
constructionWorkType	ConstructionWorks	Construction work type	The type of construction work being performed.	0..1	ConstructionWorkTypeEnum
country	InternationalIdentifier	Country	ISO 3166-1 two character country code.	1..1	CountryEnum
directed	LinearByCoordinates	Directed	Whether this linear is directed or not. Default is directed=true	0..1	Boolean
informationStatus	HeaderInformation	Information status	The status of the related information (real, test, exercise ....).	1..1	InformationStatusEnum
lane	AffectedCarriagewayAndLanes	Lane	Indicates the specific lane to which the location relates.	0..*	LaneEnum
latitude	PointCoordinates	Latitude	Latitude in decimal degrees using the European Terrestrial Reference System 1989 (ETRS89).	1..1	Float
locationDescriptor	SupplementaryPositionalDescription	Location descriptor	Specifies a descriptor which helps to identify the specific location.	0..*	LocationDescriptorEnum
longitude	PointCoordinates	Longitude	Longitude in decimal degrees using the European Terrestrial Reference System 1989 (ETRS89).	1..1	Float
mobilityType	Mobility	Mobility type	An indication of whether the associated instance of a SituationRecord is mobile (e.g. a march or parade moving along a road) or stationary	1..1	MobilityEnum
nationalIdentifier	InternationalIdentifier	National identifier	Identifier or name unique within the specified country.	1..1	String
numberOfLanesRestricted	Impact	Number of lanes restricted	The number of normally usable lanes on the carriageway which are now restricted either fully or partially (this may include the hard shoulder if it is normally available for operational use, e.g. in hard shoulder	0..1	NonNegativeInteger

			running schemes).		
numberOfOperationalLanes	Impact	Number of operational lanes	The number of usable lanes in the specified direction which remain fully operational (this may include the hard shoulder if it is being used as an operational lane).	0..1	NonNegativeInteger
obstructionType	GeneralObstruction	Obstruction type	Characterization of the type of general obstruction.	1..*	ObstructionTypeEnum
originalNumberOfLanes	Impact	Original number of lanes	The normal number of usable lanes in the specified direction that the carriageway has before reduction due to roadworks or traffic events.	0..1	NonNegativeInteger
overallEndTime	OverallPeriod	Overall end time	End of bounding period of validity defined by date and time.	0..1	DateTime
overallStartTime	OverallPeriod	Overall start time	Start of bounding period of validity defined by date and time.	1..1	DateTime
probabilityOfOccurrence	SituationRecord	Probability of occurrence	An assessment of the degree of likelihood that the reported event will occur.	1..1	ProbabilityOfOccurrenceEnum
publicationTime	PayloadPublication	Publication time	Date/time at which the payload publication was created.	1..1	DateTime
reliable	Source	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
roadMaintenanceType	MaintenanceWorks	Road maintenance type	The type of road maintenance or installation work at the specified location.	1..*	RoadMaintenanceTypeEnum
roadName	LinearByCoordinates	Road name	Name of the road of which the linear element forms a part.	0..1	MultilingualString
roadNumber	LinearByCoordinates	Road number	Identifier/number of the road of which the linear element forms a part.	0..1	String
roadOrCarriagewayOrLaneManagementType	RoadOrCarriagewayOrLaneManagement	Road or carriageway or lane management type	Type of road, carriageway or lane management action instigated by operator.	1..1	RoadOrCarriagewayOrLaneManagementTypeEnum
roadworksDuration	Roadworks	Roadworks duration	Indication of the scale of the roadworks in terms of the traffic disruption they are likely to cause.	0..1	RoadworksDurationEnum

situationRecordCreationTime	SituationRecord	Situation record creation time	The date/time that the SituationRecord object (the first version of the record) was created by the original supplier.	1..1	DateTime
situationRecordVersionTime	SituationRecord	Situation record version time	The date/time that this current version of the SituationRecord within the situation was written into the database of the supplier which is involved in the data exchange. Identity and version of record are defined by the class stereotype implementation.	1..1	DateTime
sourceCountry	Source	Source country	ISO 3166-1 two character country code of the source of the information.	0..1	CountryEnum
sourceIdentification	Source	Source identification	Identifier of the organisation or the traffic equipment which has produced the information relating to this version of the information.	0..1	String
sourceName	Source	Source name	The name of the organisation which has produced the information relating to this version of the information.	0..1	MultilingualString
sourceType	Source	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
subjectTypeOfWorks	Subjects	Subject type of works	The subject type of the roadworks (i.e. on what the construction or maintenance work is being performed).	1..1	SubjectTypeOfWorksEnum
speedManagementType	SpeedManagement	Speed management type	Type of speed management action instigated by operator.	0..1	SpeedManagementTypeEnum
temporarySpeedLimit	SpeedManagement	Temporary speed limit	Temporary limit defining the maximum advisory or mandatory speed of vehicles.	0..1	KilometresPerHour
trafficConstrictionType	Impact	Traffic constriction type	The type of constriction to which traffic is subjected as a result of an event or operator action.	0..1	TrafficConstrictionTypeEnum
validityStatus	Validity	Validity status	Specification of validity, either explicitly overriding the validity time specification or confirming it.	1..1	ValidityStatusEnum

Table 57- Alphabetical list of attributes

A.6 Alphabetical list of roles

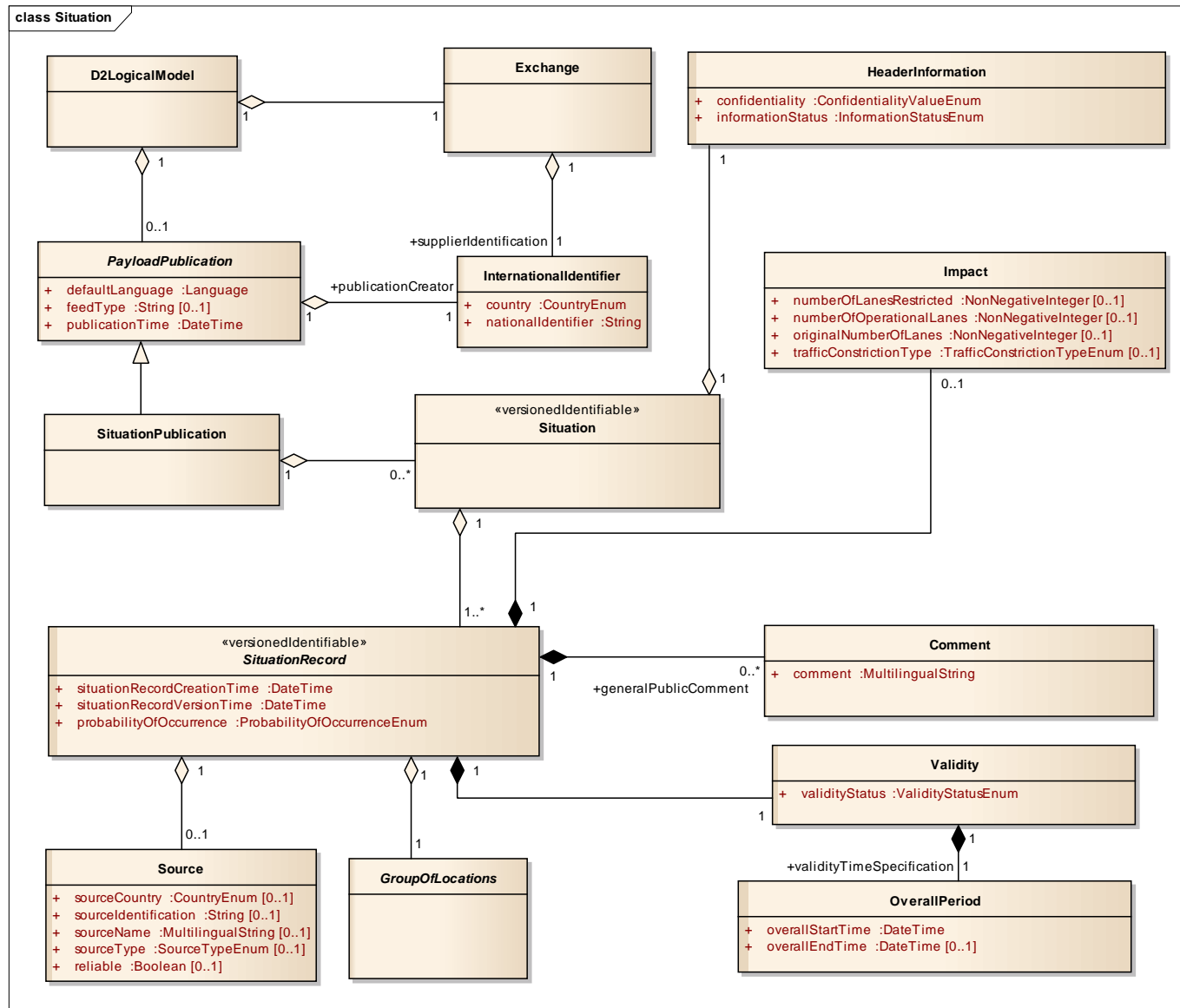| Role name	Class name	Designation	Definition	Multiplicity	Target
end	LinearByCoordinates	End	End point of a LinearByCoordinates	1..1	PointCoordinates
generalPublicComment	SituationRecord	General public comment	A comment which may be freely distributed to the general public	0..*	Comment
intermediate	LinearByCoordinates	Intermediate	Points of a LinearByCoordinates object that are neither start or end point.	1..1	PointCoordinates
locationContainedInItinerary	ItineraryByIndexedLocations	Location contained in itinerary	A location contained in an itinerary (i.e. an ordered set of locations defining a route or itinerary).	0..*	Location
pointByCoordinates	Point	Point by coordinates	A single point defined only by a coordinate set with an optional bearing direction.	0..1	PointByCoordinates
pointCoordinates	PointByCoordinates	Point coordinates	A pair of coordinates defining the geodetic position of a single point using the European Terrestrial Reference System 1989 (ETRS89).		PointCoordinates
start	LinearByCoordinates	Start	Start point of a LinearByCoordinates	1..1	PointCoordinates
validityTimeSpecification	Validity	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

Table 58- Alphabetical list of roles

A.7 Figures
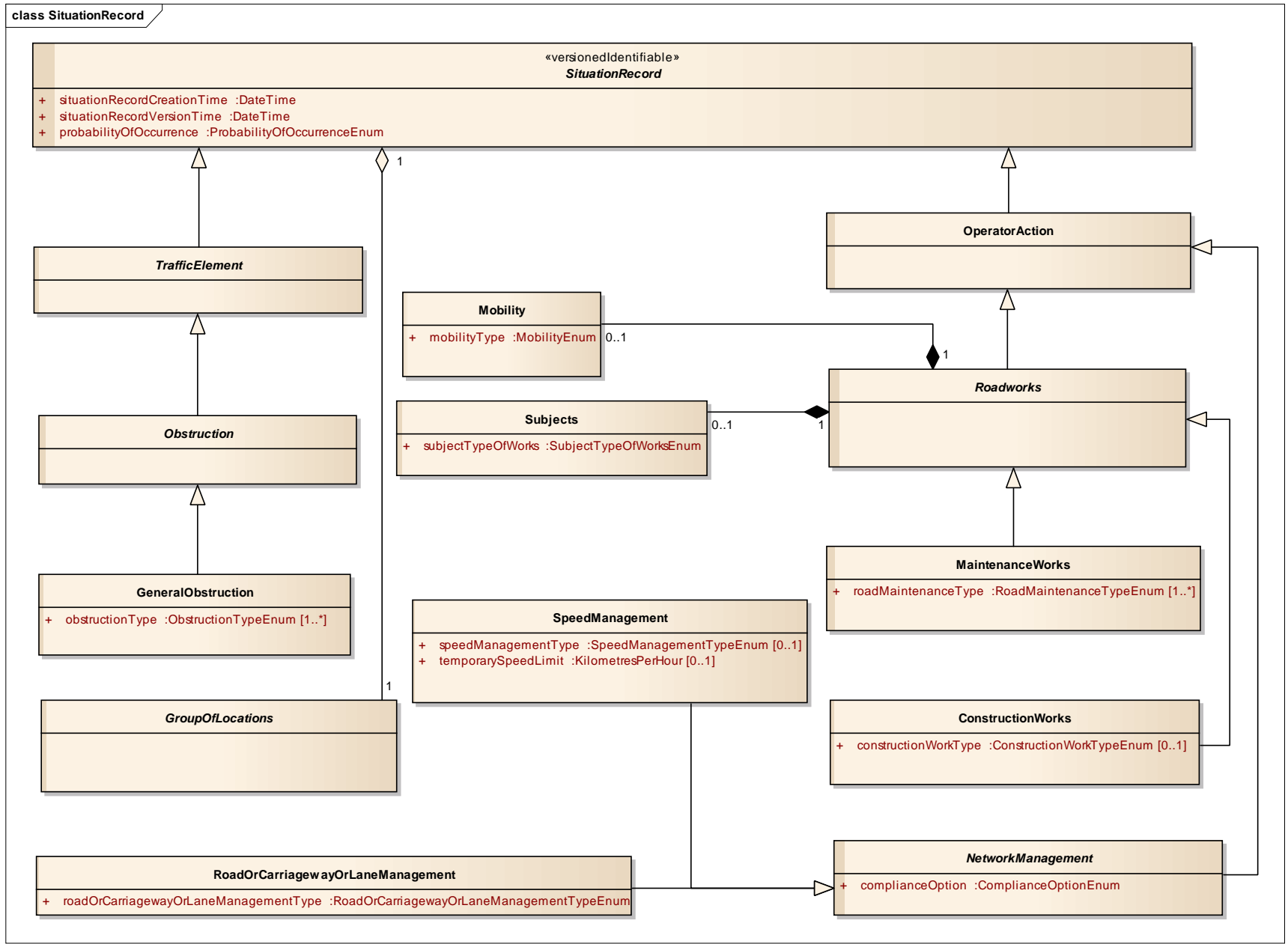

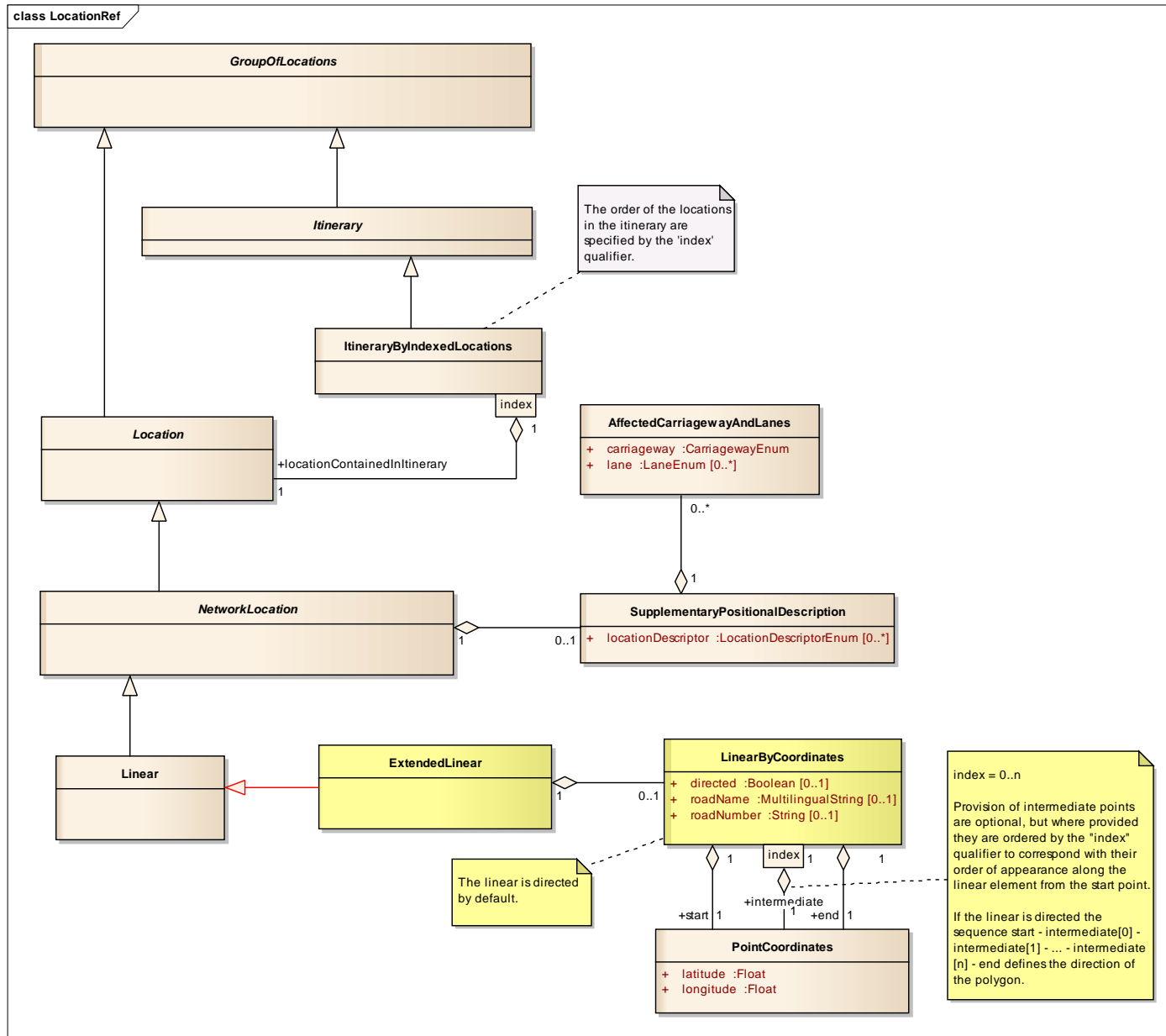**Figure 1: Basic SituationPublication model**

Figure 2: SituationRecord types used in the RWW profile

Figure 3: Location referencing in the RWW profile