Railway

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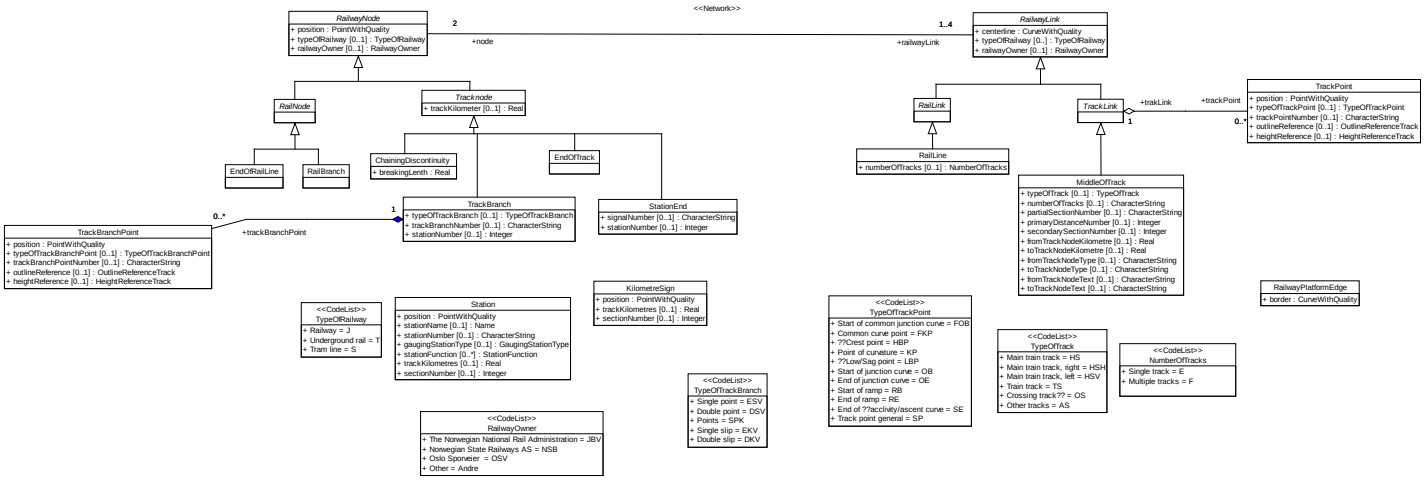
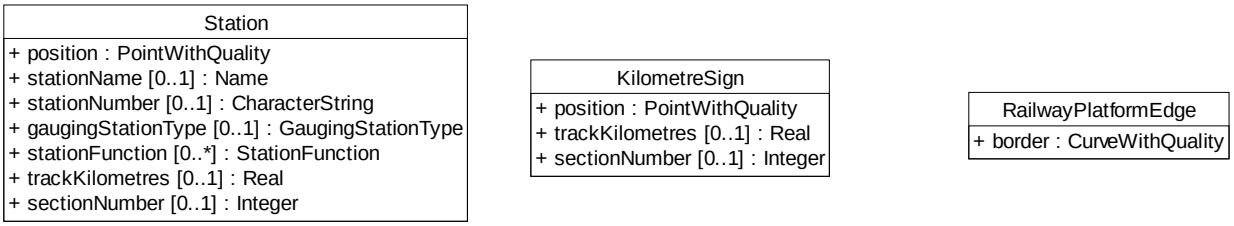
1.1 Application schema

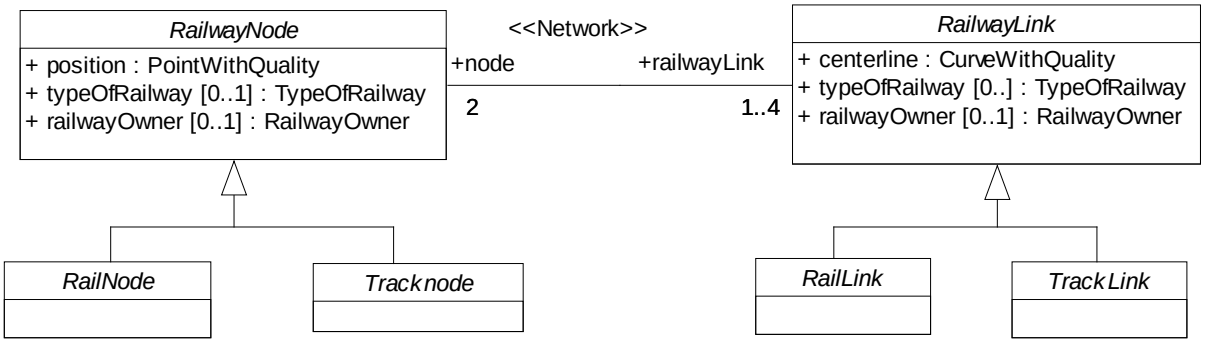
Main



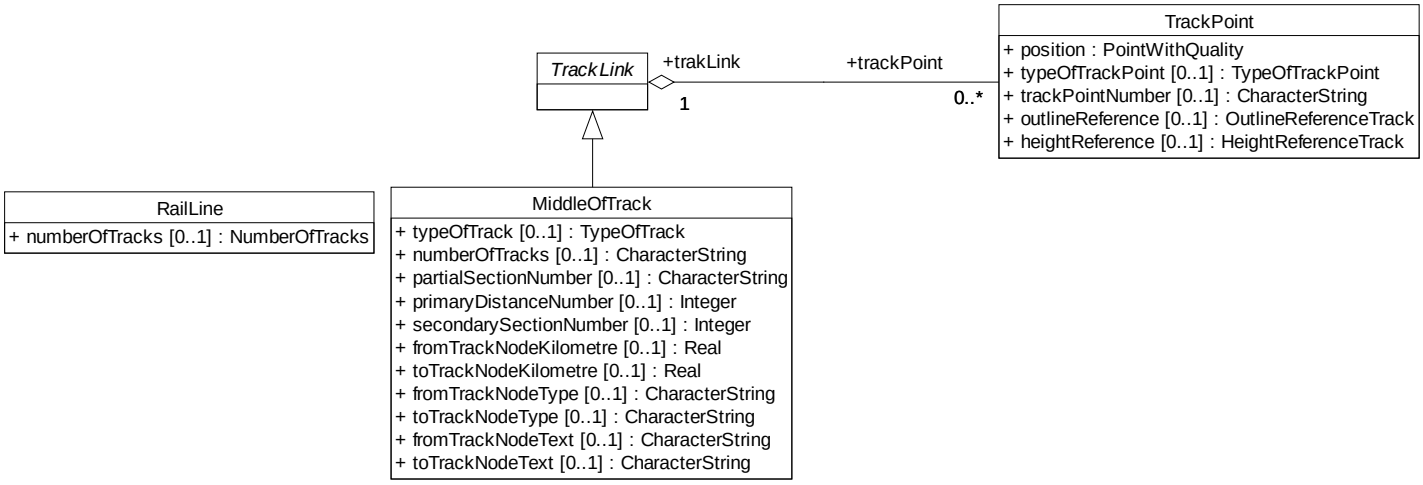
Individual featuretypes



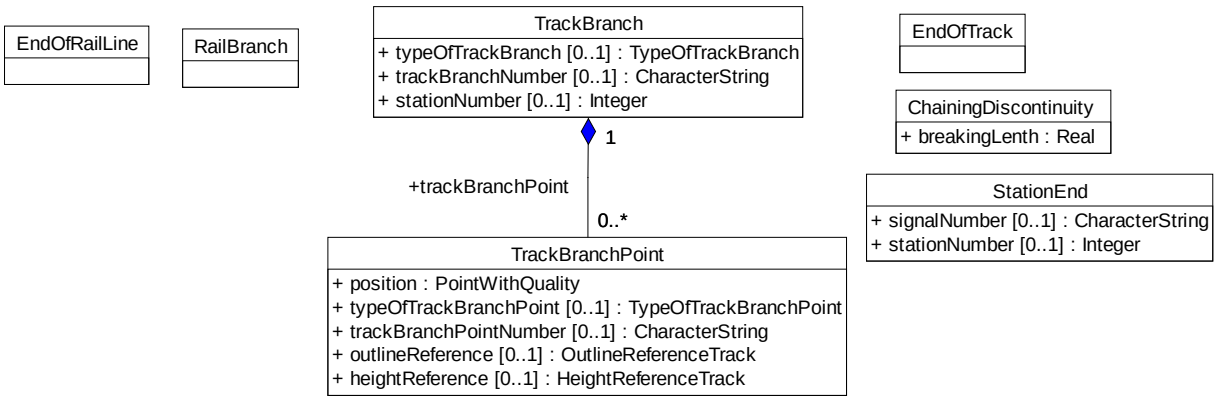
Primary node - link structure



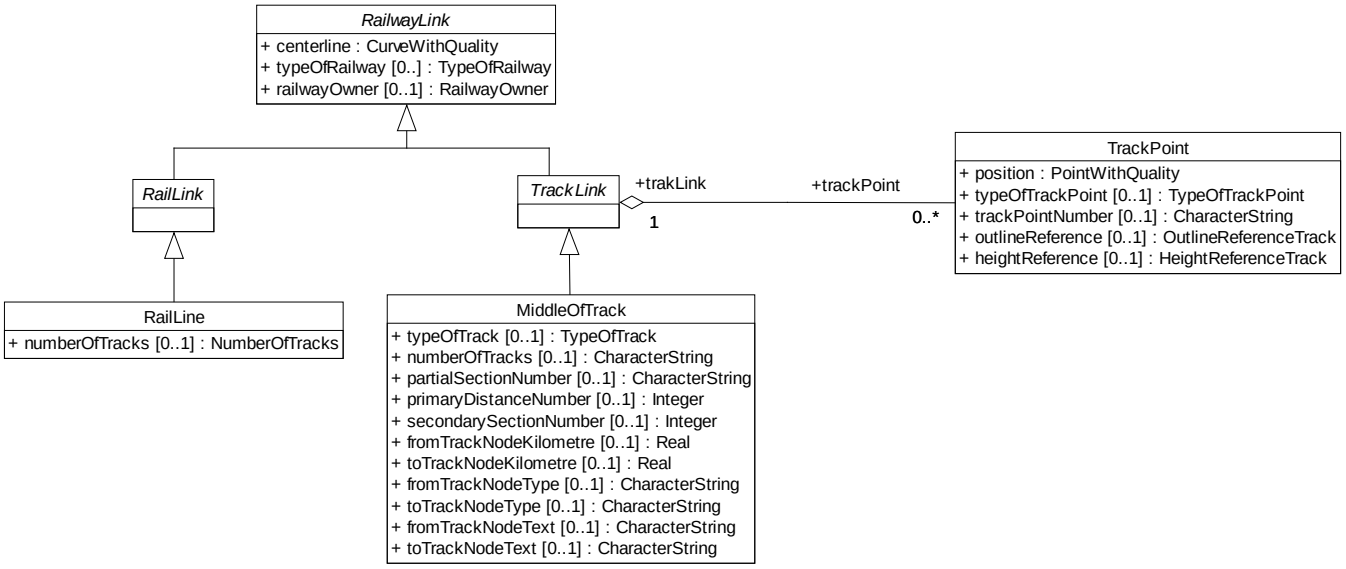
Railway link system - individual featuretypes



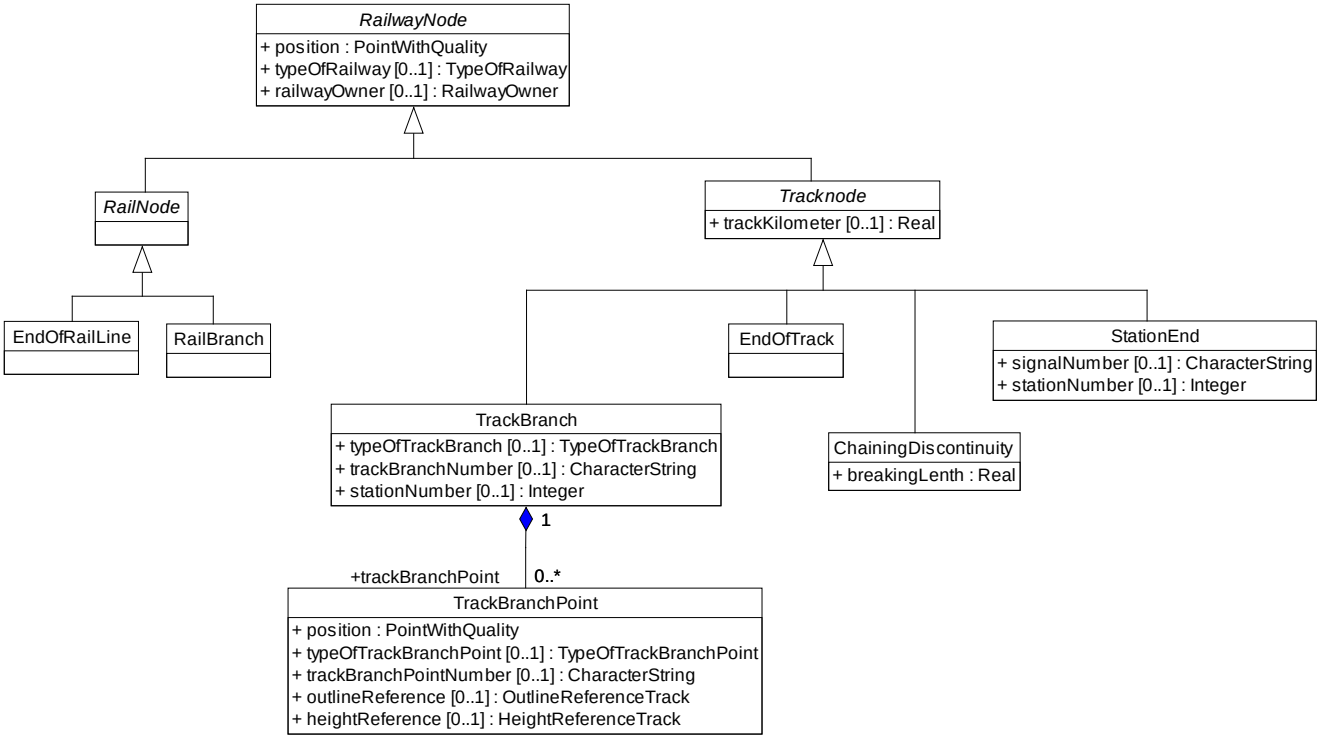
Railway nodes - concrete featuretypes



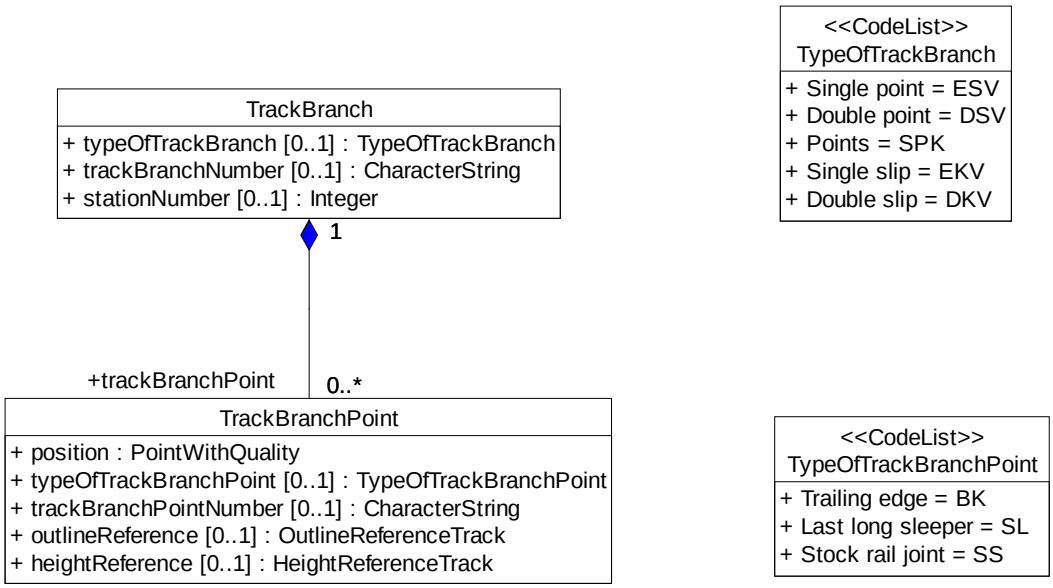
RailwayLink



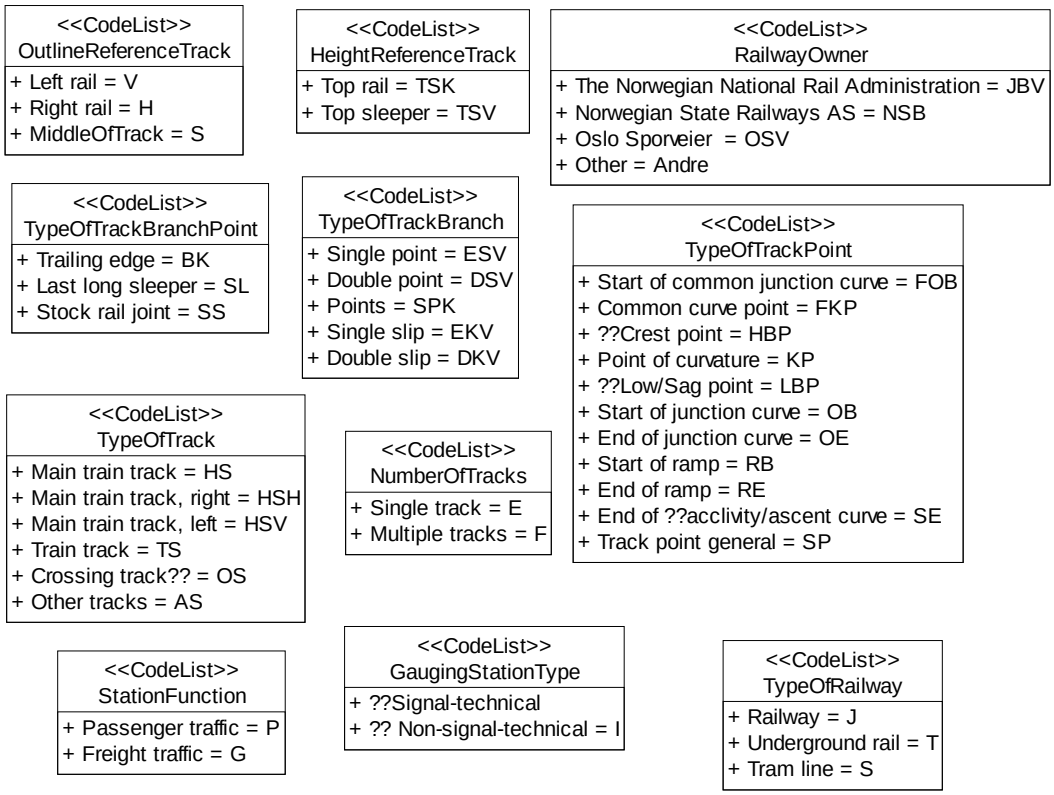
RailwayNode



TrackBranch



Codelists



1.2 Description

1.2.1 MiddleOfTrack

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
1	Class MiddleOfTrack	theoretical line in between the rails				Subtype of TrackLink
1.1	typeOfTrack	classification of railway tracks based on the function of the track	0	1	TypeOfTrack	
1.2	numberOfTracks	distinction between single and multiple tracks	0	1	CharacterString	
1.3	partialSectionNumber	identifier relating the object to a specific partial section	0	1	CharacterString	
1.4	primaryDistanceNumber	identifier relating the object to the superior section of the line	0	1	Integer	
1.5	secondarySectionNumber	identifier where two superior railway sections overlap	0	1	Integer	
1.6	fromTrackNodeKilometre	specification of railway position of the node where the object ends	0	1	Real	
1.7	toTrackNodeKilometre		0	1	Real	
1.8	fromTrackNodeType	railway classification of the node where the object starts	0	1	CharacterString	
1.9	toTrackNodeType		0	1	CharacterString	
1.10	fromTrackNodeText	description of the node where the object starts	0	1	CharacterString	
1.11	toTrackNodeText	description of the node where the object ends	0	1	CharacterString	

1.2.2 ChainingDiscontinuity

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
2	Class ChainingDiscontinuity	discontinuity in kilometres				Subtype of Tracknode
2.1	breakingLenth		1	1	Real	

1.2.3 RailwayPlatformEdge

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
3	Class RailwayPlatformEdge	outer edge of construction used for passengers boarding/exiting or fo				

		loading and unloading freight				
3.1	border	course following the transition between different real world phenomena	1	1	CurveWithQuality	

1.2.4 KilometreSign

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
4	Class KilometreSign	sign stating kilometres, mounted on separate poles along the track				
4.1	position	location where the object exists	1	1	PointWithQuality	
4.2	trackKilometres	railway position specified in relation to a defined zero-point	0	1	Real	
4.3	sectionNumber	identifier for the section where the object is located	0	1	Integer	

1.2.5 TrackBranch

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
5	Class TrackBranch	junction where tracks separate/meet. Note: a) points: construction making it possible to choose between two or more tracks b) crossing of tracks: construction used where two tracks are to cross each other c) slip: combination of a and b				Subtype of Tracknode
5.1	typeOfTrackBranch	classification of structures for track branch	0	1	TypeOfTrackBranch	
5.2	trackBranchNumber	identifier for track branch	0	1	CharacterString	
5.3	stationNumber	identifier relating the object to a specific station	0	1	Integer	
5.4	Role trackBranchPoint		0	N	TrackBranchPoint	Aggregration

1.2.6 EndOfTrack

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
6	Class EndOfTrack	point where a track ends				Subtype of Tracknode

1.2.7 TrackLink

No	Name/	Description	Obligation/	Maximum	Type	Constraint

	Role name		Condition	Occurrence		
7	Class TrackLink	connection between rail nodes. Note: abstract level of MiddleOfTrack				Abstract Subtype of RailwayLink
7.1	Role trackPoint		0	N	TrackPoint	Aggregration

1.2.8 Tracknode

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
8	Class Tracknode					Abstract Subtype of RailwayNode
8.1	trackKilometer		0	1	Real	

1.2.9 TrackPoint

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
9	Class TrackPoint	point on rails or in between rails				
9.1	position	location where the object exists	1	1	PointWithQuality	
9.2	typeOfTrackPoint	classification of changes to the track geometry	0	1	TypeOfTrackPoint	
9.3	trackPointNumber	identifier of trackpoint	0	1	CharacterString	
9.4	outlineReference	the object on the track to which the outline coordinates refer	0	1	OutlineReferenceTrack	
9.5	heightReference	indication of whether the registration has been carried out at the top or bottom of an element; e.g. a slope, a wall, etc	0	1	HeightReferenceTrack	
9.6	Role trakLink		1	1	TrackLink	

1.2.10 StationEnd

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
10	Class StationEnd	point on middle of track straight out from the approach to station signal				Subtype of Tracknode
10.1	signalNumber	identifier for signal	0	1	CharacterString	
10.	stationNumber	identifier relating the object	0	1	Integer	

2		to a specific station				

1.2.11 Station

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
11	Class Station	representation point for station, stopping place or freight terminal				
11.1	position	location where the object exists	1	1	PointWithQuality	
11.2	stationName	name of a station	0	1	Name	
11.3	stationNumber	identifier relating the object to a specific station	0	1	CharacterString	
11.4	gaugingStationType		0	1	GaugingStationType	
11.5	stationFunction	the application/function of the object	0	N	StationFunction	
11.6	trackKilometres	railway position specified in relation to a defined zero-point	0	1	Real	
11.7	sectionNumber	identifier for the section where the object is located	0	1	Integer	

1.2.12 RailLink

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
12	Class RailLink	connection between rail nodes. Note: abstract level of Rail line				Abstract Subtype of RailwayLink

1.2.13 RailwayLink

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
13	Class RailwayLink	classification of railway facility in accordance with design/dimensioning				Abstract
13.1	centerline	course followed by the central part of the object	1	1	CurveWithQuality	
13.2	typeOfRailway		0	N	TypeOfRailway	
13.3	railwayOwner	owner of the (railway) facility	0	1	RailwayOwner	
13.4	Role node		2	2	RailwayNode	

1.2.14 RailwayNode

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrenc	Type	Constraint

				e		
14	Class RailwayNode	junction for railway links. Note: abstract level of Rail node and Track node				Abstract
14.1	position	location where the object exists	1	1	PointWithQuality	
14.2	typeOfRailway		0	1	TypeOfRailway	
14.3	railwayOwner		0	1	RailwayOwner	
14.4	Role railwayLink		1	4	RailwayLink	

1.2.15 RailLine

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
15	Class RailLine	theoretical line which represents a single or several parallel tracks				Subtype of RailLink
15.1	numberOfTracks	distinction between single and multiple tracks	0	1	NumberOfTracks	

1.2.16 RailBranch

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
16	Class RailBranch	junction where rails meet or divide				Subtype of RailNode

1.2.17 EndOfRailLine

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
17	Class EndOfRailLine	point where a rail line ends				Subtype of RailNode

1.2.18 RailNode

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
18	Class RailNode	node (junction) between rail links. Note: abstract level of Rail branch and End of rail				Abstract Subtype of RailwayNode

1.2.19 TrackBranchPoint

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
19	Class TrackBranchPoin	point on the construction Track branch. Note:				

	t	Trailing edge: connection between track and Track branch Long sleeper: railway sleeper located under two branched tracks in a Track branch				
19.1	position	location where the object exists	1	1	PointWithQuality	
19.2	typeOfTrackBranchPoint	classification of points in structures for track branch	0	1	TypeOfTrackBranchPoint	
19.3	trackBranchPointNumber	identifier of track branch points	0	1	CharacterString	
19.4	outlineReference	the object on the track to which the height coordinates refer	0	1	OutlineReferenceTrack	
19.5	heightReference	the object on the track to which the height coordinates refer	0	1	HeightReferenceTrack	
19.6	Role (unnamed) TrackBranch		1	1	TrackBranch	

1.2.20 Association TrackLink-TrackPoint

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
20	Association TrackLink-TrackPoint					
20.1	Role trackPoint		0	N	TrackPoint	Aggregation
20.2	Role trakLink		1	1	TrackLink	

1.2.21 Association <<Network>> RailwayNode-RailwayLink

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
21	Association RailwayNode-RailwayLink					
21.1	Role railwayLink		1	4	RailwayLink	
21.2	Role node		2	2	RailwayNode	

1.2.22 Association TrackBranch-TrackBranchPoint

No	Name/ Role name	Description	Obligation/ Condition	Maximum Occurrence	Type	Constraint
22	Association TrackBranch-TrackBranchPoint					

22.1	Role trackBranchPoint		0	N	TrackBranchPoint	Aggregation
22.2	Role (unnamed) TrackBranch		1	1	TrackBranch	

1.2.22.1 <<CodeList>> TypeOfTrackPoint

Nr	Code name	Definition/Description	Code
1	CodeList TypeOfTrackPoint	classification of changes to the track geometry	
1.1	Start of common junction curve		FOB
1.2	Common curve point		FKP
1.3	??Crest point		HBP
1.4	Point of curvature		KP
1.5	??Low/Sag point		LBP
1.6	Start of junction curve		OB
1.7	End of junction curve		OE
1.8	Start of ramp		RB
1.9	End of ramp		RE
1.10	End of ??acclivity/ascent curve		SE
1.11	Track point general		SP

1.2.22.2 <<CodeList>> TypeOfTrackBranch

Nr	Code name	Definition/Description	Code
2	CodeList TypeOfTrackBranch	classification of structures for track branch	
2.1	Single point		ESV
2.2	Double point		DSV
2.3	Points		SPK
2.4	Single slip		EKV
2.5	Double slip		DKV

1.2.22.3 <<CodeList>> RailwayOwner

Nr	Code name	Definition/Description	Code
3	CodeList RailwayOwner	owner of the (railway) facility	
3.1	The Norwegian National Rail Administration		JBV
3.2	Norwegian State Railways AS		NSB
3.3	Oslo Sporveier		OSV

3.4	Other		Andre

1.2.22.4 <<CodeList>> TypeOfRailway

Nr	Code name	Definition/Description	Code
4	CodeList TypeOfRailway	classification of railway facility in accordance with design/dimensioning	
4.1	Railway		J
4.2	Underground rail		T
4.3	Tram line		S

1.2.22.5 <<CodeList>> TypeOfTrack

Nr	Code name	Definition/Description	Code
5	CodeList TypeOfTrack	classification of railway tracks based on the function of the track	
5.1	Main train track		HS
5.2	Main train track, right		HSH
5.3	Main train track, left		HSV
5.4	Train track		TS
5.5	Crossing track??		OS
5.6	Other tracks		AS

1.2.22.6 <<CodeList>> NumberOfTracks

Nr	Code name	Definition/Description	Code
6	CodeList NumberOfTracks	distinction between single and multiple tracks	
6.1	Single track		E
6.2	Multiple tracks		F

1.2.22.7 <<CodeList>> OutlineReferenceTrack

Nr	Code name	Definition/Description	Code
7	CodeList OutlineReferenceTrack	the object on the track to which the outline coordinates refer	
7.1	Left rail		V
7.2	Right rail		H

7.3	MiddleOfTrack		S

1.2.22.8 <<CodeList>> HeightReferenceTrack

Nr	Code name	Definition/Description	Code
8	CodeList HeightReferenceTrack	the object on the track to which the height coordinates refer	
8.1	Top rail		TSK
8.2	Top sleeper		TSV

1.2.22.9 <<CodeList>> GaugingStationType

Nr	Code name	Definition/Description	Code
9	CodeList GaugingStationType	type of data transmission from gauging station.	
9.1	??Signal-technical		
9.2	?? Non-signal-technical		I

1.2.22.10 <<CodeList>> StationFunction

Nr	Code name	Definition/Description	Code
10	CodeList StationFunction	distinction between passenger and freight traffic	
10.1	Passenger traffic		P
10.2	Freight traffic		G

1.2.22.11 <<CodeList>> TypeOfTrackBranchPoint

Nr	Code name	Definition/Description	Code
11	CodeList TypeOfTrackBranchPoint	classification of points in structures for track branch	
11.1	Trailing edge		BK
11.2	Last long sleeper		SL
11.3	Stock rail joint		SS