TECHNICAL REPORT

ISO/TR 21718

Second edition
2019-01

Intelligent transport systems — Spatio-temporal data dictionary for cooperative ITS and automated driving systems 2.0

Systèmes de transport intelligents — Dictionnaire de données spatio-temporelles pour les systèmes de conduite automatisée 2.0 et les STI coopératifs

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*.

This second edition cancels and replaces the first edition (ISO/TR 21718:2017), which has been technically revised. The main changes since the last edition are the following:

— task force team have collaborated with SAE, and combined the SAE deliverable and the first edition;

— the list of the data concept names described in SAE J 2735: 2016 have been included as Annex B.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Cooperative ITS and automated driving systems as energy-saving technology have attracted much attention. These systems are expected to reduce traffic congestion and achieve smoother transportation.

Recently, car manufacturers, car parts manufacturers and IT companies have started driving tests for automated driving systems on the public road. Several car manufacturers have released the schedule of commercial viability and automated driving systems and are expected to put it into practical use within two or three years.

In the existing ITS applications, geographical information are optimally designed for individual systems. Thus, a large amount of resources are required in order to create, provide and maintain this information.

In the future, spatio-temporal data for ITS which includes static and dynamic temporal-spatial data will be required for Cooperative ITS and automated driving systems. In order to create, provide and maintain these data, much more resources will be required.

Spatio-temporal data can be used for different types of application systems. A common understanding and sharing of spatio-temporal data is formulated by this data dictionary. For instance, spatio-temporal data for ITS includes location information or has relationships with location.

Standardization of spatio-temporal data dictionary is expected to contribute to research and development and dissemination of cooperative ITS and automated systems by stakeholders.

Intelligent transport systems — Spatio-temporal data dictionary for cooperative ITS and automated driving systems 2.0

1 Scope

This document is a compilation of terms to be contained in a spatio-temporal data dictionary for cooperative-ITS and automated driving systems.

This data dictionary includes static data (e.g. map, road signs and buildings) and dynamic data (e.g. traffic condition, accident reports).

This document is an updated and expanded version of ISO/TR 21718:2017.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
aggregate domain
data concept that defines a grouping of data elements and/or data frames

3.2
data concept
item that may be stored in a data dictionary that refers to an abstraction or thing in the natural world that can be identified with explicit boundaries and meaning and whose properties and behaviour all follow the same rules

Note 1 to entry: Data concepts can be classified into the following types: object class, value domain, data element, aggregate domain, data frame, message, interface dialogue, dictionary document, or module.

3.3
data concept type
categorization of the kind of data concept

3.4
data dictionary
listing of data concepts and their meta-attributes in a consistent format

3.5
data element
data concept represented by a specific value domain that describes a single atomic property about an object class

Note 1 to entry: A data element is composed of an object class, a property of the represented object class and a value domain.

3.6
data frame
data concept represented by a specific aggregate domain that describes information of interest through a useful grouping of more atomic properties about one or more object classes

Note 1 to entry: The grouping may be a set, sequence, or a choice.

3.7
dynamic data
data which has short life-span data such as a position of vehicle

3.8
message
data concept that is a grouping of data elements, data frames, or data elements and data frames that is used to convey a complete set of information

Note 1 to entry: For the purposes of this document, a message is an abstract description; it is not a specific instance.

3.9
module
data concept that contains the formal syntactic definition, and optionally the semantic definition, of a defined set of other data concepts that are all version-controlled as a single unit

Note 1 to entry: A module can be represented in multiple languages (e.g., ASN.1 or XML Schema) and compiled by computer systems.

3.10
source
document or other reference that was used to develop the pertinent data concept

3.11
spatio-temporal (adjective)
relating to both space and time

3.12
static data
data which do not change automatically

3.13
value domain
data concept that defines a set of permissible values

4 Abbreviated terms

ACC	Adaptive Cruise Control systems
APS	Assisted Parking System
CACC	Cooperative adaptive cruise control
CIWS	Cooperative Intersection signal information and violation Warning Systems
CSWS	Curve Speed Warning Systems
FVCMS	Forward Vehicle Collision Mitigation Systems
GNSS	Global Navigation Satellite System
ITS	Intelligent Transport Systems
JARI	Japan Automobile Research Institute
LCDAS	Lane Change Decision Aid Systems
LKAS	Lane Keeping Assistance Systems
TISA	Traveller Information Services Association

5 Contents and descriptive names of data dictionary

The data dictionary consists of the following items.

Data concept name	descriptive name of data concepts
data concept type	module/message/data frame/data element/aggregate domain/value domain
data status category	dynamic/static
Definition and description	Definition and description of data contents
Data structure	definition of data content by XML schema
Issued by	authors who published the source documents
source documents	original documents
remark	other information

6 Data dictionary description

This data dictionary is described alphabetically.

[a]

absolute geo coordinate

Data concept name	AbsoluteGeoCoordinate	Data status category	static
		Data concept type	data element
Definition and description	AbsoluteGeoCoordinate specifies a geo position with longitude and latitude values with a deca micro degree accuracy stored in 24 bit integer value. Longitude: 24-bit representation of a longitude value in deca micro degree precision. Latitude: 24-bit representation of a latitude value in deca micro degree precision. Altitude: Elevation of location in metres above/below Mean Sea Level.		
Data structure	<xs:complexType name="AbsoluteGeoCoordinate"> <xs:sequence> <xs:element name="longitude" type="tdt:IntSi24"/> <xs:element name="latitude" type="tdt:IntSi24"/> <xs:element name="altitude" type="tdt:IntSiLoMB" minOccurs="0"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO/TS 21219-22:2017
Remarks			

acceleration

Data concept name	Acceleration	Data status category	dynamic
		Data concept type	data element
Definition and description	Acceleration provides a value and unit of vehicle acceleration. Value of unit of acceleration is given by unit code which is assigned as 0,01 m/sec*sec, 0,02 m/sec*sec, 0,1 m/sec*sec, 0,25 m/sec*sec, 1 m/sec*sec, 0,01 G and 0,02 G.		
Data structure	<xs:complexType name="Acceleration" > <xs:sequence> <xs:element name="valueOfAcceleration" type="xs:unsignedInt"/> <xs:element name="unitCodeOfAcceleration" type="FourBitCode"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

acceleration set

Data concept name	Acceleration Set	Data status category	dynamic
		Data concept type	data element
Definition and description	Acceleration Set provides accelerations of three axial directions of vehicle.		
Data structure	<xs:complexType name=“ AccelerationSet”> <xs:element name=“longitudionalAcceleration" type=“Acceleration"/> <xs:element name=“lateralAcceleration" type=“Acceleration"/> <xs:element name=“verticalAcceleration" type=“VerticalAcceleration"/> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

acceleration confidence

Data concept name	Acceleration confidence	Data status category	dynamic
		Data concept type	data element
Definition and description	AccelerationConfidence provides the confidence of acceleration of the vehicle. It is a confidence level of 95 % of reliability.		
Data structure	<xs:simpleType name="AccelerationConfidence" > <xs:element name="accelerationConfidence" type=“Confidence"/> </xs:simpleType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

accuracy millimetre

Data concept name	AccuracyMillimetre	Data status category	static
		Data concept type	value domain
Definition and description	It is one of the accuracy expressions for a length or distance. Unit is a millimetre.		
Data structure	<xs:simpleType name="AccuracyMillimetre"> <xs:restriction base ="xs:float"> <xs:minInclusive value="0,0"/> </xs:restriction> </xs:simpleType>		
Issued by		source document	ISO 22837:2009
Remarks			

advisory point

Data concept name	AdvisoryPoint	Data status category	static
		Data concept type	data element
Definition and description	Advisor Point provides a location and contents of the advisory on the road.		
Data structure	<xs:complexType name="AdvisoryPoint"> <xs:sequence> <xs:element name="roadSectionId"type="ID32bit"/> <xs:element name="roadElementId"type="ID32bit"/> <xs:element name="advisoryPointId" type="ID32bit"/> <xs:element name="positionStartAdvisoryPoint" type="PointLocation"/> <xs:element name="positionEndAdvisoryPoint" type="PointLocation" minOccures="0"/> <xs:element name="lengthAdvisoryPointFromStartIPC" type="Length" minOccures="0"/> <xs:element name="numAdvisoryPointFromStartIPC" type="xs:unsignedInt" minOccures="0"/> <xs:element name="lengthAdvisorySection" type="Length" minOccures="0"/> <xs:element name="advisoryAttribute" type="FourDigitCode" minOccures="0"/> <xs:element name="advisoryText" type="xs:string" minOccures="0"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

altitude

Data concept name	Altitude	Data status category	static
		Data concept type	value domain
Definition and description	It provides a value of the Altitude of ITRF94 coordinate. Unit of standard resolution is 10 mm and unit of high resolution is 1 cm.		
Data structure	<xs:complexType name="Altitude"> <xs:choice> <xs:element name="StandardResolutionAltitude" minOccurs="0"> <xs:simpleType > <xs:restriction base="FiveDigitSignedInt"/> </xs:simpleType> </xs:element> <xs:element name="HighResolutionAltitude" minOccurs="0"> <xs:simpleType> <xs:restriction base="SevenDigitSignedInt"/> </xs:simpleType> </xs:element> </xs:choice> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

ambient air pressure

Data concept name	AmbientAirPressure	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides an ambient air pressure sensed by OBU/RSU conformity SAE J2735 The value of data expresses 1,090 hPa from 580 hPa. Value "0" means "unknown", unit is 2 hPa.		
Data structure	<xs:simpleType name=" AmbientAirPressure" > <xs:element name="ambientAirPressure" type="xs:unsignedByte"/> </xs:simpleType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

angle of curved road

Data name	AngleOfCurvedRoad	Data status category	static
		Data concept type	value domain
Definition and description	Central angle between the curve start point and the curve end point [radian]		
Data structure	<xs:simpleType name="AngleOfCurvedRoad" type="EXTERNAL"/>		
Issued by		source document	ISO 11067:2015 CSWS
Remarks			

availability of moving adjoining lane

Data concept name	AvailabilityOfMovingAdjoining Lane	Data status category	static
		Data concept type	value domain
Definition and description	It is one of the attributes of the lane. It provides availability of moving to adjoining lanes.		
Data structure	<xs:simpleType name="AvailabilityMovingAdjoiningLane"> <xs:union> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="do not move to right and left"/> <xs:enumeration value="do not move to right and can move to left"/> <xs:enumeration value="can move to right and does not move to left"/> <xs:enumeration value="can move to right and left "/> </xs:restriction> </xs:simpleType> <xs:simpleType> <xs:restriction base="TwoBitCode"/> </xs:simpleType> </xs:union> </xs:simpleType>		
Issued by		source document	ISO 14296:2016
Remarks			

available service

Data concept name	AvailableService	Data status category	static
		Data concept type	data element
Definition and description	This is services in Parking Facility (i.e. fuel station, car wash, toilet, restaurant, shop, shower room, break room)		
Data structure	<xs:simpleType name="AvailableService" type="SixteenBitAssignedCode" />		
Issued by		source document	ISO 16787:2016 APS
Remarks			

axle location

Data concept name	AxleLocation	Data status category	static
		Data concept type	aggregate domain
Definition and description	This is location of the axle of the vehicle. Location is shown by the length from a bumper. conformity SAE J1939 Unit value of location is given by 4 bit code which is assigned as 0,01 m, 0,05 m, 0,1 m, 0,2 m.		
Data structure	<xs:complexType name="AxleLocation"> <xs:sequence> <xs:element name="LRPos" type="FourBitCode" /> <xs:element name="FRPos" type="FourBitCode" /> <xs:element name="valueOfAlexPositionFromBumper" type="ThreeDigitUnsignedInt"/> <xs:element name="unitOfAlexPosition" type="FourBitCode" minOccurs="0"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	Real value of location is the product of a valueOfAlexPosition and unitOfAlex.		

axle weight

<table>
<tr><td>Data concept name</td><td>AxleWeight</td><td>Data status category</td><td>static</td></tr>
<tr><td></td><td></td><td>Data concept type</td><td>value domain</td></tr>
<tr><td>Definition and description</td><td colspan="3">It provides the weight of the axle of vehicle.
conformity SAE J1939
Unit value of weight is given by 4 bit code which is assigned as 0,1 Kg, 0,2 Kg, 0,5 Kg, 1 kg, 10 Kg, 20 Kg.</td></tr>
<tr><td>Data structure</td><td colspan="3"><xs:complexType name=“AxleWeight">
<xs:sequence>
<xs:element name=“valueOfWeight" type=“xs:unsignedInt"/>
<xs:element name=“unitOfWeight" minOccurs=“0">
<xs:simpleType>
<xs:union>
<xs:simpleType>
<xs:restriction base=“xs:string">
<xs:enumeration value=“0,1Kg"/>
<xs:enumeration value=“0,2Kg"/>
<xs:enumeration value=“0,5Kg"/>
<xs:enumeration value=“1Kg"/>
<xs:enumeration value=“10Kg"/>
<xs:enumeration value=“20Kg"/>
</xs:restriction>
</xs:simpleType>
<xs:simpleType>
<xs:restricton base=“FourBitCode"/>
</xs:simpleType>
</xs:union>
</xs:simpleType>
</xs:element>
</xs:sequence>
</xs:complexType></td></tr>
<tr><td>Issued by</td><td>JARI</td><td>source document</td><td>proposed CITS data dictionary</td></tr>
<tr><td>Remarks</td><td colspan="3">Real weight is the product of a valueOfWeight and a unitOfWeight.</td></tr>
</table>

azimuth

Data concept name	Azimuth	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides an angle between a direction of target and direction of reference of the horizontal plane. Generally, direction of reference is north and clockwise.		
Data structure	<xs:complexType name="Azimuth" > <xs:element name="azimuthValue" type="xs:positiveInteger" /> <xs:element name="azimuthUnit" type="AzimuthUnit" minOccurs="0" /> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	Real value of Azimuth is the product of an azimuthValue and azimuthUnit.		

azimuth and length

Data concept name	AzimuthAndLength	Data status category	dynamic
		Data concept type	aggregate domain
Definition and description	It provides a relative position from reference point to target object. A relative position is expressed by an azimuth and a length.		
Data structure	<xs:complexType name=" AzimuthAndLength"> <xs:element name="valueOfAzimuth" type="Azimuth" /> <xs:element name=" valueOfLength" type="Length" /> </xs:ComplexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

azimuth attribute

Data concept name	AzimuthAttribute	Data status category	dynamic
		Data concept type	data frame
Definition and description	AzimuthAttribute provides objects and unit of azimuth.		
Data structure	<xs:complexType name="AzimuthAttribute"> <xs:sequence> <xs:element name="azimuthObject" type="AzimuthObject" minOccurs="0" /> <xs:element name="azimuthUnit" type="AzimuthUnit" minOccurs="0"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

azimuth confidence

Data concept name	AzimuthConfidence	Data status category	dynamic
		Data concept type	data frame
Definition and description	AzimuthConfidence is composed of heading confidence and direction of road confidence.		
Data structure	<xs:complexType name="AzimuthConfidence" > <xs:choice> <xs:element name="headingConfidence" type="HeadingConfidence"/> <xs:element name="directionOfRoadConfidence" type="DirectionOfRoadConfidence"/> </xs:choice> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

azimuth expression

Data concept name	AzimuthExpression	Data status category	dynamic
		Data concept type	data frame
Definition and description	AzimuthExpression is composed of Azimuth and AzimuthAttribute.		
Data structure	<xs:complexType name="AzimuthExpression" > <xs:sequence> <xs:element name="azimuth" type="Amizuth" /> <xs:element name="azimuthAttribute" type="AzimuthAttribute"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

azimuth object

Data concept name	AzimuthObject	Data status category	dynamic
		Data concept type	data frame
Definition and description	AzimuthObject indicates the expression object (i.e. device, road, event and region) of Azimuth.		
Data structure	<xs:complexType name=" AzimuthObject"> <xs:choice> <xs:element name="azimuthObjectDevice" type=" AzimuthObjectDevice" /> <xs:element name="azimuthObjectRoad" type="AzimuthObjectRoad" /> <xs:element name="azimuthObjectEvent" type="AzimuthObjectEvent" /> <xs:element name="azimuthObjectRegion" type="AzimuthObjectRegion" /> </xs:choice> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

azimuth object device

Data concept name	AzimuthObjectDevice	Data status category	dynamic
		Data concept type	data frame
Definition and description	It indicates an OBU or RSU device for azimuth object.		
Data structure	<xs:simpleType name=“ AzimuthObjectDevice" type=“EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	Data Type “EXTERNAL” represents to be defined by other organization, or undefined.		

azimuth object event

Data concept name	AzimuthObjectEvent	Data status category	dynamic
		Data concept type	data frame
Definition and description	It indicates the event for azimuth object.		
Data structure	<xs:simpleType name=“AzimuthObjectEvent" type=“EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	Data Type “EXTERNAL” represents to be defined by other organization, or undefined.		

azimuth object region

Data concept name	AzimuthObjectRegion	Data status category	dynamic
		Data concept type	data frame
Definition and description	AzimuthObjectRegion indicates the region for azimuth object.		
Data structure	<xs:simpleType name="AzimuthObjectRegion" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	Data Type "EXTERNAL" represents to be defined by other organization, or undefined.		

azimuth object road

Data concept name	AzimuthObjectRoad	Data status category	dynamic
		Data concept type	data frame
Definition and description	AzimuthObjectRoad indicates the road for azimuth object.		
Data structure	<xs:simpleType name="AzimuthObjectRoad" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	Data Type "EXTERNAL" represents to be defined by other organization, or undefined.		

azimuth type

Data concept name	AzimuthType	Data status category	dynamic
		Data concept type	data element
Definition and description	AzimuthType indicates “azimuth” or “direction”.		
Data structure	<xs:simpleType name=“AzimuthType" type=“xs:boolean"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	True indicates “azimuth”, False indicates “direction”		

azimuth unit

Data concept name	AzimuthUnit	Data status category	dynamic
		Data concept type	value domain
Definition and description	AzimuthUnit indicates minimum unit of azimuth. Value of Unit of Azimuth is provided by 4 bit code.		
Data structure	<xs:simpleType name=“AzimuthUnit" > <xs:union> <xs:simpleType> <xs:restriction base=“xs:integer"> <xs:enumeration value=“90"/> <xs:enumeration value=“45"/> <xs:enumeration value=“22,5 "/> <xs:enumeration value=“5"/> <xs:enumeration value=“2"/> <xs:enumeration value=“1"/> <xs:enumeration value=“0,5"/> <xs:enumeration value=“0,2"/> <xs:enumeration value=“0,1"/> <xs:enumeration value=“0,05"/> <xs:enumeration value=“0,0125"/> </xs:restriction> </xs:simpleType> <xs:simpleType> <xs:restricton base=“FourBitCode"/> </xs:simpleType> </xs:union> </xs:simpleType>		

Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

[b]

bad weather condition

Data concept name	BadWeatherCondition	Data status category	dynamic
		Data concept type	data frame
Definition and description	BadWeatherCondition indicates weather condition such as rain, sunshine and ambient air pressure.		
Data structure	<xs:complexType name=“ BadWeatherCondition" > <xs:sequence> <xs:element name=“rain" type=“Rain" /> <xs:element name=“sunshine" type=“Sunshine" /> <xs:element name=“ambientAirPressure" type=“AmbientAirPressure" /> </xs:sequencee> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

bearing

Data concept name	Bearing	Data status category	dynamic
		Data concept type	value domain
Definition and description	Bearing stores the value of a bearing angle in a compressed way. The full circle is divided into 256 sectors which yields a precision of 360/256 °.		
Data structure	<xs:complexType name=“Bearing"> <xs:sequence> <xs:element name=“value" type=“tdt:IntUnTi"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO/TS 21219-22:2017
Remarks			

boundary object

Data concept name	BoundaryObject	Data status category	static
		Data concept type	data element
Definition and description	It provides a feature object for indicating the boundary of an individual parking space		
Data structure	<xs:complexType name="BoundaryObject"> <xs:element name="EntranceLeftsideObjectType" type="ObjectCode" /> <xs:element name="EntranceRightsideObjectType" type="ObjectCode" /> <xs:element name="RearsideObjectType" type="ObjectCode" /> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

brake applied pressure

Data concept name	BrakeAppliedPressure	Data status category	dynamic
		Data concept type	value domain
Definition and description	BrakeAppliedPressure indicates operating pressure or target pressure by brake pressure ratio that is expressed by dividing full pressure into 15.		
Data structure	<xs:simpleType name="BrakeAppliedPressure" type="FourBitCode"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

brake applied status

Data concept name	BrakeAppliedStatus	Data status category	dynamic
		Data concept type	data element
Definition and description	BrakeAppliedStatus indicates status of operating brake or target brake and type of brake.		
Data structure	<xs:complexType name="BrakeAppliedStatus" > <xs:sequence> <xs:element name="brakeType_1">		

```
            <xs:simpleType>
              <xs:union>
                <xs:simpleType>
                  <xs:restriction base="xs:string">
                    <xs:enumeration value="manual"/>
                    <xs:enumeration value="automatic"/>
                  </xs:restriction>
                </xs:simpleType>
                <xs:simpleType>
                  <xs:restriction base="TwoBitCode"/>
                </xs:simpleType>
              </xs:union>
            </xs:simpleType>
          </xs:element>
          <xs:element name="brakeType_2" >
            <xs:simpleType>
              <xs:union>
                <xs:simpleType>
                  <xs:restriction base="xs:string">
                    <xs:enumeration value="mainBrake"/>
                    <xs:enumeration value="boostBrake"/>
                    <xs:enumeration value="parkingBrake"/>
                    <xs:enumeration value="antiLockBrake"/>
                  </xs:restriction>
                </xs:simpleType>
                <xs:simpleType>
                  <xs:restriction base="TwoBitCode"/>
                </xs:simpleType>
              </xs:union>
            </xs:simpleType>
          </xs:element>
          <xs:element name="brakeApplied" >
            <xs:simpleType>
              <xs:union>
                <xs:simpleType>
                  <xs:restriction base="xs:string">
                    <xs:enumeration value="unavailable"/>
                    <xs:enumeration value="off"/>
                    <xs:enumeration value="on-notoperate"/>
                    <xs:enumeration value="on-operate"/>
                  </xs:restriction>
                </xs:simpleType>
                <xs:simpleType>
                  <xs:restriction base="TwoBitCode"/>
                </xs:simpleType>
              </xs:union>
            </xs:simpleType>
          </xs:element>
        </xs:sequence>
      </xs:complexType>
```

Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

brake status

Data concept name	BrakeStatus	Data status category	dynamic
		Data concept type	data frame
Definition and description	BrakeStatus indicates operating status of brake and brake pressure.		
Data structure	<xs:complexType name="BrakeStatus" > <xs:sequence> <xs:element name="brakeAppliedStatus" type="BrakeAppliedStatus" /> <xs:element name="brakeAppliedPressure" type="BrakeAppliedPressure" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

bridge and tunnel

Data concept name	BridgeAndTunnel	Data status category	static
		Data concept type	data element
Definition and description	It provides the structural specifications of a bridge and tunnel and also provides information on isolated crossing roads.		
Data structure	<xs:complexType name="BridgeTunnel"/> <xs:sequence> <xs:element name="roadElementId"type="ID32bit"/> <xs:element name="roadStructureId" type="ID32bit"/> <xs:element name="roadStructureType" type="TwoDigitUnsignedInt"/> <xs:element name="locationBridgeTunnel" type="PointLocation"/> <xs:element name="lengthBridgeTunnel" type="Length"/> <xs:element name="lengthFromStartRoadElement" type="Length"/> <xs:element name="heightInfo" type="Height" minOccures="0"/> <xs:element name="crossingInfo" type="GradeSeparatedCrossingRoad" /> <xs:element name="nameOfBridgeTunnel" type="xs:string" minOccures="0"/> </xs:sequence> </xs:complexType>		

Issued by		source document	ISO 14296:2016
Remarks			

bumper height

Data concept name	BumperHeight	Data status category	static
		Data concept type	data element
Definition and description	BumperHeight provides the height of a front bumper and rear bumper. Unit of height is a centimetre.		
Data structure	<xs:complexType name="BumperHeight"> <xs:sequence> <xs:element name="heightOfFrond" type="xs:unsignedInt"/> <xs:element name="heightOfRear" type=" xs:unsignedInt "/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

[c]

cancel effective range

Data concept name	CancelEffectiveRange	Data status category	dynamic
		Data concept type	data frame
Definition and description	CancelEffectiveRange is the flag which enables an effective range or disable.		
Data structure	<xs:simpleType name="CancelEffectiveRange" type=xs:boolean"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	True indicates "disable", False indicates "enable"		

cargo weight

Data concept name	CargoWeight	Data status category	dynamic
		Data concept type	value domain
Definition and description	It is the loading weight of cargo for a vehicle. conformity SAE J1939 Unit value of weight is given by unit code which is assigned as 0,1 Kg, 0,2 Kg, 0,5 Kg, 1 Kg, 10 Kg, 20 Kg.		
Data structure	<xs:complexType name="CargoWeight"> <xs:sequence> <xs:element name="valueOfWeight" type="xs:unsignedInt"/> <xs:element name="unitOfWeight" type="UnitOfWeight" minOccurs="0"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	Real weight is the product of the value of weight and unit of weight.		

cartographic

Data concept name	Cartographics	Data status category	static
		Data concept type	data frame
Definition and description	Cartographics are the data to make a map, and are used for drawing the background map except the road network in ITS. Cartographics consists of data blocks of CartographicFeatures		
Data structure	<xs:complexType name="Cartgraphic"> <xs:sequence maxOccurs="unbounded"> <xs:element name="displayClass" type="OneDigitInt"/> <xs:element name="numCartographicFeature" type="TwoDigitInt"/> <xs:element name="cartographicFeatureList" > <xs:complexType> <xs:sequence maxOccurs="unbounded"> <xs:element name="cartographicFeature" type="CartographicFeature" /> </xs:sequence> </xs:complexType> </xs:element> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

cartographic feature

Data concept name	CartographicsFeature	Data status category	static
		Data concept type	data frame
Definition and description	CartographicFeatures are sub-blocks of Cartographics. Each data block of CartographicFeature is categorized by the Feature Types.		
Data structure	<xs:complexType name="CartographicFeature"> <xs:sequence maxOccurs="unbounded"> <xs:element name="cartographicFeatureType" type="FourDigitCode"/> <xs:element name="displayClass" type="OneDigitInt" numminOccures="0"/> <xs:element name="numCartographicFigureElement" type="FourDigitInt"/> <xs:element name="cartographicFigureElementList" > <xs:complexType> <xs:sequence maxOccurs="unbounded"> <xs:element name="cartographicFigureElement" type="CartographicFigureElement"/> </xs:sequence> </xs:complexType> </xs:element> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

cartographic figure element

Data concept name	CartographicsFigureElement	Data status category	static
		Data concept type	data frame
Definition and description	Cartographic Figure element provides the shape data of individual map objects. There are three types:point, polyline, polygon, in cartographics figure elements.		
Data structure	<xs:complexType name="CartographicFigureElement"> <xs:element name="figureElementId" type="ID32bit"/> <xs:element name="displayClass" type="OneDigitUnsignedInt" numminOccures="0"/> <xs:element name="cartographicFeatureType" type="FourDigitCode" numminOccures="0"/> <xs:element name="backgroundTypeCode" type="Flag"/> <xs:element name="representativeCoordination" type="PointLocation"/> <xs:element name="cartograficTextId" type="ID32bit" numminOccures="0"/>		

	<xs:element name="areaCode" type="EightDigitCode" numminOccures="0"/> <xs:element name="numFigureElementShape" type="FourDigitUnsignedInt"/> <xs:element name="figureElementShapeList"> <xs:complexType> <xs:sequence maxOccurs="unbounded"> <xs:element name="figureType" type="OneDigitCode" /> <xs:element name="colorCode" type="OneDigitCode" /> <xs:element name="referenceCoordination" type="PointLocation" /> <xs:element neme="numShapePoint" type="FourDigitUnsignedInt" /> <xs:element name="shapePointList" type="ShapePointList" /> </xs:sequence> </xs:complexType> </xs:element> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

cause event

Data concept name	CauseEvent	Data status category	static
		Data concept type	data frame
Definition and description	It provides the cause of traffic regulations and obstacle events that disrupt the traffic flow. For example: accident, fire, disabled vehicle, road obstacle, construction, roadwork, bad weather, disaster, earthquake caution.		
Data structure	<xs:simpleType name="CauseEvent" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

caution point

Data concept name	CautionPoint	Data status category	static
		Data concept type	data element
Definition and description	Caution Point provides the location and text of the caution that is provided to the driver.		
Data structure	<xs:complexType name="CautionPoint"> <xs:element name="cautionPointId" type="ID32bit" /> <xs:element name="roadElementId" type="ID32bit" numminOccures="0" /> <xs:element name="intersectionId" type="ID32bit" numminOccures="0"/> <xs:element name="cautionContentCode" type="FourDigitCode"/> <xs:element name="locationCautionPoint" type="PointLocation"/> <xs:element name="cautionText" type="xs:string"/> </complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

circle location reference

Data concept name	CircleLocationReference	Data status category	dynamic
		Data concept type	data element
Definition and description	A circle location shall be given by the position of the center and the radius. The center position shall be a geo-coordinate pair of longitude and latitude coordinate values that may be everywhere on the surface. The radius shall be integer-valued and given in metres.		
Data structure	<xs:complexType name="CircleLocationReference"> <xs:sequence> <xs:element name="centerPoint" type="AbsoluteGeoCoordinate"/> <xs:element name="radius" type="tdt:DistanceMetres"/> <xs:element name="isFuzzyArea" type="tdt:Boolean"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO/TS 21219-22:2017
Remarks			

clockwise angle direction

<table>
<tr><td rowspan="2">Data concept name</td><td rowspan="2">ClockwiseAngleDirection</td><td>Data status category</td><td>static</td></tr>
<tr><td>Data concept type</td><td>value domain</td></tr>
<tr><td>Definition and description</td><td colspan="3">The Clockwise Angle Direction expresses a direction by the clockwise angles that were based on a running direction or north.

Value of Angle is 0° to 359° and unit is 1°.</td></tr>
<tr><td>Data structure</td><td colspan="3"><xs:complexType name=“ ClockwiseAngleDirection">
<xs:sequence>
<xs:element name=“clockwiseAngle" >
<xs:simpleType name=“ ClockwiseAngle">
<xs:restriction base=“ThreeDigitUnsignedInt">
<xs:minInclusive value=“000"/>
<xs:minInclusive value=“359"/>
</xs:restriction>
</xs:simpleType>
</xs:element>
<xs:element name=“baseDirection" minOccurs=“0">
<xs:simpleType>
<xs:union>
<xs:simpleType>
<xs:restriction base=“xs:string">
<xs:enumeration value=“North"/>
<xs:enumeration value=“Heading"/>
</xs:restriction>
</xs:simpleType>
<xs:simpleType>
<xs:restriction base=“xs:boolean"/>
</xs:simpleType>
</xs:union>
</xs:simpleType>
</xs:element>
</xs:sequence>
</xs:complexType></td></tr>
<tr><td>Issued by</td><td></td><td>source document</td><td>ISO 14296:2016</td></tr>
<tr><td>Remarks</td><td colspan="3">baseDirection: True indicates “North”, False indicates “Heading”.</td></tr>
</table>

clockwise direction

Data concept name	ClockwiseDirection	Data status category	static
		Data concept type	value domain
Definition and description	The Clockwise Direction expresses a direction by the value of the dial of the clock that is based on a running direction or the north.		
Data structure	<xs:simpleType name="ClockwiseDirection"> <restriction base="xs:unsignedShort"> <xs:minInclusive value="00"/> <xs:maxInclusive value="11"/> </xs:restriction> </xs:simpleType>		
Issued by		source document	ISO 14296:2016
Remarks			

closed linear location reference

Data concept name	ClosedLinearLocationReference	Data status category	dynamic
		Data concept type	data frame
Definition and description	A closed linear location references the area defined by a closed path (i.e. a circuit) in the road network. The boundary shall always consist of road segments. The path of a closed linear location may contain self-intersections if courses (e.g. marathon course) are referenced. Otherwise, for referencing areas, self-intersections should not appear.		
Data structure	<xs:complexType name="ClosedLinearLocationReference"> <xs:sequence> <xs:element name="first" type="FirstLocationReferencePoint"/> <xs:element name="intermediates" type="IntermediateLocationReferencePoint" minOccurs="0" maxOccurs="unbounded"/> <xs:element name="last" type="LineProperties"/> <xs:element name="shape" type="Shape" minOccurs="0"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO/TS 21219-22:2017
Remarks			

code information

Data concept name	CodeInformation	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the information regarding decode control of the code.		
Data structure	<xs:simpleType name="CodeInformation" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

compass direction

Data concept name	CompassDirection	Data status category	dynamic/ static
		Data concept type	value domain
Definition and description	CompassDirection expresses a direction by the angle, code or abbreviations of compass, e.g, NNE means a "north northeast" direction.		
Data structure	<xs:complexType name="CompassDirection"> <xs:choice> <xs:element name="clockwiseAngleDirection" type="ClockwiseAngleDirection"/> <xs:element name="compassAbbrivation"> <xs:simpleType name="CompassAbbrivation"> <restriction base="xs:string"> <xs:enumeration value="N "/> <xs:enumeration value="NNE"/> <xs:enumeration value="NE "/> <xs:enumeration value="NEN"/> <xs:enumeration value="E " /> <xs:enumeration value="ESE"/> <xs:enumeration value="SE "/> <xs:enumeration value="SSE"/> <xs:enumeration value="S "/> <xs:enumeration value="SSW "/> <xs:enumeration value="SW "/> <xs:enumeration value="WSW" /> <xs:enumeration value="W "/> <xs:enumeration value="WNW"/> <xs:enumeration value="NW "/> <xs:enumeration value="NNW"/> </xs:restriction>		

	</xs:simpleType> </xs:element> <xs:element name="compass32IndexCode"> <xs:simpleType name="Compass32IndexCode"> <restriction base="TwoDigitUnsignedInt"> <xs:minInclusive value="00"/> <xs:maxInclusive value="31"/> </xs:restriction> </xs:simpleType> </xs:element> </xs:choice> </complexType>

Issued by		source document	ISO 14296:2016
Remarks			

confidence

Data concept name	Confidence	Data status category	dynamic
		Data concepttype	value domain
Definition and description	It provides the generic data of precision/ reliability for time, location, position, length, distance, height, azimuth, angle, direction, running vehicle status.		
Data structure	<xs:simpleType name="Confidence" > <xs:union> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="unknown"/> <xs:enumeration value="LSB-value/> <xs:enumeration value="LSB-valueX2"/> <xs:enumeration value="LSB-valueX5"/> <xs:enumeration value="LSB-valueX1X10"/> <xs:enumeration value="LSB-valueX2X10"/> <xs:enumeration value="LSB-valueX5X10"/> <xs:enumeration value="LSB-valueX1X100"/> <xs:enumeration value="LSB-valueX2X100"/> <xs:enumeration value="LSB-valueX5X100"/> <xs:enumeration value="LSB-valueX1X1000"/> <xs:enumeration value="LSB-valueX2X1000"/> <xs:enumeration value="LSB-valueX5X1000"/> <xs:enumeration value="LSB-valueX1X10000"/> <xs:enumeration value="LSB-valueX2X10000"/> <xs:enumeration value="LSB-valueX5X10000"/> </xs:restriction> </xs:simpleType>		

	<xs:simpleType> <xs:restriction base="xs:unsignedByte"/> </xs:simpleType> </xs:union> </xs:simpleType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

confidence set

Data concept name	ConfidenceSet	Data status category	dynamic
		Data concept type	aggregate domain
Definition and description	It provides the precision/reliability information for time, location, position, length, distance, height, azimuth, angle, direction, running vehicle status.		
Data structure	<xs:complexType name="ConfidenceSet" > <xs:sequence> <xs:element name="timeConfidence" type="TimeConfidence"/> <xs:element name="positionConfidence" type="PositionConfidence"/> <xs:element name="azimuthConfidence" type="AzimuthConfidence"/> <xs:element name="drivingStatusConfidence" type="DrivingStatusConfidence"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

connected road

Data concept name	ConnectedRoad	Data status category	static
		Data concept type	data element
Definition and description	connected road with this parking facility and location		
Data structure	<xs:complexType name="ConnectedRoad"> <xs:sequence> <xs:element name="roadElementID" type=" RoadElementID" /> <xs:element name="roadWidth" type="Width" /> <xs:element name="passagewayCrossingID" type="PassagewayCrossingID" />		

	<xs:element name="entranceExitLocation" type="Location" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

connect IP

Data concept name	ConnectIP URI/URL	Data status category	dynamic
		Data concept type	data frame
Definition and description	URI/URL for internet connection		
Data structure	<xs:simpleType name="ConnectIP" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

contents of information HMI

Data concept name	ContentsOfInforHMI	Data status category	dynamic
		Data concept type	data frame
Definition and description	Contents information such as image, figure, sound data to provide in in-vehicle HMI		
Data structure	<xs:simpleType name="ContentsOfInforHMI" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

contents of information

Data concept name	ContentsOfInformation	Data status category	dynamic
		Data concept type	data module
Definition and description	Contents information such as image, figure, sound data, its format and internet connection information.		
Data structure	<xs:complexType name="ContentsOfInformation" > <xs:sequence> <xs:element name="contentsOfInfoHMI" type="ContentsOfInfoHMI"/> <xs:element name="iTIS-Phrase" type="ITIS-Phrase"/> <xs:element name="connectIP" type="ConnectIP"/> <xs:element name="descriptiveName" type="DescriptiveName"/> <xs:element name="payloadData" type="PayloadData"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

control status

Data concept name	ControlStatus	Data status category	dynamic
		Data concept type	data module
Definition and description	It provides control state data of throttle, transmission, brake and steering of vehicle, and status of electronic control units such as ACC, TRC, ABS.		
Data structure	<xs:complexType name="ControlStatus" > <xs:sequence> <xs:element name="throttleStatus" type="ThrottleStatus" /> <xs:element name="transmissionSiftPosition" type="TransmissionSiftPosition" /> <xs:element name="brakeAppliedStatus" type="BrakeAppliedStatus" /> <xs:element name="steeringWheelAngle" type="SteeringWheelAngle" /> <xs:element name="tirePressureThresholdDetection" type="TirePressureThresholdDetection" /> <xs:element name="driveControlSystemStatus" type="DriveControlSystemStatus" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

control system type

Data concept name	ControlSystemType	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides a type of electronic control unit such as ACC, TRC, and ABS for the vehicle.		
Data structure	<xs:simpleType name="ControlSystemType" > <xs:union> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="TRC"/> <xs:enumeration value="ABS"/> <xs:enumeration value="SCS"/> <xs:enumeration value="reserved"/> </xs:restriction> </xs:simpleType> <xs:simpleType> <xs:restriction base="xs:unsinedByte"/> </xs:simpleType> </xs:union> </xs:simpleType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

coordinates

Data concept name	Coordinates	Data status category	dynamic / static
		Data concept type	aggregate domain
Definition and description	Value of the coordinates consist of the longitude, latitude and altitude in conformity with ITRF94. Units of longitude and latitude are 1/1 000 000 °. Unit of altitude is 1/10 m.		
Data structure	<xs:complexType name="Coordinates"> <xs:element name="standardLongitude" type="Longitude"/> <xs:element name="standardLatitude" type="Latitude"/> <xs:element name="standardAltitude" type="Altitude" minOccurs="0"/> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

cooperative adaptive cruise control vehicle

Data concept name	CooperativeAdaptive CruiseControlVehicle	Data status category	static
		Data concept type	data element
Definition and description	Information from Cooperative Adaptive Cruise Control (CACC) Vehicle		
Data structure	<xs:complexType name="CooperativeAdaptiveCruiseControlVehicle" > <xs:sequence> <xs:element name="vehicleID" type="VehicleID" /> <xs:element name="messageTimeStamp" type="TimeStamp" /> <xs:element name="vehicleType" type="VehicleType" /> <xs:element name="vehicleLength" type="Length" /> <xs:element name="vehicleLocation" type="Position" /> <xs:element name="vehicleLocationConfidence" type="PositionConfidence" /> <xs:element name="vehicleHeading" type="Azimuth" /> <xs:element name="vehicleSpeed" type="VehicleSpeed" /> <xs:element name="longitudinalAcceleration" type="LongitudinalAcceleration" /> <xs:element name="yawRate" type="YawRate" /> <xs:element name="exteriorLight" type="ExteriorLightStatus" /> <xs:element name="longitudinalControlStatus" type="LongitudinalControlStatus" /> <xs:element name="targetSpeed" type="TargetSpeed" /> <xs:element name="targetGap" type="TargetGap" /> <xs:element name="targetAcceleration" type="TargetAcceleration" /> <xs:element name="pVGapDistance" type="PVGapDistance" /> </xs:sequence> </xs:complexType		
Issued by		source document	ISO 16787:2016 APS
Remarks			

count

Data concept name	Count	Data status category	dynamic
		Data concept type	value domain
Definition and description	The numerical value of the increment/decrement counter, or the number of the data and data group used for numerical control.		
Data structure	<xs:simpleType name="Count" type=xs:unsignedInteger"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

course of travel

Data concept name	CourseOfTravel	Data status category	dynamic
		Data concept type	data element
Definition and description	Course/ route of travelling or moving for traveler or vehicle.		
Data structure	<xs:simpleType name="CourseOfTravel" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

crash status

Data concept name	CrashStatus	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides the status of traffic accidents or vehicle accidents.		
Data structure	<xs:simpleType name="CrashStatus" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

crosswalk lane

Data concept name	CrosswalkLane	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the type, structure and shape of a crosswalk.		
Data structure	<xs:simpleType name="CrosswalkLane" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

curvature

Data name	Curvature	Data status category	static
		Data concept type	value domain
Definition and description	Inverse of the radius of curved road [1/m].		
Data structure	<xs:simpleType name="Curvature" type="EXTERNAL"/>		
Issued by		source document	ISO 11270:2014 LKAS
Remarks			

curvature rate

Data name	CurvatureRate	Data status category	static
		Data concept type	value domain
Definition and description	Rate of change of curvature along the clothoid of a curved road [1/m2].		
Data structure	<xs:simpleType name="CurvetureRate" type="EXTERNAL"/>		
Issued by		source document	ISO 11270:2014 LKAS
Remarks			

curve radius

Data name	CurveRadius	Data status category	static
		Data concept type	value domain
Definition and description	Radius of the curve.		
Data structure	<xs:simpleType name="CurveRadius" type="EXTERNAL"/>		
Issued by		source document	ISO 15622:2010 ACC
Remarks			

[d]

dangerous goods

Data concept name	DangerousGoods	Data status category	static
		Data concept type	data element
Definition and description	Type of dangerous goods in the twelfth edition of the United Nations Recommendations on the Transport of Dangerous Goods (UNRTDG).		
Data structure	<xs:simpleType name="DangerousGoods" type="xs:unsignedShort"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

dangerous goods transport

Data concept name	DangerousGoodsTransport	Data status category	static
		Data concept type	data frame
Definition and description	DengerousGoodsTransport provides information on dangerous goods in a vehicle.		

Data structure	<xs:complexType name="DangerousGoodsTransport" > <xs:sequence> <xs:element name="dangerousGoods" type="DangerousGoods"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

data control information

Data concept name	DataControlInformation	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides data control data such as existence and data length.		
Data structure	<xs:simpleType name="DataControlInformation " type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

data identifier

Data concept name	DataIdentifier	Data status category	dynamic
		Data concept type	data element
Definition and description	Identifier that is generated whenever any ITS-ST updates data.		
Data structure	<xs:complexType name="DataIdentifier" > <xs:sequence> <xs:element name="stationID" type="StationID"/> <xs:element name="sequendeNo" type="Count"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

date restriction

Data concept name	DateRestriction	Data status category	static
		Data concept type	value domain
Definition and description	It provides the date for the traffic restriction.		
Data structure	<xs:complexType name="DateRestriction"> <xs:sequence maxOccurs="unbounded"> <xs:element name="startDate" type="MMDD"/> <xs:element name="endDate" type="MMDD" minOccurs="0"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

day of week restriction

Data concept name	DayOfWeekRestriction	Data status category	static
		Data concept type	value domain
Definition and description	The day of week data which assigned the existence of the traffic restriction each day of the week to each bit. See "day of week".		
Data structure	<xs:simpleType name="DayOfWeekRestriction" type="EightBitAssignedCode" />		
Issued by		source document	ISO 14296:2016
Remarks	bit0 is assigned "Sunday", bit6 is assigned "Saturday", bit7 is assigned "Holiday" Value "1" of each bit means that there is traffic restriction, value "0" means that there is no traffic restriction.		

degree

Data concept name	Degree	Data status category	static
		Data concept type	value domain
Definition and description	It is one of the units of the coordinates (i.e. latitude, longitude).		
Data structure	<xs:simpleType name="Degree"> <xs:restriction base ="xs:double"> <xs:maxInclusive value="180.0"> <xs:minInclusive value="-180.0"/> </xs:restriction> </xs:simpleType>		
Issued by		source document	ISO 22837:2009
Remarks			

descriptive name

Data concept name	DescriptiveName	Data status category	dynamic
		Data concept type	value domain
Definition and description	Name of contents		
Data structure	<xs:simpleType name="DescriptiveName" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

detection range

Data name	DetectionRange	Data status category	dynamic
		Data concept type	data element
Definition and description	Area that a sensor can detect.		

Data structure	<xs:simpleType name="DetectionRange" type="EXTERNAL"/>		
Issued by		source document	ISO 15622:2010 ACC
Remarks			

diagnosis

Data concept name	Diagnosis	Data status category	dynamic
		Data concept type	data frame
Definition and description	Fault and diagnosis information of OBU or RSU.		
Data structure	<xs:complexType name="Diagnosis" > <xs:choice> <xs:element name="diagnosisOBU" type="DiagnosisOBU"/> <xs:element name="diagnosisRSU" type="DiagnosisRSU"/> </xs:choice> </xs:simpleType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

diagnosis OBU

Data concept name	DiagnosisOBU	Data status category	dynamic
		Data concept type	data frame
Definition and description	Fault and diagnosis information of vehicle station (OBU).		
Data structure	<xs:simpleType name="DiagnosisOBU" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

diagnosis RSU

Data concept name	DiagnosisRSU	Data status category	dynamic
		Data concept type	data frame
Definition and description	Fault and diagnosis information of road-side station (RSU).		
Data structure	<xs:simpleType name="DiagnosisRSU" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

dimension

Data concept name	Dimension	Data status category	dynamic
		Data concept type	value domain
Definition and description	It is the size of equipment/objects.		
Data structure	<xs:complexType name="Dimension" > <xs:sequence> <xs:element name="dimension" type="xs:positiveInteger"/> <xs:element name="unitOfDimension" type="UnitOfMeasure" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

direction

Data concept name	Direction	Data status category	static
		Data concept type	aggregate domain
Definition and description	Clockwise direction/clockwise angle direction/compass direction.		

Data structure	<xs:complexType name="Direction"> <xs:choice> <xs:element name="clockwiseDirection" type="ClockwiseDirection"/> <xs:element name="clockwiseAngleDirection" type="ClockwiseAngleDirection"/> <xs:element name="compassDirection" type="CompassDirection"/> </xs:choice> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

Data concept name	Direction	Data status category	dynamic
		Data concept type	value domain
Definition and description	Direction provides moving direction of vehicle and traffic direction.		
Data structure	<xs:simpleType name="Direction" > <xs:union> <xs:simpleType > <xs:restriction base="xs:string"> <xs:enumeration value="forward"/> <xs:enumeration value="reverse"/> <xs:enumeration value="both"/> <xs:enumeration value="inbound"/> <xs:enumeration value="outbound"/> <xs:enumeration value="inner"/> <xs:enumeration value="outer"/> <xs:enumeration value="northbound"/> <xs:enumeration value="southbound"/> <xs:enumeration value="eastbound"/> <xs:enumeration value="westbound"/> </xs:restriction> </xs:simpleType> <xs:simpleType> <xs:restriction base="xs:unsignedByte"/> </xs:simpleType> </xs:union> </xs:simpleType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

direction guide

Data concept name	DirectionGuide	Data status category	static
		Data concept type	data element
Definition and description	Direction Guide provides the direction and angle to constitute in egress road and ingress road at an intersection.		
Data structure	<xs:complexType name="DirectionGuide"/> <xs:element name="intersectionId" type="ID32bit" /> <xs:element name="ingressRoadGuideList" > <xs:complexType> <xs:sequence maxOccurs="unbounded"> <xs:element name="ingressRoadElementId" type="ID32bit" /> <xs:element name="ingressLanePositon" type="ThirtyTwoBitAssignedCode" /> <xs:element name="egressRoadList"> <xs:sequence maxOccurs="unbounded"> <xs:element name="egressRoadElementId" type="ID32bit" /> <xs:element name="guidancePointType" type="OneDigitUnsignedInt""/> <xs:element name="egressLanePosition" type="ThirtyTwoBitAssignedCode"/> <xs:element name="egressDirection" type="ClockwiseDirection" /> <xs:element name="guidanceCode" type="TwoDigitCode"/> <xs:element name="guidanceFlag" type="Flag"/> <xs:element name="egressAngle" type="ClockwiseAngle"/> </xs:sequence> </xs:element> </xs:complexType> </xs:sequence> </xs:element> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

direction expression

Data concept name	DirectionExpression	Data status category	dynamic
		Data concept type	data frame
Definition and description	DirectionExpression provides Direction and attributes of Direction.		

Data structure	<xs:complexType name="DirectionExpression" > <xs:sequence> <xs:element name="direction" type="Direction" /> <xs:element name="directionAttribute" type="AzimuthAttribute"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

direction of road confidence

Data concept name	DirectionOfRoadConfidence	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides the confidence of the direction of the road shape. It is a confidence level of 95 % reliability.		
Data structure	<xs:simpleType name="DirectionOfRoadConfidence" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

disaster

Data concept name	Disaster	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the status of a disaster.		
Data structure	<xs:simpleType name="Disaster" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

distance

Data concept name	Distance	Data status category	dynamic
		Data concept type	value domain
Definition and description	Length between two positions.		
Data structure	<xs:complexType name="Distance" > <xs:element name="distance" type="xs:positiveInteger"/> <xs:element name="unitOfDistance" type="UnitOfMeasure" /> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

distance along road

Data concept name	DistanceAlongRoad	Data status category	dynamic
		Data concept type	value domain
Definition and description	Length along the road between two positions.		
Data structure	<xs:complexType name="DistanceAlongRoad" > <xs:element name="distanceAlongRoad" type="xs:integer"/> <xs:element name="unitOfDistance" type="UnitOfMeasure"/> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

distance along road expression

Data concept name	DistanceAlongRoadExpression	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides a distance along a road and its attributes. It contains a distance along a road and an attribute.		

Data structure	<xs:complexType name="DistanceAlongRoadExpression" > <xs:element name="distanceAlongRoad" type="DistanceAlongRoad"/> <xs:element name="positionAttribute" type="PositionAttribute" /> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

distance confidence

Data concept name	DistanceConfidence	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the confidence of the direction of the road shape. It is a confidence level of 95 % reliability.		
Data structure	<xs:simpleType name="DistanceConfidence" type="Confidence"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

distance expression

Data concept name	DistanceExpression	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides a distance and its attributes.		
Data structure	<xs:complexType name="DistanceExpression" > <xs:choice> <xs:element name="distance" type="Distance"/> <xs:element name="dimension" type="Dimension"/> </xs:choice> <element name="positionAttribute" type="PositionAttribute" /> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

distance metre max15000

Data concept name	DistanceMetresMax15000	Data status category	dynamic
		Data concept type	value domain
Definition and description	DistanceMetresMax15000 stores a distance value in metres with a precision up to 15 000 metres.		
Data structure	<xs:complexType name="DistanceMetresMax15000"> <xs:sequence> <xs:element name="value" type="tdt:DistanceMetres"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO/TS 21219-22:2017
Remarks			

distance milestone

Data concept name	DistanceMilestone	Data status category	dynamic
		Data concept type	value domain
Definition and description	This is a judgment flag of the distance by the milepost.		
Data structure	<xs:simpleType name="DistanceMileStone" type="xs:boolean"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	"True" of flag value indicates that distance is defined by milestone.		

distance source

Data concept name	DistanceSource	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides a source of the distance information. Distance source: map, beacon, own sensor.		

Data structure	<xs:simpleType name="DistanceSource" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

distance to stop line

Data concept name	DistanceToStopLine	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides a distance along a road from a reference point of an ITS station to the stop line.		
Data structure	<xs:simpleType name="DistanceToStopLine" type="DistanceAlongRoad"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	"True" of flag value indicates that distance is defined by milestone.		

distance unit

Data concept name	DistanceUnit	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides a unit for distance.		
Data structure	<xs:complexType name="DistanceUnit" > <xs:sequence> <xs:element name="unitCode" type="UnitOfMeasure"/> <xs:element name="unitDistanceValue" type="xs:positiveInteger"/> </xs:sequence> </xs:simpleType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	"True" of flag value means that distance is defined by milestone.		

district name

<table>
<tr><td rowspan="2">Data concept name</td><td rowspan="2">DistrictName</td><td>Data status category</td><td>static</td></tr>
<tr><td>Data concept type</td><td>data element</td></tr>
<tr><td>Definition and description</td><td colspan="3">District Name provides the name and a distance range of the district existing in the egress direction of an intersection.</td></tr>
<tr><td>Data structure</td><td colspan="3">
<xs:complexType name=“DistrictName">
<xs:element name=“intersectionId" type=“ID32bit" />
<xs:element name=“intersectionDistrictList" >
<xs:complexType>
<xs:sequence maxOccurs=“unbounded">
<xs:element name=“ingressRoadElementId" type=“ID32bit"/>
<xs:element name=“egressRoadElementId" type=“ID32bit" />
<xs:element name=“roadElementDistrictList>
<xs:complexType>
<xs:sequence maxOccurs=“unbounded">
<xs:element name=“districtNameType" type=“OneDigitUnsignedInt" />
<xs:element name=“districtNameText" type=“xs:string"/>
<xs:element name=“distanceCategory">
<xs:simpleType>
<xs:restriction base=“OneDigitUnsignedInt">
<xs:minInclusive value=“1"/>
<xs:maxInclusive value=“3"/>
</xs:restriction>
</xs:simpleType>
<xs:annotation>
<xs:documentation>
value =“1" "short distance range"
value =“2" "middle distance range"
value =“3" "long distance rang"
</xs:documentation>
</xs:annotation>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:complexType>
</td></tr>
<tr><td>Issued by</td><td></td><td>source document</td><td>ISO 14296:2016</td></tr>
<tr><td>Remarks</td><td colspan="3"></td></tr>
</table>

door status

Data concept name	DoorStatus	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the door status (i.e. open/closed).		
Data structure	<xs:simpleType name="DoorStatus" type="FourBitAssignedCode" /> <xs:annotation> <xs:documentation> bit0 is assigned "driver side" bit1 is assigned "passenger side" bit2 is assigned "maintenance door" bit3 is assigned "luggage door" </xs:documentation> </xs:annotation>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	Value "1" of each bit means that the door is open, value "0" means that the door is closed.		

drive axle lift air pressure

Data concept name	DriveAxleLiftAirPressure	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides the value of the air pressure of the drive axles. conformity SAE J1939 Unit is 1 KPa.		
Data structure	<xs:simpleType name="DriveAxleLiftAirPressure" type="xs:unsignedInt"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

drive axle location

Data concept name	DriveAxleLocation	Data status category	dynamic
		Data concept type	aggregate domain
Definition and description	It provides the location of the drive axles. Conformity SAE J1939		
Data structure	<xs:complexType name="DriveAxleLocation"> <xs:element name="LRPos" type="FourBitCode" /> <xs:element name="FRPos" type="FourBitCode" /> <xs:sequence> <xs:element name="valueOfAlexPosition" type="ThreeDigitUnsignedInt"/> <xs:element name="unitOfAlexPosition" type="FourBitCode" minOccurs="0"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

drive axle lube pressure

Data concept name	DriveAxleLubePressure	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the value of lube pressure of drive axles. conformity SAE J1939 Unit is 1 KPa.		
Data structure	<xs:simpleType name="DriveAxleLubePressure" type="xs:unsignedInt"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

drive axle temperature

Data concept name	DriveAxleTemperature	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the value of the temperature of the drive axles. Conformity SAE J1939 Unit is 1 °C.		
Data structure	<xs:simpleType name="DriveAxleLubePressure" type="Temperature"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

driver response time

Data name	DriverResponseTime	Data status category	dynamic
		Data concept type	value domain
Definition and description	Reaction time of the driver from the start of an event to the time that the driver starts braking [s].		
Data structure	<xs:simpleType name="DriverResponseTime " type="EXTERNAL"/>		
Issued by		source document	ISO 11067:2015 CSWS
Remarks			

driving control system status

Data concept name	DrivingControlSystemStatus	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the status of the driving control system such as ACC, ABS, TRC, SCS.		
Data structure	<xs:complexType name="DrivingControlSystemStatus" > <xs:sequence> <xs:element name="controlSystemType" type="ControlSystemType" /> <xs:element name="simpleSystemStatus" type="SimpleSystemStatus" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

driving direction

Data concept name	DrivingDirection	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the direction of the vehicle, i.e. forward/reverse/stop/unknown.		
Data structure	<xs:simpleType name="DrivingDirection" > <xs:union> <xs:simpleType > <xs:restriction base="xs:string"> <xs:enumeration value="forward"/> <xs:enumeration value="reverse"/> <xs:enumeration value="stop"/> <xs:enumeration value="unknown"/> </xs:restriction> </xs:simpleType> <xs:simpleType> <xs:restriction base="xs:unsignedByte"/> </xs:simpleType> </xs:union> </xs:simpleType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

driving status

Data concept name	DrivingStatus	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides basic status, i.e. speed, direction, acceleration and yaw rate, for driving.		
Data structure	<xs:complexType name="DrivingStatus" > <xs:sequence> <xs:element name="speed" type="Speed"/> <xs:element name="drivingDirection" type="DrivingDirection"/> <xs:element name="acceleration" type="Acceleration"/> <xs:element name="yawRate" type="YawRate"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

driving status confidence

Data concept name	DrivingStatus	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the confidences of basic status, i.e. speed, direction, acceleration and yaw rate, for driving.		
Data structure	<xs:complexType name="DrivingStatusConfidence" > <xs:sequence> <xs:element name="speedConfidence" type="SpeedConfidence"/> <xs:element name="accelerationConfidence" type="AccelerationConfidence"/> <xs:element name="yawRateConfidence" type="YawRateConfidence"/> <xs:element name="throttleConfidence" type="ThrottleConfidencee"/> <xs:element name="steeringWheelAngleConfidence" type="SteeringWheelAngleConfidence"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

driving wheel angle

Data concept name	DrivingWheelAngle	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the angle of the driving wheel. Unit of values is 0,333 3 °.		
Data structure	<xs:simpleType name="DrivingWheelAngle" type="xs:byte"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	Value of angle is from −42,44 to +42,33 °.		

dynamic information location

Data concept name	DynamicInformationLocation	Data status category	static
		Data concept type	data element
Definition and description	Dynamic Information Location provides the location reference information of the special dynamic information which has a fixed location or domain. Special dynamic information is traffic information such as RDS-TMS and VICS, weather information and travel information.		
Data structure	<xs:complexType name="DynamicInformationLocation"> <xs:sequence maxOccurs="unbounded"> <xs:element name="dynamicInformationLocationId" type="ID32bit"/> <xs:element name="dynamicInformationCategory" type="FourDigitCode"/> <xs:element name="dynamicReferencePoint" type="PointLocation" numminOccures="0"/> <xs:element name="roadElementId" type="ID32bit" numminOccures="0"/> <xs:element name="placeId" type="ID32bit" numminOccures="0"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

[e]

earthquake

Data concept name	Earthquake	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the emergency information during an earthquake.		
Data structure	<xs:simpleType name="Earthquake" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

effective area

Data concept name	EffectiveArea	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the area where information becomes effective.		
Data structure	<xs:simpleType name="EffectiveArea" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

effective azimuth

Data concept name	EffectiveAzimuth	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the azimuth which the information becomes effective.		
Data structure	<xs:simpleType name="EffectiveAzimuth" type="EXTERNAL"/>		

Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

effective range

Data concept name	EffectiveRange	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the range which the information becomes effective.		
Data structure	<xs:simpleType name="EffectiveRange" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

effective time

Data concept name	EffectiveTime	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the time which the information becomes effective.		
Data structure	<xs:simpleType name="EffectiveTime" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

elevation

<table>
<tr><td>Data concept name</td><td>Elevation</td><td>Data status category</td><td>dynamic</td></tr>
<tr><td></td><td></td><td>Data concept type</td><td>value domain</td></tr>
<tr><td>Definition and description</td><td colspan="3">It provides a height above sea level or difference in height from reference level. Unit value is 0,1 m.</td></tr>
<tr><td>Data structure</td><td colspan="3"><xs:complexType name=“Elevation" >
<xs:choice>
<xs:element name=“altitude">
<xs:simpleType name=“standardAltitude" minOccurs=“0">
<xs:restriction base=“xs:int">
<xs:minInclusive value=“-99999"/>
<xs:minInclusive value=“+90000"/>
<xs:totalDigits value=“5"/>
</xs:restriction>
</xs:simpleType>
</xs:element>
<xs:element name=“elevation">
<xs:simpleType name=“standardElevation" minOccurs=“0">
<xs:restriction base=“xs:int">
<xs:minInclusive value=“-4095"/>
<xs:minInclusive value=“+61439"/>
</xs:restriction>
</xs:simpleType>
</xs:element>
</xs:choice>
</xs:complexType></td></tr>
<tr><td>Issued by</td><td>JARI</td><td>source document</td><td>proposed CITS data dictionary</td></tr>
<tr><td>Remarks</td><td colspan="3"></td></tr>
</table>

elevation confidence

Data concept name	ElevationConfidence	Data status category	dynamic
		Data concept type	value domain
Definition and description	ElevationConfidence provides the confidence of elevation. It is a confidence level of 95 % reliability.		
Data structure	<xs:simpleType name="ElevationConfidence" type="Confidence"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

emergency response type

Data concept name	EmergencyResponceType	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the operating mode of an emergency vehicle.		
Data structure	<xs:simpleType name="EmergencyResponceType" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

emergency vehicle status

Data concept name	EmergencyVehicleStatus	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides emergency vehicle status such as light bar, siren and operation mode.		

Data structure	<xs:complexType name="EmergencyVhecleStatus" > <xs:sequence> <xs:element name="lightbarInUse" type="LightbarInUse" /> <xs:element name="sirenInUse" type="SirenInUse" /> <xs:element name="emergencyResponseType" type="EmergencyResponseType" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

energy storage type

Data concept name	EnergyStorageType	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the type of vehicle power source.		
Data structure	<xs:simpleType name="EnergyStorageType" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

entry vehicle direction order

Data concept name	EntryVehicleDirectionOrder	Data status category	static
		Data concept type	value domain
Definition and description	It provides the order of the vehicle direction for entering a parking space.		
Data structure	<xs:simpleType name="EntryVehicleDirectionOrder"> <xs:union> <xs:simpleType > <xs:restriction base="xs:string"> <xs:enumeration value="forward"/> <xs:enumeration value="reverse"/> <xs:enumeration value="both"/>		

	<xs:enumeration value="unknown"/> </xs:restriction> </xs:simpleType> <xs:simpleType> <xs:restriction base="xs:unsignedByte"/> </xs:simpleType> </xs:union> </xs:simpleType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

event ID

Data concept name	EventID	Data status category	dynamic
		Data concept type	value domain
Definition and description	Identifier to be produced whenever any ITS station provides a new event.		
Data structure	<xscomplexType name="EventID"> <xs:sequence> <xs:element name="stationID" type="StationID"/> <xs:element name="sequenceNo" type="Count"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

event others

Data concept name	EventOthers	Data status category	dynamic
		Data concept type	data frame
Definition and description	Other information about events.		
Data structure	<xs:simpleType name="EventOthers" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

exterior lights

Data concept name	ExteriorLights	Data status category	dynamic
		Data concept type	value domain
Definition and description	Status of exterior lights of the vehicle.		
Data structure	<xs:simpleType name="ExteriorLightStatus" type="EightBitAssignedCode" /> <xs:annotation> <xs:documentation> bit0 is assigned "LowBeamHeadlight"> bit1 is assigned "HighBeamHeadlight"> bit2 is assigned "LeftTurnSignal"> bit3 is assigned "RightTurnSignal"> bit4 is assigned "AutomaticLightControl"> bit5 is assigned "DaytimeRunningLights"> bit6 is assigned "FogLight"> bit7 is assigned "ParkingLight"> </xs:documentation> </xs:annotation>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	Value 0 of each bit means "Off", value 1 means "On".		

exterior status

Data concept name	ExteriorStatus	Data status category	dynamic
		Data concept type	data element
Definition and description	Status of exterior (i.e. light, wiper, door, equipment of emergency vehicle) of vehicle.		
Data structure	<xs:complexType name="ExteriorStatus" > <xs:sequence> <xs:element name="exteriorLights" type="ExteriorLights" /> <xs:element name="wiperStatus" type="WiperStatus" /> <xs:element name="doorStatus" type="DoorStatus" /> <xs:element name="emergencyVehicleStatus" type="EmergencyVehicleStatus" /> <xs:element name="publicVehicleStatus" type="PublicVehicleStatus" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

[f]

facilities

Data concept name	Facilities	Data status category	static
		Data concept type	data element
Definition and description	Facilities such as a parking lot or SAPA adjacent to a road.		
Data structure	<xs:complexType name="Facilities" > <xs:sequence> <xs:element name="parking" type="Parking" /> <xs:element name="facilitiesRoad" type="FacilitiesRoad" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

facilities road

Data concept name	FacilitiesRoad	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides information about facilities except for parking lots along the road.		
Data structure	<xs:simpleType name="FacilitiesRoad" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

first location reference point

Data concept name	FirstLocationReferencePoint	Data status category	dynamic
		Data concept type	data element
Definition and description	FirstLocationReferencePoint specifies the first LRP of an ordered sequence of Location Reference Points.		
Data structure	<xs:complexType name="FirstLocationReferencePoint"> <xs:sequence> <xs:element name="coordinate" type="AbsoluteGeoCoordinate"/> <xs:element name="lineProperties" type="LineProperties"/> <xs:element name="pathProperties" type="PathProperties"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO/TS 21219-22:2017
Remarks			

flag

Data concept name	Flag	Data status category	static
		Data concept type	Value domain
Definition and description	Flag is a data type. Flag has 2 types: "true" and "false".		
Data structure	<xs:simpleType name="Flag" type="xs:boolean" / >		
Issued by		source document	ISO 14296:2016
Remarks			

full time

Data concept name	FullTime	Data status category	dynamic
		Data concept type	value domain
Definition and description	UTC time or local time that is expressed by year, month, day, hour and minute.		
Data structure	<xs:complexType name="FullTime" > <xs:sequence> <xs:element name="year" type="Year" /> <xs:element name="month" type="Month" /> <xs:element name="day" type="Day" /> <xs:element name="hour" type="Hour" /> <xs:element name="minute" type="Minute" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

[g]

geo coordinate system

Data concept name	GeoCoordinateSystem	Data status category	static
		Data concept type	data element
Definition and description	It is a code for a geo coordinate system defined by ISO 19127 and ISO 19128.		
Data structure	<xs:simpleType name="GeoCoordinateSystem" type="FourDigitCode" />		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

geo coordinate location reference

Data concept name	GeoCoordinateLocationReference	Data status category	static
		Data concept type	data frame
Definition and description	A geo-coordinate pair is a position in a map defined by its longitude and latitude coordinate values. This type of point location may or may not be bound to the network and can be everywhere on the surface. Real world examples for a geo-coordinate as a point location are all coordinate pairs on the surface. This is the general type of a point location. All other types can also be expressed by only using the geo-coordinate pair.		
Data structure	<xs:complexType name="GeoCoordinateLocationReference"> <xs:sequence> <xs:element name="coordinate" type="AbsoluteGeoCoordinate"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO/TS 21219-22:2017
Remarks			

grade separated crossing road

Data concept name	GradeSeparatedCrossingRoad	Data status category	static
		Data concept type	data element
Definition and description	GradeSeparatedCrossingRoad provides crossing road element ID and crossing height at bridge/tunnel.		
Data structure	<xs:complexType name="GradeSeparatedCrossingRoad"> <xs:sequence maxOccurs="unbounded"> <xs:element name="roadElementId"/> <xs:element name="crossingElevation" type="ThreeDigitSignedInt"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

grid location reference

Data concept name	GridLocationReference	Data status category	static
		Data concept type	data frame
Definition and description	A grid location is a special instance of a rectangle location. It shall be given by a base rectangular shape. This base rectangle shall be the lower left cell of the grid and shall be multiplied to the North (by defining the number of rows) and to the East (by defining the number of columns).		
Data structure	<xs:complexType name="GridLocationReference"> <xs:sequence> <xs:element name="baseElement" type="Rectangle"/> <xs:element name="nrColumns" type="tdt:IntUnLi"/> <xs:element name="nrRows" type="tdt:IntUnLi"/> <xs:element name="isFuzzyArea" type="tdt:Boolean"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO/TS 21219-22:2017
Remarks			

[h]

hazard event

Data concept name	HazardEvent	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides status of restriction, cause of event, status of obstacle and status of recovery of hazard.		
Data structure	<xs:complexType name="HazardEvent" > <xs:sequence> <xs:element name="restrictedStatus" type="RestrictedStatus" /> <xs:element name="causeEvent" type="CauseEvent" /> <xs:element name="hazardStatus" type="HazardStatus" /> <xs:element name="processingStatus" type="ProcessingStatus" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

hazard obstacles

Data concept name	HazardObstacles	Data status category	dynamic
		Data concept type	data frame
Definition and description	Obstacle on the road, i.e. parking/stop vehicle, low-speed vehicle, pedestrian/bicycle, animal, road falling object.		
Data structure	<xs:simpleType name="HazardObstacles" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

hazard road surface

Data concept name	HazardRoadSurface	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides condition, temperature and irregularities of road surface.		
Data structure	<xs:complexType name="HazardRoadSurface" > <xs:sequence> <xs:element name="roadSurfaceStatus" type="RoadSurfaceStatus" /> <xs:element name="roadTemperature" type="RoadTemperature" /> <xs:element name="roadIrregularity" type="RoadIrregularity" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

hazard status

Data concept name	HazardStatus	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the status of a hazard, i.e. obstacles, traffic jam, crash, roadwork, disaster, earthquake.		
Data structure	<xs:complexType name="HazardStatus" > <xs:sequence> <xs:element name="hazardObstacles" type="HazardObstacles" /> <xs:element name="trafficJamStatus" type="TrafficJamStatus" /> <xs:element name="crashStatus" type="CrashStatus" /> <xs:element name="roadWorkStatus" type="RoadWorkStatus" /> <xs:element name="disaster" type="Disaster" /> <xs:element name="earthquake" type="Earthquake" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

heading

Data concept name	Heading	Data status category	dynamic
		Data concept type	value domain
Definition and description	The angle of the travelling direction of the vehicle.		
Data structure	<xs:simpleType name="Heding" type="xs:positiveInteger" />		
Issued by		source document	ISO 16787:2016 APS
Remarks			

heading

Data concept name	Heading	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the angle of the travelling direction of the vehicle. Value of Heading is the product of valueOfAngle and unitOfAngle.		
Data structure	<xs:complexType name="Heading" > <xs:element name="valueOfAngle" type="xs:positiveInteger" /> <xs:element name="unitOfAngle" type="AzimuthUnit" minOccurs="0" /> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	Azimuth is the product of value of azimuth and unit of azimuth.		

heading confidence

Data concept name	HeadingConfidence	Data status category	dynamic
		Data concept type	data element
Definition and description	HeadingConfidence provides the accuracy of the detective system of the vehicle azimuth. It is a confidence level of 95 % reliability.		
Data structure	<xs:simpleType name="HeadingConfidence" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	Azimuth is the product of the value of azimuth and the unit of azimuth.		

height

Data concept name	Height	Data status category	static
		Data concept type	value domain
Definition and description	Height or Depth. It consists of value and unit of length. Height is expressed as a plus value and depth is expressed as a minus value.		
Data structure	<xs:complexType name="Height"> <xs:element name="xs:int" > <xs:minInclusive value="-9999999"/> <xs:maxInclusive value="9999999"/> </xs:element> <xs:element name="unitOfheight" type="UnitOfMeasure" numminOccures="0"/> </xs:simpleType>		
Issued by		source document	ISO 14296:2016
Remarks			

[i]

identifier

Data concept name	Identifier	Data status category	dynamic
		Data concept type	data frame
Definition and description	Identifier of a message, data block or events for ITS.		
Data structure	<xs:simpleType name="Identifier" > <xs:choice> <xs:element name="msgID" type="MSG-ID"/> <xs:element name="eventID" type="EventID"/> <xs:element name="dataID" type="DataID"/> </xs:choice> </xs:simpleType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

information providing status

Data concept name	InformationProvidingStatus	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides an enforcement state of provision of information to a driver.		
Data structure	<xs:simpleType name="InfoProvidingStatus" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

intermediate location preference point

Data concept name	IntermediateLocationReferencePoint	Data status category	static
		Data concept type	data element
Definition and description	IntermediateLocationReferencePoint specifies an LRP which is not the first LRP and not the last LRP of an ordered sequence of LRPs.		
Data structure	<xs:complexType name="IntermediateLocationReferencePoint"> <xs:sequence> <xs:element name="coordinate" type="AbsoluteGeoCoordinate"/> <xs:element name="lineProperties" type="LineProperties"/> <xs:element name="pathProperties" type="PathProperties"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO/TS 21219-22:2017
Remarks			

intersection

Data concept name	Intersection	Data status category	static
		Data concept type	data element
Definition and description	Intersection is the area that more than two road elements intersect.		
Data structure	<xs:complexType name="Intersection"> <xs:element name="intersectionId" type="ID32bit"/> <xs:element name="intersectionType" type="FourBitCode"/> <xs:element name="intersectionLocation" type="PointLocation"/> <xs:element name="numICP" type="TwoDigitUnsignedInt"/> <xs:element name="iCPIdList"> <xs:complexType> <xs:sequence maxOccurs="unbounded"> <xs:element name="icp" type="IntersectionConnectionPoint" /> </xs:sequence> </xs:complexType> </xs:element> <xs:element name="coverageLevel" type="OneDigitInt"/> <xs:element name="trafficSignalExistenceFlag" type="Flag"/> <xs:element name="intersectionNameExistenceFlag" type="Flag"/> <xs:element name="directionGuideExistenceFlag" type="Flag"/> <xs:element name="districtNameExistenceFlag" type="Flag"/>		

	<xs:element name="cautionPointExistenceFlag" type="Flag"/> <xs:element name="buidingFacilityExistenceFlag" type="Flag"/> <xs:annotation> <xs:documentation> Flag value="0" / "fale" meaning "trafficSignalExistenceFlag" = not existence "intersectionNameExistenceFlag" = not existence "directionGuideExistenceFlag"= not existence "districtNameExistenceFlag" = not existence "cautionPointExistenceFlag" = not existence "buidingFacilityExistenceFlag" = not existence </xs:documentation> </xs:annotation> <xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

intersection

Data concept name	Intersection	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides structure information and shape information of the intersection.		
Data structure	<xs:simpleType name="Intersection" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

intersection connection point

<table>
<tr><td>Data concept name</td><td>IntersectionConnectionPoint</td><td>Data status category</td><td>static</td></tr>
<tr><td></td><td></td><td>Data concept type</td><td>data element</td></tr>
<tr><td>Definition and description</td><td colspan="3">Intersection connection points (ICPs) are both ends of the road element that are expressed in a line segment, and which exist in the intersection.</td></tr>
<tr><td>Data structure</td><td colspan="3">
<xs:complexType name=“IntersectionConnectionPoint”>
<xs:element name=“intersectionId" type=“ID32bit" />
<xs:element name=“icpId" type=“ID8bit"/>
<xs:element name=“icpLocation" type=“PointLocation"/>
<xs:element name=“offsetFromIntersectionLocation" type=“OffsetLocation"/>
<xs:element name=“icpType">
<xs:simpleType>
<xs:restriction base=“OneDigitUnsignedInt">
<xs:minInclusive value=“0"/>
<xs:maxInclusive value=“3"/>
</xs:restriction>
</xs:simpleType>
</xs:element>
<xs:annotation>
<xs:documentation>
icpType means as follows;
value (0) "single point"
value (1) "multi point"/>
value (2) "roundabout point"
value (3) "reserved"/>
</xs:documentation>
</xs:annotation>
<xs:element name=“numConnectedRoadEement" type=“dd:TwoDiditUndignedInt"/>
<xs:element name=“roadElementList>
<xs:complexType>
<xs:sequence maxOccurs=“unbounded">
<xs:element name=“roadElementId" type=“ID32bit" />
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name=“numIntersectionLink" type=“TwoDigitUnsignedInt"/>
<xs:element name=“intersectionLinkList" numminOccures=“0">
<xs:complexType>
<xs:sequence maxOccurs=“unbounded">
<xs:element name=“intersectionLinkId" type=“ID8bit" />
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:complexType>
</td></tr>
<tr><td>Issued by</td><td></td><td>source document</td><td>ISO 14296:2016</td></tr>
<tr><td>Remarks</td><td colspan="3"></td></tr>
</table>

intersection cost

Data concept name	IntersectionCost	Data status category	static
		Data concept type	data element
Definition and description	Intersection Cost provides the cost of a traffic path to constitute an egress road and ingress road at an intersection.		
Data structure	<xs:complexType name="IntersectionCost"> <xs:element name="intersectionId" type="ID32bit"/> <xs:element name="in-out-CostList" > <xs:complexType> <xs:sequence maxOccurs="unbounded"> <xs:element name="intersectionCostId" type="ID8bit" minOccures="0"/> <xs:element name="ingressRoadElementId" type="ID32bit"/> <xs:element name="egressRoadElementId" type="ID32bit"/> <xs:element name="lengthIntersectionPath" type="Length"/> <xs:element name="averageTraveTime" type="xs:Short" minOccures="0"/> </xs:sequence> </xs:complexType> </xs:element> </xs:complexType		
Issued by		source document	ISO 14296:2016
Remarks			

intersection link

Data concept name	IntersectionLink	Data status category	static
		Data concept type	data element
Definition and description	Intersection Link is the traffic path in the intersection. It provides components and its attributes of traffic path.		
Data structure	<xs:complexType name="IntersectionLink"> <xs:element name="intersectionId" type="ID32bit" /> <xs:element name="intersectionLinkList" > <xs:complexType> <xs:sequence maxOccurs="unbounded"> <xs:element name="intersectionLinkId" type="ID8bit"/> <xs:element name="startICPid" type="ID8bit"/> <xs:element name="endICPid" type="ID8bit"/> <xs:element name="roadTypeCode" type="RoadType" />		

	<xs:element name="lengthLink" type="Length" minOccures="0" /> <xs:element name="averageTraveTime" type="xs:Short" minOccures="0" /> <xs:element name="numShapePoint" type="xs:unsignedByte" minOccures="0" /> <xs:element name="shapePointList" type="ShapePointList" minOccures="0" /> </xs:sequence> </xs:complexType> </xs:element> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

intersection name

Data concept name	IntersectionName	Data status category	static
		Data concept type	data element
Definition and description	Intersection Name provides the name of the intersection where it was considered that a name varies according to an approach direction.		
Data structure	<xs:complexType name="IntersectionName" > <xs:element name="intersectionId" type="ID32bit"/> <xs:element name="intersectionNameList"> <xs:complexType> <xs:sequence minOccures="1" maxOccurs="unbounded"> <xs:element name="ingressRoadEelementId" type="ID32bit" minOccures="0" /> <xs:element name="intersectionNameText" type="xs:string"/> </xs:sequence> </xs:complexType> </xs:element> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

intersection type

Data concept name	IntersectionType	Data status category	static
		Data concept type	value domain
Definition and description	Intersection type is one of the classification categories of the intersection.		
Data structure	<xs:simpleType name="IntersectionType"/> <xs:union> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="Simple Intersection"/> <xs:enumeration value="Complex Intersection"/> <xs:enumeration value="Roundabout"/> <xs:enumeration value="Plaza"/> <xs:enumeration value="Boundary"/> <xs:enumeration value="Dead end"/> <xs:enumeration value="Others"/> <xs:enumeration value="reserved"/> </xs:restriction> </xs:simpleType> <xs:simpleType> <xs:restriction base="FourBitCode"/> </xs:simpleType> </xs:union> </xs:simpleType>		
Issued by		source document	ISO 14296:2016
Remarks			

ITIS phrase

Data concept name	ITIS-Phrase	Data status category	dynamic
		Data concept type	Data frame
Definition and description	It provides a description of IT IS code.		
Data structure	<xs:simpleType name="ITIS-Phrase" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

[j]

jerk

Data name	Jerk	Data status category	dynamic
		Data concept type	value domain
Definition and description	Rate of change of acceleration/deceleration [m/s3].		
Data structure	<xs:simpleType name="Jerk " type="EXTERNAL"/>		
Issued by		source document	ISO 15622:2010 ACC
Remarks			

[l]

lane

Data concept name	Lane	Data status category	static
		Data concept type	data element
Definition and description	In the context of traffic control, a lane is part of a carriageway (roadway) that is designated for use by a single line of vehicles, to control and guide drivers and reduce traffic conflicts. Lane in the Road Element consists of one or more serial lane sections that are specified by the number of lanes and direction of traffic flow.		
Data structure	<xs:complexType name="Lane"> <xs:choice> <xs:element name="laneOnRoadElement"> <xs:complexType"> <xs:element name="roadSectionId" type="ID32bit" /> <xs:element name="roadElementId" type="ID32bit" /> <xs:element name="directionTrafficFlow" type="OneDigitUnsignedInt" /> <xs:element name="laneCountingConvention"> <xs:simpleType> <xs:restriction base="OneDigitUnsignedInt"> <xs:minInclusive value="0"/> <xs:maxInclusive value="3"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="laneList"> <xs:complexType>		

```
          <xs:sequence minOccures="1" maxOccurs="unbounded">
           <xs:element name="numLaneSection" type="TwoDigitUnsignedInt"/>
           <xs:element name="laneSectionList">
             <xs:sequence minOccures="1" maxOccurs="unbounded">
              <xs:element name="laneSection" type="LaneSection" />
            </xs:sequence>
           </xs:element>
          </xs:sequence>
         </xs:complexType>
        </xs:element>
       </xs:complexType>
      </xs:element>
      <xs:element name="laneOnIntersection" >
        <xs:complexType>
          <xs:element name="intersectionId" type="ID32bit" />
          <xs:element name="intersectionLaneList">
            <xs:sequence maxOccurs="unbounded">
             <xs:element name="laneId" type="ID32bit" />
             <xs:element name="intersectionLaneEdgeList">
              <xs:complexType>
               <xs:sequence maxOccurs="unbounded">
                <xs:element name="laneEdgeId" type="32bit"/>
                <xs:element name="startLanePointId" type="ID32bit" />
                <xs:element name="startContinuousLaneInfo" >
                 <xs:complexType>
                  <xs:sequence>
                   <xs:element name="roadElementId" type="ID32bit"/>
                   <xs:element name="laneSectionId" type="ID32bit"/>
                   <xs:element name="laneId" type="ID32bit"/>
                   <xs:element name="startLanePointId" type="ID32bit"/>
                  </xs:sequence>
                 </xs:complexType>
                </xs:element>
                <xs:element name="endLanePointId" type="ID32bit" />
                <xs:element name="endContinuousLaneInfo" >
                 <xs:complexType>
                  <xs:sequence>
                   <xs:element name"roadElementId" type="ID32bit"/>
                   <xs:element name="laneSectionId" type="ID32bit"/>
                   <xs:element name="laneId" type="ID32bit"/>
                   <xs:element name="startLanePointId" type="ID32bit"/>
                  </xs:sequence>
                 </xs:complexType>
                </xs:element>
                <xs:element name="lengthLaneEdge" type="Length" />
                <xs:element name="intesectionlaneEdgeShapeList">
                 <xs:complexType>
                  <xs:sequence>
                   <xs:element name="coordinatesStartLanePoint"
type="PointLocation" />
                   <xs:element name="coordinatesEndLanePoint"
type="PointLocation" />
```

	<xs:element name="numShapePoint" type="FourDigitUnsignedInt" /> <xs:element name="shapePointList" type="ShapePointList" /> </xs:sequence> </xs:complexType> </xs:element> </xs:sequence> </xs:complexType> </xs:element> </xs:sequence> </xs:element> </xs:complexType> </xs:element> </xs:choice> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

lane element

Data concept name	LaneElement	Data status category	static
		Data concept type	data element
Definition and description	Lane element provides information on the individual lane. Lane Element serves as the smallest unit of the special lane network that is independent and having a lane joint at each end. Lane Element provides the data on an independent lane.		
Data structure	<xs:complexType name="LaneElement"> <xs:element name="laneId" type="ID32bit"/> <xs:element name="lanePositionNumber" type="TwoDigitUnsignedInt"/> <xs:element name="laneType" type=" LaneType" /> <xs:element name="directionIngressAprochToIntersection" type="EightBitAssignedCode"minOccures="0"/> <xs:annotation> <xs:documentation> bit 0 ="go straight" bit 7 ="slight left" </xs:documentation> </xs:annotation> <xs:element name="connectFrom"> <xs:complexType> <xs:sequence maxOccurs="unbounded"> <xs:element name="roadElementId" type="ID32bit" minOccurs="0"/> <xs:element name="laneSectionId" type="ID32bit" minOccurs="0"/> <xs:element name="laneId" type="ID32bit"/> </xs:sequence> </xs:complexType>		

	<xs:element name="connectTo"> <xs:complexType> <xs:sequence maxOccurs="unbounded"> <xs:element name="roadElementId" type="ID32bit" minOccurs="0"/> <xs:element name="laneSectionId" type="ID32bit" minOccurs="0"/> <xs:element name="laneId" type="ID32bit"/> </xs:sequence> </xs:complexType> </xs:element> <xs:element name="laneEdgeList"> <xs:complexType> <xs:sequence maxOccurs="unbounded"> <xs:element name="laneEdgeId" type="ID8bit"/> <xs:element name="startLanePointId" type="ID8bit"/> <xs:element name="endLanePointId" type="ID8bit"/ <xs:element name="lengthLaneEdge" type="Length"/> <xs:element name="availabilityMovingAdjoiningLane" type="AvailabilityMovingAdjoiningLane" /> <xs:element name="laneEdgeShapeList"> <xs:complexType> <xs:sequence maxOccures="unbounded"> <xs:element name="laneShape" type="LaneShape" /> </xs:sequence> </xs:complexType> </xs:element> </xs:sequence> </xs:complexType> </xs:element> </xs:complexType>

Issued by		source document	ISO 14296:2016
Remarks			

lane keep offset

Data name	LaneKeepOffset	Data status category	dynamic
		Data concept type	value domain
Definition and description	Lateral distance from the outer edges of the tires of the vehicle to the center of the width of lane marking, which the vehicle has exceeded [m].		
Data structure	<xs:simpleType name="LaneKeepOffset " type="EXTERNAL"/>		
Issued by		source document	ISO 11270:2014 LKAS
Remarks			

lane section

Data concept name	LaneSection	Data status category	static
		Data concept type	data element
Definition and description	Lane section is a portion of a Lane of the Road Element where the number of lanes in a single direction of travel remains the same. Lane sections are put in order according to the direction of travel.		
Data structure	<xs:complexType name="LaneSection"> <xs:element name="laneSectionId" type="ID32bit"/> <xs:element name="numLane" type="TwoDigitUnsignedInt"/> <xs:element name="laneListInLaneSection"> <xs:complexType name="LaneList"> <xs:sequence minOccures="1" maxOccurs="unbounded"> <xs:element name="laneElement" type="LaneElement"/> </xs:sequence> </xs:complexType> </xs:element> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

lane shape

Data concept name	LaneShape	Data status category	static
		Data concept type	data element
Definition and description	Lane Shape provides shape data of each lane that consists of one or more Lane edges.		
Data structure	<xs:complexType name="LaneShape"> <xs:sequence> <xs:element name="coordinatesStartLanePoint" type="PointLocation"/> <xs:element name="coordinatesEndLanePoint" type=" PointLocation"/> <xs:element name="numShapePoint" type="xs:unsignedByte" /> <xs:element name="shapePointList" type=" ShapePointList" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

lane type

Data concept name	LaneType	Data status category	static
		Data concept type	value domain
Definition and description	It is a type of lane.		
Data structure	<xs:simpleType name="LaneType" type="SixteenBitAssignedCode"/> <xs:annotation> <xs:documentation> bit 0 ="normal"> bit 1 ="reversible"> bit 2 ="acceleration"> bit 3 ="deceleration"> bit 4 ="entrance/exit"> bit 5 ="dedicated vehicle"> bit 6 ="bus"> bit 7 ="taxi"> bit 8 ="HOV"> bit 9 ="HOT"> bit 10 ="emergency"> bit 11 ="shunting /waiting"> bit 12 ="bike"> bit 13 ="bicycle"> bit 14 ="reserved"> bit 15 ="reserved"> </xs:documentation> </xs:annotation>		
Issued by		source document	ISO 14296:2016
Remarks			

lane width

Data concept name	LaneWidth	Data status category	dynamic
		Data concept type	value domain
Definition and description	Width of lane.		
Data structure	<xs:simpleType name="LaneWidth" type="Distance"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

last location reference point

Data concept name	LastLocationReferencePoint	Data status category	static
		Data concept type	data element
Definition and description	LastLocationReferencePoint specifies the last LRP of an ordered sequence of LRPs.		
Data structure	<xs:complexType name="LastLocationReferencePoint"> <xs:sequence> <xs:element name="coordinate" type="RelativeGeoCoordinate"/> <xs:element name="lineProperties" type="LineProperties"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO/TS 21219-22:2017
Remarks			

lateral clearance

Data name	LateralClearance	Data status category	dynamic
		Data concept type	value domain
Definition and description	Lateral distance between the side of the subject vehicle and the near side of a target vehicle [m].		

Data structure	<xs:simpleType name="LateralClearance" type="EXTERNAL"/>		
Issued by		source document	ISO 17387:2008 LCDAS
Remarks			

lateral jerk

Data name	LateralJerk	Data status category	dynamic
		Data concept type	value domain
Definition and description	Rate of change of lateral acceleration/deceleration [m/s3].		
Data structure	<xs:simpleType name="LateralJerk " type="EXTERNAL"/>		
Issued by		source document	ISO 11270:2014 LKAS
Remarks			

lateral offset

Data name	LateralOffset	Data status category	dynamic
		Data concept type	value domain
Definition and description	Lateral distance between the longitudinal centerlines of a subject vehicle (SV) and a target vehicle (TV), measured as a percentage of the width of the SV [%].		
Data structure	<xs:simpleType name="LateralOffset " type="EXTERNAL"/>		
Issued by		source document	ISO 22839:2013 FVCMS
Remarks			

latitude

Data concept name	Latitude	Data status category	static
		Data concept type	value domain
Definition and description	Value of the latitude of ITRF94 coordinate (positive value means the north latitude). Eight digit latitude is used for standard resolution (unit: 1/1 000 000 °) Nine digit latitude is used for high resolution (unit: 1/10 000 000 °)		
Data structure	<xs:complexType name="Latitude"> <xs:choice> <xs:element name="standardLatitude"> <xs:simpleType name="StsndardResolutionLatitude"> <xs:restriction base="xs:integer"> <xs:minInclusive value="-90000000"/> <xs:maxInclusive value="+90000000"/> <xs:totalDigits value="8"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="highResolutionLatitude"> <xs:simpleType name="HighResolutionLatitude"> <xs:restriction base="xs:integer"> <xs:minInclusive value="-900000000"/> <xs:maxInclusive value="+900000000"/> <xs:totalDigits value="9"/> </xs:restriction> </xs:simpleType> </xs:element> </xs:choice> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

latitude

<table>
<tr><td rowspan="2">Data concept name</td><td rowspan="2">Latitude</td><td>Data status category</td><td>dynamic</td></tr>
<tr><td>Data concept type</td><td>value domain</td></tr>
<tr><td>Definition and description</td><td colspan="3">Unit of Latitude is 1/10 000 000 °</td></tr>
<tr><td>Data structure</td><td colspan="3"><xs:complexType name=“ Latitude" >
<xs:choice>
<xs:element name=“latitude_1" >
<xs:complexType>
<xs:element name=“isNorth" type=“xs:boolean" />
<xs:element name=“dDegree_1"
<xs:simpleType >
<xs:restriction base=“xs:integer">
<xs:minInclusive value=“0"/>
<xs:maxInclusive value=“+900000000"/>
<xs:totalDigits value=“9"/>
</xs:restriction>
</xs:simpleType>
</xs:element>
</xs:complexType>
</xs:element>
<xs:element name=“latitude_2" >
<xs:simpleType >
<xs:restriction base=“xs:integer">
<xs:minInclusive value=“-900000000"/>
<xs:maxInclusive value=“+900000000"/>
<xs:totalDigits value=“9"/>
</xs:restriction>
</xs:simpleType>
</xs:element>
</xs:choice>
</xs:complexType></td></tr>
<tr><td>Issued by</td><td>JARI</td><td>source document</td><td>proposed CITS data dictionary</td></tr>
<tr><td>Remarks</td><td colspan="3">North indicates north (true)/south (false).</td></tr>
</table>

length

Data concept name	Length	Data status category	static
		Data concept type	value domain
Definition and description	Length or Distance. It consists of value and unit of length.		
Data structure	<xs:complexType name="Length"> <xs:element name="valueOfLength" > <xs:simpleType> <xs:restriction base="xs:unsignedInt" > <xs:minInclusive value="0"/> <xs:maxInclusive value="4294967295"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="unitOfLength" type="UnitOfMeasure" minOccures="0"/> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

light bar in use

Data concept name	LightbarInUse	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides the status of the light bar.		
Data structure	<xs:simpleType name="LightbarInUse" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

limited speed

Data concept name	LimitedSpeed	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the effective range of the speed.		
Data structure	<xs:simpleType name="LimitedSpeed" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

linear location reference

Data concept name	LinearLocationReference	Data status category	static
		Data concept type	data frame
Definition and description	A linear location is a one-dimensional part of a road or a road network. Linear locations consist of at least one line. If more than one line is used to describe the location then these lines shall form a connected path in the road network. Offsets may be used to identify locations which do not start or end exactly at a network node. Examples of linear locations are traffic jams, (temporary) speed limits, (calculated) routes.		
Data structure	<xs:complexType name="LinearLocationReference"> <xs:sequence> <xs:element name="first" type="FirstLocationReferencePoint"/> <xs:element name="last" type="LastLocationReferencePoint"/> <xs:element name="intermediates" type="IntermediateLocationReferencePoint" minOccurs="0" maxOccurs="unbounded"/> <xs:element name="positiveOffset" type="tdt:DistanceMetresMax15000" minOccurs="0"/> <xs:element name="negativeOffset" type="tdt:DistanceMetresMax15000" minOccurs="0"/> <xs:element name="shape" type="Shape" minOccurs="0"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO/TS 21219-22:2017
Remarks			

link cost

<table>
<tr><td rowspan="2">Data concept name</td><td rowspan="2">LinkCost</td><td>Data status category</td><td>static</td></tr>
<tr><td>Data concept type</td><td>data element</td></tr>
<tr><td>Definition and description</td><td colspan="3">Link Cost provides information about the length of a Link, travel time and the slope of a Link that may be useful for Route Planning.</td></tr>
<tr><td>Data structure</td><td colspan="3"><xs:complexType name=“LinkCost">
<xs:element name=“roadElementId" type=“ID32bit" />
<xs:element name=“directionLinkCost">
<xs:simpleType>
<xs:restriction base=“OneDigitUnsignedInt">
<xs:minInclusive value=“0"/>
<xs:maxInclusive value=“1"/>
</xs:restriction>
</simpleType>
</xs:element>
<xs:element name=“startIntersectionId" type=“ID32bit" />
<xs:element name=“endIntersectionId" type=“ID32bit" />
<xs:element name=“coverageUpperLevelLink" type=“TwoDigitUnsignedInt"/>
<xs:element name=“roadElementIdUpperLevel" type=“ID32bit" minOccures=“0"/>
<xs:element name=“historicalTrafficStatus" type=“dd:TwoDigitUnsignedInt" minOccures=“0"/>
<xs:element name=“hovLaneFlag" type=“Flag" minOccures=“0"/>
<xs:element name=“singleLaneFlag" type=“Flag" minOccures=“0"/>
<xs:element name=“tollRoadFlag" type=“Flag"/>
<xs:element name=“numTrafficSignals" type=“FourDigitUnsignedInt" minOccures=“0"/>
<xs:element name=“directionTrafficFlow" type=“OneDigitUnsignedInt" />
<xs:element name=“crossingOppositeCarriageway" type=“Flag" />
<xs:element name=“sameCostValueFlag" type=“Flag" />
<xs:element name=“linkType" type=dd:RoadType"/>
<xs:element name=“roadFunctionalCode" type=“TwoDigitCode" minOccures=“0"/>
<xs:element name=“lengthRoadElement" type=“Length" />
<xs:element name=“averageTraveTime" type=“xs:second" minOccures=“0"/>
<xs:element name=“roadSlopeInfo" type=“RoadSlope" minOccurs=“0" />
<xs:element name=“roadNetworkConnectorId" type=“ID32bit" minOccures=“0"/>
</complexType></td></tr>
<tr><td>Issued by</td><td></td><td>source document</td><td>ISO 14296:2016</td></tr>
<tr><td>Remarks</td><td colspan="3"></td></tr>
</table>

link attributes

Data concept name	LinkAttributes	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides attributes for a Link Reference method.		
Data structure	<xs:simpleType name="LinkAttributes" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

link method

Data concept name	LinkMethod	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the method identifier for the Link Reference method. It defines the VICS method, TMC method, road section ID method, Dynamic Location Reference method.		
Data structure	<xs:simpleType name="LinkAttributes" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

local time

Data concept name	LocalTime	Data status category	dynamic
		Data concept type	value domain
Definition and description	Local time expressed by year, month, day, hour, minute, second.		
Data structure	<xs:simpleType name="LocalTime" type="DateTime"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

location image

Data concept name	LocationImage	Data status category	static
		Data concept type	data element
Definition and description	Location Image provides a background image of the Road Element and the Intersection upon which guidance information is displayed.		
Data structure	<<xs:complexType name="LocationImage"/> <xs:sequence> <xs:element name="intersectionId" type="ID32bit" /> <xs:element name="ingressRoadElementId" type="ID32bit" /> <xs:element name="locationImageId" type="ID32bit" /> <xs:element name="guideType" type="OneDigitUnsigendInt"/> <xs:element name="lenghtBeforeIntersection" type="Length"/> <xs:element name="textLocationImage" type="xs:string"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

longitude

Data concept name	Longitude	Data status category	static
		Data concept type	value domain
Definition and description	Value of the longitude of IFT94 coordinate (positive value means the east longitude). Ten digit latitude is used for the standard resolution (unit: 1/1 000 000 °) Eleven digit latitude is used for the high resolution (unit: 1/10 000 000 °)		
Data structure	<xs:complexType name="Longitude"> <xs:choice> <xs:element name="standardResolutionLongitude"> <xs:simpleType name="StandardLongitude"> <xs:restriction base="xs:integer"> <xs:minInclusive value="-1800000000"/> <xs:maxInclusive value="+1800000000"/> <xs:totalDigits value="10"/> </xs:restriction> </xs:simpleType> </xs:element> <xs:element name="highResolutionLongitude"> <xs:simpleType name="HighResolutionLongitude"> <xs:restriction base="xs:integer">		

	<xs:minInclusive value="-1800000000"/> <xs:maxInclusive value="+1800000000"/> <xs:totalDigits value="11"/> </xs:restriction> </xs:simpleType> </xs:element> </xs:choice> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

longitude

Data concept name	Longitude	Data status category	dynamic
		Data concept type	value domain
Definition and description	Unit of Longitude is 1/10 000 000 °		
Data structure	<xs:complexType name="Longitude" > <xs:choice> <xs:element name="de-longitude1"> <xs:complex> <xs:element name="isEast" type="xs:boolean" /> <xs:element name="degree" > <xs:restriction base="xs:integer"> <xs:minInclusive value="0"/> <xs:maxInclusive value="+1800000000"/> <xs:totalDigits value="10"/> </restriction> </xs:element> </xs:complexType> </xs:element> <xs:element name="de_longitude2" > <xs:simpleType > <xs:restriction base="xs:integer"> <xs:minInclusive value="-1800000000"/> <xs:maxInclusive value="+1800000000"/> <xs:totalDigits value="10"/> </restriction> </xs:simpleType> </xs:element> </xs:choice> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	East indicates east (true)/west (false).		

longitudinal acceleration

Data concept name	LongitudinalAcceleration	Data status category	dynamic
		Data concept type	data element
Definition and description	Acceleleration of the longitudinal direction.		
Data structure	<xs:complexType name="LongitudinalAcceleration" > <xs:sequence> <xs:element name="valueOfAcceleration" type="FourDigitUnsignedInt"/> <xs:element name="unitCodeOfAcceleration" type="FourBitCode" minOccurs="0"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks	Example of UnitCode: 0001=0,01m/sec2, 0010=0,02m/sec2, 0011=0,1m, 0100=0,25m/sec2, 0101=1m/sec2, 0110=0,01G		

longitudinal control status

Data concept name	LongitudinalControlStatus	Data status category	dynamic
		Data concept type	data element
Definition and description	control status of ACC/CACC system		
Data structure	<xs:simpleType name="LongitudalControlStatus" type=xs:boolean" />		
Issued by		source document	ISO 16787:2016 APS
Remarks	True if CACC system is on, false if CACC system is off.		

[m]

management of application

Data concept name	ManagementOfApplication	Data status category	dynamic
		Data concept type	data frame
Definition and description	Information to manage the application including the ID and a header.		
Data structure	<xs:simpleType name="ManagementOfApplication" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

map data

Data concept name	MapData	Data status category	static
		Data concept type	data frame
Definition and description	Information for interpretation of map contents.		
Data structure	<xs:simpleType name="MapData" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

measurement technique

Data concept name	MeasurementTechnique	Data status category	static
		Data concept type	data frame
Definition and description	Positioning method to find the position precision of the outline indirectly. It provides GPS type and technique.		
Data structure	<xs:complexType name="MeasurementTechnique" > <xs:element name="GPStype" type="TwoBitCode" /> <xs:element name="additionalTechnique" type="TwoBitCode"/> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	Additional technique; 0=GPSonly, 1=GPS+Inertial Navigtion, 2=GPS+InertialNavigation+MapMatching		

message time stamp

Data concept name	MessageTimeStamp	Data status category	dynamic
		Data concept type	value domain
Definition and description	Time and date of the data message.		
Data structure	<simpleType name="MessageTimeStamp" type="DateTime"/>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

message and data management information

Data concept name	MsgAndDataManage	Data status category	static
		Data concept type	data frame
Definition and description	It provides version information, service information, decode information and count information.		
Data structure	<xs:complexType name="MsgAndDataManage" > <xs:sequence> <xs:element name="version" type="Version"/> <xs:element name="id" type="Identifier"/> <xs:element name="serviceInfo" type="ServiceInfo"/> <xs:element name="dataControlInfo" type="DataControlInfo"/> <xs:element name="codeInfo" type="CodeInfo"/> <xs:element name="count" type="Count"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

massage ID

Data concept name	MassageID	Data status category	static
		Data concept type	value domain
Definition and description	Identifier for the message.		
Data structure	<xs:simpleType name="MassageID" type=xs:unsignedInt"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

[o]

object code

Data concept name	ObjectCode	Data status category	static
		Data concept type	value domain
Definition and description	It provides a feature code for the boundary object of a parking area.		
Data structure	<xs:simpleType name="ObjectCode"> <xs:union> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="nothing"/> <xs:enumeration value="painting line"/> <xs:enumeration value="rope"/> <xs:enumeration value="kerb"/> <xs:enumeration value="ditch"/> <xs:enumeration value="pole"/> <xs:enumeration value="prop"/> <xs:enumeration value="building pillar"/> <xs:enumeration value="rail"/> <xs:enumeration value="fence"/> <xs:enumeration value="wall"/> </xs:restriction> </xs:simpleType> <xs:simpleType> <xs:restricton base="FourBitCode"/> </xs:simpleType> </xs:union> </xs:simpleType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

obstacle direction

Data concept name	ObstacleDirection	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides the moving direction of the obstacle. Moving direction is expressed by azimuth. Azimuth is the product of the value of azimuth and the unit of azimuth.		
Data structure	<xs:simpleType name="ObstacleDirection" type="Azimuth" />		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

obstacle distance

Data concept name	ObstacleDistance	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides a distance along the road from the reference position of the ITS-station to the obstacle.		
Data structure	<xs:simpleType name="ObstacleDistance" type="DistanceAlongRoad"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

OBU information

Data concept name	OBUInformation	Data status category	static
		Data concept type	data element
Definition and description	It provides the information on OBU. OBU information contains maker-code, device-identifier, version.		
Data structure	<xs:simpleType name="OBUInformation" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

occupancy

Data concept name	Occupancy	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the congestion ratio or the number of passengers in the vehicle.		
Data structure	<xs:simpleType name="Occupancy" type="xs:unsignedByte"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

occupant information

Data concept name	OccupancyInformation	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides congestion ratio or position of occupants in the vehicle.		
Data structure	<xs:complexType name="OccupantInformation" > <xs:choice> <xs:element name="occupancy" type="Occupancy"/> <xs:element name="posOccupants" type="PosOccupants"/> </xs:choice> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

offset location

Data concept name	OffsetLocation	Data status category	static
		Data concept type	aggregate domain
Definition and description	Offset Location expresses the relative position based on PointLocation.		

Data structure	<xs:comelexType name="OffsetLocation"> <xs:choice> <xs:element name="standardResolutionOffset"> <xs:complexType> <xs:element name="standard-xOffset"> <xs:simpleType name="StandardXOffset" type="SixDigitSignedInt" /> </xs:element> <xs:element name="standard-yOffset"> <xs:simpleType name="StandardYOffset" type="SixDigitSignedInt" /> </xs:element> <xs:element name="standard-zOffset" minOccurs="0"> <xs:simpleType name="StandardZOffset" type="TreeDigitSignedInt" /> </xs:element> </xs:complexType> </xs:element> <xs:element name="highResolutionOffset"> <xs:complexType> <xs:element name="high-xOffset"> <xs:simpleType name="HighXOffset" type="SevenDisitSignedInt" /> </xs:element> <xs:element name="high-yOffset"> <xs:simpleType name="HighYOffset" type="SevenDisitSignedInt" /> </xs:element> <xs:element name="high-zOffset" minOccurs="0"> <xs:simpleType name="HightZOffset" type="FiveDigitSigendInt" /> </xs:element> </xs:complexType> </xs:element> </xs:choice> <xs:annotation> <xs:documentation> *standard resolution> x offset (longitude offset) valuse -0,999999deg to +0,999999deg> LSB = 1/ 1 million degree (36/ 10 thousand second) > y offset (latitude offset) valuse -0,999999deg to +0,999999deg> LSB = 1/ 1 milion degree (36/ 10 thousand second) > z offset (altitude -99,9m to +99,9m> LSB = 0.1 metre> *high resolution> x offset (longitude offset) valuse -0,9999999deg to +0,9999999deg> LSB = 1/ 10 million degree (3,6/ 10 thousand second) > y offset (latitude offset) valuse -0,9999999deg to +0,9999999deg> LSB = 1/ 10 million degree (3,6/ 10 thousand second) > z offset (altitude -99,999m to +99,999m> LSB = 1 millimetre> </xs:documentation> </xs:annotation> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

operating condition

Data concept name	OperatingCondition	Data status category	dynamic
		Data concept type	data frame
Definition and description	Operating condition of a parking facility.		
Data structure	<xs:complexType name="OperatingStatus"> <xs:sequence> <xs:element name="numberOfVacancy" type="xs:unsignedByte" /> <xs:element name="statusOfOperating" type="StatusOfOperating" /> <xs:element name="mObstacle" type="PFObstacle" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

operating hour

Data concept name	OperatingHour	Data status category	dynamic
		Data concept type	aggregate domain
Definition and description	Operating hour of a parking facility.		
Data structure	<xs:complexType name="OperatingHour"> <xs:sequence> <xs:element name="dayOfWeek" type="DayOfWeek" /> <xs:element name="startTimeForEntry" type="Time" /> <xs:element name="endTimeForEntry" type="Time" /> <xs:element name="startTimeForLeaving" type="Time" /> <xs:element name="endTimeForLeaving" type="Time" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

[p]

parking

Data concept name	Parking	Data status category	static
		Data concept type	data frame
Definition and description	It provides parking information on the road side.		
Data structure	<xs:simpleType name="Parking" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

parking charge

Data concept name	ParkingCharge	Data status category	static
		Data concept type	value domain
Definition and description	Charge for parking.		
Data structure	<xs:complexType name="ParkingCharge"> <xs:sequence> <xs:element name="paymentMethod" type="TwoBitCode" /> <xs:element name="collectionMethod" type="TwoBitCode" /> <xs:element name="paymentLocation" type="Location" /> <xs:element name="listOfCharge" > <xs:complexType> <xs:sequence> <xs:element name="appliedVehicleType" type="BitAssignedVehicleType"/> <xs:element name="creditHour" type="xs:unsignedByte"/> <xs:element name="ratePerCreditHour" type="xs:unsignedByte"/> </xs:sequence> </xs:complexType> </xs:element> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking charge type

Data concept name	ParkingChargeType	Data status category	static
		Data concept type	value domain
Definition and description	Type of parking charge, i.e. free/hour/daily/weekly/monthly.		
Data structure	<xs:simpleType name="Parking ChargeType"> <xs:element name="parkingFree-Hour-Daily-Weekly" type="TwoBitCode" /> </xs:simpleType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking facility

Data concept name	ParkingFacility	Data status category	dynamic / static
		Data concept type	data module
Definition and description	Facilities and area where a vehicle is parked temporarily. It is called a parking lot, car park, parking garage. Parking facility information is constructed in static and dynamic information.		
Data structure	<xs:complexType name="ParkingFacility"> <xs:sequence> <xs:element name="parkingFacilityID" type="ParkingFacilityID" /> <xs:element name="parkingFacilityStaticInfo" type="ParkingFacilityStaticInfo" /> <xs:element name="parkingFacilityDynamicInfo" type="ParkingFacilityDynamicInfo" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking facility dynamic information

Data concept name	ParkingFacilityDynamic Information	Data status category	dynamic
		Data concept type	data frame
Definition and description	Dynamic Information of a parking facility		
Data structure	<xs:complexType name="ParkingFacilityDynamicInformation"> <xs:sequence> <xs:element name="operatingStatusInformation" type="OperatingCondition" /> <xs:element name="passagewayStatusInformation" type="PassagewayCondition" /> <xs:element name="parkingSpaceStatusInformation" type="ParkingSpaceCondition" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking facility general characteristics

Data concept name	ParkingFacilityGeneral Characteristics	Data status category	static
		Data concept type	data frame
Definition and description	It provides general information on a parking facility.		
Data structure	<xs:complexType name="ParkingFacilityGeneralCharacteristics"> <xs:sequence> <xs:element name="parkingFacilityName" type="xs:string" /> <xs:element name="parkingFacilityTelephone" type="TwelveDigitIntBCD" /> <xs:element name="parkingFacilityAddress" type="xs:string" /> <xs:element name="parkingFacilityLocation" type="Position" /> <xs:element name="parkingFacilityConnectedRoad" type="ConnectedRoad" /> <xs:element name="parkingFacilityOwner" type="xs:string" /> <xs:element name="parkingFacilityNumberOfMaxsParking" type="xs:unsignedByte" /> <xs:element name="parkingFacilityOperatingHour" type="OperatingHour" /> <xs:element name="parkingFacilityCharge" type="ParkingCharge" /> <xs:element name="parkingFacilityOperater" type="xs:boolean" /> <xs:element name="parkingFacilityApplicabilityAPS" type="xs:boolean" />		

	<xs:element name="parkingFacilityMethod" type="ParkingFacilityMethod" /> <xs:element name="parkingFacilityStructure" type=TwoBitCode"" /> <xs:element name="parkingFacilityPlanarShape" type="PlanarShape" /> <xs:element name="parkingFacilityAvailableService" type="AvailableService" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking facility method

Data concept name	ParkingFacilityMethod	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides static charcteristics of a parking facility.		
Data structure	<xs:complexType name="ParkingFacilityMethod"> <xs:element name="parkingPlace" type="ParkingPlace" /> <xs:element name="parkingLevel" type="ParkingLevel" /> <xs:element name="parkingInOutBuilding" type="ParkingInOutBuilding" /> <xs:element name="parkingType" type="ParkingType" /> <xs:element name="parkingChargeType" type="ParkingChargeType"/> <xs:element name="parkingIsolation" type="ParkingIsolation" /> <xs:element name="parkingLock" type="ParkingLocking" /> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking facility obstacle

Data concept name	ParkingFacilityObstacle	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides obstacles in a parking, i.e. vehicle, person, shopping-cart.		
Data structure	<xs:complexType name="ParkingFacilityObstacle"> <xs:sequence> <xs:element name="obstacleType" type="FourBitCode" /> <xs:element name="obstacleLocation" type="Location" /> <xs:element name="obstacleSize" type="Size" /> <xs:element name="obstacleMoving" type="xs:boolean" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking facility static information

Data concept name	ParkingFacilityStatic Informatione	Data status category	static
		Data concept type	data frame
Definition and description	It provides static information of a parking facility. Parking facility is constructed in a passageway block and a parking space block. Passageway block is the area for moving a vehicle and a parking space block is the area for parking/storing a vehicle.		
Data structure	<xs:complexType name="ParkingFacilityStaticInformation"> <xs:sequence> <xs:element name="generalInfomation" type="ParkinFacilityGeneralCharacteristics" /> <xs:element name="passagewayInformation" type="PassagewayBlockCharacteristics" /> <xs:element name="parkingSpaceInformation" type="ParkingSpaceBlockCharacteristics" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking in-out building

Data concept name	ParkingInOutBuilding	Data status category	static
		Data concept type	data element
Definition and description	It provides classification of indoor/outdoor parking spaces.		
Data structure	<xs:complexType name=“ ParkingInOutBuilding"> <xs:element name=“indoor-Outdoor-Both" type=“TwoBitCode" /> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking isolation

Data concept name	ParkingIsolation	Data status category	static
		Data concept type	data element
Definition and description	It provides the isolation method between the parking facility and the road, i.e. gate/free.		
Data structure	<xs:complexType name=“ParkingIsolation"> <xs:element name=“Free-Gate" type=“TwoBitCode" /> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking level

Data concept name	ParkingLevel	Data status category	static
		Data concept type	value domain
Definition and description	Level of the parking space, i.e. one-level/ multi-level.		
Data structure	<xs:complexType name="ParkingLevel"> <xs:element name="oneLevel-MultiLevel-Both" type="TwoBitCode" /> <xs:element name="numberOfLevel" type="xs:byte" /> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking place

Data concept name	ParkingPlace	Data status category	static
		Data concept type	data element
Definition and description	The place of the parking space, i.e. on-street/off-street.		
Data structure	<xs:complexType name="ParkingPlace"> <xs:element name="OnStreet-OutStree" type="TwoBitCode" /> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking space

Data concept name	ParkingSpace	Data status category	static
		Data concept type	data frame
Definition and description	It provides characteristics of an individual parking space where a vehicle can park.		

Data structure	<xs:complexType name="ParkingSpace"> <xs:element name="parkingSpaceID" type="ParkingSpaceID" /> <xs:element name="parkingMethod" type="ParkingMethod" /> <xs:element name="appliedVehicleType" type="BitAssignedVehicleType"/> <xs:element name="spaceDimension" type="SpaceDimension" /> <xs:element name="spaceRectangle" type="SpaceRectangle" /> <xs:element name="spaceLocation" type="SpaceLocation" /> <xs:element name="entryVehicleDirectionOrder" type="EntryVehicleDirectionOrder" /> <xs:element name="boundaryObject" type="BoundaryObject" /> <xs:element name="parkingSpaceEquipment" type="ParkingSpaceEquipment" /> <xs:element name="sideMirror-Antena Storage" type="TwoBitAssignedCode" /> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking space battery charger

Data concept name	ParkingSpaceBatteryCharger	Data status category	static
		Data concept type	data element
Definition and description	Information on the battery charger for an electrical vehicle nearby a parking space.		
Data structure	<xs:complexType name="ParkingSpaceBatteryCharger"> <xs:element name="BatteryChargerType" type="TwoBitCode" /> <xs:element name="BatteryChargerLocation" type="Location" /> <xs:element name="BatteryChargerSpecificationDetail" type="BatteryChargerSpecificationDetail" /> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking space block characteristic

Data concept name	ParkingSpaceBlockCharacteristic	Data status category	static
		Data concept type	data frame
Definition and description	Characteristics of parking spaces blocked in a parking facility.		
Data structure	<xs:complexType name="ParkingSpaceBlockCharacteristic"> <xs:element name="availableVehicleTypeAndNumber" > <xs:complexType> <xs:sequence> <xs:element name="vehicleType" type="VehicleType" /> <xs:element name="numberOfParkingSpace" type="xs:unsignedByte" /> </xs:sequence> </xs:complexType> </xs:element> <xs:sequence> <xs:element name="parkingSpaceBlockPlanarShape" type="PlanarShape" /> </xs:sequence> <xs:sequence> <xs:element name="parkingSpace" type="ParkingSpace" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking space condition

Data concept name	ParkingSpaceCondition	Data status category	dynamic
		Data concept type	data frame
Definition and description	Use of parking spaces in a parking facility.		
Data structure	<xs:complexType name="ParkingSpaceCondition"> <xs:sequence> <xs:element name="locationOfVacancySlot" type="ParkingSpaceLocation" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking space dimension

Data concept name	ParkingSpaceDimension	Data status category	static
		Data concept type	aggregate domain
Definition and description	Dimension of an individual parking space.		
Data structure	<xs:complexType name="SpaceDimension"> <xs:element name="spaceWidth" type="Length" /> <xs:element name="spaceDepthLeft" type="Length" /> <xs:element name="spaceDepthRight" type="Length" /> <xs:element name="spaceHeight" type="Length" /> <xs:element name= "angleBetweenPassagewayEdgeLineAndDepthLeftLine" type="Degree"/> <xs:element name="slope" type="Slope" /> <xs:element name="LengthFromEntrancePointOfDepthLeftLine ToEntranceLeftCornerOfRectangle" type="Length" /> <xs:element name="intervalLeft" type="Length" /> <xs:element name="intervalRight" type="Length" /> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking space empty detector

Data concept name	ParkingSpaceEmptyDetector	Data status category	static
		Data concept type	data element
Definition and description	Information on an empty detector of a parking space.		
Data structure	<xs:complexType name="ParkingSpaceEmptyDetector"> <xs:element name="EmptyDetectorType" type="TwoBitCode" /> <xs:element name="EmptyDetectorPosition" type="Location" /> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking space equipment

Data concept name	ParkingSpaceEquipment	Data status category	static
		Data concept type	data frame
Definition and description	Information on equipment such as vehicle stopper, flap board, empty detector, battery charger, turn table, for a parking space.		
Data structure	<xs:complexType name="ParkingSpaceEquipment"> <xs:element name="stopper" type="ParkingSpaceStopper" /> <xs:element name="flapBoard" type="ParkingSpaceFlapBoard" /> <xs:element name="emptyDetector" type="ParkingSpaceEmptyDetector" /> <xs:element name="batteryCharger" type="ParkingSpaceBatteryCharger" /> <xs:element name="turnTable" type="ParkingSpaceTurnTable" /> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking space flap board

Data concept name	ParkingSpaceFlapBoard	Data status category	static
		Data concept type	aggregate domain
Definition and description	Information on a flap board for a vehicle locking device in a parking space (position and hight).		
Data structure	<xs:complexType name="ParkingSpaceFlapBoard"> <xs:sequence> <xs:element name="FlapSize"> <xs:complexType> <xs:element name="flapLength" type="xs:unsignedByte"/> <xs:element name="flapWidth" type="xs:unsignedByte"/> <xs:element name="flapHight" type="xs:unsignedByte"/> </xs:complexType> </xs:element> <xs:element name="FlapPosition"> <xs:complexType> <xs:element name="LengthFmFront" type="xs:unsignedByte"/> <xs:element name="LengthFmLeftEdge" type="xs:unsignedByte"/> </xs:complexType> </xs:element> </xs:sequence> </xs:complexType>		

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Remarks			

parking space location

Data concept name	ParkingSpaceLocation	Data status category	static
		Data concept type	data element
Definition and description	Position of an individual parking space.		
Data structure	<xs:complexType name="ParkingSpaceLocation"> <xs:element name="EntranceLeftPositionFromReferencePosition" type="Position" /> <xs:element name="ConnectedPassagewayElement" type="passagewayElementID" /> <xs:element name="EntranceLeftPositionFromReferenceOfPassagewayElement" type="Position"/> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking space locking

Data concept name	ParkingSpaceLocking	Data status category	static
		Data concept type	data element
Definition and description	Vehicle locking method of an individual parking space, i.e. free/individual locking/flap locking)		
Data structure	<xs:simpleType name="ParkingSpaceLocking"> <xs:element name="Free-IndividualLock-FlapLock" type="TwoBitCode" /> </xs:simpleType>		
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Remarks			

parking space method

Data concept name	ParkingSpaceMethod	Data status category	static
		Data concept type	data element
Definition and description	Classification of an individual parking space.		
Data structure	<xs:complexType name="ParkingSpaceMethod"> <xs:element name="OnStreet-OutStreet" type="ParkingPlace " /> <xs:element name="OneLevel-MultiLevel-Both" type=" ParkingLevel" /> <xs:element name="Indoor-Outdoor-Both" type=" ParkingInOutBuilding " /> <xs:element name="Valet-SelfPropelled-Mechanical" type=" ParkingType" /> <xs:element name="Free-Hour-Daily-Weekly" type="ParkingChargeType" /> <xs:element name="Free-Gate" type="ParkingIsolation " /> <xs:element name="Free-IndividualLock-FlapLock " type=" ParkingLock " /> </xs:complexType>		
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Remarks			

parking space rectangle

Data concept name	ParkingSpaceRectangle	Data status category	static
		Data concept type	value domain
Definition and description	Position of the effective rectangle area of an individual parking space.		
Data structure	<xs:complexType name="ParkingSpaceRectangle"> <xs:element name="EntranceLeftPosition" type="Position" /> <xs:element name="EntranceRightPosition" type="Position" /> <xs:element name="DepthLeftPosition" type="Position" /> <xs:element name="DepthRightPosition" type="Position" /> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking space stopper

Data concept name	ParkingSpaceStopper	Data status category	static
		Data concept type	value domain
Definition and description	Vehicle stopper in a parking space (position and height).		
Data structure	<xs:complexType name="ParkingSpaceStopper"> <xs:sequence> <xs:element name="StopperSize"> <xs:complexType> <xs:element name="stopperLength" type="xs:unsignedByte"/> <xs:element name="stopperWidth" type="xs:unsignedByte"/> <xs:element name="stopperHeight" type="xs:unsignedByte"/> </xs:complexType> </xs:element> <xs:element name="StopperPosition"> <xs:complexType> <xs:element name="lengthFromFrontLine" type="xs:unsignedByte" /> <xs:element name="lengthFromLeftEdge" type="xs:unsignedByte" /> </xs:complexType> </xs:element> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks	Unit is a centimetre.		

parking space turn table

Data concept name	ParkingSpaceTurnTable	Data status category	static
		Data concept type	value domain
Definition and description	Turn table for a parking space.		
Data structure	<xs:complexType name="ParkingSpaceTurnTable"> <xs:element name="TurnTableLocation" type="Location" /> <xs:element name="TurnTableDiameter" type="Length" /> <xs:element name="TurnTableTurnAngle" type="Degree" /> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

parking system status

Data concept name	ParkingSystemStatus	Data status category	static
		Data concept type	data element
Definition and description	Status of an Auto Parking System.		
Data structure	<xs:complexType name="ParkingSystemStatus"> <xs:element name="systemOnOff" type="xs:boolean" /> <xs:element name="operatingStatusCode" type="TwoBitCode" /> <xs:element name="operater" type="TwoBitCode" /> <xs:element name="operaterPosition" type="TwoBitCode" /> </xs:ComplexType>		
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Remarks			

parking type

Data concept name	ParkingType	Data status category	static
		Data concept type	data element
Definition and description	Type of parking, i.e. valet/self-propelled, mechanical.		
Data structure	<xs:simpleType name="ParkingType"> <xs:element name="Valet-SelfPropelled-Mechanical" type="TwoBitCode" /> </xs:simpleType>		
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Remarks			

passageway block characteristics

Data concept name	PassagewayBlockCharacteristics	Data status category	static
		Data concept type	data frame
Definition and description	Characteristics of Passageway Block in a parking facility. Passageway is expressed by a Passageway network that is constructed in Passageway elements and Passageway crossings.		
Data structure	<xs:complexType name="PassagewayBlockCharacteristics"> <xs:sequence> <xs:element name="passagewayNetwork" type="PassagewayNetwork" /> <xs:element name="passagewaySurfaceCommonAttributes" type="PassagewaySurfaceCommonAttribute" /> <xs:element name="passagewayStructure" type="PassagewayStructure" /> <xs:element name="passagewayPartialStructure" type="PassagewayPartialStructure" /> <xs:sequence> <xs:element name="connectedRoad" type="ConnectedRoad" /> </xs:sequence> </xs:sequence> </xs:complexType>		
Issued by	J	source document	ISO 16787:2016 APS
Remarks			

passageway condition

Data concept name	PassagewayCondition	Data status category	dynamic
		Data concept type	data frame
Definition and description	Dynamic information on a passageway of a parking facility.		
Data structure	<xs:complexType name="PassagewayCondition"> <xs:sequence> <xs:element name="passagewaySurfaceCondition" type="PassagewaySurfaceCondition" /> <xs:element name="passagewayDisrepairStatus" type="PassagewayDisrepairStatus" /> </xs:sequence> </xs:complexType>		
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passageway crossing

Data concept name	PassagewayCrossing	Data status category	static
		Data concept type	data frame
Definition and description	It provides a crossing of a passageway. Both ends of Passageway Elements are connected to Passageway Crossings.		
Data structure	<xs:complexType name="PassagewayCrossing"> <xs:sequence> <xs:element name="passagewayCrossingID" type="PassagewayCrossingID" /> <xs:sequence> <xs:element name="passagewayElementID" type="PassagewayElementID" /> </xs:sequence> <xs:element name="passagewayCrossingType" type="TwoBitCode" /> <xs:element name="passagewayCrossingLocation" type="Location" /> <xs:element name="passagewayCrossingShape" type="PassagewayCrossingShape" /> </xs:sequence> </xs:complexType>		
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Remarks			

passageway disrepair status

Data concept name	PassagewayDisrepairStatus	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides disrepair status of a passageway surface.		
Data structure	<xs:complexType name="PassagewayDisrepairStatus"> <xs:sequence> <xs:element name="passagewayElementID" type="PassagewayElementID" /> <xs:element name="disrepairType" type="DisrepairCode" /> <xs:element name="location" type="Location" /> <xs:element name="lengthFromReferencePosition" type="Length" /> </xs:sequence> </xs:complexType>		
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Remarks			

passageway element

Data concept name	PassagewayElement	Data status category	static
		Data concept type	data frame
Definition and description	It provides both ends of a passageway element connected to passageway crossings.		
Data structure	<xs:complexType name="PassagewayElement"> <xs:sequence> <xs:element name="passagewayElementID" type="PassagewayElementID" /> <xs:element name="startPassagewayCrossingID" type="PassagewayCrossingID" /> <xs:element name="endPassagewayCrossingID" type="PassagewayCrossingID" /> <xs:element name="passagewayElementType" type="TwoBitCode" /> <xs:element name="directionOfTraffic" type="Direction" /> <xs:element name="numberOfLane" type="xs:unsignedByte" /> <xs:element name="length" type="Length" /> <xs:element name="slope" type="Slope" /> <xs:element name="passagewayShape" type="PassagewayShape" /> <xs:element name="parkingGate" type="ParkingGate" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

passageway network

Data concept name	PassagewayNetwork	Data status category	static
		Data concept type	data frame
Definition and description	Passageway Network is constructed in Passageway Elements and Passageway Crossings.		
Data structure	<xs:complexType name="PassagewayNetwork"> <xs:sequence> <xs:element name="passagewayElement" type="PassagewayElement" /> </xs:sequence> <xs:sequence> <xs:element name="passagewayCrossing" type="PassagewayCrossing" /> </xs:sequence> </xs:complexType>		
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Remarks			

passageway partial structure

Data concept name	PassagewayPartialStructure	Data status category	static
		Data concept type	data frame
Definition and description	It provides a partial structure of a passageway in a parking facility.		
Data structure	<xs:complexType name="PassagewayPartialStructure"> <xs:sequence> <xs:element name="passagewayElementID" type="32BitID" /> <xs:element name="passagewayPairtialStructureType" type="TwoDigitCode" /> <xs:element name="passagewayPartialStructureLocation" type="Location" /> </xs:sequence> </xs:complexType>		
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Remarks			

passageway surface common attribute

Data concept name	PassagewaySurfaceCommonAttributes	Data status category	static
		Data concept type	data frame
Definition and description	It provides common attributes of a passageway surface.		
Data structure	<xs:complexType name="PassagewaySurfaceCommonAttributes"> <xs:sequence> <xs:element name="passagewaySurfaceType" type="PassagewaySurfaceType" /> <xs:element name="passagewaySurfaceMaterial" type="RwunwaySurfaceMaterial" /> <xs:element name="passagewaySurfaceRoughness" type="PassagewaySurfaceRoughness" /> <xs:element name="passagewaySurfaceColor" type="RwunwaySurfaceColor" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

passageway surface condition

Data concept name	PassagewaySurfaceCondition	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides dynamic conditions of a passageway surface.		
Data structure	<xs:complexType name="PassagewaySafaceConditon"> <xs:sequence> <xs:element name="passagewaySurfaceConditionAttribute" type="EightBitAssignedCode" /> <xs:element name="temperature" type="Temperature" /> <xs:element name="humidity" type="Humidity" /> <xs:element name="atmosheric pressure" type="AtmoshericPressure" /> <xs:element name="weaather" type="Weather" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

path history

Data concept name	PathHistory	Data status category	dynamic
		Data concept type	data frame
Definition and description	History of position and running status of a vehicle.		
Data structure	<xs:simpleType name="PathHistory" type="EXTERNAL"/>		
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Remarks			

payload data

Data concept name	PayloadData	Data status category	dynamic
		Data concept type	value domain
Definition and description	Payload of the objects (versatile data).		
Data structure	<xs:simpleType name="PayloadData" type="EXTERNAL"/>		
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Remarks			

place

Data concept name	Place	Data status category	static
		Data concept type	data element
Definition and description	Place provides the information of named areas which can be used for Address Location.		
Data structure	<xs:complexType name="Place"> <xs:sequence> <xs:element name="placeId" type="ID32bit"/> <xs:element name="nameOfPlace" type="xs:string" /> <xs:element name="countryCode" type="FourDigitCode" numminOccures="0"/> <xs:element name="orderAreaCode" type="xs:string" numminOccures="0"/> <xs:element name="residenceName" type="xs:string" numminOccures="0"/> <xs:element name="residenceNumber" type="xs:string" numminOccures="0"/> <xs:element name="placeReferencePoint" type="PlaceReferencePoint" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

place reference point

Data concept name	PlaceReferencePoint	Data status category	static
		Data concept type	data element
Definition and description	Place Reference Point provides a representative point within a Place. Place Reference Point contains the map object information regarding the Place.		
Data structure	<complexType name="PlaceReferencePoint"> <xs:element name="placeId" type="ID32bit"/> <xs:element name="placeReferencePoint" type="PointLocation"/> <xs:element name="roadElementId" type="ID32bit" numminOccures="0"/> <xs:element name="figureElementId" type="ID32bit" numminOccures="0"/> <xs:element name="buildingId" type="ID32bit" numminOccures="0"/> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

point along line location reference

Data concept name	PointAlongLineLocationReference	Data status category	static
		Data concept type	data frame
Definition and description	Point along line location is bounded by two nodes. This point location is dependent on the road network. The point may be on the right side of the line, on the left side of the line, on both sides of the line, or directly on the line. Additionally, the point may have an orientation to indicate in which direction of the line the information referenced at that point is useful. Real world examples of this point location type are points of interests closely or directly related to the road network, i.e. petrol stations, shopping malls and restaurants, and also house numbers and address points. But it can also be used to reference speed cams or induction loops.		
Data structure	<xs:complexType name="PointAlongLineLocationReference"> <xs:sequence> <xs:element name="pointAlongLine" type="PointLocationLineReferenceData"/> <xs:element name="shape" type="Shape" minOccurs="0"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO/TS 21219-22:2017
Remarks			

point location

Data concept name	PointLocation	Data status category	static
		Data concept type	value domain
Definition and description	Point Location is expressed by the coordinates ITRF94(WGS84).		
Data structure	<xs:complexType name="PointLocation"> <xs:element name="latitude" Type="Latitude" /> <xs:element name="longitude" Type="Longitude" /> <xs:element name="altitude" Type="Altitude" /> <xs:annotation> <xs:documentation> International Terrestrial Reference System (ITRF 94) is the global standard. > World Geodetic System (WGS 84) that is used for GPS is defined by United States Department of Defense> </xs:documentation> </xs:annotation> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

point location line reference data

Data concept name	PointLocationLineReferenceData	Data status category	static
		Data concept type	data frame
Definition and description	PointLocationLineReferenceData combines common properties of point location types with network connectivity. It provides information about the location reference path described by the first LRP and the last LRP, the actual point location along that path as defined by the positive offset value and orientation and side of road information of that point location with respect to the referenced path.		
Data structure	<xs:complexType name="PointLocationLineReferenceData"> <xs:sequence> <xs:element name="first" type="FirstLocationReferencePoint"/> <xs:element name="last" type="LastLocationReferencePoint"/> <xs:element name="sideOfRoad" type="olr004_SideOfRoad"/> <xs:element name="orientation" type="olr003_Orientation"/> <xs:element name="positiveOffset" type="tdt:DistanceMetresMax15000" minOccurs="0"/> </xs:sequence> </xs:complexType>		

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Remarks			

POI with access point location reference

Data concept name	POIWithAccessPointLocationReference	Data status category	static
		Data concept type	data frame
Definition and description	Another point location type combines a point along line with a geo-coordinate. The point along line functions as an access point from the road network to some POI represented by the geo-coordinate part. The access point may be on the right side of the line, on the left side of the line, on both sides of the line, or directly on the line. Additionally, the point may have an orientation to indicate in which direction of the line the information referenced at that point is useful.		
Data structure	<xs:complexType name="POIWithAccessPointLocationReference"> <xs:sequence> <xs:element name="lineWithAccessPoint" type="PointLocationLineReferenceData"/> <xs:element name="poiLocation" type="RelativeGeoCoordinate"/> <xs:element name="shape" type="Shape" minOccurs="0"/> <xs:element name="pathToPoi" type="Path" minOccurs="0"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO/TS 21219-22:2017
Remarks			

polygon location reference

Data concept name	PolygonLocationReference	Data status category	static
		Data concept type	data frame
Definition and description	A polygon location is a non-intersecting shape defined by a sequence of geo-coordinate pairs. The coordinate pairs may be everywhere on the surface. They shall define the corners of the underlying geometrical polygon. The boundary of this polygon shall be constituted by straight lines between every pair of consecutive corners in the sequence, plus the straight line between the last and the first corner. The order of the geo-coordinate pairs may be clockwise or counter-clockwise.		
Data structure	<xs:complexType name="PolygonLocationReference"> <xs:sequence> <xs:element name="startCoordinate" type="AbsoluteGeoCoordinate"/> <xs:element name="coordinatePath" type="RelativeGeoCoordinate" minOccurs="2"		

	maxOccurs="unbounded"/> <xs:element name="isFuzzyArea" type="tdt:Boolean"/> </xs:sequence> </xs:complexType>		
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Remarks			

position attribute

Data concept name	PositionAttribute	Data status category	dynamic
		Data concept type	aggregate domain
Definition and description	Attributes regarding a position and distance.		
Data structure	<xs:complexType name="PositionAttribute" > <xs:sequence> <xs:element name="positionObject" type="PositionObject" minOccurs="0" /> <xs:element name="distanceUnit" type="DistanceUnit" minOccurs="0" /> <xs:element name="distanceSourcet" type="DistanceSource" minOccurs="0" /> <xs:element name="distanceMileStone" type="DistanceMileStone" minOccurs="0" /> <xs:element name="runningRoadIdentification" type="RunningRoadIdentification" minOccurs="0" /> <xs:element name="positionInLane" type="PositionInLane" minOccurs="0" /> </xs:sequence> </xs:complexType>		
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Remarks			

position code attribute

Data concept name	PositionCodeAttribute	Data status category	dynamic
		Data concept type	data frame
Definition and description	It is an attribute for Code Location Reference. It contains the position difference from the reference position.		
Data structure	<xs:simpleype name="PositionCodeAttributes" type="EXTERNAL"/>		

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Remarks			

position code method

Data concept name	PositionCodeMethod	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides a position code for Code Location Reference.		
Data structure	<xs:simpleType name="PositonCodeMethod" > <xs:element name="codeOfCodeLocationReference" type="xs:string"/> </xs:simpleType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

position code reference

Data concept name	PositionCodeReference	Data status category	dynamic
		Data concept type	data frame
Definition and description	Position by Code Location Reference.		
Data structure	<xs:complexType name="PositionCodeReference" > <xs:sequence> <xs:element name="positionCodeMethod" type="PositionCodeMethod"/> <xs:element name="positionCodeAttributes" type="PositionCodeAttributes" /> </xs:sequence> </xs:complexType>		
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Remarks			

position confidence

Data concept name	PositionConfidence	Data status category	dynamic
		Data concept type	value domain
Definition and description	PositionConfidence provides the confidence of a position. It is a confidence level of 95 % reliability.		
Data structure	<xs:simpleType name="PositionConfidence" type="Confidence"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

position confidence ellipse

Data concept name	PositionConfidenceEllipse	Data status category	dynamic
		Data concept type	value domain
Definition and description	Position confidence is expressed by ellipse.		
Data structure	<xs:complexType name="PosConfidenceEllipse" > <xs:sequence> <xs:element name="SemiMajorConfidence" type="Confidence"/> <xs:element name="SemiMajorConfidence" type="Confidence"/> <xs:element name="SemiMajorOrientation" type="Azimuth"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

position confidence set

Data concept name	PositionConfidenceSet	Data status category	dynamic
		Data concept type	aggregate domain
Definition and description	It provides confidence of latitude, longitude and altitude/elevation.		

Data structure	<xs:complexType name="PositionConfidenceSet" > <xs:sequence> <xs:element name="latitudeConfidence" type="LatitudeConfidence"/> <xs:element name="longitudeConfidence" type="LongitudeConfidence" /> <xs:element name="elevationConfidence" type="ElevationConfidence" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

position geographical

Data concept name	PositionGeographical	Data status category	dynamic
		Data concept type	aggregate domain
Definition and description	It provides latitude, longitude and altitude/elevation by GNSS.		
Data structure	<xs:complexType name="PsitionGeographical" > <xs:sequence> <xs:element name="latitude" type="Latitude" /> <xs:element name="longitude" type="Longitude" /> <xs:element name="elevetion" type="Elevation"minOccurs="0" /> <xs:element name="coordinateSystem" type="GCoordinateSystem"minOccurs="0" /> </xs:sequence> </xs:complexType>		
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Remarks			

position GPS correction

Data concept name	PositionGPSCorrection	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides GPS correction data.		

Data structure	<xs:simpleType name="PositionGPSCorrection" type="EXTERNAL"/>		
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Remarks			

position in lane

Data concept name	PositionInLane	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the position in the lane: right-leaning/left-leaning/central/unknown.		
Data structure	<xs:simpleType name="PositionInLane" type="OneDigitUnsignedInt"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

position in mesh

Data concept name	PositionInMesh	Data status category	dynamic
		Data concept type	aggregate domain
Definition and description	It provides the normalized position in a map mesh.		
Data structure	<xs:complexType name="PositionInMesh" > <xs:sequence> <xs:element name="XnormalizedCoordinate" type="xs:int"/> <xs:element name="YnormalizedCoordinate" type="xs:int"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

position link reference

Data concept name	PositionLinkReference	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the position on the road by link/node and distance.		
Data structure	<xs:complexType name="PositionLinkReference" > <xs:sequence> <xs:element name="linkMethod" type="LinkMethod"/> <xs:element name="linkAttributes" type="LinkAttributes"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

position map

Data concept name	PositionMap	Data status category	dynamic
		Data concept type	aggregate domain
Definition and description	It provides coordinates on the map. It contains a map mesh and coordinate differences.		
Data structure	<xs:complexType name="PositionMap" > <xs:sequence> <xs:element name="gCoordinateSystem" type="GCoordinateSystem" minOccurs="0" /> <xs:element name="positionMAPVersion" type="PositionMAPVersion" minOccurs="0" /> <xs:element name="positionMAPMesh" type="PositionMAPMesh" /> <xs:element name="positionInMesh" type="PositionInMesh" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

position map mesh

Data concept name	PositionMapMesh	Data status category	static
		Data concept type	aggregate domain
Definition and description	It provides a mesh code of a map.		
Data structure	<xs:complexType name="PositionMapMesh" > <xs:sequence> <xs:element name="firstMesh" type="FourDigitCode"/> <xs:element name="secondMesh" type="TwoDigitCode"/> <xs:element name="thirdMesh" type="TwoDigitCode"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

position map version

Data concept name	PositionMapVersion	Data status category	static
		Data concept type	value domain
Definition and description	It provides a version of the map.		
Data structure	<xs:simpleType name="PositionMapVersion" type="FourDigitCode" minOccurs="0" />		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

position object

Data concept name	PositionObject	Data status category	static
		Data concept type	aggregate domain
Definition and description	It provides the position of ITS objects which are device, road, event and region.		

Data structure	<xs:complexType name="PositionObject" > <xs:choice> <xs:element name="positionObjectDevice" type="PositionObjectDevice" /> <xs:element name="positionObjectRoad" type="PositionObjectRoad" /> <xs:element name="positionObjectEvent" type="PositionObjectEvent" /> <xs:element name="positionObjectRegion" type="PositionObjectRegion" /> </xs:choice> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

position object device

Data concept name	PositionObjectDevice	Data status category	static
		Data concept type	value domain
Definition and description	It provides the position of the ITS device.		
Data structure	<xs:simpleType name="PositionObjectDevice" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

position object event

Data concept name	PositionObjectEvent	Data status category	static
		Data concept type	value domain
Definition and description	It provides the position of an ITS event.		
Data structure	<xs:simpleType name="PositionObjectEvent" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

position object region

Data concept name	PositionObjectRegion	Data status category	static
		Data concept type	value domain
Definition and description	It provides the position of the ITS region.		
Data structure	<xs:simpleType name="PositionObjectRegion" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

position object road

Data concept name	PositionObjectRoad	Data status category	static
		Data concept type	value domain
Definition and description	It provides the position of the road.		
Data structure	<xs:simpleType name="PositionObjectRoad" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

position type

Data concept name	PositionType	Data status category	static
		Data concept type	value domain
Definition and description	It provides the type of position expression.		

Data structure	<xs:simpleType name="PositionType" > <xs:union> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="GPS position"/> <xs:enumeration value="position on map"/> <xs:enumeration value="link referenced position"/> <xs:enumeration value="code referenced position"/> <xs:enumeration value="reserved"/> </xs:restriction> </xs:simpleType> <xs:simpleType> <xs:restriction base="xsunsignedByte"> <xs: minInclusive value="0" /> <xs: maxInclusive value="4" /> </xs:restriction> </xs:simpleType> </xs:union> </xs:simpleType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

position pillar

Data concept name	PositionPillar	Data status category	static
		Data concept type	value domain
Definition and description	It provides the position of the pillar of the vehicle. Position is indicated by the length from the reference point of the vehicle. Unit value is assigned to a 4 bit code that means 0,01 m/0,05 m/0,1 m/0,2 m.		
Data structure	<xs:complexType name="PositionPillar"> <xs:sequence> <xs:element name="valueOfPosPillar" type=" ThreeDigitUnsignedInt"/> <xs:element name="codeOfUnitValue" type="FourBitCode" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

pressure

Data concept name	Pressure	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the pressure value of devices of a vehicle. Pressure is indicated by value and unit. Unit value is assigned to a 4 bit code that means 1 kPa/2 kPa/4 kPa/10 kPa.		
Data structure	<xs:complexType name="Pressure" > <xs:sequence> <xs:element name="valueOfPressure" type="FourDigitUnsignedInt"/> <xs:element name="codeOfUnitValue" type="dd:FourBitCode" /> </xs:sequence> </xs:simpleType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

probe information

Data concept name	ProbeInformation	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides probe information such as OBU information and history data of path.		
Data structure	<xs:complexType name="ProbeInformation" > <xs:sequence> <xs:element name="oBUinformation" type="OBUinformation" /> <xs:element name="pathHistory" type="PathHistory" /> </xs:sequencee> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

processing status

Data concept name	ProcessingStatus	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides the status of a recovering of hazard.		
Data structure	<xs:simpleType name="ProcessingStatus > type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

priority

Data concept name	Priority	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides an ITS priorty event and information.		
Data structure	<xs:simpleType name="Priority" " type=xs:integer"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

public vehicle status

Data concept name	PublicVehicleStatus	Data status category	dynamic
		Data concept type	aggregate domain
Definition and description	It provides the status of the exterior of a public vehicle such as a school bus and a route bus.		
Data structure	<xs:simpleType name="PublicVehicleStatus" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

precedent vehicle gap distance

Data concept name	PrecedentVehicle GapDistance	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides a gap distance between the precedent vehicle and the subject vehicle.		
Data structure	<xs:simpleType name="PecedentVehicleGapDistance" type="Length" />		
Issued by		source document	ISO 16787:2016 APS
Remarks			

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rain and snow

Data concept name	Rain	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides the level and quantity of rain and snow.		
Data structure	<xs:simpleType name="Rain" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

rate of departure

Data name	RateOfDeparture	Data status category	dynamic
		Data concept type	value domain
Definition and description	Component of subject vehicle's approach velocity at the right angle to the lane boundary [m/s].		
Data structure	<xs:simpleType name="RateOfDeparture" type="EXTERNAL"/>		
Issued by		source document	ISO 11270:2014 LKAS
Remarks			

recommend CACC message

Data concept name	RecommendCACCMessage	Data status category	dynamic
		Data concept type	message
Definition and description	Recommend/restriction message from road station to CACC vehicle station.		
Data structure	<xs:complexType name="RecommendCACCMessage" > <xs:sequence> <xs:element name="recommendRoad" type="Road" /> <xs:element name="recomendLane" type="Lane" /> <xs:element name="recommendSection" type="Section" /> <xs:element name="recommendSpeed" type="Speed" /> <xs:element name="recommendGap" type="Gap" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

recommend gap

Data concept name	RecommendGap	Data status category	dynamic
		Data concept type	value domain
Definition and description	Recommend/restriction of gap for CACC vehicle.		
Data structure	<xs:simpleType name="RecommendGap" type="Length" />		
Issued by		source document	ISO 16787:2016 APS
Remarks			

recommend lane

Data concept name	RecommendLane	Data status category	dynamic
		Data concept type	aggregate domain
Definition and description	Recommend/restriction lane for CACC vehicle.		
Data structure	<xs:complexType name="RecomendLane"> <xs:choice> <xs:element name="laneID" type="LaneID" /> <xs:element name="laneNumber" type="LaneNumber" /> </xs:choice> </xs:complexTyp>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

recommend road

Data concept name	RecommendRoad	Data status category	dynamic
		Data concept type	data element
Definition and description	Recommend/restriction road for CACC vehicle.		
Data structure	<xs:simpleType name="RecomendRoad" type="RoadID" />		
Issued by		source document	ISO 16787:2016 APS
Remarks			

recommend section

Data concept name	RecommendSection	Data status category	dynamic
		Data concept type	data element
Definition and description	Recommend/restriction road section for CACC vehicle.		

Data structure	<xs:complexType name="RecomendSection"> <xs:element name="section" type="SectionOfRoad" /> </xs:complexTyp>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

recommend speed

Data concept name	RecommendSpeed	Data status category	dynamic
		Data concept type	value domain
Definition and description	Recommend/restriction speed for CACC vehicle.		
Data structure	<xs:simpleType name="RecommendSpeed" type="Speed" />		
Issued by		source document	ISO 16787:2016 APS
Remarks			

rectangle

Data concept name	Rectangle	Data status category	static
		Data concept type	aggregate domain
Definition and description	Rectangle specifies a rectangle with a lower left and upper rights coordinate.		
Data structure	<xs:complexType name="Rectangle"> <xs:sequence> <xs:element name="lowerLeftCoordinate" type="AbsoluteGeoCoordinate"/> <xs:element name="upperRightCoordinate" type="AbsoluteGeoCoordinate"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO/TS 21219-22:2017
Remarks			

rectangle location reference

Data concept name	RectangleLocationReference	Data status category	static
		Data concept type	data element
Definition and description	A rectangle location references a rectangular shape. It shall be given by two geo-coordinate pairs which may be everywhere on the surface. The geo-coordinate pairs shall define the lower left (A) and the upper right (B) corner of the rectangular shape. Real-world examples are weather information or any area where the shape is not exactly specified and the location references shall be light-weighted.		
Data structure	<xs:complexType name="RectangleLocationReference"> <xs:sequence> <xs:element name="rectangle" type="Rectangle"/> <xs:element name="isFuzzyArea" type="tdt:Boolean"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO/TS 21219-22:2017
Remarks			

relative geo-coordinate

Data concept name	RelativeGeoCoordinate	Data status category	static
		Data concept type	data element
Definition and description	RelativeGeoCoordinate stores geo-coordinates as relative values in deca micro degree precision. longitude: The relative longitude value in deca micro degree precision. latitude: The relative latitude value in deca micro degree precision. altitude: Elevation of location in metres above/below Mean Sea Level.		
Data structure	<xs:complexType name="RelativeGeoCoordinate"> <xs:sequence> <xs:element name="longitude" type="tdt:IntSiLi"/> <xs:element name="latitude" type="tdt:IntSiLi"/> <xs:element name="altitude" type="tdt:IntSiLoMB" minOccurs="0"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO/TS 21219-22:2017
Remarks			

restricted status

Data concept name	RestrictedStatus	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides a restriction by the obstacle.		
Data structure	<xs:simpleType name="RestrictedStatus" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

restriction cause

Data concept name	RestrictionCause	Data status category	static
		Data concept type	value domain
Definition and description	It provides the cause of the traffic restriction.		
Data structure	<xs:simpleType name="RestrictionCause" type="EightBitAssignedCode" /> <xs:annotation> <xs:documentation> "RestrictionCause" is as follows; > bit 0 "ordinary" value=0: not apply / =1: apply> bit 1 "season" value=0: not apply / =1: apply> bit 2 "festival/event" value=0: not apply / =1: apply> bit 3 "locked gate" value=0: not apply / =1: apply> bit 4 "permitted gate" value=0: not apply / =1: apply> bit 5 "special" value=0: not apply / =1: apply> bit 6 "reserved" value=0: not apply / =1: apply> bit 7 "reserved" value=0: not apply / =1: apply> </xs:documentation> </xs:annotation> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

road

Data concept name	Road	Data status category	dynamic
		Data concept type	data Frame
Definition and description	It provides road information for intersections, crosswalks and simple roads.		
Data structure	<xs:complexType name="Road" > <xs:sequence> <xs:element name="Intersection" type="Intersection" /> <xs:element name="CrosswalkLane" type="CrosswalkLane" /> <xs:element name="SimpleRoad" type="SimpleRoad" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

road

Data concept name	Road	Data status category	static
		Data concept type	data element
Definition and description	Road is a passable area which is called a street/roadway. Each Road is an aggregation of Road Sections.		
Data structure	<xs:complexType name="Road"> <xs:sequence> <xs:element name="roadNetworkLevel" type="OneDigitSignedInt"/> <xs:element name="roadId" type="ID32bit"/> <xs:element name="roadClass" type="RoadClass"/> <xs:element name="routeNumber" type="RoadNumber" minOccurs="0" /> <xs:element name="roadName" type="xs:string" minOccurs="0"/> <xs:element name="roadSectionParallelList"> <xs:complexType> <xs:sequence minOccurs="1" maxOccurs="2"> <xs:element name="numSerialRoadSection" type="FourDigitUnsignedInt" /> <xs:element name="serialList"> <xs:complexType> <xs:sequence maxOccurs="unbounded"> <xs:element name="roadSection" type="RoadSection" /> </xs:sequence> </xs:complexType>		

	</xs:element> </xs:sequence> </xs:complexType> </xs:element> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

road class

Data concept name	RoadClass	Data status category	static
		Data concept type	value damain
Definition and description	Road class is one of the coded classifications of the road such as highway, national road, stats road, city road and town road.		
Data structure	<xs:simpleType name="RoadClass" type="dd:OneDigitUnsignedInt"/> <xs:annotation> <xs:documentation> encoded as a 4 bit value> Road Class indicates the national/regional road class. > class0 (0) -- the highest road class> class1 (1) > class2 (2) > class3 (3) > class4 (4) > class5 (5) > class6 (6) > class7 (7) > class8 (8) > class9 (9) -- the lowest road class> </xs:documentation> </xs:annotation>		
Issued by		source document	ISO 14296:2016
Remarks			

road element

Data concept name	RoadElement	Data status category	static
		Data concept type	Data element
Definition and description	Road Element (alias Link) is connected to two Intersection Connection Points that are in each Intersection in the Road Section. The start and end of Road Element are an Intersection Connection Point at Intersection. Therefore Road Element connects to Intersection logically. Road Element is associated with Road Section.		
Data structure	<xs:complex Type name="RoadElement"> <xs:sequence> <xs:element name="roadNetworkLevel" type="OneDigitUnsignedInt" /> <xs:element name="roadSectionId" type="ID32bit" /> <xs:element name="roadElementId" type="ID32bit"/> <xs:element name="startIntersectionId" type="ID32bit"/> <xs:element name="startICPId" type="ID32bit"/> <xs:element name="endIntersectionId" type="ID32bit"/> <xs:element name="endICPId" type="ID32bit"/> <xs:element name="upperLevelExistenceFlag" type="Flag"/> <xs:element name="upperLevelRoadElementId" type="ID32bit" minOccurs="0"/> <xs:element name="roadType" type="RoadType"/> <xs:element name="lengthRoadElement" type="Lenght"/> <xs:element name="directionTrafficFlow" type="OneDigitUnsignedInt"/> <xs:element name="roadFunctionalCode" type="OneDigitInt" minOccurs="0"/> <xs:element name="roadslopeInfor" type="RoadSlope" minOccurs="0"/> <xs:element name="sidewalkType" type="OneDigitUnsugnedInt" minOccurs="0" /> <xs:element name="roadElementWidth" type="Lenght" minOccurs="0"/> <xs:element name="roadElementWidth(opposite)" type="Lenght" minOccurs="0"/> <xs:element name="numTrafficSignals" type="FourDigitUnsignedInt" minOccurs="0"/> <xs:element name="numRoadSignage" type="FourDigitUnsignedInt" minOccurs="0"/> <xs:element name="typicalSpeedLimitsValue" type="SpeedLimits" minOccurs="0"/> <xs:element name="onewayFlag" type="Flag"/> <xs:element name="investigationFlag" type="Flag"/> <xs:element name="laneInfoExistenceFlag" type="Flag"/> <xs:element name="bridgeTunnelExistenceFlag" type="Flag"/> <xs:element name="streetNnameExistenceFlag" type="Flag"/> <xs:element name="streetAddressExistenceFlag" type="Flag"/> <xs:element name="roadNameExistenceFlag" type="Flag"/> <xs:element name="stopSignExistenceFlag(startside)" type="Flag"/> <xs:element name="stopSignExistenceFlag(endside)" type="Flag"/> <xs:element name="passthroughFlag" type="Flag"/> <xs:element name="onTheStreetParkingFlag" type="Flag"/> <xs:element name="plannedRoadFlag" type="Flag"/> <xs:element name="scheduledDateTheOpeningPlannedRoad" type="xs:date" minOccurs="0"/>		

	<xs:element name="roadName" type="xs:string" minOccurs="0"/> <xs:annotation> <documentation> value and meaning of "directionTrafficFlow" is as follow> value ="0" "dual direction"> value ="1" "from start terminal to end terminal"> value ="2" "from end terminal to start"> value and meaning of "sidewalkType" is as follow value ="0" "no sidewalk"> value ="1" "with sidewalk"> value ="2" "with sidewalk and bicycle lane" > meaning of value="0" or "false" of Flag> "upperLevelExistenceFlag" = not existence> "laneInfoExistenceFlag" = not existence> "bridgeTunnelExistenceFlag"= not existence> "streetNameExistenceFlag" = not existence> "streetAddressExistenceFlag"= not existence> "roadNameExistenceFlag" = not existence> "stopSignExistenceFlag" = not existence> "onTheStreetParkingFlag"= not existence> "onewayFlag" = not one-way> "investigationFlag" = complete> "passthroughFlag" = not pass-through> "planedRoadFlag" = not planed road> </documentation> </xs:annotation> </xs:sequence> </xs:complexType>

Issued by		source document	ISO 14296:2016
Remarks			

road element shape

Data concept name	RoadElementShape	Data status category	static
		Data concept type	Data element
Definition and description	Road Element Shape is defined by the polyline in the central line of a Road Element. The beginning point and ending point of Road Element Shape are an Intersection Connection Point (ICP).		
Data structure	<xs:complexType name="RoadElementShape"> <xs:sequence> <xs:element name="roadSectionId" type="ID32bit" /> <xs:element name="roadId" type="ID32bit" /> <xs:element name="coordinatesStartICP" type="PointLlocation"/> <xs:element name="coordinatesEndICP" type="PointLocation"/> <xs:element name="numShapePoint" type="FourDigitUnsignedInt"/>		

	<xs:element name="linkShapePointList"> <xs:complexType> <xs:sequence maxOccurs="unbounded"> <xs:element name="offsetLocation" type="OffsetLocation" /> <xs:element name="roadStructureId" type="ID32bit" minOccurs="0"/> <xs:element name="advisoryPointId" type="ID32bit" minOccurs="0"/> </xs:sequence> </xs:complexType> </xs:element> </xs:sequence> </xs:complexType>

Issued by		source document	ISO 14296:2016
Remarks			

road functional code

Data concept name	RoadFunctionalCode	Data status category	static
		Data concept type	value domain
Definition and description	Road functional code provides the type code of road function. The type codes and the meanings are provided by Metadata.		
Data structure	<xs:simpleType name="RoadFunctionalCode" type="OneDigitUnsignedInt"/>		
Issued by		source document	ISO 14296:2016
Remarks			

road furniture

Data concept name	RoadFurniture	Data status category	static
		Data concept type	data element
Definition and description	Road furniture provides the shape and location of the road furniture, i.e. curb, gutter, traffic island, central island, road lighting, mirror, traffic barriers, guardrail, speedbump, bump post, pole corn, flower bed, verge, landmark, detection sensor, distance post, crossing bridge, tram track. The road furniture type codes and the meanings are provided by Metadata.		

Data structure	<xs:complexType name="RoadFurniture"> <xs:sequence> <xs:element rname="roadElementId" type="ID32bit" minOccurs="0"/> <xs:element name="intersectionId" type="ID32bit" minOccurs="0"/> <xs:element name="roadFurnitureId" type="dd:ID32bit" /> <xs:element name="roarFurnitureTypeCode" type="FourDigitCode" /> <xs:element name="furnitureAverageHeight" type="Height" minOccurs="0"/> <xs:element name="colour" type="TwoDigitCode"/> <xs:element name="coordinatesRoadFurniture" type="PointLocation"/> <xs:element name="numOfShape" type="TwoDigitUnsignedInt"/> <xs:elemeny name="roadFurnitureShapeList"> <xs:complexType> <xs:sequence maxOccurs="unbounded"> <xs:element name="shapeType" type="OneDigitUnsignedInt" /> <xs:element name="lineType" type="OneDigitUnsignedInt" minOccurs="0" /> <xs:element name="shapePointList" type="ShapePointList"/> </xs:sequence> </xs:complexType> </xs:element> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

road irregularity

Data concept name	RoadIrregularity	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides information on unevenness and cracks in the road surface.		
Data structure	<xs:simpleType name="RoadIrregularity" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

road marking

Data concept name	RoadMarking	Data status category	static
		Data concept type	data element
Definition and description	Road Marking provides the shape of painted markings on roads such as lane markings. The shoulder lane of roads, lane lines, centre lines, stop lines, pedestrian crossings, and tram traffic belts are assumed. This entity is used for drawing, map matching, giving attention, and driving support.		
Data structure	<xs:complexType name=“RoadMarking"> <xs:sequence> <xs:element name=“roadSectionId" type=“ID32bit" minOccurs=“0" /> <xs:element rname=“roadElementId" type=“ID32bit" minOccurs=“0"/> <xs:element name=“intersectionId" type=“ID32bit" minOccurs=“0"/> <xs:element name=“roadMarkingId" type=“ID32bit" /> <xs:element name=“roadMarkingType" type=“RoadMarkingType"/> <xs:element name=“roarMarkingCode" type=“FourDigitCode" /> <xs:element name=“paintedColour" type=“TwoDigitCode"/> <xs:element name=“coordinatesRoadMarking" type=“PointLocation"/> <xs:element name=“numShape" type=“FourDigitUnsignedInt"/> <xs:elemeny name=“roadMarkingShapeList"> <xs:complexType> <xs:sequence maxOccurs=“unbounded"> <xs:element name=“shapeType" type=“dd:OneDigitUnsignedInt"/> <xs:annotation> <xs:documentation> value =“1"; "point"/> value =“2"; "polyline"/> value =“3"; "polygon"/> value =“4"; "symbol"/> </xs:documentationn> </xs:annotation> <xs:element name=“lineType" type=“OneDigitUnsignedInt minOccurs=“0" /> <xs:annotation> <xs:documentation> value =“0"; "single line" <default> value =“1"; "double line" value =“2"; "single dash line" value =“3"; "double dash line" value =“4"; "right line left dash line" value =“5"; "right dash line left line" </xs:documentationn> </xs:annotation> <xs:element name=“shapePointList" type=“ShapePointList"/> </xs:sequence> </xs:complexType> </xs:element> </xs:sequence> </complexType>		

Issued by		source document	ISO 14296:2016
Remarks			

road marking type

Data concept name	RoadMarkingType	Data status category	static
		Data concept type	value domain
Definition and description	RoadMarkingType provides the type code of the road marking. The type codes and the meanings are provided by Metadata.		
Data structure	<xs:simpleType name="RoadMarkingType" > <xs:union> <xs:simpleType> <xs:restriction base="xs:string" > <xs:enumeration value="guide"/> <xs:enumeration value="attention"/> <xs:enumeration value="restrict"/> <xs:enumeration value="order"/> <xs:enumeration value="others"/> </xs:restriction> </xs:simpleType> <xs:simpleType> <xs:restriction base="xs:unsignedByte"/> </xs:simpleType> </xs:union> </xs:simpleType>		
Issued by	WG3	source document	ISO 14296
Remarks			

road network connector

Data concept name	RoadNetworkConnector	Data status category	static
		Data concept type	data element
Definition and description	Road Network Connector is an object that makes the connection between Road Element and Transfer Zone for other networks.		
Data structure	<xs:complexType name="RoadNetworkConnector" > <xs:sequence> <xs:element name="roadNetworkConnectionId" type="ID32bit"/> <xs:element name="transferZoneId" type="ID32bit"/> <xs:element name="referenceLocationRoadNetworkConnection" type="PointLocation"/> <xs:element name="numRelatedRoadElementPosition" type="OneDigitUnsignedInt"/> <xs:element name="relatedRoadElementPositionList" minOccurs="0" > <xs:complexType> <xs:sequence maxOccurs="unbounded"> <xs:element name="roadElementId" type="ID32bit" /> <xs:element name="positionOnTheRoad" type="Length"/> </xs:sequence> </xs:complexType> </xs:element> </xs:sequence> </complexType		
Issued by		source document	ISO 14296:2016
Remarks			

road number

Data concept name	RoadNumber	Data status category	static
		Data concept type	value domain
Definition and description	A road number or route number is often assigned to a stretch of public roadway. The number chosen is often dependent on the type of road, with numbers differentiating between interstates, motorways, arterial thoroughfares, two-lane roads.		
Data structure	<xs:complexType name="RoadNumber" > <xs:choice> <xs:element name="fourDigitNumber" type="FourDigitCode"/> <xs:element name="sixDigitNumber" type="SixDigitCode"/> </xs:choice> <xs:annotation> <xs:documentaion> route number is defined by the road authority such as "N123", "I91 " and "E999". </xs:documentation> </xs:annotation> </xs:choice> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

road section

Data concept name	RoadSection	Data status category	static
		Data concept type	data frame
Definition and description	Road Section is a serial aggregation of Road Elements and Intersections. Each Road Section consists of one or more Road Elements and two or more Intersections, and both ends of Road Section are Intersections.		
Data structure	<xs:complexType name="RoadSection"> <xs:sequence> <xs:element name="roadNetworkLevel"type="OneDigitUnsignedInt" /> <xs:element name="roadId" type="ID32bit" /> <xs:element name="roadSectionId" type="ID32bit" /> <xs:element name="numIntersection" type="TwoDigitUnsignedInt"/> <xs:element name="startIntersectionId" type="ID32bit" /> <xs:element name="end_intersectionId" type="ID32bit" /> <xs:element name="roadEelementList"> <xs:complexType > <xs:sequence maxOccurs="unbounded"> <xs:element name="roadElement"type="RoadElement" /> </xs:sequence> </xs:complexType> </xs:element> <xs:element name="tollRoadFlag" type="Flag"/> </xs:sequence> <xs:annotation> <xs:documentation> Road Section is organized by serial Road Elements. </xs:documentation> </xs:annotation> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

road sign

Data concept name	RoadSign	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides a road sign that contains contents, targets and conditions.		

Data structure	<xs:complexType name="RoadSign" > <xs:sequence> <xs:element name="roadSignContents" type="RoadSignContents" /> <xs:element name="roadSignObjects" type="RoadSignObjects" /> <xs:element name="roadSignCondition" type="RoadSignCondition" /> </xs:sequencee> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

road sign condition

Data concept name	RoadSignCondition	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides an application condition of the road sign.		
Data structure	<xs:simpleType name="RoadSignCondition" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

road sign contents

Data concept name	RoadSignContents	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides an application contents of the road sign.		
Data structure	<xs:simpleType name="RoadSignContents" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

road sign object

Data concept name	RoadSignObject	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides an object of a road sign.		
Data structure	<xs:simpleType name="RoadSignObject" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

road signage

Data concept name	RoadSignage	Data status category	static
		Data concept type	data element
Definition and description	RoadSignages are traffic signs, signboards, guide plates on the road. Road Signage provides the location and attributes.		
Data structure	<xs:complexType name="RoadSignage"> <xs:element name="roadSignageId" type="ID32bit"/> <xs:element name="roadSectionId" type="ID32bit"/> <xs:element name="roadElementId" type="ID32bit"/> <xs:element name="directionRoadSignage" type="OneDigitUnsignedInt" /> <xs:annotation> <xs:documentation> value ="1" "forward"> value ="2" "opposite"> value ="3" "both"> </xs:documentation> </xs:annotation> </xs:element> <xs:element name="messageType" type="Flag"/> <xs:element name="roadSignageType" type="OneDigitUnsignedInt" /> <xs:annotation> <xs:documentation> value ="0" "guide"> value ="1" "attention"> value ="2" "restrict"> value ="3" "order"> value ="4" "other"/> </xs:documentation>		

	</xs:annotation> </xs:element> <xs:element name="roadSignageCode" type="FourDigitCode"/> <xs:element name="locationRoadSignage" type="PointLocation"/> <xs:element name="roadSignNumericText" type="FourDigitInt"/> <xs:element name="supplementarySignageFlag" type="Flag"/> <xs:element name="supplementarySignageText" type="xs:string" minOccures="0"/> <xs:element name="heightSignage" type="xs:unsignedByte" minOccures="0"/> </complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

road slope

Data concept name	RoadSlope	Data status category	static
		Data concept type	aggrigate domain
Definition and description	RoadSlope provides the sum total value of the length and the difference in height of the upslope, downslope and flat parts of the road. There is no difference in height for the flat parts.		
Data structure	<xs:complexType name="RoadSlope"> <xs:element name="ascentLength" type="Length" /> <xs:element name="ascentHeight" type="Height" /> <xs:element name="descentLength" type="Length" /> <xs:element name="descentHeight" type="Height" /> <xs:element name="flatLength" type="Length" /> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

road surface status

Data concept name	RoadSurfaceStatus	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the status of the road surface.		
Data structure	<xs:simpleType name="RoadSurfaceStatus" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

road temperature

Data concept name	RoadTemperature	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the temperature around the vehicle and the road surface.		
Data structure	<xs:simpleType name="RoadTemperature" type="Temperature"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

road type

Data concept name	RoadType	Data status category	static
		Data concept type	value domain
Definition and description	RoadType provides road type information, i.e. main road, service road and slip road.		
Data structure	<xs:simpleType name="RoadType"> <xs:union> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="main road (dual carriageway)"/>		

	<xs:enumeration value="multiple carriageway not motorway"/> <xs:enumeration value="main road (single carriageway)"/> <xs:enumeration value="roundabout link"/> <xs:enumeration value="slip road"/> <xs:enumeration value="service road"/> <xs:enumeration value="entrance/exit road to/from car park"/> <xs:enumeration value="entrance/exit raod to/from service"/> <xs:enumeration value="runaway vhecle ramp"/> <xs:enumeration value="maneuver carriageway"/> <xs:enumeration value="indescribable carriageway"/> <xs:enumeration value="traffic square"/> <xs:enumeration value="enclosed traffic area"/> <xs:enumeration value="pedestrian zone"/> <xs:enumeration value="intersection link"/> <xs:enumeration value="reserved"/> </xs:restriction> </xs:simpleType> <xs:simpleType> <xs:restriction base="xs:unsignedByte"/> </xs:simpleType> </xs:union> </xs:simpleType>		
Issued by		source document	ISO 14296:2016
Remarks			

road work status

Data concept name	RoadWorkStatus	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the status of roadwork.		
Data structure	<xs:simpleType name="RoadWorkStatus" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

roadside sensing

Data concept name	RoadSideSensing	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the applied area of roadside sensing.		
Data structure	<xs:simpleType name="RoadSideSensing" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

roadside unit information

Data concept name	RoadSideUnitInformation	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides information on roadside units.		
Data structure	<xs:complexType name="RSUInformation" > <xs:sequence> <xs:element name="RSUInstallation" type="RoadSideUitInstallation" /> <xs:element name="RSUMatter" type="RoadSideUintMatter" /> <xs:element name="RSSensing" type="RoadSideSensing" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

roadside unit installation

Data concept name	RoadSideUnitInformation	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the location of roadside units.		
Data structure	<xs:simpleType name="RoadSideUnitInstallation" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

roadside unit matter

Data concept name	RoadSideUnitMatter	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the details of roadside units.		
Data structure	<xs:simpleType name="RoadSideUnitMatter" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

running road identification

Data concept name	RunningRoadIdentification	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides the identification of a running road.		
Data structure	<xs:simpleType name="RunningRoadIdentification" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

[s]

sending frequency

Data concept name	SendingFrequency	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides interval time of sending.		
Data structure	<xs:simpleType name="SendingFrequency" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

sensing altitude

Data concept name	SensingAltitude	Data status category	static
		Data concept type	data element
Definition and description	Altitude of the vehicle observed by the location position sensor, and accuracy of a sensor. Unit of Altitude is "metre". Value is expressed by the short integer. Unit of accuracy is "metre". Value is expressed by the float.		
Data structure	<xs:complexType name="SensingAltitude "> <xs:sequence> <xs:element name="altitude" type="xs:short" /> <xs:element name="confidence" type="Accuracy_metre" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 22837:2009
Remarks			

sensing latitude

Data concept name	SensingLatitude	Data status category	static
		Data concept type	value domain
Definition and description	Latitude of the vehicle observed by the location position sensor, and accuracy of a sensor. Unit of Latitude is "degree". Value is expressed by double float but the decimal place is undefined. Unit of Accuracy is "millimetre". Value is expressed by float but the decimal place is undefined.		
Data structure	<xs:complexType name="SensingLatitude"> <xs:sequence> <xs:element name="latitude" type="Degree" /> <xs:element name="confidence" type="Accuracy_millimetre" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 22837:2009
Remarks			

sensing longitude

Data concept name	SensingLongitude	Data status category	static
		Data concept type	value domain
Definition and description	Longitude of the vehicle observed by the location position sensor, and accuracy of a sensor. Unit of Longitude is "degree". Value is expressed by double float but the decimal place is undefined. Unit of Accuracy is "millimetre". Value is expressed by float but the decimal place is undefined.		
Data structure	<xs:complexType name="SensingLongitude"> <xs:sequence> <xs:element name="longitude" type="Degree" /> <xs:element name="confidence" type="Accuracy_millimetre" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 22837:2009
Remarks			

sensing time stamp

Data concept name	SensingTimeStamp	Data status category	static
		Data concept type	value domain
Definition and description	Sensing timestamp provides the time of the sensing. Value of timestamp is based on 1 January 1970 same as "UNIX epoch time" Unit of measure is "second". Value is expressed by double float but the decimal place is undefined.		
Data structure	<xs:simpleType name=SensingTimestamp"> <xs:restriction base="xs:double"> <xs:minInclusive value="0.0"/> </xs:simpleType>		
Issued by		source document	ISO 22837:2009
Remarks			

service

Data concept name	Service	Data status category	static
		Data concept type	data element
Definition and description	Service is an object for a commercial activity of interest to travellers as a destination and/or orientation that is associated with Road Element(s) or place(s), by which it can be accessed.		
Data structure	<complexType name="Service"> <xs:sequence> <xs:element name="serviceId" type="ID32bit"/> <xs:element name="serviceCatergory" type="FourDigitCode"/> <xs:element name="nameOfService" type="xs:string" /> <xs:element name="addressOfService" type="xs:string" /> <xs:element name="phoneNumberOfService" type="xs:string" /> <xs:element name="serviceReferencePoint" type="ServiceReferencePoint"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

service reference point

Data concept name	ServiceReferencePoint	Data status category	static
		Data concept type	data element
Definition and description	Service Reference Point provides a representative point of a Service and POI and relationship to the map data.		
Data structure	<complexType name="ServiceReferencePoint" > <xs:element name="serviceId" type="ID32bit" /> <xs:element name="serviceRefelencePointLocation" type="PointLocation" /> <xs:element name="roadElementId" type="ID32bit" numminOccures="0"/> <xs:element name="figureElementId" type="ID32bit" numminOccures="0"/> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

service information

Data concept name	ServiceInformation	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides management information for the services. It contains a tag for profiles.		
Data structure	<xs:simpleType name="ServiceInformation" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

shape point list

Data concept name	ShapePointList	Data status category	static
		Data concept type	aggregate domain
Definition and description	Shape Point List provides the shape points for the figure such as the polyline and polygon.		
Data structure	<xs:complexType name="ShapePointList"> <xs:sequence maxOccurs="unbounded"> <xs:element name="offsetLocation" type="OffsetLocation" /> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

signal

Data concept name	Signal	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides traffic signal information such as direction, status of signal light and priority.		
Data structure	<xs:complexType name="Signal" > <xs:sequence> <xs:element name="signalDevice" type="SignalDevice" /> <xs:element name="signalDirection" type="SignalDirection" /> <xs:element name="signalLightStatus" type="SignalLightStatus" /> <xs:element name="signalPriority" type="SignalPriority" /> </xs:sequencee> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

signal device

Data concept name	SignalDevice	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides detailed information on the signal light.		
Data structure	<xs:simpleType name="SignalDevice" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

signal direction

Data concept name	SignalDirection	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the traffic direction of the traffic signal.		
Data structure	xs:simpleType name="SignalDirection" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

signal light status

Data concept name	SignalLightStatus	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the status of the traffic signal. It contains interval time and remaining time of the signal.		
Data structure	<xs:simpleType name="SignalLightStatus" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

signal priority

Data concept name	SignalPriorty	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides priority status of the traffic signal.		
Data structure	<xs:simpleType name="SignalPriorty" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

simple road

Data concept name	SimpleRoad	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides information on the road but not the intersection.		
Data structure	<xs:simpleType name="SimpleRoad" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

simple system status

Data concept name	SimpleSystemStatus	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides the general status of the optional system of the vehicle.		
Data structure	<xs:simpleType name="SimpleSystemStatus" > <xs:union> <xs:simpleType> <xs:restriction base="xs:string">		

	<xs:enumeration value="unavailable"/> <xs:enumeration value="disabled"/> <xs:enumeration value="enabled"/> <xs:enumeration value="engaged"/> </xs:restriction> </xs:simpleType> <xs:simpleType> <xs:restriction base="xs:unsignedByte"/> </xs:simpleType> </xs:union> </xs:simpleType>

Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

siren in use

Data concept name	SirenInUse	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides a use state of the siren of the emergency vehicle.		
Data structure	<xs:simpleType name="SirenInUse" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

special route

Data concept name	SpecialRoute	Data status category	static
		Data concept type	data element
Definition and description	Special Route is a pre-defined route between two intersections.		
Data structure	<complexType name="SpecialRoute"> <xs:sequence> <xs:element name="specialRouteId" type=":ID32bit"/> <xs:element name="intersectionTerminal1" type=" ID32bit"/> <xs:element name="intersectionTerminal2" type="ID32bit"/>		

	<xs:element name="specialRouteType" type="SpecialRouteType"/> <xs:element name="directionSpecialRoute" type="FlagV" minOccures="0"/> <xs:element name="tollCharge" type="EightDigitUnsignedInt" minOccures="0"/> <xs:element name="curency" type="ThreeDigitCode" /> <xs:element name="lengthSpecialRoute" type="Length" minOccures="0"/> <xs:element name="averageTravelTimeSpecialRoute" type="xs:time" minOccures="0"/> <xs:choice> <xs:element name="specialRoadElementList"> <xs:complexType> <xs:sequence maxOccurs="unbounded"> <xs:element name="roadElementId" type="ID32bit"/> </xs:sequence> </xs:complexType> </xs:element> <xs:element name="specialIntersectionList"> <xs:complexType> <xs:sequence maxOccurs="unbounded"> <xs:element name="intersectionId" type="ID32bit" /> </xs:sequence> </xs:complexType> </xs:element> </xs:choice> </xs:sequence> </complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

special route type

Data concept name	SpecialRouteType	Data status category	static
		Data concept type	value domain
Definition and description	Type of special route, e.g. highway, scenic route, sightseeing route, evacuation route and detour.		
Data structure	<xs:simpleType name="dd:SpecialRouteType" > <xs:union> <xs:simpleType> <xs:restriction base="OneDigitUnsignedInt"/ > </xs:simpleType> <xs:simpleType> <xs:restriction base="xs:string" > <xs:enumeration value="Highway route"/> <xs:enumeration value="Scenic route"> <xs:enumeration value="Sightseeing route"> <xs:enumeration value="Evacuation route">		

	<xs:enumeration value="Detour route"> <xs:enumeration value="others"> </xs:restriction> </xs:simpleType> </xs:union> </xs:simpleType>		
Issued by		source document	ISO 14296:2016
Remarks			

special transport

Data concept name	SpecialTransport	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides information about special transportation.		
Data structure	<xs:simpleType name="SpecialTransport" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

speed

Data concept name	Speed	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides vehicle speed. Speed is indicated by value and unit. Unit value is assigned to a 4 bit code that means 0,01 km/h, 0,02 km/h, 1 km/h.		
Data structure	<xs:complexType name="Speed" > <xs:sequence> <xs:element name="valueOfSpeed" type="FourDigitUnsignedInt"/> <xs:element name="unitcodeOfSpeed" type="FourBitCode" minOccurs="0"/> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

speed

Data concept name	Speed	Data status category	dynamic
		Data concept type	value domain
Definition and description	Vehicle moving speed.		
Data structure	<xs:complexType name="Speed" > <xs:sequence> <xs:element name="valueOfSpeed" type="FourDigitUnsignedInt"/> <xs:element name="unitCodeOfSpeed" type="FourBitCode" minOccurs="0"/> </xs:sequence>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

speed limits

Data concept name	SpeedLimits	Data status category	static
		Data concept type	value domain
Definition and description	The maximum (or minimum in some cases) speed and applied type of vehicle.		
Data structure	<xs:complexType name="SpeedLimits"> <xs:element name="appliedVehicleType" type="VehicleTypeCode-BA" numminOccures="0" /> <xs:element name="speedValue" type="ThreeDiditUnsignedInt" > <xs:maxInclusive value="499"/> </xs:element> <xs:element name="unitOfSpeed" type="UnitOfMeasure" numminOccures="0"/> </xs:simpleType>		
Issued by		source document	ISO 14296:2016
Remarks			

speed confidence

Data concept name	SpeedConfidence	Data status category	dynamic
		Data concept type	value domain
Definition and description	SpeedConfidence provides the confidence of the speed of the vehicle. It is a confidence level of 95 % reliability.		
Data structure	<xs:simpleType name=SpeedConfidence" type="Confidence"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

station characteristics

Data concept name	StationCharacteristics	Data status category	dynamic
		Data concept type	data frame
Definition and description	It provides the characteristics of the ITS station. It contains station type, vehicle status.		
Data structure	<xs:complexType name="StationCharacteristics" > <xs:element name="mainCharacteristics" type="MainCharacteristics"/> <xs:element name="subCharacteristics" type="SubCharacteristics" /> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

station ID

Data concept name	StationID	Data status category	dynamic
		Data concept type	aggregate domain
Definition and description	It contains the characteristics of the ITS station, i.e. ID, station type, vehicle status.		
Data structure	<xs:simpleType name="StationID" type="32BitID"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

station type

Data concept name	StationType	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the type of ITS station.		
Data structure	<xs:simpleType name="StationType" > <xs:union> <xs:simpleType >		

	<xs:restriction base="xs:string"> <xs:enumeration value="vehicle (general)"/> <xs:enumeration value="vehicle (emergency)"/> <xs:enumeration value="vehicle (public)"/> <xs:enumeration value="roadside"/> <xs:enumeration value="center"/> <xs:enumeration value="nomadic"/> </xs:restriction> </xs:simpleType> <xs:simpleType> <xs:restriction base="xs:unsignedByte"/> </xs:simpleType> </xsunion> </xs:simpleType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

status confidence

Data concept name	StatusConfidence	Data status category	dynamic
		Data concept type	value domain
Definition and description	StatusConfidence indicates the percentage ratio of confidence. Value 127 means "unknown".		
Data structure	<xs:simpleType name="StatusConfidence" type="xs:unsignedByte"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

steering axle lube pressure

Data concept name	SteeringAxleLubePressure	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the pressure of the lube of the steering axle. Conformity SAE J1939. Unit value is 4 kPa.		
Data structure	<xs:simpleType name="SteeringAxleLubePressure" type="xs:unsignedByte"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

steering axle temperature

Data concept name	SteeringAxleTemperature	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the temperature of the steering axle. Conformity SAE J1939. Unit value is 1 °C and temperature value is the integer. If steering axle temperature is −40 °C, value is taken as zero.		
Data structure	<xs:simpleType name="SteeringAxleTemperature" type="Temperature"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

steering wheel angle

Data concept name	SteeringWheelAngle	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the angle of the steering wheel. Unit value is 1,5°.		
Data structure	<xs:simpleType name="SteeringWheelAngle" type="xs:short"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

steering wheel angle confidence

Data concept name	SteeringWheelAngleConfidence	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the confidence of the angle of the steering wheel. It is a confidence level of 95 % reliability.		
Data structure	<xs:simpleType name="SteeringWheelAngleConfidence" type="Confidence"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

steering wheel angle rate of change

Data concept name	SteeringWheelAngleRateOfChange	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the change rate of the angle of the steering wheel. Unit value is 3°.		
Data structure	<xs:simpleType name="SteeringWheelAngle" type="xs:short"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

steering wheel status

Data concept name	SteeringWheelStatus	Data status category	dynamic
		Data concept type	aggregate domain
Definition and description	It provides the status of the steering wheel. It contains angle, change rate, pressure and temperature for steering.		
Data structure	<xs:complexType name="SteeringWheelStatus" > <xs:sequence> <xs:element name="steeringWheelAngle" type="SteeringWheelAngle" /> <xs:element name="steeringWheelAngleRateOfChange" type="SteeringWheelAngleRateOfChange" /> <xs:element name="steeringAxlePressure" type="SteeringAxlePressure" /> <xs:element name="steeringAxleTemperature" type="SteeringAxleTemperature" /> </xs:sequencee> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

street address

<table>
<tr><td>Data concept name</td><td>StreetAddress</td><td>Data status category</td><td>static</td></tr>
<tr><td></td><td></td><td>Data concept type</td><td>data element</td></tr>
<tr><td>Definition and description</td><td colspan="3">Street address is used to identify a point or an area on the earth's surface. It contains address type, postal city / settlement name, postal code and house number.</td></tr>
<tr><td>Data structure</td><td colspan="3"><xs:complexType name=“StreetAddess">
<xs:sequence>
<xs:element name=“roadElementId" type=“ID32bit" />
<xs:element name=“streetAddressType" type=“TwoDigitCode"/>
<xs:element name=“streetName" type=“StreetName" />
<xs:element name=“addressInfomation">
<xs:complexType minOccures=“0">
<xs:element name=“postalCitySettlementName" type=“xs:string"/>
<xs:element name=“postalCode" type=xs:string"/>
<xs:element name=“lowerHouseNumber" type=“FourDigitInt" minOccures=“0"/>
<xs:element name=“upperHouseNumber" type=“FourDigitInt" minOccures=“0"/>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType></td></tr>
<tr><td>Issued by</td><td></td><td>source document</td><td>ISO 14296:2016</td></tr>
<tr><td>Remarks</td><td colspan="3"></td></tr>
</table>

street name

Data concept name	StreetName	Data status category	static
		Data concept type	value domain
Definition and description	It provides the text of the street name.		
Data structure	<xs:complexType name="StreetName"> <xs:sequence> <xs:element name="streetNamePrefix" type="xs:string" numminOccures="0"/> <xs:element name="streetNameBody" type="xs:string" /> <xs:element name="streetNameSuffix" type="xs:string" numminOccures="0"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 14296:2016
Remarks			

sunshine

Data concept name	sunshine	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides the quantity and level of sunshine.		
Data structure	<xs:simpleType name="DE_Sunshine" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

[t]

target gap

Data concept name	TargetGap	Data status category	dynamic
		Data concept type	value domain
Definition and description	Target gap that a system aims for.		
Data structure	<xs:simpleType name="TargetGap" type="Length" />		
Issued by		source document	ISO 16787:2016 APS
Remarks			

target time gap

Data name	TargetTimeGap	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the target time gap to the forward vehicle for cruise control systems.		
Data structure	<xs:simpleType name="TargetTimeGap" type="Second" />		
Issued by		source document	ISO 15622:2010 ACC
Remarks			

target acceleration-deceleration speed

Data concept name	TargetAcceleration-DecelerationSpeed	Data status category	dynamic
		Data concept type	value domain
Definition and description	Target acceleration and deceleration speed that a system aims for.		
Data structure	<xs:complexType name="TargetAcceleration-DecelerationSpeed" > <xs:sequence> <xs:element name="valueOfSpeed" type="FourDigitSignedInt"/> <xs:element name="unitCodeOfSpeed" type="FourBitCode" minOccurs="0"/> </xs:sequence> </xs:complexType>		
Issued by		source document	ISO 16787:2016 APS
Remarks			

target speed

Data concept name	TargetSpeed	Data status category	dynamic
		Data concept type	value domain
Definition and description	Speed that a system aims for.		
Data structure	<xs:simpleType name="TargetSpeed" type="Speed" />		
Issued by		source document	ISO 16787:2016 APS
Remarks			

temperature

Data concept name	Temperature	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the change rate of the angle of the steering wheel. Unit value is 1 °C.		
Data structure	<xs:simpleType name="Temperature" > <xs:restriction base="xs:short" > <xs:minInclusive value="-40"/> <xs:maxInclusive value="255"/> </xs:restriction> </xs:simpleType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

throttle confidence

Data concept name	ThrottleConfidence	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the confidence of the throttle. It is a confidence level of 95 % reliability.		
Data structure	<xs:simpleType name=ThrottleConfidence" type="Confidence"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

throttle status

Data concept name	ThrottleStatus	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides vehicle quantity of operation of throttle. Throttle is indicated by value and unit. Unit value is assigned to a 4 bit code that means 0,1 %, 0,2 %, 0,5 %, 1,0 %.		
Data structure	<xs:complexType name="ThrottleStatus" > <xs:sequence> <xs:element name="valueOfThrottleStatus" type="ThreeDigitSignedInt"/> <xs:element name="unitOfThrottleStatus" type="FourBitCode" minOccurs="0"/> </xs:sequencee> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

time attribute

Data concept name	ThrottleAttribute	Data status category	dynamic
		Data concept type	aggregate domain
Definition and description	It provides attributes of time. It contains time period, time point, time offset, day of week, am/pm, summer time and holiday.		
Data structure	<xs:complexType name="TimeAttribute"> <xs:sequence> <xs:element name="timeUnit" type="TimePeriodUnit" minOccurs="0" /> <xs:element name="timePoint" type="TimePoint" minOccurs="0" />" <xs:element name="timeOffset" type="TwoSignedInt" minOccurs="0" /> <xs:element name="dayOfWeek" type="DayOWeek" minOccurs="0" /> <xs:element name="amPmFlag" type="Flag" minOccurs="0" /> <xs:element name="holidayFlag" type="Flag" minOccurs="0" /> <xs:element name="summerTimeFlag" type="Flag" minOccurs="0" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

time confidence

Data concept name	TimeConfidence	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides confidence of time.		
Data structure	<xs:simpleType name="TimeConfidence" type="Confidence"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

time confidence set

Data concept name	TimeConfidenceSet	Data status category	dynamic
		Data concept type	aggregate domain
Definition and description	It provides a set of confidence of time.		
Data structure	<xs:simpleType name="TimeConfidenceSet" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

time elapsed

Data concept name	TimeElapsed	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides elapsed time from reference time.		
Data structure	<xs:complexType name="TimeElapsed"> <xs:sequence> <xs:element name="elapsedTime" type="xs:unsignedShort" /> <xs:element name="timePeriodUnit" type="TimePeriodUnit" minOccurs="0" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

time expression

Data concept name	TimeExpression	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides expression of the time.		
Data structure	<xs:complexType name="TimeExpression" > <xs:sequence> <xs:element name="dateTime" type="DateTime" /> <xs:element name="timeAttribute" type="TimeAttribute" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

time gap

Data name	TimeGap	Data status category	dynamic
		Data concept type	value domain
Definition and description	Time gap between vehicles. Value calculated from vehicle speed v and clearance c by: t=c/v		
Data structure	<xs:simpleType name="TimeGap" type="EXTERNAL"/>		
Issued by		source document	ISO 15622:2010 ACC
Remarks			

time of difference

Data concept name	TimeOfDifference	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the difference time between two times.		
Data structure	<xs:complexType name="TimeOfDifference"> <xs:sequence> <xs:element name="timeOfDifference" type="xs:unsignedShort" /> <xs:element name="timePeriodUnit" type="TimePeriodUnit" minOccurs="0" /> </xs:sequence> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

time of travel

Data concept name	TimeOfTravel	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the travelling time.		
Data structure	<xs:simpleType name="TimeOfTravel" type="EXTERNAL"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

time period

Data concept name	TimePeriod	Data status category	dynamic
		Data concept type	aggregate domain
Definition and description	It provides the period or time.		
Data structure	<xs:complexType name="TimePeriod"> <xs:choice> <xs:element name="timeOfDifference" type="TimeOfDifference" /> <xs:element name="timeElapsed" type="TimeElapsed" /> </xs:choice> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

time period unit

Data concept name	TimePeriodUnit	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the unit of period or time.		
Data structure	<xs:complexType name="TimePeriodUnit"> <xs:choice> <xs:element name="MilliSecond" type="UnitOfMeasure" /> <xs:element name="CentiSecond" type="UnitOfMeasure" /> <xs:element name="DeciSecond" type="UnitOfMeasure" /> <xs:element name="Second" type="UnitOfMeasure" /> <xs:element name="FiveSecond" type="UnitOfMeasure" /> <xs:element name="TenSecond" type="UnitOfMeasure" /> <xs:element name="Minute" type="UnitOfMeasure" /> <xs:element name="FiveMinutes" type="UnitOfMeasure" /> <xs:element name="TenMinutes" type="UnitOfMeasure" /> <xs:element name="HalfHour"type="UnitOfMeasure" /> </xs:choice> </xs:complexType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

time point

Data concept name	TimePoint	Data status category	dynamic
		Data concept type	data element
Definition and description	It provides the reference time.		
Data structure	<xs:simpleType name="TimePoint" > <xs:union> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="time_stamp"/> <xs:enumeration value="established_time"/> <xs:enumeration value="planed_time"/> <xs:enumeration value="start_time"/> <xs:enumeration value="end_time"/> <xs:enumeration value="reserved"/> </xs:restriction>		

	</xs:simpleType> <xs:simpleType> <xs:restriction base="xs:unsignedByte" > <xs: minInclusive value="0" /> <xs: maxInclusive value="5" /> </xs:restriction> </xs:simpleType> </xs:union> </xs:simpleType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

time to arrive intersection

data name	TimeToArriveIntersection TTAI	Data status category	static
		Data concept type	value domain
Definition and description	Time for a vehicle approaching an intersection from its current location to the stop line [s].		
Data structure	<xs:simpleType name="TimeToArriveIntersection" type="EXTERNAL"/>		
Issued by	WG14	source document	ISO 26684 CIWS
Remarks	The time to arrive at the intersection [TTAI] from the distance, Xv, can be determined as a function of the distance and the speed of vehicle, as follows. TTAI = Xv / V		

time to collision

Data name	TimeToCollision TTC	Data status category	dynamic
		Data concept type	value domain
Definition and description	Time for a subject vehicle to collide into the target vehicle assuming constant relative velocity[s].		
Data structure	<xs:simpleType name="TimeToCollision" type="EXTERNAL"/>		
Issued by		source document	ISO 22839:2013 FVCMS
Remarks	TTC = −Xc / Vr		

time to line crossing

Data name	TimeToLineCrossing TTLC	Data status category	dynamic
		Data concept type	value domain
Definition and description	Calculated time to lane departure [s].		
Data structure	<xs:simpleType name="TimeToLineCrossing" type="EXTERNAL"/>		
Issued by		source document	ISO 11270:2014 LKAS
Remarks	For example, the most simple calculation method of this time (TTLC) is to divide lateral distance [D] between the predetermined part of the vehicle and the lane boundary by rate of departure [V] of the vehicle relative to the lane. [TTLC=D/V]		

time type

Data concept name	TimeType	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides type of time.		
Data structure	<xs:simpleType name="TimeType" > <xs:union> <xs:simpleType> <xs:restriction base="xs:string" <xs:enumeration value="UTC time" /> <xs:enumeration value="local time" /> <xs:enumeration value="UNIX time" /> <xs:enumeration value="elapsed time" /> </xs:restriction> </xs:simpleType> <xs:simpleType> <xs:restriction base="xs:unsignedByte" > <xs: minInclusive value="0" /> <xs: maxInclusive value="3" /> </xs:restriction> </xs:simpleType> </xs:union> </xs:simpleType>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks			

tire leakage rate

Data concept name	TireLeakageRate	Data status category	dynamic
		Data concept type	value domain
Definition and description	It provides the leakage rate of the tire. Conformity SAE J1939.		
Data structure	<xs:simpleType name="TireLeakageRate" type="xs:unsignedShort"/>		
Issued by	JARI	source document	proposed CITS data dictionary
Remarks	Unit value is 0,1 Pa/sec.		