



BSI Standards Publication

Public transport – Reference data model

Part 9: Informative documentation

National foreword

This Published Document is the UK implementation of CEN/TR 12896-9:2019. It supersedes PD CEN/TR 12896-9:2016, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee EPL/278, Intelligent transport systems.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Published by BSI Standards Limited 2019

ISBN 978 0 539 02319 0

ICS 35.240.60

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This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 August 2019.

Amendments/corrigenda issued since publication

Date	Text affected
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English Version

Public transport - Reference data model - Part 9: Informative documentation

Öffentlicher Verkehr - Datenreferenzmodell - Teil 9:
Informative Dokumentation

This Technical Report was approved by CEN on 5 August 2019. It has been drawn up by the Technical Committee CEN/TC 278.

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European foreword

This document (CEN/TR 12896-9:2019) has been prepared by Technical Committee CEN/TC 278 “Intelligent transport systems”, the secretariat of which is held by NEN.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes CEN/TR 12896-9:2016.

The Transmodel v6 series is composed of the following documents:

- Public transport - reference data model - Part 1: Common Concepts;
- Public transport - reference data model - Part 2: Public Transport Network;
- Public transport - reference data model - Part 3: Timing Information and Vehicle Scheduling;
- Public transport - reference data model - Part 4: Operations Monitoring and Control;
- Public transport - reference data model - Part 5: Fare Management;
- Public transport - reference data model - Part 6: Passenger Information;
- Public transport - reference data model - Part 7: Driver Management; and
- Public transport - reference data model - Part 8: Management Information and Statistics.

Together these create version 6 of the European Standard EN 12896, known as “Transmodel”, and thus replace EN 12896:2006, known as “Transmodel v5.1”.

This informative document provides supplementary information to that contained in the formal European Standard to help those implementing the Standard.

Introduction

This document documents further information related to parts 1 to 8 of version 6 of the "Public Transport – Reference Data Model" (Transmodel v6.0) European Standard, EN 12896. This information is particularly useful for those who need additional guidance as regards Transmodel structure and/or intend to implement sub-models. The various sections of the document provide:

- A Complete Data Dictionary (merging and extending the information contained in each separate Part of the Standard that has been published to date) [section 2];
- An overview of the whole of Transmodel to provide an understanding of how the model is structured [section 3]
- An explanation of how each component model links with other components [section 4]
- An Annex providing a table which shows the evolution of the terms used in Transmodel v6.0 from the previous Transmodel v5.1 and IFOPT European Standards [Annex A]

1 Scope

The standards provides informative and didactical material to users.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12896-1: 2016, Public transport - Reference data model - Part 1: Common concepts

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12896-1: 2016 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>

4 Complete Data Dictionary

4.1 Introduction

The sections which follow show the complete data dictionary for Transmodel v6.0. Each term is defined only once and the relevant Transmodel part and package are indicated immediately after each term and before the definition.

The Data Types shown in the tables in this section are not mandatory.

4.2 Data Dictionary

4.2.1 Transmodel v6.0

4.2.1.1 ABSENCE

(Part 7 - Driver Management (DM)::PD Personnel Disposition MODEL::DM Driver Assignment MODEL::ABSENCE)

An ABSENCE represents an actual absence of an EMPLOYEE from work on a particular OPERATING DAY for a specified time.

Table 1 — ABSENCE — Relations

Source	Target
ABSENCE <i>Relation type:</i> Generalization	LOG ENTRY
ABSENCE <i>Role:</i> on <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	OPERATING DAY <i>Role:</i> of <i>Cardinality:</i> 1
EMPLOYEE <i>Role:</i> in <i>Cardinality:</i> 1 <i>Relation type:</i> Association	ABSENCE <i>Role:</i> for <i>Cardinality:</i> *
TYPE OF ABSENCE <i>Role:</i> classifying <i>Cardinality:</i> 1 <i>Relation type:</i> Association	ABSENCE <i>Role:</i> classified as <i>Cardinality:</i> 0..*

Table 1 — ABSENCE — Attributes

Classification	Name	Type	cardinality	Description
::>	::>	LOG ENTRY	::>	ABSENCE inherits from LOG ENTRY
	Order	positiveInteger	1:1	Order of ABSENCE during OPERATING DAY.
	StartTime	time	0:1	Start time of ABSENCE.
	EndTime	time	0:1	End time of ABSENCE.
«UID»	Id		1:1	Identifier of ABSENCE.

4.2.1.2 ACCESS

(Part 1 - Common Concepts (CC)::CC Generic Framework MODEL::CC Generic Place MODEL::ACCESS)

The physical (spatial) possibility for a passenger to access or leave the public transport system. This link may be used during a trip for:- the walking movement of a passenger from a PLACE (origin of the trip) to a SCHEDULED STOP POINT (origin of the PT TRIP), or- the walking movement from a SCHEDULED STOP POINT (destination of the PT TRIP) to a PLACE (destination of the trip).

Table 2 - ACCESS – Relations

Source	Target
ACCESS <i>Cardinality: 0..*</i> <i>Relation type: Aggregation</i>	SITE FRAME
ACCESS <i>Relation type: Generalization</i>	TRANSFER
ACCESS END <i>Role: start of</i> <i>Cardinality: 1</i> <i>Relation type: Association</i>	ACCESS <i>Role: from</i> <i>Cardinality: 0..*</i>
ACCESS LEG <i>Role: using</i> <i>Cardinality: 0..*</i> <i>Relation type: Association</i>	ACCESS <i>Role: according to</i> <i>Cardinality: 0..1</i>
ACCESS END <i>Role: end of</i> <i>Cardinality: 1</i> <i>Relation type: Association</i>	ACCESS <i>Role: to</i> <i>Cardinality: 0..*</i>

Table 3 - ACCESS – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	TRANSFER	::>	ACCESS inherits from TRANSFER
«UID»	Id	AccessIdType	1:1	Identifier of ACCESS link.

4.2.1.3 ACCESS END

(Part 1 - Common Concepts (CC)::CC Generic Framework MODEL::CC Generic Place MODEL::ACCESS END)

Origin or destination end of an ACCESS link. May indicate a POINT and/or PLACE.

Table 4 - ACCESS END – Relations

Source	Target
ACCESS END <i>Role:</i> a view of <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	PLACE <i>Role:</i> viewed as <i>Cardinality:</i> 0..1
ACCESS END <i>Role:</i> start of <i>Cardinality:</i> 1 <i>Relation type:</i> Association	ACCESS <i>Role:</i> from <i>Cardinality:</i> 0..*
ACCESS END <i>Role:</i> a view of <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	POINT <i>Role:</i> viewed as <i>Cardinality:</i> 0..1
ACCESS END <i>Role:</i> end of <i>Cardinality:</i> 1 <i>Relation type:</i> Association	ACCESS <i>Role:</i> to <i>Cardinality:</i> 0..*

Table 5 - ACCESS END – Attributes

Classifi- cation	Name	Type	cardinality	Description
::>	::>		::>	ACCESS END doesn't inherit from another class

4.2.1.4 ACCESS LEG

(Part 6 - Passenger Information (PI)::TD Trip Description MODEL::TD Passenger Trip MODEL::ACCESS LEG)

A part of a TRIP PATTERN corresponding to the movement of a passenger when not on a public transport vehicle, from an origin PLACE to a SCHEDULED STOP POINT, or a SCHEDULED STOP POINT to a destination PLACE. May reference an ACCESS.

Table 6 - ACCESS LEG – Relations

Source	Target
ACCESS LEG <i>Relation type: NoteLink</i>	Note
ACCESS LEG <i>Role: using</i> <i>Cardinality: 0..*</i> <i>Relation type: Association</i>	ACCESS <i>Role: according to</i> <i>Cardinality: 0..1</i>
ACCESS LEG <i>Relation type: Generalization</i>	LEG

Table 7 - ACCESS LEG – Attributes

Classifi- cation	Name	Type	cardinality	Description
::>	::>	LEG	::>	ACCESS LEG inherits from LEG
«UID»	id	AccessLegIdType	1:1	Identifier of ACCESS LEG.

4.2.1.5 ACCESS MODE

(Part 1 - Common Concepts (CC)::CC Reusable Components MODEL::CC Transport Mode MODEL::ACCESS MODE)

A characterisation of the passenger movement according to the means of transport different from public transport (e.g. walk, bicycle, etc)

Table 8 - ACCESS MODE – Relations

Source	Target
ACCESS MODE <i>Relation type: NoteLink</i>	Note
ACCESS MODE <i>Relation type: Generalization</i>	MODE
TRIP ACCESS CONSTRAINT <i>Role: limit to</i> <i>Cardinality: 0..*</i> <i>Relation type: Association</i>	ACCESS MODE <i>Role: determining</i> <i>Cardinality: 0..*</i>
NAVIGATION PATH <i>Role: accessed by</i> <i>Cardinality: 0..*</i> <i>Relation type: Association</i>	ACCESS MODE <i>Role: for</i> <i>Cardinality: 0..*</i>
SITE ELEMENT <i>Role: accessed by</i> <i>Cardinality: 0..*</i> <i>Relation type: Association</i>	ACCESS MODE <i>Role: for</i> <i>Cardinality: 0..*</i>
Note <i>Relation type: NoteLink</i>	ACCESS MODE

Table 9 - ACCESS MODE – Attributes

Classifi- cation	Name	Type	cardinality	Description
::>	::>	MODE	::>	ACCESS MODE inherits from MODE
«UID»	Id		1:1	Identifier of ACCESS MODE.

4.2.1.6 ACCESS RIGHT IN PRODUCT

(Part 5 - Fare Management (FM)::AR Access Rights Description MODEL::AR Types of Fare Product MODEL ::ACCESS RIGHT IN PRODUCT)

A VALIDABLE ELEMENT as a part of a PRE-ASSIGNED FARE PRODUCT, including its possible order in the set of all VALIDABLE ELEMENTs grouped together to define the access right assigned to that PRE-ASSIGNED FARE PRODUCT.

Table 10 - ACCESS RIGHT IN PRODUCT – Relations

Source	Target
ACCESS RIGHT IN PRODUCT <i>Role:</i> a view of <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	VALIDABLE ELEMENT <i>Role:</i> viewed as <i>Cardinality:</i> 1
ACCESS RIGHT IN PRODUCT <i>Relation type:</i> Generalization	FARE ELEMENT IN SEQUENCE
ACCESS RIGHT IN PRODUCT <i>Role:</i> included in <i>Cardinality:</i> 1..* <i>Relation type:</i> Aggregation	PRE-ASSIGNED FARE PRODUCT <i>Role:</i> composed of

Table 11 - ACCESS RIGHT IN PRODUCT – Attributes

Classifi- cation	Name	Type	cardinality	Description
::>	::>	FARE ELEMENT IN SEQUENCE	::>	ACCESS RIGHT IN PRODUCT inherits from FARE ELEMENT IN SEQUENCE
«UID»	id	AccessRightInProductIdType	1:1	Identifier of ACCESS RIGHT IN PRODUCT.

4.2.1.7 ACCESS RIGHT PARAMETER ASSIGNMENT

(Part 5 - Fare Management (FM)::AR Access Rights Description MODEL::AR Access Right Parameters MODEL ::AR Access Right Parameter Assignment MODEL::ACCESS RIGHT PARAMETER ASSIGNMENT)

The assignment of a fare collection parameter (referring to geography, time, quality or usage) to an element of a fare system (access right, validated access, control mean, etc.).

Table 12 - ACCESS RIGHT PARAMETER ASSIGNMENT – Relations

Source	Target
ACCESS RIGHT PARAMETER ASSIGNMENT <i>Role: for</i> <i>Relation type: Association</i>	SCOPING VALIDITY PARAMETER <i>Role: assigned to</i> <i>Cardinality: 0..*</i>
ACCESS RIGHT PARAMETER ASSIGNMENT <i>Role: including</i> <i>Relation type: Association</i>	ACCESS RIGHT PARAMETER ASSIGNMENT <i>Role: included in</i> <i>Cardinality: 0..*</i>
ACCESS RIGHT PARAMETER ASSIGNMENT <i>Role: for</i> <i>Relation type: Association</i>	TEMPORAL VALIDITY PARAMETER <i>Role: assigned to</i> <i>Cardinality: 0..*</i>
ACCESS RIGHT PARAMETER ASSIGNMENT <i>Role: limiting</i> <i>Cardinality: 0..*</i> <i>Relation type: Aggregation</i>	TRIP FARE REQUEST FILTER <i>Role: limit to</i>
ACCESS RIGHT PARAMETER ASSIGNMENT <i>Role: for</i> <i>Cardinality: 0..*</i> <i>Relation type: Association</i>	USAGE PARAMETER <i>Role: assigned to</i> <i>Cardinality: 0..*</i>
ACCESS RIGHT PARAMETER ASSIGNMENT <i>Role: replacement</i> <i>Cardinality: 0..*</i> <i>Relation type: Aggregation</i>	FARE EASEMENT PARAMETER CHANGE <i>Role: eased by</i>
ACCESS RIGHT PARAMETER ASSIGNMENT <i>Role: normal</i>	FARE EASEMENT PARAMETER CHANGE <i>Role: eases</i>

Source	Target
<i>Cardinality: 0..1</i> <i>Relation type: Aggregation</i>	
ACCESS RIGHT PARAMETER ASSIGNMENT <i>Relation type: Generalization</i>	ASSIGNMENT
ACCESS RIGHT PARAMETER ASSIGNMENT <i>Relation type: Dependency</i>	ComparisonOperatorEnum
ACCESS RIGHT PARAMETER ASSIGNMENT <i>Cardinality: *</i> <i>Relation type: Aggregation</i>	FARE FRAME
ACCESS RIGHT PARAMETER ASSIGNMENT <i>Role: classified as</i> <i>Cardinality: 0..*</i> <i>Relation type: Association</i>	TYPE OF ACCESS RIGHT ASSIGNMENT <i>Role: a classification for</i> <i>Cardinality: 0..1</i>
ACCESS RIGHT PARAMETER ASSIGNMENT <i>Relation type: Dependency</i>	LogicalOperatorEnum
ACCESS RIGHT PARAMETER ASSIGNMENT <i>Role: for</i> <i>Cardinality: *</i> <i>Relation type: Association</i>	FARE SECTION <i>Role: assigned to</i> <i>Cardinality: 0..1</i>
ACCESS RIGHT PARAMETER ASSIGNMENT <i>Role: including</i> <i>Relation type: Association</i>	ACCESS RIGHT PARAMETER ASSIGNMENT <i>Role: included in</i> <i>Cardinality: 0..*</i>

Source	Target
CONTROL PARAMETER ASSIGNMENT <i>Relation type: Generalization</i>	ACCESS RIGHT PARAMETER ASSIGNMENT
Note <i>Relation type: NoteLink</i>	ACCESS RIGHT PARAMETER ASSIGNMENT
VALIDATION PARAMETER ASSIGNMENT <i>Relation type: Generalization</i>	ACCESS RIGHT PARAMETER ASSIGNMENT
Note <i>Relation type: NoteLink</i>	ACCESS RIGHT PARAMETER ASSIGNMENT
Note <i>Relation type: NoteLink</i>	ACCESS RIGHT PARAMETER ASSIGNMENT
DEVICE PARAMETER ASSIGNMENT <i>Relation type: Generalization</i>	ACCESS RIGHT PARAMETER ASSIGNMENT
Note <i>Relation type: NoteLink</i>	ACCESS RIGHT PARAMETER ASSIGNMENT
VALIDITY PARAMETER ASSIGNMENT <i>Relation type: Generalization</i>	ACCESS RIGHT PARAMETER ASSIGNMENT
Note <i>Relation type: NoteLink</i>	ACCESS RIGHT PARAMETER ASSIGNMENT

Table 13 - ACCESS RIGHT PARAMETER ASSIGNMENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	<i>ASSIGNMENT</i>	::>	ACCESS RIGHT PARAMETER ASSIGNMENT inherits from ASSIGNMENT
«UID»	id	<i>AccessRightParameterAssignmentIdType</i>	1:1	Identifier of ACCESS RIGHT PARAMETER ASSIGNMENT.
	IsAllowed	<i>boolean</i>	0:1	Whether the specified assignments are allowed (true) or not (false).
	Name	<i>MultilingualString</i>	0:1	Name of ACCESS RIGHT PARAMETER ASSIGNMENT.
	Description	<i>MultilingualString</i>	0:1	Description of ACCESS RIGHT PARAMETER ASSIGNMENT.
	ValidityParameterGroupingType	<i>LogicalOperatorEnum</i>	0:1	Operator to use to combine Validity Parameter elements.
	ValidityParameterAssignmentType	<i>ComparisonOperatorEnum</i>	0:1	Nature of comparison with assignment values

4.2.1.8 ACCESS SPACE

(Part 2 - Public Transport Network Topology (NT)::FO Fixed Object MODEL ::NT Stop Place MODEL::ACCESS SPACE)

A passenger area within a STOP PLACE such as a concourse or booking hall, immigration hall or security area that is accessible by passengers, but without a direct access to vehicles. Direct access to a VEHICLE is always from a QUAY and/or BOARDING POSITION. An ACCESS SPACE may be a Room, Hall, Concourse, Corridor, or bounded open space within a STOP PLACE.

Table 14 - ACCESS SPACE – Relations

Source	Target
ACCESS SPACE <i>Cardinality: 0..*</i> <i>Relation type: Association</i>	ACCESS SPACE <i>Cardinality: 1</i>
ACCESS SPACE <i>Role: in</i> <i>Cardinality: 0..*</i> <i>Relation type: Aggregation</i>	STOP PLACE <i>Role: containing</i>
ACCESS SPACE <i>Relation type: Generalization</i>	STOP PLACE SPACE

Source	Target
ACCESS SPACE <i>Role:</i> classified as <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	TYPE OF PASSAGE <i>Role:</i> a classification for <i>Cardinality:</i> 0..1
ACCESS SPACE <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	ACCESS SPACE <i>Cardinality:</i> 1

Table 15 - ACCESS SPACE – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	STOP PLACE SPACE	::>	ACCESS SPACE inherits from STOP PLACE SPACE
«UID»	Id	AccessSpaceIdType	1:1	Identifier of ACCESS SPACE.
	AccessSpaceType	AccessSpaceTypeEnum	0:1	Type of ACCESS SPACE.

4.2.1.9 ACCESS ZONE

(Part 2 - Public Transport Network Topology (NT)::FO Fixed Object MODEL ::NT Site MODEL::ACCESS ZONE)

A ZONE for which the duration to cover any ACCESS link to a particular SCHEDULED STOP POINT is the same.

Table 16 - ACCESS ZONE – Relations

Source	Target
ACCESS ZONE <i>Relation type:</i> Generalization	ZONE
SITE <i>Role:</i> a reference for <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	ACCESS ZONE <i>Role:</i> referenced by <i>Cardinality:</i> 0..*

Table 17 - ACCESS ZONE – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	ZONE	::>	ACCESS ZONE inherits from ZONE
«UID»	Id	AccessZoneIdType	1:1	Identifier of ACCESS ZONE.

4.2.1.10 ACCESSED FARE STRUCTURE ELEMENT

(Part 5 - Fare Management (FM)::FC Validation and Control MODEL::FC Access Right Validation MODEL::ACCESSED FARE STRUCTURE ELEMENT)

A validated use of a FARE STRUCTURE ELEMENT, composed of CONTROLLED ACCESSes.

Table 18 - ACCESSED FARE STRUCTURE ELEMENT – Relations

Source	Target
ACCESSED FARE STRUCTURE ELEMENT <i>Role:</i> validated as <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	FARE STRUCTURE ELEMENT <i>Role:</i> consumed by <i>Cardinality:</i> 1
VALIDATED ACCESS <i>Role:</i> composed of <i>Relation type:</i> Association	ACCESSED FARE STRUCTURE ELEMENT <i>Role:</i> included in <i>Cardinality:</i> 1..*
VALIDATION ASSIGNMENT PARAMETER <i>Role:</i> specifying <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	ACCESSED FARE STRUCTURE ELEMENT <i>Role:</i> specified by
CONTROLLED ACCESS <i>Role:</i> included in <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	ACCESSED FARE STRUCTURE ELEMENT <i>Role:</i> composed of

Table 19 - ACCESSED FARE STRUCTURE ELEMENT – Attributes

Classifi- cation	Name	Type	cardinality	Description
::>	::>		::>	<i>ACCESSED FARE STRUCTURE ELEMENT</i> doesn't inherit from another class
«UID»	Id	<i>AccessedFareStructureElementIdType</i>	1:1	Identifier of ACCESSED FARE STRUCTURE ELEMENT.

4.2.1.11 ACCESSIBILITY ASSESSMENT

(Part 1 - Common Concepts (CC)::CC Generic Framework MODEL::CC Generic Accessibility MODEL::ACCESSIBILITY ASSESSMENT)

The accessibility characteristics of an entity used by passengers such as a STOP PLACE, or a STOP PLACE COMPONENT. Described by ACCESSIBILITY LIMITATIONS, and/or a set of SUITABILITYs

Table 20 - ACCESSIBILITY ASSESSMENT – Relations

Source	Target
ACCESSIBILITY ASSESSMENT <i>Role:</i> describing <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	MONITORED FACILITY <i>Role:</i> normally having <i>Cardinality:</i> 0..1
ACCESSIBILITY ASSESSMENT <i>Role:</i> characterising <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	LINE <i>Role:</i> characterised by <i>Cardinality:</i> 0..1
ACCESSIBILITY ASSESSMENT <i>Role:</i> characterising <i>Cardinality:</i> 0..1 <i>Relation type:</i> Aggregation	SITE ELEMENT <i>Role:</i> characterised by <i>Cardinality:</i> 0..1
ACCESSIBILITY ASSESSMENT <i>Role:</i> implicated by <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	FACILITY CONDITION <i>Role:</i> implicating <i>Cardinality:</i> 0..1

Source	Target
ACCESSIBILITY ASSESSMENT <i>Role:</i> characterising <i>Cardinality:</i> 0..1 <i>Relation type:</i> Aggregation	PT RIDE LEG <i>Role:</i> characterised by
ACCESSIBILITY ASSESSMENT <i>Role:</i> characterising <i>Cardinality:</i> 0..* <i>Relation type:</i> Aggregation	PATH LINK <i>Role:</i> characterised by <i>Cardinality:</i> 0..1
ACCESSIBILITY ASSESSMENT <i>Role:</i> determined by <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	AVAILABILITY CONDITION <i>Role:</i> determining <i>Cardinality:</i> 0..*
ACCESSIBILITY ASSESSMENT <i>Role:</i> characterising <i>Cardinality:</i> 0..1 <i>Relation type:</i> Aggregation	PT CONNECTION LEG <i>Role:</i> characterised by
TRIP <i>Role:</i> characterised by <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	ACCESSIBILITY ASSESSMENT <i>Role:</i> characterising <i>Cardinality:</i> 0..1
ACCESSIBILITY LIMITATION <i>Role:</i> determining <i>Cardinality:</i> 0..* <i>Relation type:</i> Aggregation	ACCESSIBILITY ASSESSMENT <i>Role:</i> limited by
VALIDITY CONDITION <i>Role:</i> determining <i>Cardinality:</i> 0..*	ACCESSIBILITY ASSESSMENT <i>Role:</i> determined by <i>Cardinality:</i> 0..*

Source	Target
<i>Relation type:</i> Aggregation	
ACTUAL VEHICLE EQUIPMENT <i>Role:</i> for <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	ACCESSIBILITY ASSESSMENT <i>Role:</i> suitable <i>Cardinality:</i> 0..1
NAVIGATION PATH <i>Role:</i> characterised by <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	ACCESSIBILITY ASSESSMENT <i>Role:</i> characterising <i>Cardinality:</i> 0..*
CALL <i>Relation type:</i> Dependency	ACCESSIBILITY ASSESSMENT
SUITABILITY <i>Role:</i> determining <i>Cardinality:</i> 0..* <i>Relation type:</i> Aggregation	ACCESSIBILITY ASSESSMENT <i>Role:</i> convenient for
JOURNEY <i>Role:</i> characterised by <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	ACCESSIBILITY ASSESSMENT <i>Role:</i> characterising <i>Cardinality:</i> 0..1
TRIP MOBILITY FILTER <i>Role:</i> limit to <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	ACCESSIBILITY ASSESSMENT <i>Role:</i> determining <i>Cardinality:</i> 0..1
DATED CALL <i>Relation type:</i> Dependency	ACCESSIBILITY ASSESSMENT
TRANSFER TIME <i>Role:</i> timing	ACCESSIBILITY ASSESSMENT <i>Role:</i> assuming

Source	Target
Cardinality: 0..*	Cardinality: 0..1
Relation type: Association	

Table 21 - ACCESSIBILITY ASSESSMENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>		::>	ACCESSIBILITY ASSESSMENT doesn't inherit from another class
«UID»	Id	<i>AssessmentIdType</i>	1:1	Identifier of ACCESSIBILITY ASSESSMENT.
	MobilityImpaired Access	<i>boolean</i>	0:1	Whether the overall assessment is that there is Access for Mobility Impaired users.

4.2.1.12 ACCESSIBILITY LIMITATION

(Part 1 - Common Concepts (CC)::CC Generic Framework MODEL::CC Generic Accessibility MODEL::ACCESSIBILITY LIMITATION)

A categorisation of the accessibility characteristics of a SITE, e.g. a STOP PLACE or a STOP PLACE COMPONENT to indicate its usability by passengers with specific needs, for example, those needing wheelchair access, step-free access or wanting to avoid confined spaces such as lifts. A small number of well-defined categories are used that are chosen to allow the consistent capture of data and the efficient computation of routes for different classes of user.

Table 22 - ACCESSIBILITY LIMITATION – Relations

Source	Target
ACCESSIBILITY LIMITATION	ACCESSIBILITY ASSESSMENT
Role: determining	Role: limited by
Cardinality: 0..*	
Relation type: Aggregation	
ACCESSIBILITY LIMITATION	TYPE OF ACCESSIBILITY LIMITATION
Role: classified by	Role: a classification for
Cardinality: 0..*	Cardinality: 1
Relation type: Association	

Table 23 - ACCESSIBILITY LIMITATION – Attributes

Classification	Name	Type	cardinality	Description
::>	::>		::>	ACCESSIBILITY LIMITATION doesn't inherit from another class
«UID»	Id	<i>LimitationIdType</i>	1:1	Identifier of ACCESSIBILITY LIMITATION.
	WheelchairAccess	<i>LimitationStatusEnum</i>	0:1	Whether there is Access for Wheelchair users.
	StepFreeAccess	<i>LimitationStatusEnum</i>	0:1	Whether there is Step Free Access..
	EscalatorFreeAccess	<i>LimitationStatusEnum</i>	0:1	Whether there is Escalator Free Access..
	LiftFreeAccess	<i>LimitationStatusEnum</i>	0:1	Whether there is Lift Free Access..
	AudibleSignsAvailable	<i>LimitationStatusEnum</i>	0:1	Whether there are Audible Signs.
	VisualSignsAvailable	<i>LimitationStatusEnum</i>	0:1	Whether there are Visual Signs.

4.2.1.13 ACCOMODATION

(Part 1 - Common Concepts (CC)::CC Reusable Components MODEL::CC Facility MODEL::ACCOMODATION)

A combination of accommodation characteristics available on a service, e.g. "First Class Couchette with shower and 2 bunks".

Table 24 - ACCOMODATION – Relations

Source	Target
ACCOMODATION	SERVICE FACILITY SET
<i>Relation type: Generalization</i>	

Table 25 - ACCOMODATION – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	<i>SERVICE FACILITY SET</i>	::>	ACCOMODATION inherits from SERVICE FACILITY SET
	FareClass	<i>FareClassEnum</i>	0:1	FARE CLASS of ACCOMMODATION.
	AccommodationFacility	<i>AccommodationFacilityEnum</i>	0:1	Type of accommodation Facility in ACCOMMODATION.
	Name	<i>MultilingualString</i>	0:1	Name of ACCOMMODATION.
	CouchetteFacility	<i>CouchetteFacilityEnum</i>	0:1	Toilet Facility in ACCOMMODATION.

Classification	Name	Type	cardinality	Description
	ShowerFacility	<i>SanitaryFacilityEnum</i>	0:1	Shower Facility in ACCOMMODATION.
	ToiletFacility	<i>SanitaryFacilityEnum</i>	0:1	Toilet Facility in ACCOMMODATION
«UID»	Id		1:1	Identifier of ACCOMMODATION.
	Gender	<i>GenderLimitationEnum</i>	0:1	
	BerthType	<i>BerthTypeEnum</i>	0:1	Berth levels in compartment
	NuisanceFacility	<i>NuisanceFacilityEnum</i>	0:*	Nuisance Facility in ACCOMMODATION

4.2.1.14 ACCOUNT AUTO RENEWAL EVENT

(Part 5 - Fare Management (FM)::ST Customer & Sales Transaction MODEL::SE Sales Event MODEL::SE Customer Purchase MODEL::SE Account Sales Event MODEL::ACCOUNT AUTO RENEWAL EVENT)

The detection by an ABT System that a renewable product such as a pass needs to be renewed. Depending on configuration may trigger either an automatic renewal or a notice to the customer.

Table 26 - ACCOUNT AUTO RENEWAL EVENT – Relations

Source	Target
ACCOUNT AUTO RENEWAL EVENT <i>Relation type: Generalization</i>	ACCOUNT SALES EVENT
ACCOUNT AUTO RENEWAL EVENT <i>Role: triggering</i> <i>Cardinality: 0..1</i> <i>Relation type: Association</i>	FARE PRODUCT RENEWAL ENTRY <i>Role: recording</i> <i>Cardinality: 1</i>

Table 27 - ACCOUNT AUTO RENEWAL EVENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	<i>ACCOUNT SALES EVENT</i>	::>	ACCOUNT AUTO RENEWAL EVENT inherits from ACCOUNT SALES EVENT
«UID»	id	<i>AccountAutoRenewalEvent IdType</i>	1:1	Identifier of ACCOUNT AUTO RENEWAL EVENT.

4.2.1.15 ACCOUNT AUTO TOP UP EVENT

(Part 5 - Fare Management (FM)::ST Customer & Sales Transaction MODEL::SE Sales Event MODEL::SE Customer Purchase MODEL::SE Account Sales Event MODEL::ACCOUNT AUTO TOP UP EVENT)

The detection by an ABT System that the account balance has fallen below a threshold which needs to be topped up using a preset payment method and increment.

Table 28 - ACCOUNT AUTO TOP UP EVENT – Relations

Source	Target
ACCOUNT AUTO TOP UP EVENT <i>Role:</i> triggering <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	MEDIA RECHARGE PURCHASE ENTRY <i>Role:</i> recording <i>Cardinality:</i> 1
ACCOUNT AUTO TOP UP EVENT <i>Relation type:</i> Generalization	ACCOUNT SALES EVENT

Table 29 - ACCOUNT AUTO TOP UP EVENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	ACCOUNT SALES EVENT	::>	ACCOUNT AUTO TOP UP EVENT inherits from ACCOUNT SALES EVENT
«UID»	id	AccountAutoTopUpEventId Type	1:1	Identifier of ACCOUNT AUTO TOP UP EVENT.

4.2.1.16 ACCOUNT AWARD REFUND EVENT

(Part 5 - Fare Management (FM)::ST Customer & Sales Transaction MODEL::SE Sales Event MODEL::SE Customer Purchase MODEL::SE Account Sales Event MODEL::ACCOUNT AWARD REFUND EVENT)

The detection by an ABT System that a refund needs to be awarded, for example because guaranteed performance targets have not been met

Table 30 - ACCOUNT AWARD REFUND EVENT – Relations

Source	Target
ACCOUNT AWARD REFUND EVENT <i>Role:</i> triggering <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	TRAVEL COMPENSATION ENTRY <i>Role:</i> recording <i>Cardinality:</i> 1

Source	Target
ACCOUNT AWARD REFUND EVENT <i>Relation type: Generalization</i>	ACCOUNT SALES EVENT

Table 31 - ACCOUNT AWARD REFUND EVENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	ACCOUNT SALES EVENT	::>	ACCOUNT AWARD REFUND EVENT inherits from ACCOUNT SALES EVENT
«UID»	id	AccountAwardRefundEventIdType	1:1	Identifier of ACCOUNT AWARD REFUND EVENT.

4.2.1.17 ACCOUNT DETECT ELIGIBILITY CHANGE EVENT

(Part 5 - Fare Management (FM)::ST Customer & Sales Transaction MODEL::SE Sales Event MODEL::FE Account Security MODEL::FM FE Account Security Event MODEL::ACCOUNT DETECT ELIGIBILITY CHANGE EVENT)

The detection by an ABT System of a change in the eligibility of a user for a product they currently own, requiring an adjustment of some sort.

Table 32 - ACCOUNT DETECT ELIGIBILITY CHANGE EVENT – Relations

Source	Target
ACCOUNT DETECT ELIGIBILITY CHANGE EVENT <i>Role: detect as</i> <i>Cardinality: 0..*</i> <i>Relation type: Association</i>	CUSTOMER ELIGIBILITY <i>Role: detected from</i> <i>Cardinality: 1</i>
ACCOUNT DETECT ELIGIBILITY CHANGE EVENT <i>Relation type: Generalization</i>	ACCOUNT SECURITY EVENT
ACCOUNT DETECT ELIGIBILITY CHANGE EVENT <i>Role: triggering</i> <i>Cardinality: 0..1</i> <i>Relation type: Association</i>	CEASES TO BE ELIGIBLE ENTRY <i>Role: recording</i> <i>Cardinality: 1</i>
BECOMES ELIGIBLE ENTRY	ACCOUNT DETECT ELIGIBILITY CHANGE EVENT

Source	Target
<i>Role:</i> recording <i>Cardinality:</i> 1 <i>Relation type:</i> Association	<i>Role:</i> triggering <i>Cardinality:</i> 0..1

Table 33 - ACCOUNT DETECT ELIGIBILITY CHANGE EVENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	ACCOUNT SECURITY EVENT	::>	ACCOUNT DETECT ELIGIBILITY CHANGE EVENT inherits from ACCOUNT SECURITY EVENT
«UID»	id	AccountDetectEligibilityChangeActionIdType	1:1	Identifier of ACCOUNT DETECT ELIGIBILITY CHANGE EVENT.

4.2.1.18 ACCOUNT DETECT NO CHECK IN EVENT

(Part 5 - Fare Management (FM)::FC Validation and Control MODEL::FE Control & Validation Event MODEL::FE Account Processing MODEL::FE Account Processing Event MODEL::ACCOUNT DETECT NO CHECK IN EVENT)

The detection that a passenger has failed to check in at the beginning of a trip. This may be triggered by a subsequent check out or by back office processes looking for unmatched check in and check out events within a specified window.

Table 34 - ACCOUNT DETECT NO CHECK IN EVENT – Relations

Source	Target
ACCOUNT DETECT NO CHECK IN EVENT <i>Relation type:</i> Generalization	ACCOUNT PROCESSING EVENT
ACCOUNT DETECT NO CHECK IN EVENT <i>Role:</i> deduced from <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	PASSENGER WAY POINT ENTRY <i>Role:</i> clue for <i>Cardinality:</i> 0..*
NO CHECK IN DETECTED ENTRY <i>Role:</i> recorded as <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	ACCOUNT DETECT NO CHECK IN EVENT <i>Role:</i> triggering <i>Cardinality:</i> 0..*

Source	Target
PASSENGER CHECK OUT ENTRY <i>Role:</i> clue for <i>Cardinality:</i> 1 <i>Relation type:</i> Association	ACCOUNT DETECT NO CHECK IN EVENT <i>Role:</i> deduced from <i>Cardinality:</i> 1

Table 35 - ACCOUNT DETECT NO CHECK IN EVENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	<i>ACCOUNT PROCESSING EVENT</i>	::>	<i>ACCOUNT DETECT NO CHECK IN EVENT</i> inherits from <i>ACCOUNT PROCESSING EVENT</i>
«UID»	id	<i>AccountDetectNoCheckInEventIdType</i>	1:1	Identifier of ACCOUNT DETECT NO CHECK IN EVENT.

4.2.1.19 ACCOUNT DETECT NO CHECK OUT EVENT

(Part 5 - Fare Management (FM)::FC Validation and Control MODEL::FE Control & Validation Event MODEL::FE Account Processing MODEL::FE Account Processing Event MODEL::ACCOUNT DETECT NO CHECK OUT EVENT)

The detection that a passenger has failed to check out at the end of a trip. This may be triggered by a subsequent check in on a new journey or by back office processes looking for unmatched check in and check out events within a specified window..

Table 36 - ACCOUNT DETECT NO CHECK OUT EVENT – Relations

Source	Target
ACCOUNT DETECT NO CHECK OUT EVENT <i>Relation type:</i> Generalization	ACCOUNT PROCESSING EVENT
NO CHECK OUT DETECTED ENTRY <i>Role:</i> recording <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	ACCOUNT DETECT NO CHECK OUT EVENT <i>Role:</i> triggering <i>Cardinality:</i> 0..*
PASSENGER CHECK IN ENTRY <i>Role:</i> clue for <i>Cardinality:</i> 1 <i>Relation type:</i> Association	ACCOUNT DETECT NO CHECK OUT EVENT <i>Role:</i> deduced from <i>Cardinality:</i> 1

Table 37 - ACCOUNT DETECT NO CHECK OUT EVENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	<i>ACCOUNT PROCESSING EVENT</i>	::>	<i>ACCOUNT DETECT NO CHECK OUT EVENT</i> inherits from <i>ACCOUNT PROCESSING EVENT</i>
«UID»	<i>id</i>	<i>AccountDetectNoCheckOutEventIdType</i>	1:1	Identifier of PASSENGER DETECT NO CHECK OUT EVENT.

4.2.1.20 ACCOUNT DETECT REENTRY EVENT

(Part 5 - Fare Management (FM)::FC Validation and Control MODEL::FE Control & Validation Event MODEL::FE Account Processing MODEL::FE Account Processing Event MODEL::ACCOUNT DETECT REENTRY EVENT)

The detection by an ABT System of re-entry at the same station within a specified threshold period.

Table 38 - ACCOUNT DETECT REENTRY EVENT – Relations

Source	Target
ACCOUNT DETECT REENTRY EVENT <i>Role:</i> triggering <i>Cardinality:</i> 1 <i>Relation type:</i> Association	PASSENGER USED SAME STOP ENTRY <i>Role:</i> recording <i>Cardinality:</i> 1
ACCOUNT DETECT REENTRY EVENT <i>Relation type:</i> Generalization	ACCOUNT PROCESSING EVENT
PASSENGER CHECK IN ENTRY <i>Role:</i> clue for <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	ACCOUNT DETECT REENTRY EVENT <i>Role:</i> input to <i>Cardinality:</i> 0..*

Table 39 - ACCOUNT DETECT REENTRY EVENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	<i>ACCOUNT PROCESSING EVENT</i>	::>	<i>ACCOUNT DETECT REENTRY EVENT</i> inherits from <i>ACCOUNT PROCESSING EVENT</i>
«UID»	<i>id</i>	<i>AccountDetectReentryEventIdType</i>	1:1	Identifier of ACCOUNT DETECT RE-ENTRY EVENT.

4.2.1.21 ACCOUNT DETECT SUSPICIOUS BEHAVIOUR EVENT

(Part 5 - Fare Management (FM)::FC Validation and Control MODEL::FE Control & Validation Event MODEL::FE Account Processing MODEL::FE Account Processing Event MODEL::ACCOUNT DETECT SUSPICIOUS BEHAVIOUR EVENT)

The detection by an ABT System of suspicious or fraudulent use of a TRAVEL DOCUMENT, for example being used in two different places at the same time.

Table 40 - ACCOUNT DETECT SUSPICIOUS BEHAVIOUR EVENT – Relations

Source	Target
ACCOUNT DETECT SUSPICIOUS BEHAVIOUR EVENT <i>Relation type:</i> Generalization	ACCOUNT PROCESSING EVENT
ACCOUNT DETECT SUSPICIOUS BEHAVIOUR EVENT <i>Role:</i> deduced from <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	PASSENGER CHECK IN ENTRY <i>Role:</i> clue for <i>Cardinality:</i> 0..*
ACCOUNT DETECT SUSPICIOUS BEHAVIOUR EVENT <i>Role:</i> triggering <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	SECURITY LIST DENY ENTRY <i>Role:</i> recording <i>Cardinality:</i> 0..1
ACCOUNT DETECT SUSPICIOUS BEHAVIOUR EVENT <i>Role:</i> deduced from <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	PASSENGER CHECK OUT ENTRY <i>Role:</i> clue for <i>Cardinality:</i> 0..*
ACCOUNT DETECT SUSPICIOUS BEHAVIOUR EVENT <i>Role:</i> triggering <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	ACCOUNT SUSPEND ENTRY <i>Role:</i> recording <i>Cardinality:</i> 0..1

Table 41 - ACCOUNT DETECT SUSPICIOUS BEHAVIOUR EVENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	ACCOUNT PROCESSING EVENT	::>	ACCOUNT DETECT SUSPICIOUS BEHAVIOUR EVENT inherits from ACCOUNT PROCESSING EVENT
«UID»	id	AccountDetectSuspiciousBehaviourEventIdType	1:1	Identifier of ACCOUNT DETECT SUSPICIOUS BEHAVIOUR EVENT.

4.2.1.22 ACCOUNT DETECT TRIP EVENT

(Part 5 - Fare Management (FM)::FC Validation and Control MODEL::FE Control & Validation Event MODEL::FE Account Processing MODEL::FE Account Processing Event MODEL::ACCOUNT DETECT TRIP EVENT)

The detection by an ABT System of a trip made by the user that needs to be accounted for.

Table 42 - ACCOUNT DETECT TRIP EVENT – Relations

Source	Target
ACCOUNT DETECT TRIP EVENT <i>Role:</i> informed by <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	PASSENGER WAY POINT ENTRY <i>Role:</i> clue for <i>Cardinality:</i> 1
ACCOUNT DETECT TRIP EVENT <i>Role:</i> informed by <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	PASSENGER CHECK IN ENTRY <i>Role:</i> clue for <i>Cardinality:</i> 1
ACCOUNT DETECT TRIP EVENT <i>Relation type:</i> Generalization	ACCOUNT PROCESSING EVENT
ACCOUNT DETECT TRIP EVENT <i>Role:</i> deduced from <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	PASSENGER CHECK OUT ENTRY <i>Role:</i> clue for <i>Cardinality:</i> 1

Source	Target
TRIP PURCHASE ENTRY <i>Role:</i> recording <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	ACCOUNT DETECT TRIP EVENT <i>Role:</i> triggering <i>Cardinality:</i> 1
NO CHECK OUT DETECTED ENTRY <i>Role:</i> deduced from <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	ACCOUNT DETECT TRIP EVENT <i>Role:</i> clue for <i>Cardinality:</i> 1

Table 43 - ACCOUNT DETECT TRIP EVENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	ACCOUNT PROCESSING EVENT	::>	ACCOUNT DETECT TRIP EVENT inherits from ACCOUNT PROCESSING EVENT
«UID»	id	AccountDetectTripEventId Type	1:1	Identifier of ACCOUNT DETECT TRIP EVENT.

4.2.1.23 ACCOUNT ENTRY

(Part 7 - Driver Management (DM)::PD Personnel Disposition MODEL::DM Driver Accounting MODEL::ACCOUNT ENTRY)

An ACCOUNT ENTRY is a record of aggregated ACTIVITY LOG ENTRY data per WAGE TYPE, EMPLOYEE and COST CENTRE for one OPERATING DAY that is used to transfer information on duties actually worked by drivers to an external accounting system.

Table 44 - ACCOUNT ENTRY – Relations

Source	Target
ACCOUNT ENTRY <i>Role:</i> using <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	WAGE INCREASE <i>Role:</i> entered into <i>Cardinality:</i> 1
ACCOUNT ENTRY <i>Role:</i> for <i>Cardinality:</i> 0..*	OPERATING DAY <i>Role:</i> used in <i>Cardinality:</i> 1

Source	Target
<i>Relation type:</i> Association	
ACCOUNT ENTRY <i>Role:</i> classified as <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	TYPE OF WAGE <i>Role:</i> classifying <i>Cardinality:</i> 1
ACCOUNT ENTRY <i>Relation type:</i> Generalization	LOG ENTRY
COST CENTRE <i>Role:</i> used in <i>Cardinality:</i> 1 <i>Relation type:</i> Association	ACCOUNT ENTRY <i>Role:</i> for <i>Cardinality:</i> 0..*
EMPLOYEE <i>Role:</i> used in <i>Cardinality:</i> 1 <i>Relation type:</i> Association	ACCOUNT ENTRY <i>Role:</i> for <i>Cardinality:</i> *

Table 45 - ACCOUNT ENTRY – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	LOG ENTRY	::>	ACCOUNT ENTRY inherits from LOG ENTRY
	SumOfTimeWorked	duration	1:1	Sum of worked time recorded in the ACCOUNT ENTRY.
«UID»	Id		1:1	Identifier of ACCOUNT ENTRY.

4.2.1.24 ACCOUNT PROCESSING EVENT

(Part 5 - Fare Management (FM)::FC Validation and Control MODEL::FE Control & Validation Event MODEL::FE Account Processing MODEL::FE Account Processing Event MODEL::ACCOUNT PROCESSING EVENT)

An event initiated by the processing of a CUSTOMER ACCOUNT by an ABT System.

Table 46 - ACCOUNT PROCESSING EVENT – Relations

Source	Target
ACCOUNT PROCESSING EVENT <i>Relation type: Generalization</i>	FARE CONTRACT EVENT
ACCOUNT DETECT SUSPICIOUS BEHAVIOUR EVENT <i>Relation type: Generalization</i>	ACCOUNT PROCESSING EVENT
ACCOUNT DETECT NO CHECK IN EVENT <i>Relation type: Generalization</i>	ACCOUNT PROCESSING EVENT
ACCOUNT DETECT NO CHECK OUT EVENT <i>Relation type: Generalization</i>	ACCOUNT PROCESSING EVENT
ACCOUNT DETECT TRIP EVENT <i>Relation type: Generalization</i>	ACCOUNT PROCESSING EVENT
ACCOUNT DETECT REENTRY EVENT <i>Relation type: Generalization</i>	ACCOUNT PROCESSING EVENT

Table 47 - ACCOUNT PROCESSING EVENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	FARE CONTRACT EVENT	::>	ACCOUNT PROCESSING EVENT inherits from FARE CONTRACT EVENT
«UID»	id	AccountProcessingEventId Type	1:1	Identifier of ACCOUNT PROCESSING EVENT.

4.2.1.25 ACCOUNT PROVIDER ROLE

(Part 5 - Fare Management (FM)::FR Fare Role MODEL::FR Fare Technology Role MODEL::ACCOUNT PROVIDER ROLE)

In Account Based Ticketing, the ACCOUNT PROVIDER provides the online account by means of which the product is delivered. Normally this involves a direct relationship with the CUSTOMER, though it may also be done as a white-labelled service for another party

Table 48 - ACCOUNT PROVIDER ROLE – Relations

Source	Target
ACCOUNT PROVIDER ROLE <i>Relation type: Generalization</i>	TECHNOLOGY ORGANISATION ROLE
CUSTOMER ACCOUNT <i>Role: provided by</i> <i>Cardinality: 0..*</i> <i>Relation type: Association</i>	ACCOUNT PROVIDER ROLE <i>Role: provider</i> <i>Cardinality: 0..1</i>
FARE CONTRACT <i>Role: provided by</i> <i>Cardinality: 0..*</i> <i>Relation type: Association</i>	ACCOUNT PROVIDER ROLE <i>Role: provider</i>

Table 49 - ACCOUNT PROVIDER ROLE – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	TECHNOLOGY ORGANISATION ROLE	::>	ACCOUNT PROVIDER ROLE inherits from TECHNOLOGY ORGANISATION ROLE
«UID»	Id	AccountProviderRoleIdType	1:1	Identifier of MANAGEMENT AGENT.

4.2.1.26 ACCOUNT REVIVE ENTRY

(Part 5 - Fare Management (FM)::ST Customer & Sales Transaction MODEL::SE Sales Event MODEL::FE Account Security MODEL::FM FE Account Security Log Entry MODEL::ACCOUNT REVIVE ENTRY)

A REVENUE PROTECTION ENTRY recording the reinstatement of a CUSTOMER ACCOUNT.

Table 50 - ACCOUNT REVIVE ENTRY – Relations

Source	Target
ACCOUNT REVIVE ENTRY <i>Relation type: Generalization</i>	CUSTOMER ACCOUNT ENTRY
ACCOUNT REVIVE EVENT <i>Role: triggering</i> <i>Cardinality: 0..1</i> <i>Relation type: Association</i>	ACCOUNT REVIVE ENTRY <i>Role: recording</i> <i>Cardinality: 1</i>

Table 51 - ACCOUNT REVIVE ENTRY – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	<i>CUSTOMER ENTRY</i> <i>ACCOUNT</i>	::>	ACCOUNT REVIVE ENTRY inherits from CUSTOMER ACCOUNT ENTRY
«UID»	id	<i>AccountReviveEntryIdType</i>	1:1	Identifier of ACCOUNT REVIVE ENTRY.

4.2.1.27 ACCOUNT REVIVE EVENT

(Part 5 - Fare Management (FM)::ST Customer & Sales Transaction MODEL::SE Sales Event MODEL::FE Account Security MODEL::FM FE Account Security Event MODEL::ACCOUNT REVIVE EVENT)

The reinstatement of a suspended CUSTOMER ACCOUNT.

Table 52 - ACCOUNT REVIVE EVENT – Relations

Source	Target
ACCOUNT REVIVE EVENT <i>Relation type: Generalization</i>	ACCOUNT SECURITY EVENT
ACCOUNT REVIVE EVENT <i>Role: triggering</i> <i>Cardinality: 0..1</i> <i>Relation type: Association</i>	ACCOUNT REVIVE ENTRY <i>Role: recording</i> <i>Cardinality: 1</i>
ACCOUNT REVIVE EVENT <i>Role: reviving</i> <i>Cardinality: 0..*</i> <i>Relation type: Association</i>	CUSTOMER ACCOUNT <i>Role: revived by</i> <i>Cardinality: 1</i>

Table 53 - ACCOUNT REVIVE EVENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	<i>ACCOUNT SECURITY EVENT</i>	::>	ACCOUNT REVIVE EVENT inherits from ACCOUNT SECURITY EVENT
«UID»	id	<i>AccountReviveEventIdType</i>	1:1	Identifier of ACCOUNT REVIVE EVENT.

4.2.1.28 ACCOUNT SALES EVENT

(Part 5 - Fare Management (FM)::ST Customer & Sales Transaction MODEL::SE Sales Event MODEL::SE Customer Purchase MODEL::SE Account Sales Event MODEL::ACCOUNT SALES EVENT)

A sales event affecting a CUSTOMER ACCOUNT.

Table 54 - ACCOUNT SALES EVENT – Relations

Source	Target
ACCOUNT SALES EVENT <i>Role:</i> affecting <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	CUSTOMER ACCOUNT <i>Role:</i> affected by <i>Cardinality:</i> 1
ACCOUNT SALES EVENT <i>Relation type:</i> Generalization	SALES EVENT
ACCOUNT AUTO TOP UP EVENT <i>Relation type:</i> Generalization	ACCOUNT SALES EVENT
ACCOUNT AWARD REFUND EVENT <i>Relation type:</i> Generalization	ACCOUNT SALES EVENT
ACCOUNT AUTO RENEWAL EVENT <i>Relation type:</i> Generalization	ACCOUNT SALES EVENT

Table 55 - ACCOUNT SALES EVENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	SALES EVENT	::>	ACCOUNT SALES EVENT inherits from SALES EVENT
«UID»	id	AccountSalesEventIdType	1:1	Identifier of ACCOUNT SALES EVENT.

4.2.1.29 ACCOUNT SECURITY EVENT

(Part 5 - Fare Management (FM)::ST Customer & Sales Transaction MODEL::SE Sales Event MODEL::FE Account Security MODEL::FM FE Account Security Event MODEL::ACCOUNT SECURITY EVENT)

A security event initiated by the processing of a CUSTOMER ACCOUNT by an ABT System.

Table 56 - ACCOUNT SECURITY EVENT – Relations

Source	Target
ACCOUNT SECURITY EVENT <i>Relation type:</i> Generalization	FARE CONTRACT EVENT
DENY ACCOUNT ON SECURITY LIST EVENT <i>Relation type:</i> Generalization	ACCOUNT SECURITY EVENT

Source	Target
ACCOUNT SUSPEND EVENT <i>Relation type: Generalization</i>	ACCOUNT SECURITY EVENT
ACCOUNT DETECT ELIGIBILITY CHANGE EVENT <i>Relation type: Generalization</i>	ACCOUNT SECURITY EVENT
ACCOUNT REVIVE EVENT <i>Relation type: Generalization</i>	ACCOUNT SECURITY EVENT
ALLOW ACCOUNT ON SECURITY LIST EVENT <i>Relation type: Generalization</i>	ACCOUNT SECURITY EVENT

Table 57 - ACCOUNT SECURITY EVENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	<i>FARE CONTRACT EVENT</i>	::>	ACCOUNT SECURITY EVENT inherits from FARE CONTRACT EVENT
«UID»	id	<i>AccountSecurityEventIdType</i>	1:1	Identifier of ACCOUNT SECURITY EVENT.

4.2.1.30 ACCOUNT SUSPEND ENTRY

(Part 5 - Fare Management (FM)::ST Customer & Sales Transaction MODEL::SE Sales Event MODEL::FE Account Security MODEL::FM FE Account Security Log Entry MODEL::ACCOUNT SUSPEND ENTRY)

A REVENUE PROTECTION ENTRY recording the denying of access to the transport network by the addition to a BLACK LIST or removal from a WHITE LIST of a token that identifies a CUSTOMER, CUSTOMER ACCOUNT, FARE CONTRACT, TRAVEL DOCUMENT, etc.

Table 58 - ACCOUNT SUSPEND ENTRY – Relations

Source	Target
ACCOUNT SUSPEND ENTRY <i>Relation type: Generalization</i>	CUSTOMER ACCOUNT ENTRY
ACCOUNT SUSPEND EVENT <i>Role: triggering</i> <i>Cardinality: 0..1</i> <i>Relation type: Association</i>	ACCOUNT SUSPEND ENTRY <i>Role: recording</i> <i>Cardinality: 1</i>

Source	Target
ACCOUNT DETECT SUSPICIOUS BEHAVIOUR EVENT <i>Role: triggering</i> <i>Cardinality: 0..1</i> <i>Relation type: Association</i>	ACCOUNT SUSPEND ENTRY <i>Role: recording</i> <i>Cardinality: 0..1</i>

Table 59 - ACCOUNT SUSPEND ENTRY – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	CUSTOMER ACCOUNT ENTRY	::>	ACCOUNT SUSPEND ENTRY inherits from CUSTOMER ACCOUNT ENTRY
«UID»	id	AccountSuspendEntryIdType	1:1	Identifier of ACCOUNT SUSPEND ENTRY.

4.2.1.31 ACCOUNT SUSPEND EVENT

(Part 5 - Fare Management (FM)::ST Customer & Sales Transaction MODEL::SE Sales Event MODEL::FE Account Security MODEL::FM FE Account Security Event MODEL::ACCOUNT SUSPEND EVENT)

The suspension of a CUSTOMER ACCOUNT.

Table 60 - ACCOUNT SUSPEND EVENT – Relations

Source	Target
ACCOUNT SUSPEND EVENT <i>Relation type: Generalization</i>	ACCOUNT SECURITY EVENT
ACCOUNT SUSPEND EVENT <i>Role: suspending</i> <i>Cardinality: 0..*</i> <i>Relation type: Association</i>	CUSTOMER ACCOUNT <i>Role: suspended by</i> <i>Cardinality: 1</i>
ACCOUNT SUSPEND EVENT <i>Role: triggering</i> <i>Cardinality: 0..1</i> <i>Relation type: Association</i>	ACCOUNT SUSPEND ENTRY <i>Role: recording</i> <i>Cardinality: 1</i>

Table 61 - ACCOUNT SUSPEND EVENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	<i>ACCOUNT SECURITY EVENT</i>	::>	ACCOUNT SUSPEND EVENT inherits from ACCOUNT SECURITY EVENT
«UID»	id	<i>AccountSuspendEventIdType</i>	1:1	Identifier of ACCOUNT SUSPEND EVENT. ..

4.2.1.32 ACCOUNTING PERIOD

(Part 7 - Driver Management (DM)::PD Personnel Disposition MODEL::DM Driver Accounting MODEL::ACCOUNTING PERIOD)

An ACCOUNTING PERIOD is a continuous interval between two OPERATING DAYs which will be used for accounting purposes.

Table 62 - ACCOUNTING PERIOD – Relations

Source	Target
ACCOUNTING PERIOD <i>Role:</i> starting at <i>Cardinality:</i> 0..1 <i>Relation type:</i> Aggregation	OPERATING DAY <i>Role:</i> the start day of

Table 63 - ACCOUNTING PERIOD – Attributes

Classification	Name	Type	cardinality	Description
::>	::>		::>	ACCOUNTING PERIOD doesn't inherit from another class
	Name	<i>normalizedString</i>	1:1	Name of ACCOUNTING PERIOD.
«UID»	Id		1:1	Identifier of ACCOUNTING PERIOD.

4.2.1.33 ACTIVATED EQUIPMENT

(Part 2 - Public Transport Network Topology (NT)::ND Network Description MODEL::NT Activation MODEL::ACTIVATED EQUIPMENT)

An equipment activated by the passage of a vehicle at an ACTIVATION POINT or on an ACTIVATION LINK.

Table 64 - ACTIVATED EQUIPMENT – Relations

Source	Target
ACTIVATED EQUIPMENT <i>Role:</i> used to trigger <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	TYPE OF ACTIVATION <i>Role:</i> triggered by <i>Cardinality:</i> 1..*
ACTIVATED EQUIPMENT <i>Role:</i> related to <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	TRAFFIC CONTROL POINT <i>Role:</i> controlled by <i>Cardinality:</i> 1..*
ACTIVATED EQUIPMENT <i>Role:</i> used to define <i>Relation type:</i> Association	ACTIVATION ASSIGNMENT <i>Role:</i> for <i>Cardinality:</i> 0..*

Table 65 - ACTIVATED EQUIPMENT – Attributes

Classifi- cation	Name	Type	cardinality	Description
::>	::>		::>	ACTIVATED EQUIPMENT doesn't inherit from another class
«UID»	Id	ActivatedEquipmentIdType	1:1	Identifier of ACTIVATED EQUIPMENT.

4.2.1.34 ACTIVATION ASSIGNMENT

(Part 2 - Public Transport Network Topology (NT)::ND Network Description MODEL::NT Activation MODEL::ACTIVATION ASSIGNMENT)

An assignment of an ACTIVATION POINT/LINK to an ACTIVATED EQUIPMENT related on its turn to a TRAFFIC CONTROL POINT. The considered ACTIVATION POINT/LINK will be used to influence the control process for that TRAFFIC CONTROL POINT (e.g. to fix priorities as regards the processing of competing requests from different ACTIVATION POINTs/LINKs).

Table 66 - ACTIVATION ASSIGNMENT – Relations

Source	Target
ACTIVATION POINT <i>Role:</i> used to define <i>Relation type:</i> Association	ACTIVATION ASSIGNMENT <i>Role:</i> for <i>Cardinality:</i> 0..*
ACTIVATED EQUIPMENT <i>Role:</i> used to define <i>Relation type:</i> Association	ACTIVATION ASSIGNMENT <i>Role:</i> for <i>Cardinality:</i> 0..*
ACTIVATION LINK <i>Role:</i> used to define <i>Relation type:</i> Association	ACTIVATION ASSIGNMENT <i>Role:</i> for <i>Cardinality:</i> 0..*

Table 67 - ACTIVATION ASSIGNMENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>		::>	ACTIVATION ASSIGNMENT doesn't inherit from another class
«UID»	Id	<i>ActivatedAssignmentIdType</i>	1:1	Identifier of ACTIVATION ASSIGNMENT.
	Order	<i>positiveInteger</i>	0:1	Order of ASSIGNMENT relative to other ASSIGNMENTS.

4.2.1.35 ACTIVATION LINK

(Part 2 - Public Transport Network Topology (NT)::ND Network Description MODEL::NT Activation MODEL::ACTIVATION LINK)

A LINK where a control process is activated when a vehicle passes it.

Table 68 - ACTIVATION LINK – Relations

Source	Target
ACTIVATION LINK <i>Cardinality:</i> 0..* <i>Relation type:</i> Aggregation	INFRASTRUCTURE FRAME
ACTIVATION LINK <i>Role:</i> used to trigger	TYPE OF ACTIVATION <i>Role:</i> triggered along

Source	Target
<i>Cardinality: 0..*</i> <i>Relation type: Association</i>	<i>Cardinality: 1..*</i>
ACTIVATION LINK <i>Role: used to define</i> <i>Relation type: Association</i>	ACTIVATION ASSIGNMENT <i>Role: for</i> <i>Cardinality: 0..*</i>
ACTIVATION LINK <i>Role: to</i> <i>Cardinality: 0..*</i> <i>Relation type: Association</i>	ACTIVATION POINT <i>Role: end of</i> <i>Cardinality: 1</i>
Note <i>Relation type: NoteLink</i>	ACTIVATION LINK
ACTIVATION POINT <i>Role: start of</i> <i>Cardinality: 1</i> <i>Relation type: Association</i>	ACTIVATION LINK <i>Role: from</i> <i>Cardinality: 0..*</i>

Table 69 - ACTIVATION LINK – Attributes

Classifi- cation	Name	Type	cardinality	Description
::>	::>		::>	ACTIVATION LINK doesn't inherit from another class
«UID»	Id	<i>ActivationLinkIdType</i>	1:1	Identifier of ACTIVATION LINK.

4.2.1.36 ACTIVATION POINT

(Part 2 - Public Transport Network Topology (NT)::ND Network Description MODEL::NT Activation MODEL::ACTIVATION POINT)

A POINT where a control process is activated when a vehicle passes it. Equipment may be needed for the activation.

Table 70 - ACTIVATION POINT – Relations

Source	Target
ACTIVATION POINT <i>Role:</i> used to trigger <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	TYPE OF ACTIVATION <i>Role:</i> triggered at <i>Cardinality:</i> 1..*
ACTIVATION POINT <i>Cardinality:</i> 0..* <i>Relation type:</i> Aggregation	INFRASTRUCTURE FRAME
ACTIVATION POINT <i>Relation type:</i> Generalization	POINT
ACTIVATION POINT <i>Role:</i> start of <i>Cardinality:</i> 1 <i>Relation type:</i> Association	ACTIVATION LINK <i>Role:</i> from <i>Cardinality:</i> 0..*
ACTIVATION POINT <i>Role:</i> used to define <i>Relation type:</i> Association	ACTIVATION ASSIGNMENT <i>Role:</i> for <i>Cardinality:</i> 0..*
ACTIVATION POINT <i>Role:</i> located in <i>Cardinality:</i> * <i>Relation type:</i> Association	TARIFF ZONE <i>Role:</i> including <i>Cardinality:</i> *
Note <i>Relation type:</i> NoteLink	ACTIVATION POINT
BEACON POINT <i>Relation type:</i> Generalization	ACTIVATION POINT

Source	Target
ACTIVATION LINK <i>Role: to</i> <i>Cardinality: 0..*</i> <i>Relation type: Association</i>	ACTIVATION POINT <i>Role: end of</i> <i>Cardinality: 1</i>

Table 71 - ACTIVATION POINT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	<i>POINT</i>	::>	ACTIVATION POINT inherits from POINT
«UID»	Id	<i>ActivationPointIdType</i>	1:1	Identifier of ACTIVATION POINT.
	ActivationPointNumber	<i>normalizedString</i>	0:1	Number of ACTIVATION POINT.
	ShortName	<i>MultilingualString</i>	0:1	Short Name of ACTIVATION POINT.

4.2.1.37 ACTIVITY LOG ENTRY

(Part 7 - Driver Management (DM)::PD Personnel Disposition MODEL::DM Driver Accounting MODEL::ACTIVITY LOG ENTRY)

An ACTIVITY LOG ENTRY is a record, including data needed for accounting, of the actual time worked, planned as well as unplanned, in a STRETCH, or spent for a BREAK, by an EMPLOYEE on a specified OPERATING DAY.

Table 72 - ACTIVITY LOG ENTRY – Relations

Source	Target
ACTIVITY LOG ENTRY <i>Role: for</i> <i>Cardinality: 0..*</i> <i>Relation type: Association</i>	OPERATING DAY <i>Role: used in</i> <i>Cardinality: 1</i>
ACTIVITY LOG ENTRY <i>Relation type: Generalization</i>	LOG ENTRY
EMPLOYEE <i>Role: used in</i> <i>Cardinality: 1</i> <i>Relation type: Association</i>	ACTIVITY LOG ENTRY <i>Role: for</i> <i>Cardinality: *</i>

Source	Target
COST CENTRE <i>Role:</i> chosen for <i>Cardinality:</i> 1 <i>Relation type:</i> Association	ACTIVITY LOG ENTRY <i>Role:</i> assigned to <i>Cardinality:</i> 0..*
STRETCH <i>Role:</i> used in <i>Cardinality:</i> 1 <i>Relation type:</i> Association	ACTIVITY LOG ENTRY <i>Role:</i> referring to <i>Cardinality:</i> 0..*
BREAK <i>Role:</i> used in <i>Cardinality:</i> 1 <i>Relation type:</i> Association	ACTIVITY LOG ENTRY <i>Role:</i> for <i>Cardinality:</i> 0..*

Table 73 - ACTIVITY LOG ENTRY – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	LOG ENTRY	::>	ACTIVITY LOG ENTRY inherits from LOG ENTRY
	ActualStartTime	time	1:1	Actual start time of activity recorded in ACTIVITY LOG ENTRY.
	ActualEndTime	time	0:1	Actual end time of activity recorded in ACTIVITY LOG ENTRY.
	AccountingFactor		0:1	The proportion of the normal wage that is paid for the activity recorded in ACTIVITY LOG ENTRY.
	AccountingTime	duration	0:1	The full or reduced paid time applicable for the activity recorded in ACTIVITY LOG ENTRY.
«UID»	Id		1:1	Identifier of ACTIVITY LOG ENTRY.

4.2.1.38 ACTUAL VEHICLE EQUIPMENT

(Part 1 - Common Concepts (CC)::CC Reusable Components MODEL::CC Actual Vehicle Equipment MODEL::ACTUAL VEHICLE EQUIPMENT)

An item of equipment of a particular type in an individual VEHICLE.

Table 74 - ACTUAL VEHICLE EQUIPMENT – Relations

Source	Target
ACTUAL VEHICLE EQUIPMENT <i>Role:</i> for <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	ACCESSIBILITY ASSESSMENT <i>Role:</i> suitable <i>Cardinality:</i> 0..1
ACTUAL VEHICLE EQUIPMENT <i>Relation type:</i> Generalization	INSTALLED EQUIPMENT
ACTUAL VEHICLE EQUIPMENT <i>Role:</i> in <i>Cardinality:</i> 0..* <i>Relation type:</i> Aggregation	VEHICLE <i>Role:</i> equipped with
VEHICLE ACCESS EQUIPMENT <i>Relation type:</i> Generalization	ACTUAL VEHICLE EQUIPMENT
WHEELCHAIR VEHICLE EQUIPMENT <i>Relation type:</i> Generalization	ACTUAL VEHICLE EQUIPMENT
PASSENGER EQUIPMENT <i>Role:</i> used as <i>Cardinality:</i> 0..1 <i>Relation type:</i> Association	ACTUAL VEHICLE EQUIPMENT <i>Role:</i> using <i>Cardinality:</i> 0..1
TRAIN ELEMENT <i>Role:</i> equipped with <i>Cardinality:</i> 1 <i>Relation type:</i> Association	ACTUAL VEHICLE EQUIPMENT <i>Role:</i> in <i>Cardinality:</i> *
MONITORED VEHICLE EQUIPMENT FACILITY <i>Role:</i> enabled by <i>Cardinality:</i> 0..* <i>Relation type:</i> Association	ACTUAL VEHICLE EQUIPMENT <i>Role:</i> enabling <i>Cardinality:</i> 1

Table 75 - ACTUAL VEHICLE EQUIPMENT – Attributes

Classification	Name	Type	cardinality	Description
::>	::>	INSTALLED EQUIPMENT	::>	ACTUAL VEHICLE EQUIPMENT inherits from INSTALLED EQUIPMENT
«UID»	Id	<i>ActualVehicleEquipmentId Type</i>	1:1	Identifier of ACTUAL VEHICLE EQUIPMENT.
	Units	<i>nonNegativeInteger</i>	0:1	How many instances of ACTUAL VEHICLE EQUIPMENT there are on vehicle.

4.2.1.39 ADDRESS

(Part 1 - Common Concepts (CC)::CC Reusable Components MODEL::CC Topographic Place MODEL::ADDRESS)

The descriptive data associated with a PLACE that can be used to describe the unique geographical context of a PLACE for the purposes of identifying it. May be refined as either a ROAD ADDRESS, a POSTAL ADDRESS or both.

Table 76 - ADDRESS – Relations

Source	Target
ADDRESS <i>Cardinality: 0..*</i> <i>Relation type: Aggregation</i>	SITE FRAME
POSTAL ADDRESS <i>Relation type: Generalization</i>	ADDRESS
ADDRESSABLE PLACE <i>Role: described by</i> <i>Cardinality: 1</i> <i>Relation type: Association</i>	ADDRESS <i>Role: describing</i> <i>Cardinality: 0..*</i>
COUNTRY <i>Role: hosting</i> <i>Relation type: Association</i>	ADDRESS <i>Role: hosted by</i> <i>Cardinality: 0..*</i>
ROAD ADDRESS <i>Relation type: Generalization</i>	ADDRESS