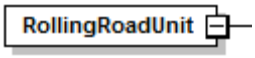
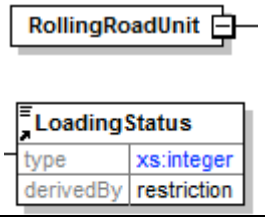
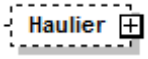
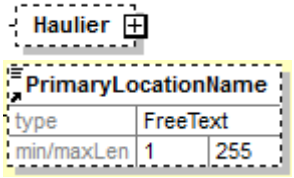
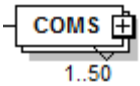
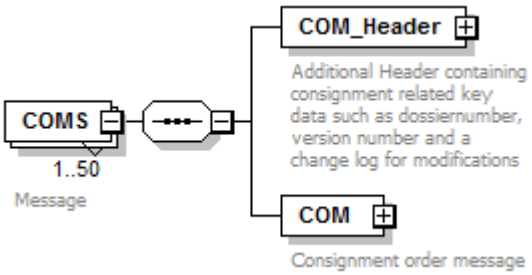
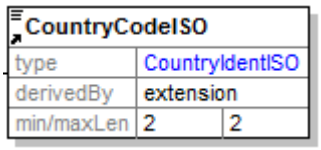
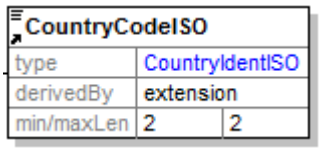
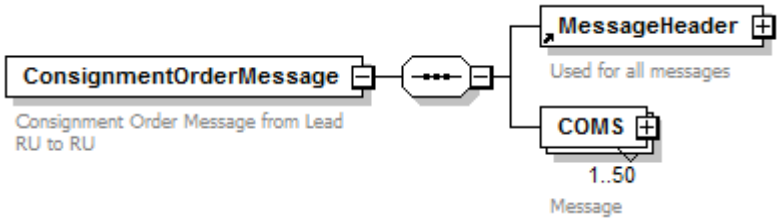
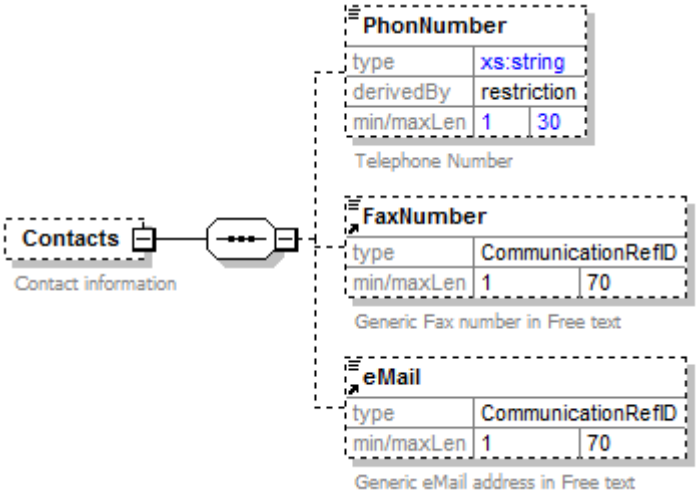
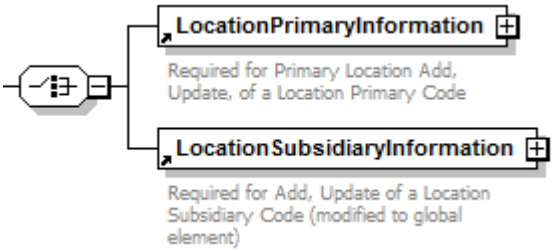
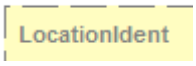
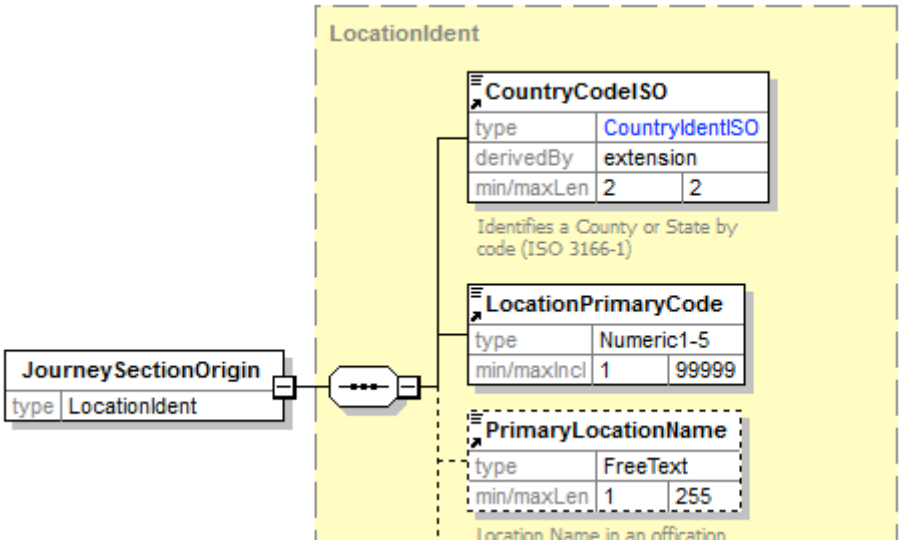
XSD Diagram Notations

Below is the table showing the XSD diagram notations used in the TAF and TAP complete TAF TSI Catalogue XSD documentation here in the ERA_Technical_Document_TAF_D_2_Appendix_F_v2_0 along with description of notation based on the output if viewed with the XMLSpy tool.

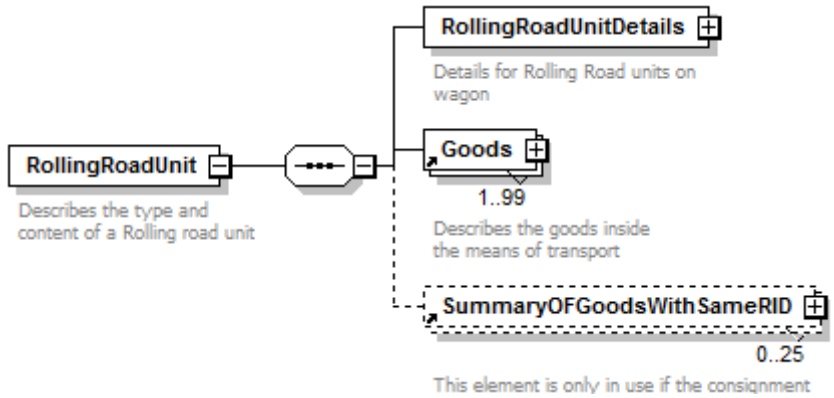
Note: The element on Left side is the Current and/or Parent element and the element(s) on the right side denotes the child elements of the current/parent element.

Notation	Description
Mandatory element 	A rectangle with a solid outline represents a required or mandatory element. Example of a Mandatory element: 
Optional element 	A rectangle with a dotted outline represents an optional or conditional element. Example of an Optional element: 
Expandable element	The plus symbol on the right side of element rectangle indicates the element is expandable and has children elements. Example: The below example shows COMS element with plus symbol, which means it has children elements.  Below image shows COMS element being expanded with its children elements COM_Header and COM which again have child elements. 
Last element	This lines symbol on the top left corner of element rectangle indicates this is the simple type in technical term. We can say this element does not have any

	child elements and is the last element. Below is example of this: 
Reference element 	This arrow symbol on top left corner of element rectangle indicates this element is reference element from custom defined type or element. Example: In the below example CountryCodeISO is reference element (with an arrow on top left bottom corner of rectangle) of type ContryIdentISO which is derived from “extension”. 
Sequence 	This symbol indicates the Sequence of the elements or groups. It states that the child elements must appear in sequence. Example: In the below example, the ConsignmentOrderMessage contains a sequence of complex elements MessageHeader and COMS in order.  In the below example, the Contacts contain a sequence of elements PhoneNumber, FaxNumber and eMail in order. 
Choice 	This symbol indicates the Choice of the elements or groups. That means only one of the elements under Choice declaration is present within the containing element.

	Example: In the below example a parent element can contain a choice of either LocationPrimaryInformation or LocationSubsidiaryInformaiton 
List of elements 	Stacked rectangles represent an element with multiple cardinality (the number of elements with a group), with cardinality noted below the rectangle. Examples: The given example represents Goods element with between 1 and 99 elements, which means many occurrences of Goods element can present between 1 Goods element and a maximum of 99 Goods elements. The outer rectangle is solid which means mandatory element. In this example the outer rectangle is dotted which means the element is optional or condition as the lower number of elements is zero.
Complex Type  	A yellow shaded area inside a large dotted rectangle represents all of the data elements inside the rectangle belongs to the single complex type mentioned in top left corner. In the below example, “CountryCodeISO”, “LocationPrimaryCode”, “PrimaryLocationName” all belong to complex type “LocationIdent”. 

Understanding through example:



In the above example, the left side element “RollingRoadUnit” is a current element or Parent element to the elements on right side, also called children elements.

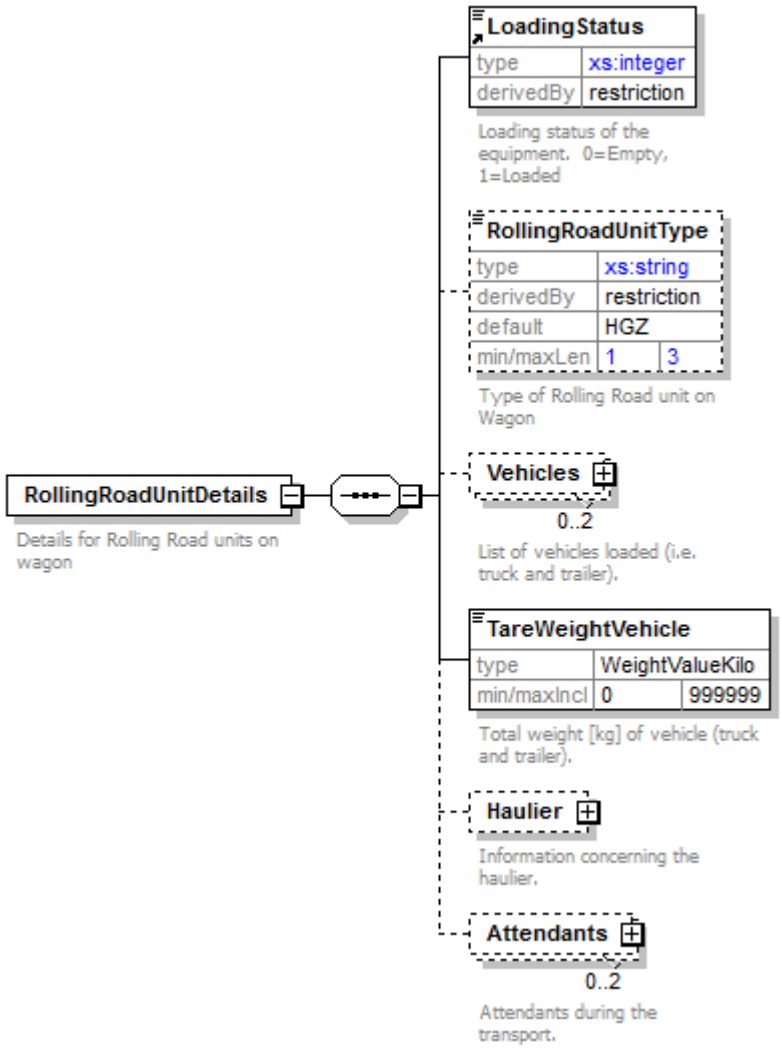
“RollingRoadUnit” is mandatory element containing sequence child elements listed in order, as below:

1. “RollingRoadUnitDetails” is a mandatory element and expandable element (it has a plus symbol) with child elements.
2. “Goods” is mandatory element and expandable (it has a plus symbol) with a minimum of 1 element and maximum of 99 “Goods” elements.
3. “SummaryOFGoodsWithSameRID” is an Optional or conditional element and is expandable (it has a plus symbol) with a number of elements between zero (i.e. no element) to a maximum of 25 “SummaryOFGoodsWithSameRID” elements

“RollingRoadUnitDetails” is an expandable or compound element (with a plus symbol) and like other elements, we will expand only this element for better understanding, a similar understanding can be applied to other elements.

Note: In the TAF TAP complete XSD documentation element can be expanded by clicking on the child name hyperlink the in children row of the element table.

Below is the diagram shows the children elements of “RollingRoadUnitDetails” after it is expanded:



“RollingRoadUnitDetails” is a mandatory element containing sequence child elements listed as below in order:

1. “LoadingStatus” is a mandatory reference element of type integer derived by restriction. This is last child element.
2. “RollingRoadUnitType” is an optional or conditional element of type string derived by restriction. This is last child element.
3. “Vehicles” is an optional expandable element with cardinality of between a minimum of zero to maximum of 2 elements.
4. “TareWeightVehicle” is mandatory element of type WeightValueKilo custom defined type.
5. “Haulier” is an optional expandable element containing children elements.
6. “Attendants” is an optional expandable element with number of elements between a minimum of zero to maximum of 2 “Attendants” elements.