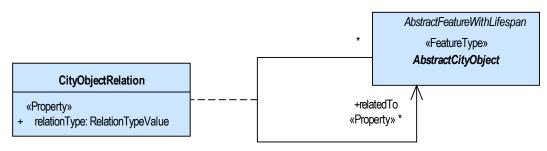
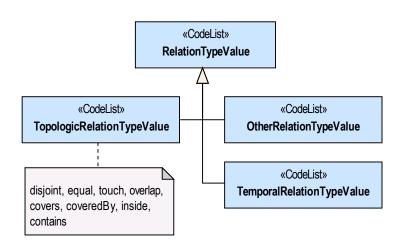
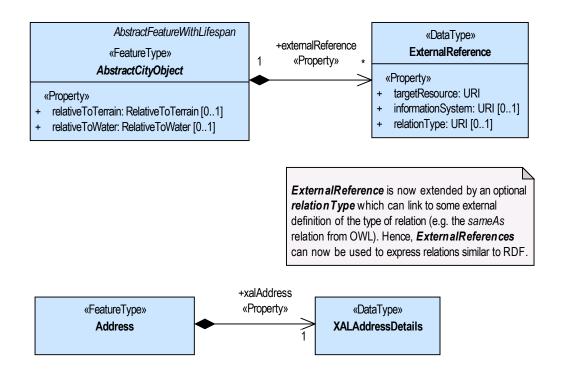


# Core module - City object relations





## Core module - Miscellaneous



#### Core module - Basic Types, Enumerations, and Code lists

#### «enumeration» «enumeration» «enumeration» RelativeToTerrain RelativeToWater SpaceType entirelyAboveTerrain entirelyAboveWaterSurface dosed substantiallyAboveTerrain substantiallyAboveWaterSurface open substantiallyAboveAndBelowWaterSurface substantiallyAboveAndBelowTerrain semiOpen substantiallyBelowTerrain substantiallyBelowWaterSurface entirelyBelowTerrain entirelyBelowWaterSurface temporarilyAboveAndBelowWaterSurface «DataType» «CodeList» weekday, weekend, weekday\_9to12, Occupancy IntervalValue weekday\_12to17, weekday\_8to16, daytime, nighttime, daily 9to12, ... «Property» numberOfOccupants: Integer interval: IntervalValue [0..1] «CodeList» occupantType: OccupantTypeValue [0..1] residents, workers, students, patients, OccupantTypeValue visitors, othersOrCombination «CodeList» RelationTypeValue «CodeList» «CodeList» TopologicRelationTypeValue OtherRelationTypeValue «CodeList» «CodeList» disjoint, equal, touch, overlap, TemporalRelationTypeValue MimeTypeValue covers, coveredBy, inside, contains «CodeList» grossVolume, QualifiedVolumeTypeValue netVolume, ...

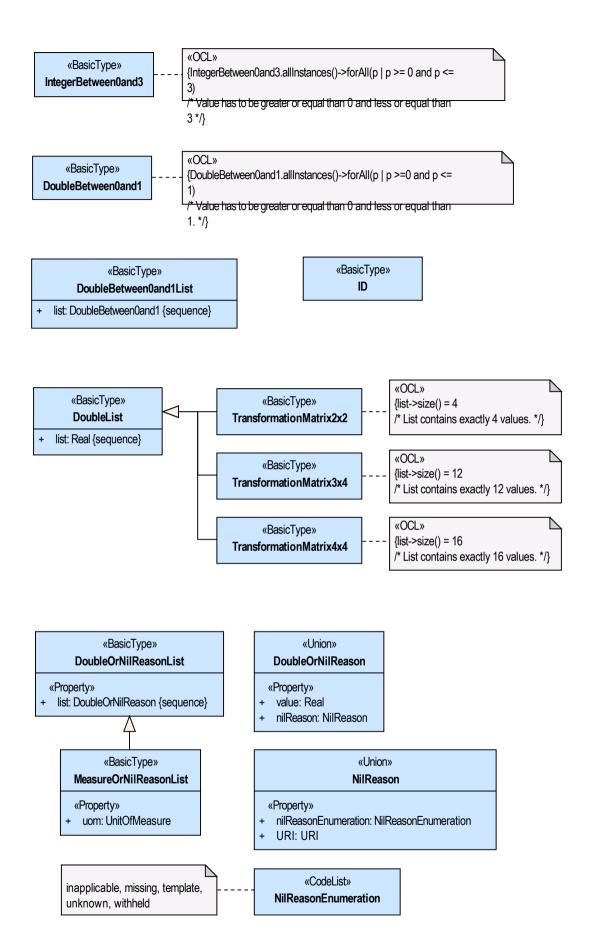
surfaceArea, wallSurfaceArea, sharedWallSurfaceArea,

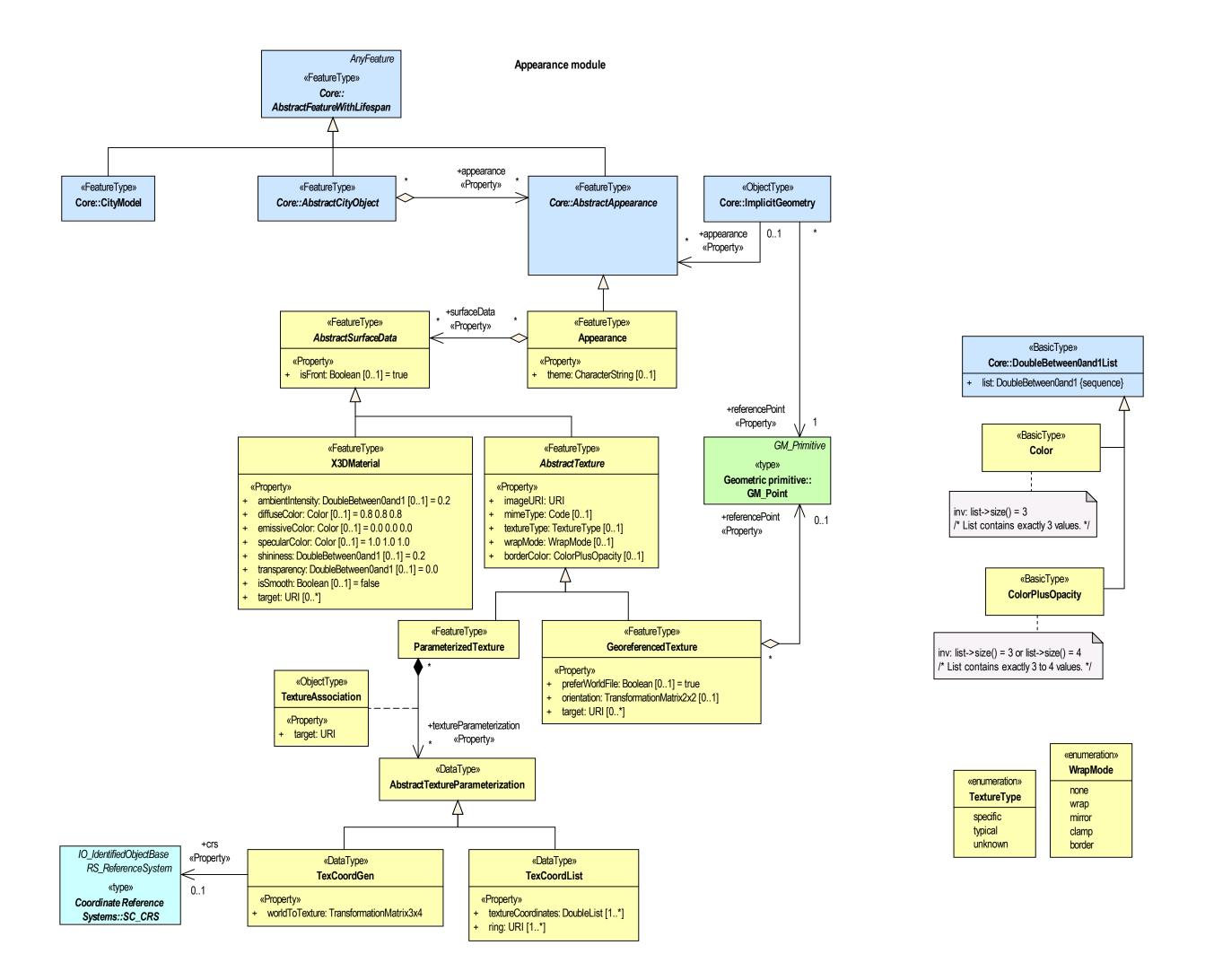
roofSurfaceArea, wallWindowArea, roofWindowArea,

wallGlazingArea, ...

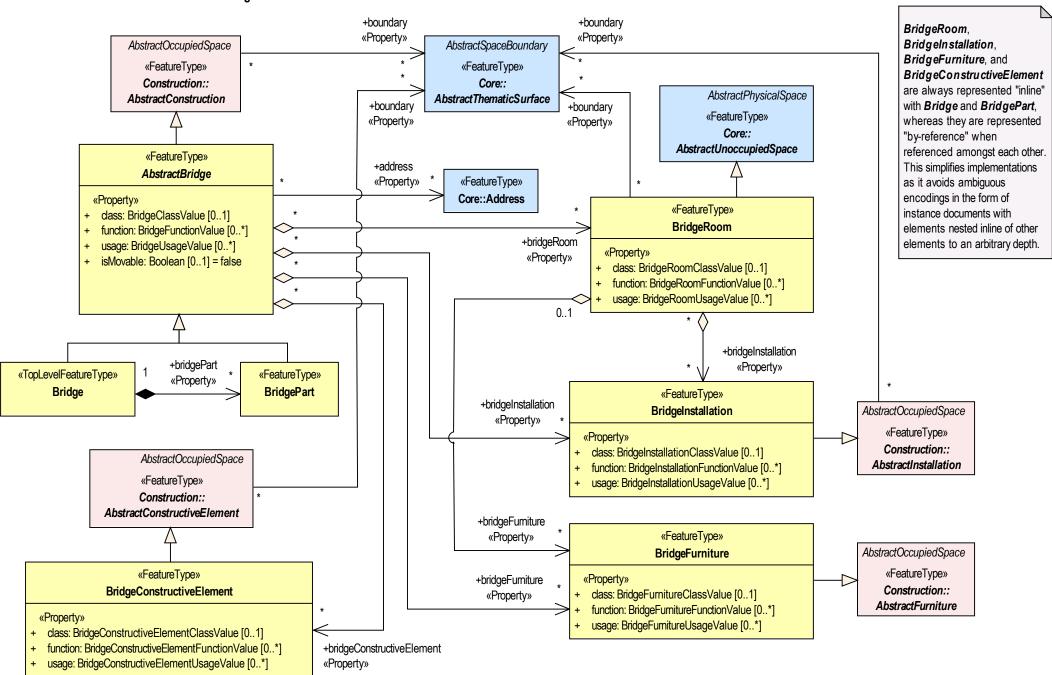
«CodeList»

QualifiedAreaTypeValue





## **Bridge module**



## Bridge module - Code lists

«CodeList»

BridgeClassValue

«CodeList»

BridgeFurnitureClassValue

BridgeInstallationClassValue

«CodeList»

BridgeFunctionValue

«CodeList»

«CodeList»

BridgeFurnitureFunctionValue

BridgeInstallationFunctionValue

«CodeList»

«CodeList»

BridgeUsageValue

«CodeList»

BridgeFurnitureUsageValue

«CodeList»

BridgeInstallationUsageValue

«CodeList»

BridgeRoomClassValue

«CodeList»

BridgeConstructiveElementClassValue

«CodeList»

BridgeRoomFunctionValue

«CodeList»

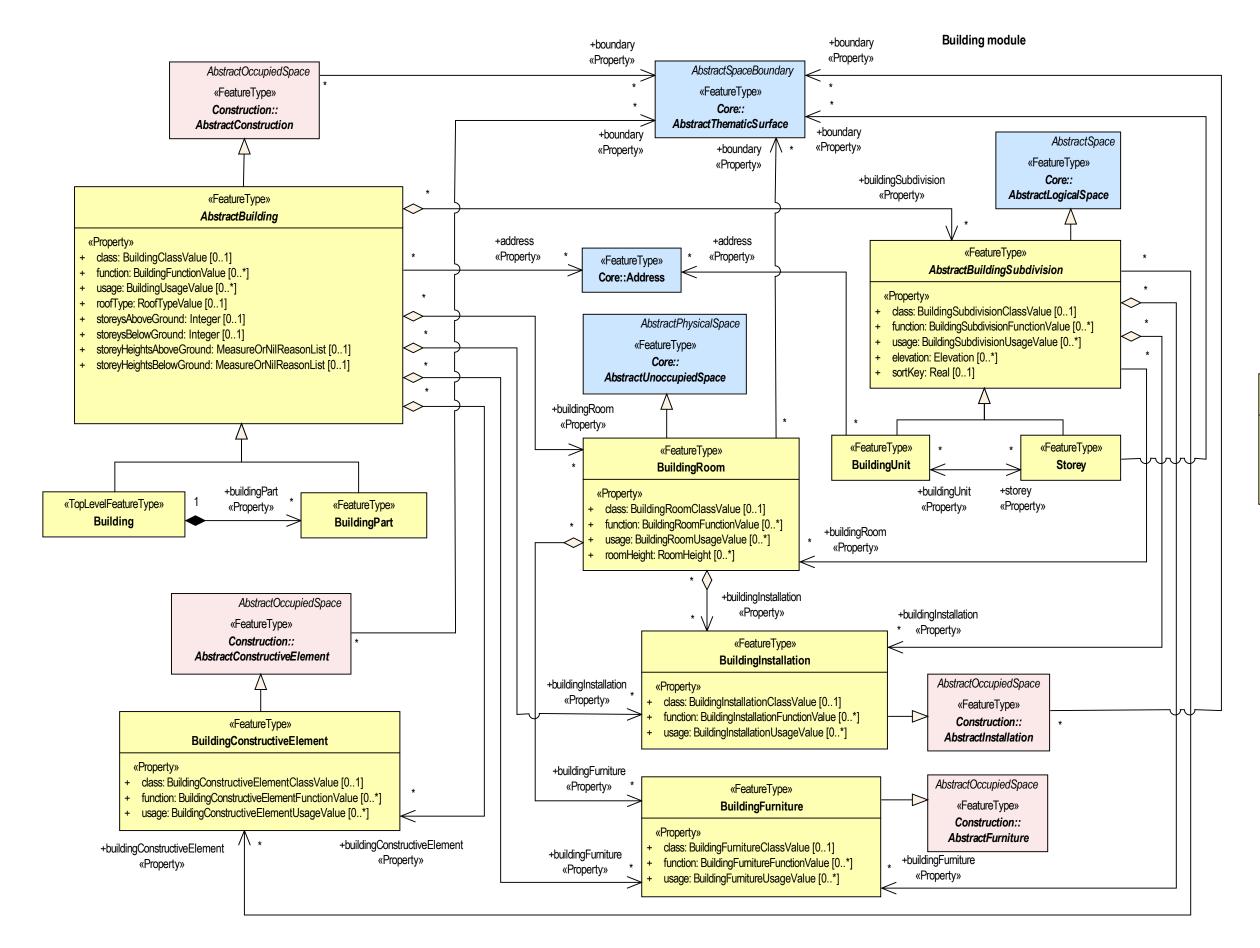
**BridgeConstructiveElementFunctionValue** 

«CodeList»

BridgeRoomUsageValue

«CodeList»

**BridgeConstructiveElementUsageValue** 



BuildingRoom, BuildingInstallation,
BuildingFurniture, and
BuildingConstructiveElement are always
represented "inline" with Building and
BuildingPart, whereas they are represented
"by-reference" when referenced amongst each

This simplifies implementations as it avoids ambiguous encodings in the form of instance documents with elements nested inline of other elements to an arbitrary depth.

## «DataType» RoomHeight

## «Property»

- + highReference: RoomElevationReferenceValue
- lowReference: RoomElevationReferenceValue
- + status: HeightStatusValue
- value: Length

## **Building module - Code lists**

«CodeList»

BuildingClassValue

«CodeList»

BuildingInstallationClassValue

«CodeList»

BuildingFurnitureClassValue

«CodeList»

RoofTypeValue

«CodeList»

BuildingFunctionValue

«CodeList»

BuildingInstallationFunctionValue

«CodeList»

BuildingFurnitureFunctionValue

«CodeList»

RoomElevationReferenceValue

«CodeList»

BuildingUsageValue

«CodeList»

BuildingInstallationUsageValue

«CodeList»

BuildingFurnitureUsageValue

«CodeList»

BuildingRoomClassValue

«CodeList»

BuildingConstructiveElementClassValue

«CodeList»

BuildingSubdivisionClassValue

«CodeList»

BuildingRoomFunctionValue

«CodeList»

BuildingConstructiveElementFunctionValue

«CodeList»

BuildingSubdivisionFunctionValue

«CodeList»

BuildingRoomUsageValue

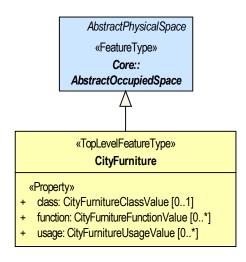
«CodeList»

BuildingConstructiveElementUsageValue

«CodeList»

BuildingSubdivisionUsageValue

# CityFurniture module



# CityFurniture module - Code lists

«CodeList»

CityFurnitureClassValue

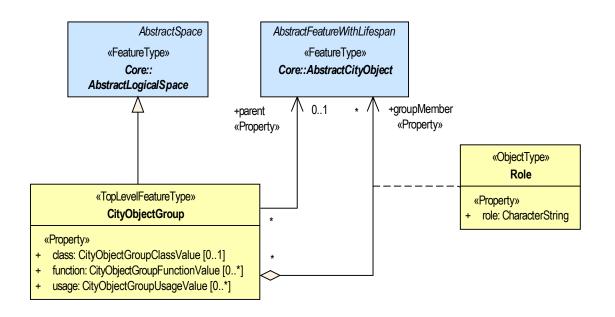
«CodeList»

CityFurnitureFunctionValue

«CodeList»

CityFurnitureUsageValue

# CityObjectGroup module



# CityObjectGroup module - Code lists

«CodeList»

CityObjectGroupClassValue

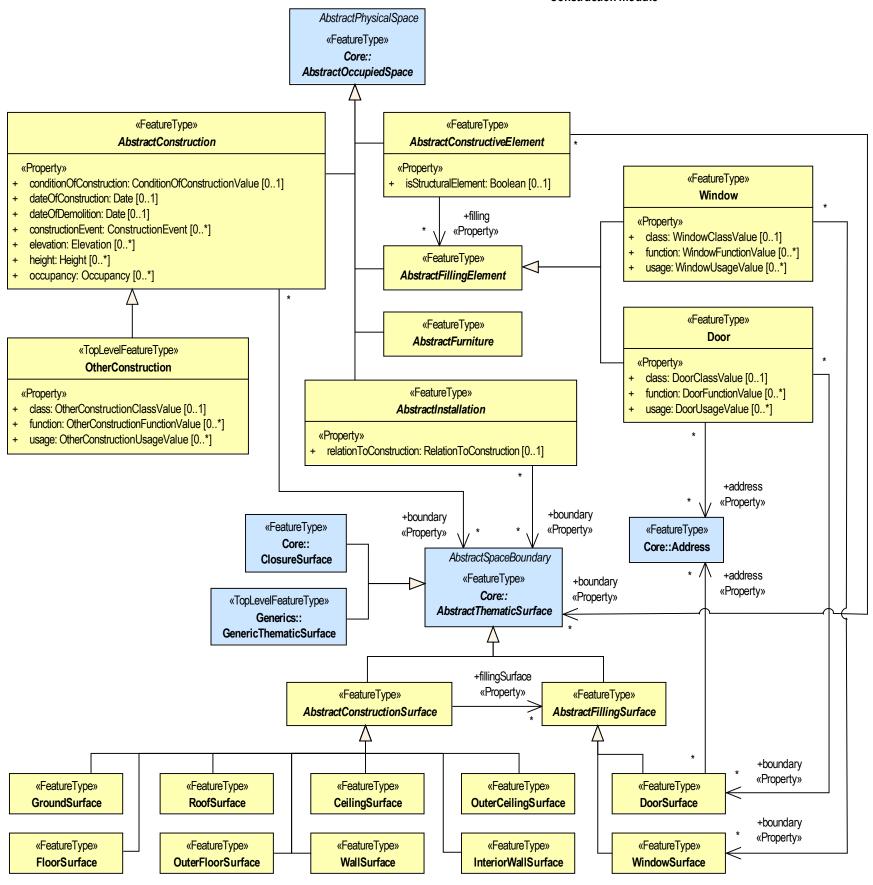
«CodeList»

CityObjectGroupFunctionValue

«CodeList»

CityObjectGroupUsageValue

#### Construction module



#### «enumeration»

## ConditionOfConstructionValue

declined demolished functional projected ruin underConstruction

#### «enumeration»

#### RelationToConstruction

inside outside bothInsideAndOutside

## «DataType» Elevation

## «Property»

- elevationReference: ElevationReferenceValue
- elevationValue: DirectPosition

## «DataType» **Height**

## «Property»

- highReference: ElevationReferenceValue
- + lowReference: ElevationReferenceValue
- status: HeightStatusValue
- + value: Length

# «enumeration» HeightStatusValue

estimated measured

# «DataType» ConstructionEvent

## «Property»

- event: EventValue
- dateOfEvent: Date
- description: CharacterString [0..1]

## Construction module - Code lists

«CodeList»

OtherConstructionClassValue

«CodeList»

OtherConstructionFunctionValue

«CodeList»

**OtherConstructionUsageValue** 

«CodeList»
WindowClassValue

«CodeList»

WindowFunctionValue

«CodeList»

WindowUsageValue

«CodeList»

DoorClassValue

«CodeList»

DoorFunctionValue

«CodeList»

DoorUsageValue

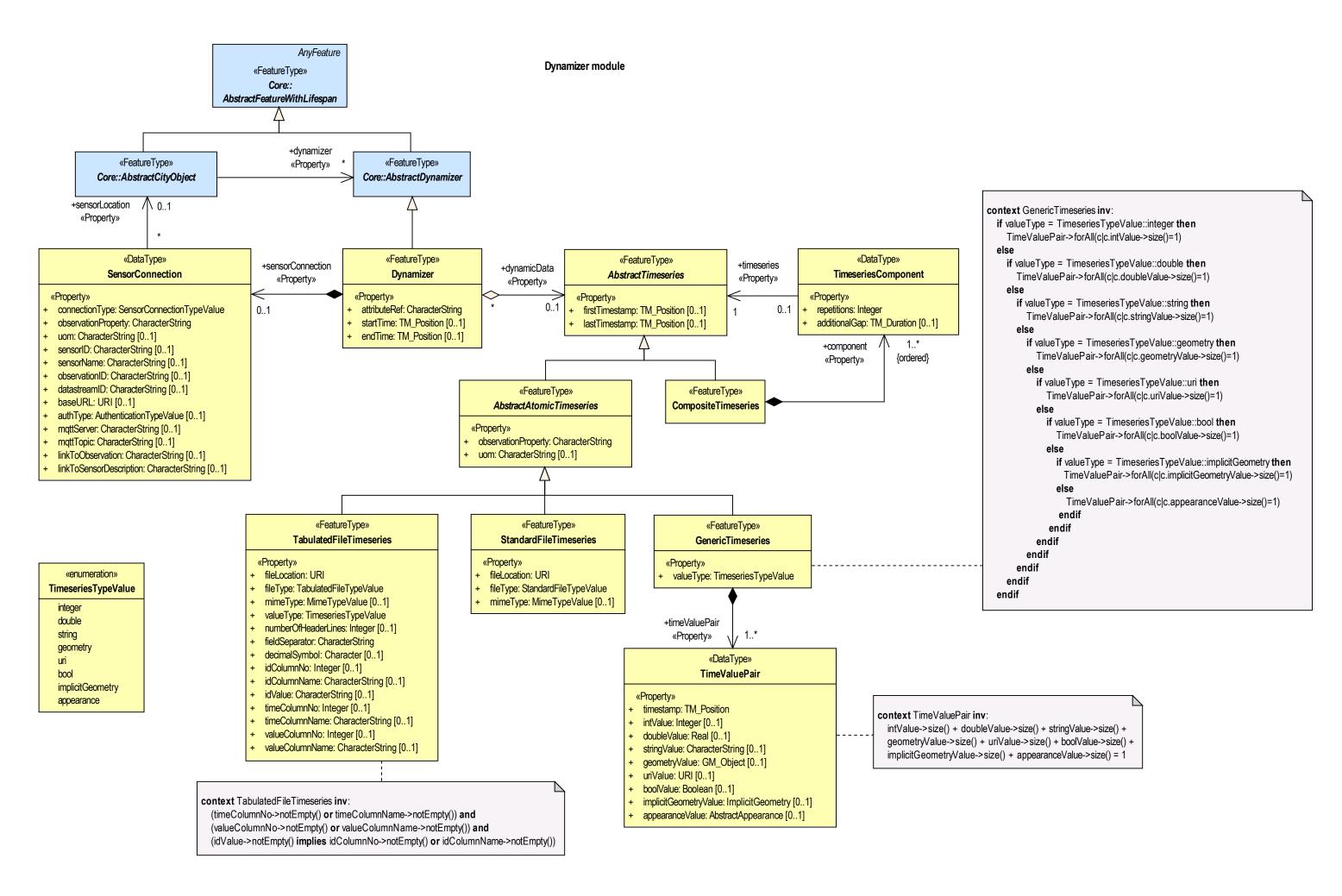
wCodeList>
EventValue

buildingPermit,
startOfRenovation,
endOfRenovation, ...

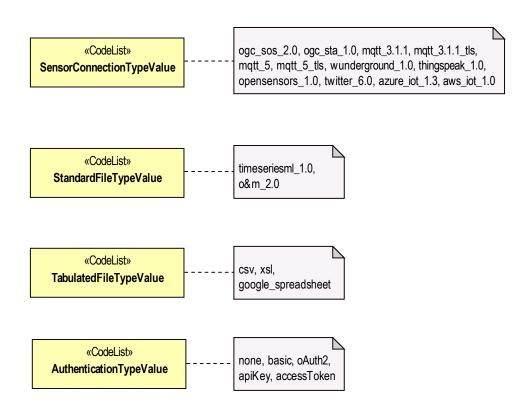
«CodeList»

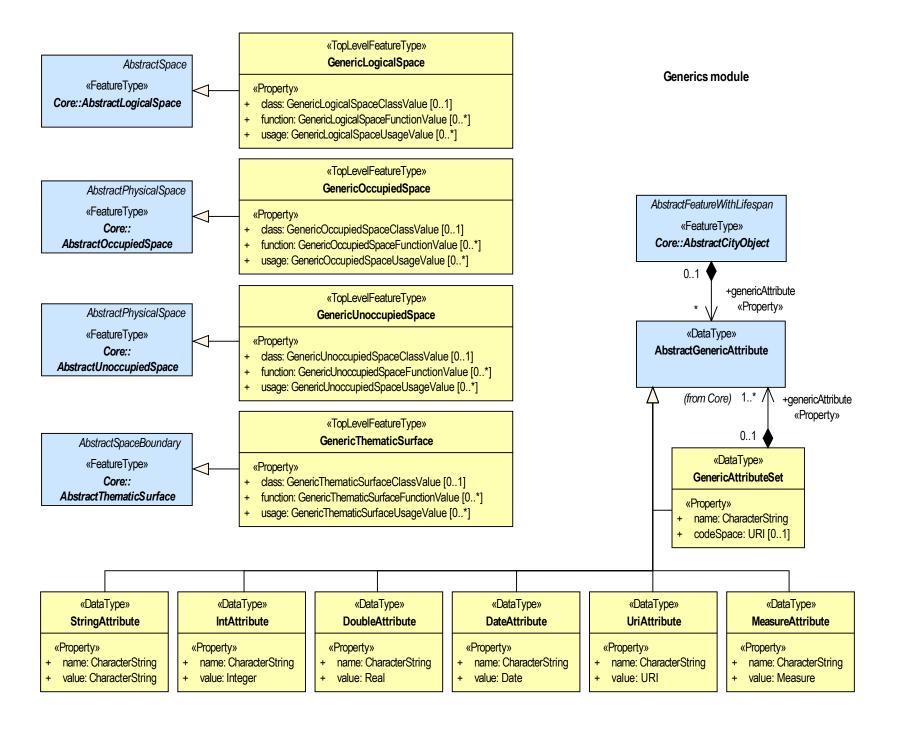
ElevationReferenceValue

aboveGroundEnvelope, bottomOfConstruction, entrancePoint, generalEave, generalGround, generalRoof, generalRoofEdge, highestEave, highestGroundPoint, highestPoint, highestRoofEdge, lowestEave, lowestFloorAboveGround, lowestGroundPoint, lowestRoofEdge, topOfConstruction



## Dynamizer module - Code lists





#### **Generics module - Code lists**

«CodeList»

GenericLogicalSpaceClassValue

«CodeList»

GenericLogicalSpaceFunctionValue

GenericLogicalSpaceUsageValue

«CodeList»

GenericOccupiedSpaceClassValue

«CodeList»

GenericOccupiedSpaceFunctionValue

«CodeList» «CodeList»

GenericOccupiedSpaceUsageValue

«CodeList»

GenericUnoccupiedSpaceClassValue

«CodeList»

GenericUnoccupiedSpaceFunctionValue

«CodeList»

**GenericUnoccupiedSpaceUsageValue** 

«CodeList»

GenericThematicSurfaceClassValue

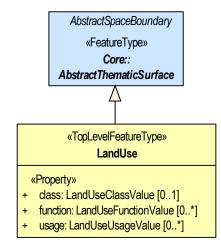
«CodeList»

GenericThematicSurfaceFunctionValue

«CodeList»

**GenericThematicSurfaceUsageValue** 

## LandUse module



# LandUse module - Code lists

«CodeList»

LandUseClassValue

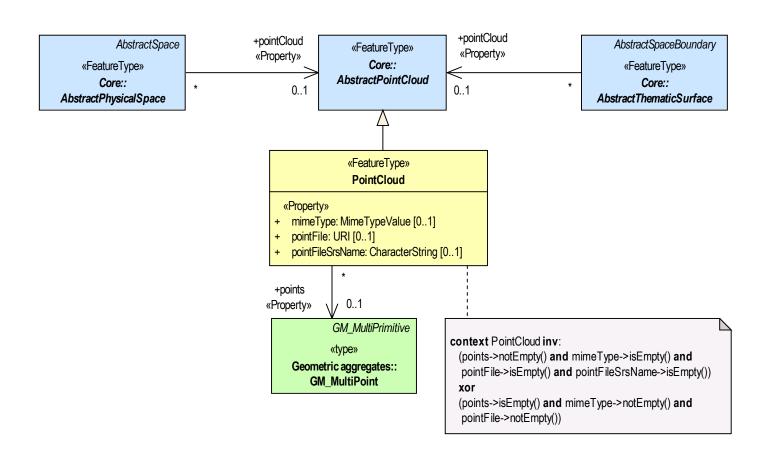
«CodeList»

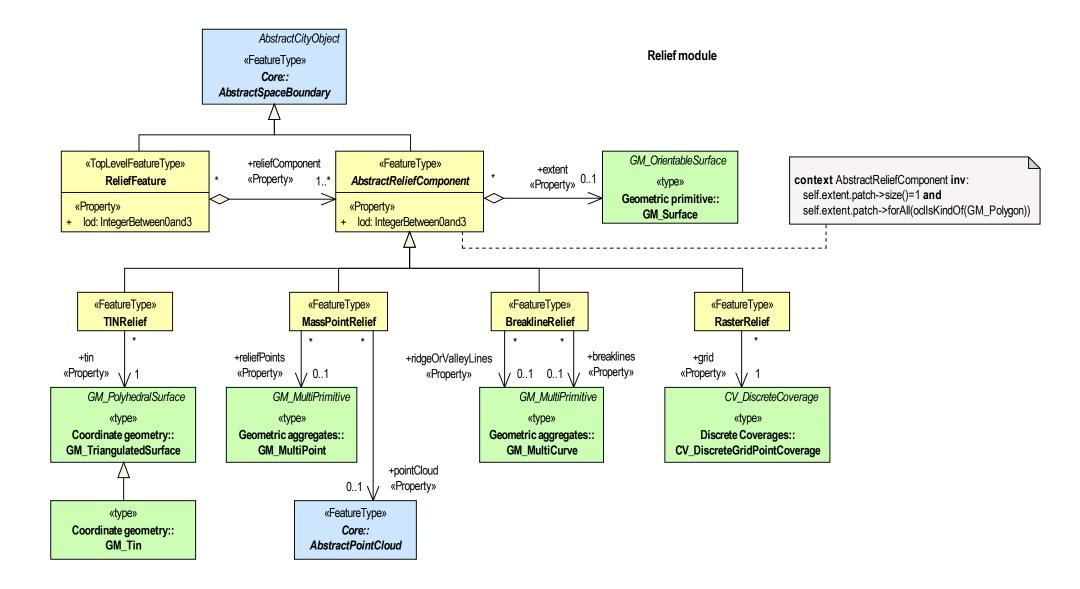
LandUseFunctionValue

«CodeList»

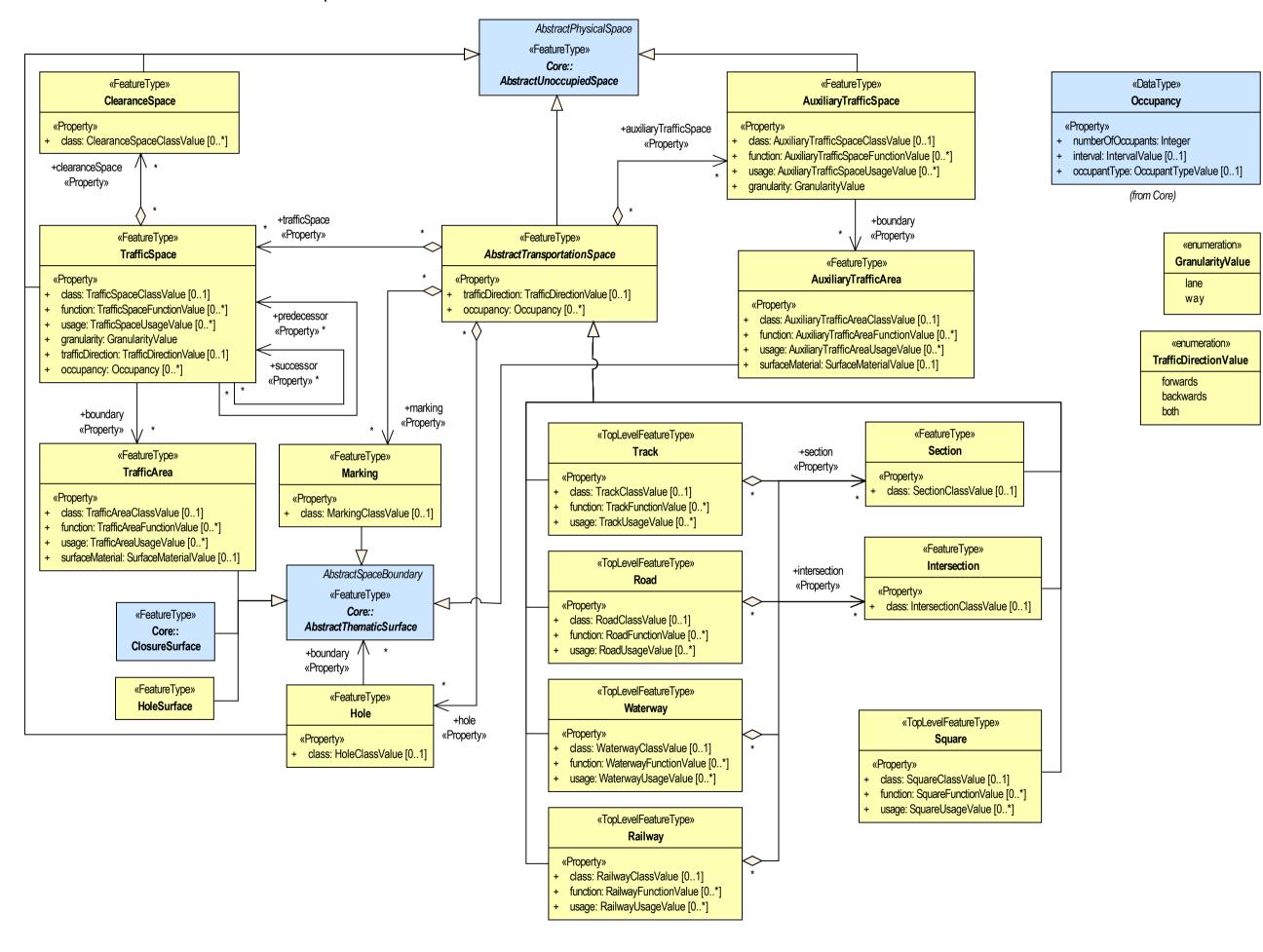
LandUseUsageValue

#### PointCloud module





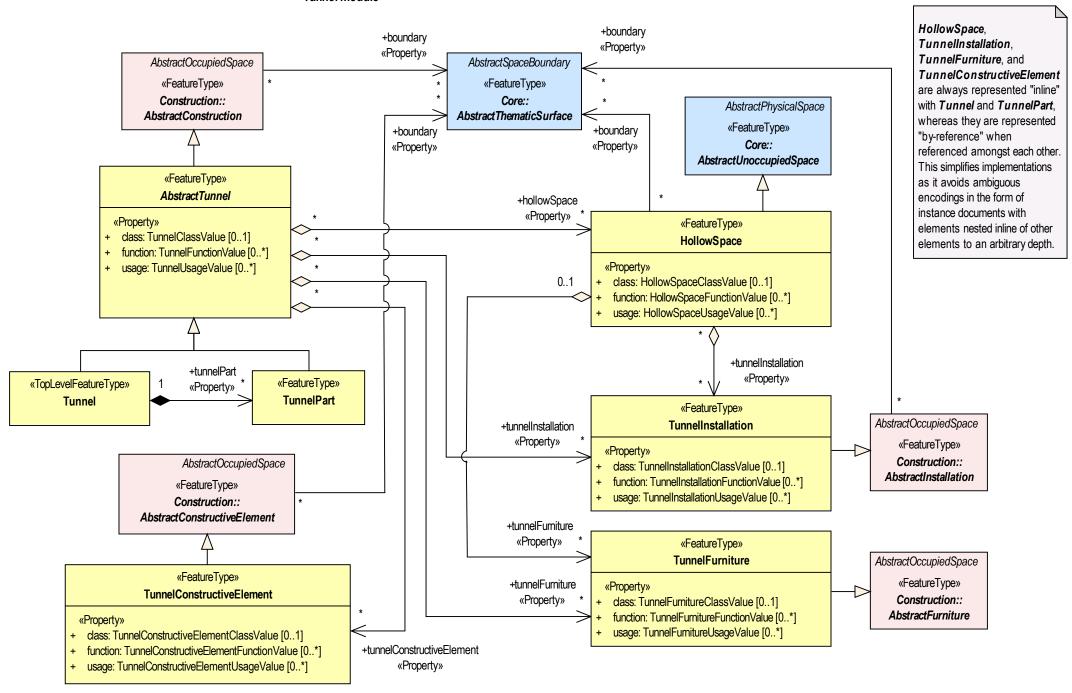
## **Transportation module**



## Transportation module - Code lists

«CodeList» «CodeList» «CodeList» «CodeList» **TransportationSpaceClassValue TrafficSpaceClassValue** ClearanceSpaceClassValue TrafficAreaClassValue «CodeList» «CodeList» «CodeList» TransportationSpaceFunctionValue **TrafficSpaceFunctionValue TrafficAreaFunctionValue** «CodeList» «CodeList» Drain, Manhole, MarkingClassValue HoleClassValue RoadwayDamage «CodeList» «CodeList» «CodeList» **TransportationSpaceUsageValue TrafficSpaceUsageValue** TrafficAreaUsageValue «Codel ist» «Codel ist» «Codel ist» «Codel ist» AuxiliaryTrafficSpaceClassValue AuxiliaryTrafficAreaClassValue SectionClassValue SurfaceMaterialValue «CodeList» «CodeList» AuxiliaryTrafficSpaceFunctionValue AuxiliaryTrafficAreaFunctionValue «CodeList» IntersectionClassValue «Codel ist» «Codel ist» **AuxiliaryTrafficSpaceUsageValue** AuxiliaryTrafficAreaUsageValue «CodeList» «CodeList» «CodeList» «CodeList» «CodeList» WaterwayClassValue RailwayClassValue **TrackClassValue** RoadClassValue SquareClassValue «CodeList» «CodeList» «CodeList» «CodeList» «CodeList» WaterwayFunctionValue RailwayFunctionValue SquareFunctionValue **TrackFunctionValue** RoadFunctionValue «CodeList» «CodeList» «CodeList» «CodeList» «CodeList» **TrackUsageValue** RoadUsageValue WaterwayUsageValue RailwayUsageValue SquareUsageValue

Tunnel module



## Tunnel module - Code lists

«CodeList»

TunnelClassValue

«CodeList»

**TunnelInstallationClassValue** 

«CodeList»

**TunnelFurnitureClassValue** 

«CodeList»

TunnelFunctionValue

«CodeList»

**TunnelInstallationFunctionValue** 

«CodeList»

**TunnelFurnitureFunctionValue** 

«CodeList»

TunnelUsageValue

«CodeList»

TunnelInstallationUsageValue

«CodeList»

**TunnelFurnitureUsageValue** 

«CodeList»

**HollowSpaceClassValue** 

«CodeList»

**TunnelConstructiveElementClassValue** 

«CodeList»

HollowSpaceFunctionValue

«CodeList»

**TunnelConstructiveElementFunctionValue** 

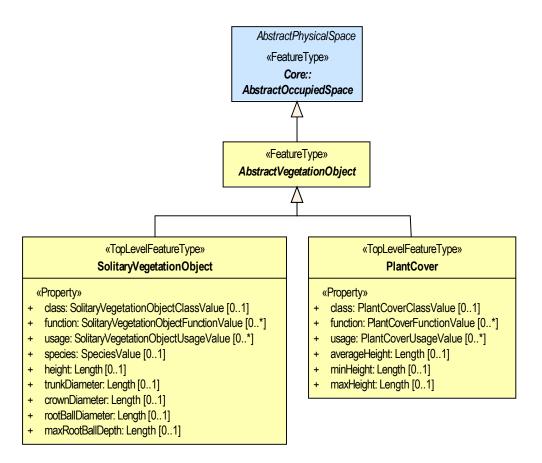
«CodeList»

HollowSpaceUsageValue

«CodeList»

TunnelConstructiveElementUsageValue

## Vegetation module



# Vegetation module - Code lists

«CodeList»

SolitaryVegetationObjectClassValue

«CodeList»

PlantCoverClassValue

«CodeList»

SpeciesValue

«CodeList»

SolitaryVegetationObjectFunctionValue

«CodeList»

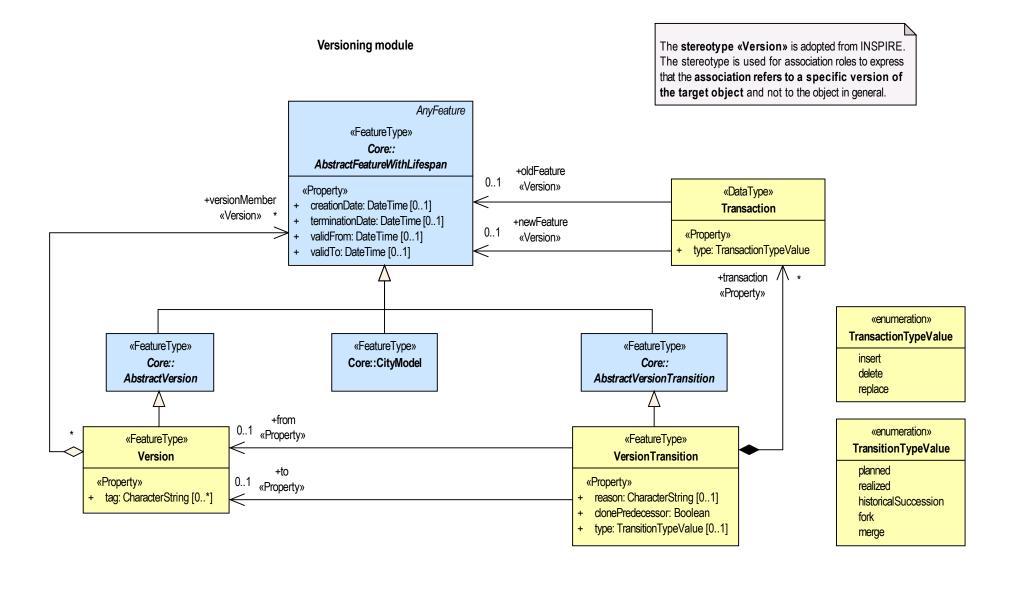
PlantCoverFunctionValue

«CodeList»

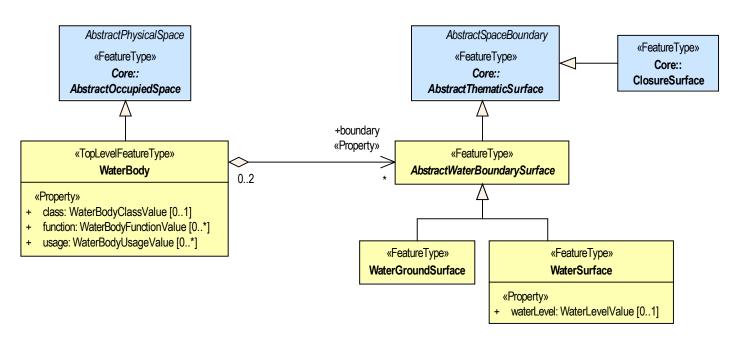
SolitaryVegetationObjectUsageValue

«CodeList»

PlantCoverUsageValue



## WaterBody module



# WaterBody module - Code lists

«CodeList»

WaterBodyClassValue

«CodeList»

WaterLevelValue

«CodeList»

WaterBodyFunctionValue

«CodeList»

WaterBodyUsageValue