

Rail Delivery Group



National Rail Enquiries Knowledgebase Data Feeds Specification

**Subject Ref: RSPS5050
Version: P-03-00 Rev A**

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Version History

Version	Comments
P-03-00	Addition of Stations JSON feed.
P-03-00 Rev A	Details regarding the Pre-prod and Production access points for Stations JSON added.

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Terms and Definitions

Term	Meaning
ASSIST	Accreditation Standards Site Integrating System Toolset.
CCTV	Closed Circuit Television.
CMS	Content Management System.
CRS Code	A 3-character code issued to every railway station in Britain.
IP Address	Internet Protocol address.
JSON	JavaScript Object Notation; a lightweight data-interchange format.
KB / iKB	NRE KnowledgeBase.
Mand	Mandatory.
Mult	Multiple.
NaPTAN	National Public Transport Access Node.
NLC	National Location Code, a four-character alphanumeric code assigned to every retailing location and railway station in Britain.
NRDP	National Rail Data Portal.
NRE	National Rail Enquiries.
NSI	National Service Indicator.
RDM	Rail Data Marketplace.
REST	Representational State Transfer.
SLA	Service Level Agreement.
STD	Subscriber Trunk Dialling.
TIPLOC	Timing Point Location.
TOC	Train Operating Company.
URI	Uniform Resource Identifier.
URL	Uniform Resource Locator.
WCF	Microsoft Windows Communication Foundation framework.
XML	eXtensible Markup Language.
XSD	XML Schema file.

1. Introduction

1.1 General

- 1.1.1 The purpose of this document is to provide information on the use of National Rail Enquiries (NRE) KnowledgeBase (KB) data.
- 1.1.2 KnowledgeBase is a system used by NRE which maintains data used in their websites and other channels and is the official source of train information for the industry.
- 1.1.3 Train companies are responsible for updating their own information using the backend CMS to KB, all other data is updated via NRE content editors.
- 1.1.4 This document will be updated and distributed following any update of the JSON or XML schemas.
- 1.1.5 The XML Schemas are available for download from ASSIST or the NRE website.
- 1.1.6 The JSON schema details are available within the Open API Specifications. It includes the endpoints and request/response structures (including examples) that the API exposes. Specs are available for download from ASSIST or the NRE website.
- 1.1.7 This document details the 'Full Service' in section 1.2 and gives information on the 'Open Data' versions via the 'Rail Data Marketplace' in section 0.
- 1.1.8 The data feeds are documented in section 2 'Data definitions and use'.

1.2 Full Service access

- 1.2.1 The service is for TOCs, TOC 3rd parties and WebTIS.
- 1.2.2 The 'Full Service' works to a '24/7' 99.99% SLA.
- 1.2.3 Only approved and static IP addresses can gain full access to the data feeds via a data feed licence.
- 1.2.4 To request access, please use the Rail Data Marketplace.

1.3 Rail Data Marketplace

- 1.3.1 Since November 2023, the data feeds have been made be available via the 'Rail Data Marketplace' (RDM) which replaces 'National Rail Data Portal' (NRDP).
- 1.3.2 RDM is a self-signup service for 'open data' users at no cost for the data but with lower Service Level Agreements (SLAs) than the 'Full Service' and different usage terms and conditions.
- 1.3.3 RDM is available at <https://raildata.org.uk>.
- 1.3.4 Support: There is no formal support direct from the supplier for open data users however minimal support is available via the RDM platform.

1.4 Alerts and Notifications

- 1.4.1 If you would like to receive release or incident notification's, you can sign up for notification's by following this link - <http://eepurl.com/6TvTT>.

2. Data definitions and use

2.1 XML and JSON feed configuration

2.1.1 The feeds are configured as web services following a resource-oriented design, allowing clients to request specific feed resources through defined endpoints.

2.1.2 These services handle incoming requests for feeds and return the corresponding resource data based on the request parameters in XML or JSON format depending on the particular endpoint used.

2.2 Data feeds and Versions

2.2.1 Each KB data feed is listed below along with version availability information.

Data feed	Type	Version	Available from	Withdrawn date	Poll frequency
TOCs	XML	4.0	Now	None	At least once every 24 hours.
Ticket Types	XML	4.0	Now	None	At least once every 24 hours.
Ticket Restrictions	XML	4.0	Now	None	At least once every 24 hours.
Stations	XML	4.0	Now	None	Once every 24 hours.
Stations	JSON	1.0	Now	None	Once every 24 hours.
Promotions	XML	4.0	Now	None	At least once every 24 hours.
National Service Indicator	XML	4.0	Now	None	Recommend every 5 minutes.
Incidents	XML	5.0	Now	None	Recommend every 5 minutes.

3. 'TOC' schema

3.1 Overview

- 3.1.1 This section defines the structure and provides a high-level description of the TOC XML tags.
- 3.1.2 Where a tag is marked mandatory ('Mand'), consumers can rely upon the presence of this tag. Tags not marked mandatory are optional, i.e., consumers should not rely on these elements existing. Child tags marked as mandatory are only mandatory if their parent tag exists.
- 3.1.3 Where a tag is marked multiple ('Mult'), this means that this tag can be repeated, tags not marked as multiple will not be repeated.

3.2 Version 4.0

3.2.1 NRE website

- 3.2.1.1 The NRE website displays this data at the following URL:
- <https://www.nationalrail.co.uk/travel-information/find-a-train-company/>
- In addition, the following URL may be used where ?? is a two-character TOC code such as 'LE' or 'XC':
- <https://www.nationalrail.co.uk/travel-information/operators/??>
- For example:
- <https://www.nationalrail.co.uk/travel-information/operators/aw>

3.2.2 XSD

- 3.2.2.1 `nre-toc-v4-0.xsd`

3.2.3 Elements

3.2.3.1 Root

Field	Mandatory	Multiple	Type/Values	Description
TrainOperatingCompanyList	Y	N	See § 0	Root element for Train Operating Companies feed which will contain one or more child elements.

3.2.3.2 Train Operating Company

Field	Mand	Mult	Type/Values	Description
TrainOperatingCompany	N	Y	See § 3.2.3.3	Container for TOC level information.

3.2.3.3 Train Operating Company Structure

Field	Mand	Mult	Type/Values	Description
ChangeHistory	Y	N	See § 11.2.1	Last changed by details. e.g., Changed by Joe Bloggs @ 11:00 on 23rd June 2015.
AtocCode	Y	N	String (2)	Two-character TOC code. e.g., 'LE' or 'XC'.
AtocMember	N	N	Boolean	Is the operator a member of ATOC? e.g., 'true'.
StationOperator	N	N	Boolean	Does the operator manage stations? e.g., 'false'.
Name	Y	N	String	Brand name of the operator. e.g., 'Greater Anglia'.
LegalName	Y	N	String	Legal name of the operator. e.g., 'London Eastern Railways'.
ManagingDirector	N	N	String	Name of operator's managing director. e.g., 'John Smith'.
Logo	N	N	URI	URI to operator's logo on NRE desktop website.
NetworkMap	N	N	URI	URI to operator's network map, usually on their own website.
OperatingPeriod	N	N	See § 3.2.3.4	Operating period of operator, usually a start date of their franchise.
HeadOfficeContactDetails	N	N	See § 11.2.9	Address and phone details of operator's head office.
CompanyWebsite	N	N	URI	URI of operator's main desktop website.
SupportAndInformation	N	N	See § 3.2.3.5	Various operator support details, such as lost property and cycling.
TicketingAndFares	N	N	See § 3.2.3.6	Various operator details relating to ticket and fare policies.

3.2.3.4 Operating Period Structure

Field	Mand	Mult	Type/Values	Description
StartDate	N	N	Date	Start date of operator's operating period. e.g., 12 June 2013.
EndDate	N	N	Date	Start date of operator's operating period. e.g., 1 September 2019.

3.2.3.5 Support and Information Structure

Field	Mand	Mult	Type/Values	Description
CustomerService	N	N	See § 11.2.4	Operator's Customer Service information.
LostProperty	N	N	See § 11.2.4	Operator's lost property information.
AssistedTravel	N	N	See § 11.2.4	Operator's Assisted Travel policies and information.
CyclePolicyUrl	N	N	URI	URI of the operator's cycling policy (if known). e.g. http://www.arrivatrainswales.co.uk/Bicycles/

3.2.3.6 Ticketing and Fares Structure

Field	Mand	Mult	Type/Values	Description
TeleSales	N	N	See § 11.2.4	Operator's telesales information.
GroupTravel	N	N	See § 11.2.4	Operator's Group travel policies and information.
BusinessTravel	N	N	See § 11.2.4	Operator's business travel policies and information.
SeatReservations	N	N	See § 11.2.4	Operator's seat reservation policies and information.
PenaltyFaresUrl	N	N	URI	URI to information regarding operator's penalty fare policies. e.g. http://www.c2c-online.co.uk/assistance/faqs/penalty-fares/
BuyingTickets	N	N	See § 11.2.11	Operator's ticket purchasing policies and information.

4. 'Ticket Types' schema

4.1 Overview

- 4.1.1 This section defines the structure and provides a high-level description of the Ticket Types XML tags.
- 4.1.2 Where a tag is marked mandatory, consumers can rely upon the presence of this tag. Tags not marked mandatory are optional, i.e., consumers should not rely on these elements existing. Child tags marked as mandatory are only mandatory if their parent tag exists.
- 4.1.3 Where a tag is marked multiple, this means that this tag can be repeated, tags not marked as multiple will not be repeated.
- 4.1.4 Errors and omissions can be reported to rdgretailapprover@raildeliverygroup.com.

4.2 Version 4.0

4.2.1 NRE website

- 4.2.1.1 The NRE website displays this data at the following URL:
<https://www.nationalrail.co.uk/ticket-types/ticket-validity-finder/>
- In addition, the following URL may be used where ??? is a three-character ticket type code such as 'GOR':
<https://www.nationalrail.co.uk/ticket-types/tickets/???>
- For example:
<https://www.nationalrail.co.uk/ticket-types/tickets/GOR>

4.2.2 XSD

- 4.2.2.1 `nre-ticket-v4-0.xsd`

4.2.3 Elements

4.2.3.1 Root

Field	Mandatory	Multiple	Type/Values	Description
TicketTypeDescriptionList	Y	N	See § 4.2.3.2	Root element for Ticket Types feed which will contain one or more child elements.

4.2.3.2 Ticket Type Description

Field	Mand	Mult	Type/Values	Description
TicketTypeDescription	N	Y	See § 4.2.3.3	Container for Ticket Type level information.

4.2.3.3 Ticket Type Description Structure

Field	Mand	Mult	Type/Values	Description
TicketTypeIdentifier	Y	N	String (32)	Unique identifier for entry in XML. e.g., '297422B8CC2D477192F0021CFFBABD1F'.

TicketTypeCode	Y	Y	String (3)	List of ticket type codes these terms and conditions apply to. e.g., 'SOS', 'FDS', '1SD', etc.
TicketTypeName	Y	N	String	Customer friendly description of ticket. e.g., 'Advance (Day)'.
Description	Y	N	String	Overview of ticket type's properties. e.g., 'Advance tickets are single (one-way) tickets...' etc.
Class	Y	N	First, Standard, Other	Class of travel.
SingleReturn	Y	N	Single, Return	Whether ticket type(s) valid for a single journey or a return journey.
ApplicableTocs	N	N	See § 4.2.3.4	A list of TOCs.
Validity	N	N	See § 4.2.3.5	Outward and Return validity information.
BreakOfJourney	N	N	See § 4.2.3.6	Outward and Return break of journey information.
FareCategory	Y	N	Open, Flexible, Restricted	Fare category of ticket type(s): - Open equals "Anytime". - Flexible equals "Off-Peak". - Restricted equals "Advance".
Conditions	N	N	String	General conditions for ticket type(s). e.g., 'You must be at the departure station shown on the ticket...' etc.
Availability	N	N	String	Availability conditions for ticket type(s). e.g., 'Tickets are valid ONLY on the date and...' etc.
Retailing	N	N	String	Retailing instructions for ticket type(s). e.g., 'Ticket offices, travel centres and travel agents...' etc.
BookingDeadlines	N	N	String	Booking deadlines for ticket type(s). e.g., 'Tickets must be bought by 18:00...' etc.
CompulsoryReservations	N	N	String	Does the ticket require a reservation to be valid? e.g., 'Yes'
ChangesToTravelPlans	N	N	String	Terms and conditions relating to changes to travel plans. e.g., 'Changes to time or date of travel must...' etc.
Refunds	N	N	String	Terms and Conditions relating to refunds. e.g., 'Your ticket is non-refundable.'
Discount	N	N	See § 4.2.3.7	Discounts permitted for the ticket type(s).
SpecialConditions	N	N	String	Special conditions for ticket type(s). e.g., 'Tickets are only available from...' etc.

4.2.3.4 Applicable TOCs Structure

Field	Mand	Mult	Type/Values	Description
IncludedTocs	N	N	See § 11.2.21	List of TOCs which are included in the ticket type(s). e.g., 'LE', 'VT'.

OR

Field	Mand	Mult	Type/Values	Description
ExcludedTocs	N	N	See § 11.2.21	List of TOCs which are excluded from the ticket type(s). e.g., 'AW', 'NT'.

4.2.3.5 Validity Structure

Field	Mand	Mult	Type/Values	Description
DayOutward	N	N	String	Description of the Outward day validity conditions. e.g., 'Valid only on the date shown on the ticket.'
DayReturn	N	N	String	Description of the Return day validity conditions. e.g., 'Not applicable.'
TimeOutward	N	N	String	Description of the Outward time validity conditions. e.g., 'Valid only at the specified time and train printed on the ticket.'
TimeReturn	N	N	String	Description of the Return time validity conditions. e.g., 'Valid any time.'

4.2.3.6 Break of Journey Structure

Field	Mand	Mult	Type/Values	Description
OutwardNote	N	N	String	Description of the Outward break of journey conditions. e.g., "Break of journey is allowed on all Anytime Day tickets."
ReturnNote	N	N	String	Description of the Return break of journey conditions. e.g., "Not applicable."

4.2.3.7 Discount Structure

Field	Mand	Mult	Type/Values	Description
Child	N	N	See § 4.2.3.8	Discounts relating to children.
RailCard	N	N	See § 4.2.3.8	Discounts relating to Railcards.
Group	N	N	See § 4.2.3.8	Discounts relating to groups.

4.2.3.8 Discount Detail Structure

Field	Mand	Mult	Type/Values	Description
Permitted	N	N	Boolean	Do the ticket type(s) offer this type of discount? e.g., 'true'.
Note	N	N	String	Description of discount amounts, terms, and conditions. e.g., 'Children (aged 5 to 15 inclusive) are offered a 50% discount.'

5. 'Ticket Restrictions' schema

5.1 Overview

- 5.1.1 This section defines the structure and provides a high-level description of the Ticket Restrictions XML tags.
- 5.1.2 Where a tag is marked mandatory, consumers can rely upon the presence of this tag. Tags not marked mandatory are optional, i.e., consumers should not rely on these elements existing. Child tags marked as mandatory are only mandatory if their parent tag exists.
- 5.1.3 Where a tag is marked multiple, this means that this tag can be repeated, tags not marked as multiple will not be repeated.
- 5.1.4 TIS/JP must not assume that entries in Fares data have corresponding entries in KnowledgeBase data.
- 5.1.5 Errors and omissions can be reported to rdgretailapprover@raildeliverygroup.com.

5.2 Version 4.0

5.2.1 NRE website

- 5.2.1.1 The NRE website displays this data at the following URL:
<https://www.nationalrail.co.uk/ticket-types/ticket-validity-finder/>

In addition, the following URL may be used where ?? is a two-character restriction code such as '1A' or 'WC', for example:
<https://www.nationalrail.co.uk/ticket-types/validity/1A>

5.2.2 XSD

- 5.2.2.1 `nre-ticket-restriction-v4-0.xsd`

5.2.3 Elements

5.2.3.1 Root

Field	Mandatory	Multiple	Type/Values	Description
TicketRestrictions	Y	N	See § 5.2.3.2	Root element for Ticket Restrictions feed which will contain one or more child elements.

5.2.3.2 Ticket Restriction

Field	Mand	Mult	Type/Values	Description
TicketRestriction	N	Y	See § 5.2.3.3	Container for Ticket Restriction level information.

5.2.3.3 Ticket Restriction Structure

Field	Mand	Mult	Type/Values	Description
-------	------	------	-------------	-------------

Name	Y	N	String (>1)	Restriction code Name – usually the same as restriction code. e.g., '1A'.
LinkToDetailPage	Y	N	String	URI of restriction page on NRE desktop website. e.g. http://www.nationalrail.co.uk/times_fares/ticket_types/64259.aspx
RestrictionCode	Y	N	String (>1)	Industry restriction code, currently 2 characters but may increase to 5 characters in due course. e.g., '1A', 'WC', 'XF456'.
TicketRestrictionIdentifier	Y	N	String	Unique identified for this restriction within knowledgebase. e.g., '35CB817C8EBC46D78935525727BB39EA'.
ApplicableDays	Y	N	String (>1)	Free text capture of what days a restriction applies to. e.g., 'Mondays to Fridays'.
Easement	N	N	String	Free text description of any easements. e.g., 'Clacton-on-Sea to London Liverpool Street service...' etc.
Notes	N	N	String	Free text notes relating to restriction. e.g., 'For journeys to/from East Anglia via Ely...' etc.
SeasonalVariations	N	N	String	Free text description of any seasonal variations applicable to this restriction. e.g., 'Evening peak restrictions from Liverpool Street...' etc.
OutwardDirection	Y	N	String	Captures what type of direction applies to the outward journey restriction. One of: 'Outward Travel', 'Morning Travel', 'Eastbound Travel', 'Northbound Travel', 'Southbound Travel', 'Westbound Travel', 'From London', 'Towards London', 'Outward', 'Return'.
ReturnDirection	Y	N	String	Captures what type of direction applies to the return journey restriction. One of: 'Return Travel', 'Evening Travel', 'Westbound Travel', 'Southbound Travel', 'Northbound Travel', 'Eastbound Travel', 'From London', 'Towards London', 'Outward', 'Return'.
ReturnStatus	N	N	String	Free text description of conditions applying to the return direction. e.g., 'By any train'
OutwardStatus	N	N	String	Free text description of conditions applying to the return direction. e.g., 'Not valid for travel until:'
RestrictionsType	Y	N	2 or 4	Set to either '2' or '4' to indicate a basic restriction type (i.e., a 2-column restriction) or a complex restriction type (i.e., a 4-column restriction). <i>Note: basic restriction type (2) does not imply the restriction terms will themselves be basic. 4-column (complex) restriction type has been deprecated and is not currently used.</i>
Restrictions	Y	N	See § 5.2.3.4	The main restriction terms and conditions.

5.2.3.4 Restriction

Field	Mand	Mult	Type/Values	Description
Restriction	Y	Y	See § 5.2.3.5	Splits the main restriction terms and conditions into one or more sections.

5.2.3.5 Restriction Structure

Field	Mand	Mult	Type/Values	Description
StationOutward	N	N	String (3)	Applicable station in outward direction. e.g., 'COL'.
StationReturn	N	N	String (3)	Applicable station in return direction. e.g., 'LST'.
DetailsOutward	Y	N	String (>1)	Free text description on restriction's outward terms and conditions. e.g., 'Not valid on trains timed to depart London Terminals...' etc.
DetailsReturn	N	N	String	Free text description on restriction's return terms and conditions. e.g., 'Not valid on trains timed to depart London Terminals...' etc.
CommentsOutward	N	N	String	Free text additional comments on outward restriction.
CommentsReturn	N	N	String	Free text additional comments on return restriction.

6. 'Stations' JSON Schema

6.1 Overview

6.1.1 The JSON structure and description of the Stations JSON tags is defined within the JSON Schema - Open API Specification:

`stations-feed-open-api-spec-v1-0.json`

6.1.2 The content of this API is updated overnight; Poll frequency should only be once every 24 hours.

6.1.3 Non-prod (or UAT) is only available to:

- Government or other public body
- Rail industry body (such as National Rail, Rail Safety and Standards Board)
- Train or freight operating company

Production is available to all.

6.2 Version 1.0

6.2.1 The API is supported in the URL of the request:

For example: `/json/1.0/stations/eus`

6.2.2 Access Points via RDM interface:

Pre-prod:

<https://raildata.org.uk/dashboard/dataProduct/P-f515055e-45ac-4706-b2da-1a5b42f774cf/overview>

Production¹:

<https://raildata.org.uk/dashboard/dataProduct/P-9c97bd03-e2f2-462d-860a-5bec92700c2d/overview>

6.2.3 Endpoints

HTTP Method	Path	Description
GET	<code>/stations</code>	Get details for all stations. Please note the <code>/stations</code> endpoint returns a large payload, which may impact page performance. If the Specification tab takes extra time to load, try testing the request with a REST client or directly in your code.
GET	<code>/stations/{crs}</code>	Get details for a particular station by the 3-character CRS Code.
GET	<code>/stations/tocs/{toc}</code>	Get all stations that are operated by a particular TOC by the 2-character TOC code.

¹ Added to documentation in Version 03-00 Rev A.

6.3 Authentication

6.3.1 An API Key will be required to access the JSON feed via RDM.

7. 'Stations' XML schema

7.1 Overview

- 7.1.1 This section defines the structure and provides a high-level description of the Stations XML tags.
- 7.1.2 Where a tag is marked mandatory, consumers can rely upon the presence of this tag. Tags not marked mandatory are optional, i.e., consumers should not rely on these elements existing. Child tags marked as mandatory are only mandatory if their parent tag exists.
- 7.1.3 Where a tag is marked multiple, this means that this tag can be repeated, tags not marked as multiple will not be repeated.

7.2 Version 4.0

7.2.1 NRE website

- 7.2.1.1 The NRE website displays this data at the following URL:

<https://www.nationalrail.co.uk/find-a-station/>

Full station names or three-character station CRS codes, such as 'BHM' or 'KGX', may be used. For example:

<https://www.nationalrail.co.uk/stations/Birmingham-new-street/>

or

<https://www.nationalrail.co.uk/stations/bhm/>

7.2.2 XSD

- 7.2.2.1 nre-station-v4-0.xsd

7.2.3 Elements

7.2.3.1 Root

Field	Mandatory	Multiple	Type/Values	Description
StationList	Y	N	See § 7.2.3.2	Root element for Stations feed which will contain one or more child elements.

7.2.3.2 Stations

Field	Mand	Mult	Type/Values	Description
Station	N	Y	See § 7.2.3.3	Container for Station information.

7.2.3.3 Station Structure

Field	Mand	Mult	Type/Values	Description
ChangeHistory	Y	N	See § 11.2.1	Who changed the data most recently?
CrsCode	Y	N	String (3)	Three-character CRS code identifying a station.
AlternativeIdentifiers	Y	N	See § 0	Alternative identifiers for this station.

Name	Y	N	String	The canonical name of the station. This is the full name of the station. e.g., 'North Wembley'.
SixteenCharacterName	Y	N	String (1-16)	A unique name for the station with maximum 16 characters.
Address	N	N	See § 11.2.8	Address of the station.
Longitude	Y	N	Decimal	The longitude of the station as supplied by NaPTAN. e.g. -0.3039843835
Latitude	Y	N	Decimal	The latitude of the station as supplied by NaPTAN. e.g., 51.5626022528
StationOperator	Y	N	String (2)	The operator of the station: a TOC or Network Rail.
Staffing	Y	N	See § 7.2.3.6	Information about the staffing of the station.
InformationSystems	N	N	See § 7.2.3.8	Details of the passenger information available at the station.
Fares	N	N	See § 0	Fare related information for this location.
PassengerServices	N	N	See § 7.2.3.13	Contact information and opening hours of passenger services offered at this station.
StationFacilities	N	N	See § 7.2.3.14	Availability of facilities at this station.
Accessibility	N	N	See § 7.2.3.15	Accessibility information for this station.
Interchange	N	N	See § 7.2.3.17	Information about changing between services at the station.
StationAlerts	N	N	See § 7.2.3.22	Alerts affecting the station.
TrainOperatingCompanies	Y	N	See § 7.2.3.23	TOCs who operate at this location.
StationCategory	N	N	String	Not used.

7.2.3.4 Alternative Identifiers Structure

Field	Mand	Mult	Type/Values	Description
NationalLocationCode	Y	N	String (4-7)	NLC code for this station. e.g., '1444'.
Tiplocs	N	N	See § 0	A list of TIPLOCs located at this station.

7.2.3.5 TIPLOC Structure

Field	Mand	Mult	Type/Values	Description
Tiploc	N	Y	String (4-7)	Timing Point Location code. There may be more than one of these per station. e.g., 'CLPHMJC', 'CLPHMJM', etc.

7.2.3.6 Staffing Structure

Field	Mand	Mult	Type/Values	Description
StaffingLevel	N	N	fullTime, partTime, unstaffed	Whether the station is staffed.
ClosedCircuitTelevision	Y	N	See § 7.2.3.7	Is there CCTV in operation at the station?

7.2.3.7 CCTV Structure

Field	Mand	Mult	Type/Values	Description
Available	Y	N	Boolean	Whether the station has CCTV or not. e.g. 'true'.

7.2.3.8 Information Systems Structure

Field	Mand	Mult	Type/Values	Description
InformationAvailableFromStaff	N	Y	String	Staff information point available? e.g., 'Yes'.
InformationServicesOpen	N	N	See § 11.2.6	Opening times of information services.
CIS	N	Y	DepartureScreens, ArrivalScreens, Announcements	Facilities available for the Customer Information System.
CustomerHelpPoints	N	N	See § 11.2.3	Is there an information point / desk / kiosk?

7.2.3.9 Fares Structure

Field	Mand	Mult	Type/Values	Description
TicketOffice	N	N	See § 11.2.3	Ticket Office for the station.
PrepurchaseCollection	N	N	See § 0	Whether pre-purchased tickets can be collected at this station.
TicketMachine	N	N	See § 7.2.3.11	Details on the Ticket Machine facilities at the station.
OystercardIssued	N	N	Boolean	Whether you can use Oyster/Pre-Pay at this station. e.g., 'true'.
OystercardTopup	N	N	See § 0	Whether you can Top Up Oyster cards at this station.
UseOystercard	N	N	Boolean	Validate Oyster cards at the station. e.g., 'false'.
OysterComments	N	N	See § 11.2.11	Oyster card related comments.
AlwaysShowOysterCardFields	N	N	Boolean	Always show the oyster card fields. e.g., 'false'.
SmartcardIssued	N	N	Boolean	Can a smartcard be issued at the station? e.g., 'true'.
SmartcardTopup	N	N	See § 0	Whether you can Top Up Smartcards at the station.
SmartcardValidator	N	N	Boolean	Validate Smartcards at the station. e.g., 'true'.
SmartcardComments	N	N	See § 11.2.11	Smartcard related comments.
Travelcard	N	N	See § 11.2.5	Travelcard information for this station.
PenaltyFares	N	N	See § 7.2.3.12	Information of penalty fares at this station.

7.2.3.10 Ticket Pickup Structure

Field	Mand	Mult	Type/Values	Description
TicketOffice	N	N	Boolean	Pre-purchase collection method. e.g., 'true'.
TicketMachine	N	N	Boolean	Pre-purchase collection method. e.g., 'true'.

OR

Field	Mand	Mult	Type/Values	Description
NotAvailable	N	N	Boolean	Pre-purchase collection not available. e.g., 'true'.

7.2.3.11 Ticket Machine Structure

Field	Mand	Mult	Type/Values	Description
Available	N	N	Boolean	Whether there is a Ticket Machine at this station. e.g., 'false'.

7.2.3.12 Penalty Fares Structure

Field	Mand	Mult	Type/Values	Description
TrainOperator	N	Y	String	Two-character TOC code. e.g., 'AW'.
Url	N	N	URI	URL for station operator's penalty fares policy. e.g. http://www.arrivatrainswales.co.uk/revenueenforcementpolicy

7.2.3.13 Passenger Services Structure

Field	Mand	Mult	Type/Values	Description
CustomerService	N	N	See § 11.2.4	Customer service contact details for the station.
TeleSales	N	N	See § 11.2.4	Contact details for buying tickets for travel from this station.
LeftLuggage	N	N	See § 11.2.4	Information about any left luggage facilities at the station.
LostProperty	N	N	See § 11.2.4	Contact details for lost property enquiries at the station.

7.2.3.14 Station Facilities Structure

Field	Mand	Mult	Type/Values	Description
Annotation	N	N	See § 0	Station facilities notes.
FirstClassLounge	N	N	See § 11.2.3	Does the station have a first-class lounge?
SeatedArea	N	N	See § 11.2.3	Does the station have an area with seats?
WaitingRoom	N	N	See § 11.2.3	Does the station have a general waiting room?
Trolleys	N	N	See § 11.2.3	Are luggage trolleys available at the station for passenger use?
StationBuffet	N	N	See § 11.2.3	Does the station have a Buffet?
Toilets	N	N	See § 11.2.3	Details on station toilets.
BabyChange	N	N	See § 11.2.3	Does the station have facilities to change baby's nappies?
Showers	N	N	See § 11.2.3	Does the station have showers?
Telephones	N	N	See § 11.2.7	Details the stations telephone facilities.
WiFi	N	N	See § 11.2.3	Does the station have a public 802.11 wireless network?
WebKiosk	N	N	See § 11.2.3	Does the station have a Kiosk?
PostBox	N	N	See § 11.2.3	Does the station have a post box?
TouristInformation	N	N	See § 11.2.3	Does the station have tourist information available?
AtmMachine	N	N	See § 11.2.3	Does the station have an ATM Machine?
BureauDeChange	N	N	See § 11.2.3	Does the station have a Bureau de Change?
Shops	N	N	See § 11.2.3	Does the station have shops?

7.2.3.15 Accessibility Structure

Field	Mand	Mult	Type/Values	Description
Helpline	N	N	See § 11.2.4	Impaired access helpline for station.
StaffHelpAvailable	N	N	See § 11.2.3	Are there staff available to help customers with impaired access?
InductionLoop	N	N	Boolean	Is there an Induction Loop for Deaf people at the station? e.g., 'true'.
AccessibleTicketMachines	N	N	See § 11.2.3	Are Ticket Machines Accessible to all Disabled people?
HeightAdjustedTicketOfficeCounter	N	N	See § 11.2.3	Has the booking office got a low-level/split level counter?
RampForTrainAccess	N	N	See § 11.2.3	Is there a ramp for train access available at the station?
AccessibleTaxis	N	N	See § 11.2.3	Are accessible taxis available?
AccessiblePublicTelephones	N	N	See § 11.2.3	Are there low-level/text phones available?
NearestStationsWithMoreFacilities	N	N	See § 11.2.20	List of recommended nearby stations with more impaired access facilities. Specified by CRS code.

NationalKeyToilets	N	N	See § 11.2.3	Is there an Impaired Access toilet run as part of the National Key Scheme at the station?
StepFreeAccess	N	N	See § 7.2.3.16	Information on step free access to the station.
TicketGates	N	N	See § 11.2.3	Are ticket gates available at the station?
ImpairedMobilitySetDown	N	N	See § 11.2.3	Is there an Impaired Mobility set down point at or near to the entrance to the station?
WheelchairsAvailable	N	N	See § 11.2.3	Are there wheelchairs available at the station?

7.2.3.16 Step Free Access Structure

Field	Mand	Mult	Type/Values	Description
Annotation	N	N	See § 0	Step free access notes
Coverage	N	N	wholeStation, partialStation, allPlatforms, noPartOfStation, unknown	Indicates how much of the station is accessible. Further details should be given in the annotation.

7.2.3.17 Interchange Structure

Field	Mand	Mult	Type/Values	Description
CycleStorage	Y	N	See § 7.2.3.18	Availability of Cycle Storage facilities.
CarPark	N	Y	See § 7.2.3.19	Car park availability and information.
RailReplacementServices	N	N	See § 0	Information on Rail Replacement Services.
TaxiRank	N	N	See § 0	Is there a taxi rank at the station?
OnwardTravel	N	N	See § 0	The onward travel available from this station.
MetroServices	N	N	See § 0	The metro services available from this station.
Airport	N	N	See § 0	Does the Station give access to an Airport?
Port	N	N	See § 0	Does the Station give access to a Port or ferry service?
CarHire	N	N	See § 0	Can cars be hired at or near the station?
CycleHire	N	N	See § 0	Can cycles be hired at or near the station?

7.2.3.18 Cycle Storage Structure

Field	Mand	Mult	Type/Values	Description
Spaces	N	N	Integer	Number of spaces available. e.g., 55
Sheltered	N	N	Yes, No, Partial, Unknown	Degree of shelter for the Cycle Storage area.
Cctv	N	N	Boolean	If the Cycle Storage area is completely covered by CCTV coverage. e.g., 'false'.
Location	N	N	See § 11.2.11	The location in the station of the Cycle Storage.
Annotation	N	N	See § 11.2.11	Any additional information related to Cycle Storage.
Type	N	Y	String	Type of Cycle Storage Available. e.g., 'Lockers'.

7.2.3.19 Car Park Structure

Field	Mand	Mult	Type/Values	Description
-------	------	------	-------------	-------------

Name	N	N	String	Name of the car park. e.g., 'Station'.
Spaces	N	N	Integer	Total number of spaces available. e.g., 450
Charges	N	N	See § 0	Description of parking charges.
NumberAccessibleSpaces	N	N	Integer	Number of accessible spaces available. e.g., 10
AccessibleSpacesNote	N	N	String	Additional information about accessible spaces. e.g., 'Next to rear entrance'.
AccessibleCarParkEquipment	N	N	Boolean	Does the car park have accessible equipment available? e.g., 'true'.
AccessibleCarParkEquipmentNote	N	N	String	Additional information about accessible car park equipment. e.g., 'This car park is accredited'.
Cctv	N	N	Boolean	If the car park area is covered by CCTV coverage. e.g., 'false'.

7.2.3.20 Charges Structure

Field	Mand	Mult	Type/Values	Description
Off-peak	N	N	String	Price at this time/rate, if applicable. e.g., '£6.40'
PerHour	N	N	String	Price at this time/rate, if applicable. e.g., 'N/A'
Daily	N	N	String	Price at this time/rate, if applicable. e.g., '£6.40'
Weekly	N	N	String	Price at this time/rate, if applicable. e.g., '£6.40'
Monthly	N	N	String	Price at this time/rate, if applicable. e.g., '£6.40'
ThreeMonthly	N	N	String	Price at this time/rate, if applicable. e.g., 'N/A'
SixMonthly	N	N	String	Price at this time/rate, if applicable. e.g., '£6.40'
Annual	N	N	String	Price at this time/rate, if applicable. e.g., '£6.40'
Saturday	N	N	String	Price at this time/rate, if applicable. e.g., '£6.40'
Sunday	N	N	String	Price at this time/rate, if applicable. e.g., '£6.40'
Note	N	N	String	Car park pricing additional information. e.g., 'Season permit holder and disabled parking only at this station, no daily or weekly parking is available'.

OR

Field	Mand	Mult	Type/Values	Description
Free	Y	N	Boolean	Is it free to park at this station? e.g., 'true'.
Note	N	N	String	Car park pricing additional information. e.g., 'Season permit holder and disabled parking only at this station, no daily or weekly parking is available'.

7.2.3.21 Rail Replacement Structure

Field	Mand	Mult	Type/Values	Description
Annotation	N	N	See § 0	General information about rail replacement services. e.g., 'Rail replacement buses stop in the main station car park'.
RailReplacementMap	N	Y	URI	URI to a map showing the station in the local area.

7.2.3.22 Station Alert Structure

Field	Mand	Mult	Type/Values	Description
AlertText	N	N	String	Alert information for the station. Generally, contains information on events having a long-term impact at the station. e.g., 'National Rail services no longer run between Moorgate and Farringdon...' or 'Lifts for Platforms 2 & 3 are currently being refurbished and will be out of public use until April 2017' etc.

7.2.3.23 Train Operating Companies Structure

Field	Mand	Mult	Type/Values	Description
TocRef	Y	Y	String (2)	Two-character TOC code. e.g., 'LE'.

8. 'Promotions' schema

8.1 Overview

- 8.1.1 This section defines the structure and provides a high-level description of the Promotions XML tags.
- 8.1.2 Where a tag is marked mandatory, consumers can rely upon the presence of this tag. Tags not marked mandatory are optional, i.e., consumers should not rely on these elements existing. Child tags marked as mandatory are only mandatory if their parent tag exists.
- 8.1.3 Where a tag is marked multiple, this means that this tag can be repeated, tags not marked as multiple will not be repeated.

8.2 Version 4.0

8.2.1 NRE website

- 8.2.1.1 The NRE website displays this data at the following URL:
<https://www.nationalrail.co.uk/ticket-types/promotions/?promotion>

8.2.2 XSD

- 8.2.2.1 `nre-promotion-v4-0.xsd`

8.2.3 Elements

8.2.3.1 Root

Field	Mandatory	Multiple	Type/Values	Description
PromotionList	Y	N	See § 8.2.3.2	Root element for Promotions feed which will contain one or more child elements.

8.2.3.2 Promotions

Field	Mand	Mult	Type/Values	Description
Promotion	N	Y	See § 8.2.3.3	Container for Promotion information.

8.2.3.3 Promotion Structure

Field	Mand	Mult	Type/Values	Description
ChangeHistory	Y	N	See § 11.2.1	Who changed the data most recently?
PromotionIdentifier	Y	N	String (32)	Unique Identifier of the promotion within the knowledge base. e.g., 'prd359000a04000200b5da61f1e92b72'
Type	Y	N	String	Types of promotions. e.g., 'RangerRover'.
NearestStation	N	N	See § 8.2.3.13	List of stations promotion is applicable to.
InterchangeStations	N	N	String	Interchange stations – not used.
PromotionName	Y	N	String	The name of the Promotion. e.g., '16-25 Railcard'.
Summary	Y	N	String	Summary details of the Promotion.

Field	Mand	Mult	Type/Values	Description
				e.g., 'Aged 16-25 or a full-time student aged 26 or over? Save 1/3 off...' etc.
OfferDetails	N	N	See § 8.2.3.6	Details of the Promotion. Who is eligible and other further conditions.
ValidityPeriod	N	N	See § 11.2.16	Period during which tickets bought under the promotion may be used.
ValidityDayAndTime	N	N	See § 11.2.6	Period during which the promotion is valid in terms of days and time.
AvailableFromDate	N	N	See § 11.2.16	Date from which the promotion is available for purchase by public. May be earlier than the validity period.
Region	N	Y	'BM', 'BS', 'CB', 'GB', 'HL', 'LDN', 'LS', 'MR', 'NC', 'NO', 'NT', 'OX', 'PY', 'SCOTLAND', 'SO', 'TW', 'WALES'.	Region within which the promotion applies – Not Used.
AreaMap	N	N	See § 8.2.3.6	Link to a map showing where the promotion applies.
TimetableLinks	N	N	See § 8.2.3.7	Not Used.
LeadToc	N	N	String (2)	Two-character TOC code of the lead toc who created the promotion.
ApplicableTocs	Y	N	See § 8.2.3.12	List of TOCs for which promotion is applicable.
Operators	N	N	String	Not used.
ExcludedServices	N	N	String	Not used.
ProductPrices	N	N	See § 8.2.3.14	Cost of Promotion, if applicable.
ApplicableOriginStationGroups	N	N	See § 11.2.22	List of station groups for the origin(s).
ApplicableOrigins	N	N	See § 11.2.23	List of station CRS codes at which journey must start.
ApplicableDestinationStationGroups	N	N	See § 11.2.22	List of station groups for the destination(s).
ApplicableDestinations	N	N	See § 11.2.23	List of station CRS codes at which journey must end.
ApplicableZoneOfStationGroups	N	N	See § 11.2.22	List of station groups for the zones.
ApplicableZoneOfStations	N	N	See § 11.2.23	Zone containing station CRS codes at which offer applies for use of promotion.
Reversible	Y	N	Boolean	Is promotion valid travelling in both directions? e.g., 'true'.
PromotionFlows	N	N	See § 0	What are the flows and exceptions for this promotion?
FurtherInformation	N	N	See § 8.2.3.6	Further information about the Promotion.
TicketValidityConditions	N	N	See § 8.2.3.6	Description of the Ticket Validity Conditions for the Promotion.
BookingConditions	N	N	See § 8.2.3.6	Booking conditions that apply to the promotion.
PurchaseDetails	N	N	See § 8.2.3.6	How and where to purchase the promotion.
Passengers	N	N	See § 8.2.3.16	Number of Passengers.
PromotionRailCards	N	N	See § 8.2.3.4	Which Railcards are applicable to this promotion?
PromotionCode	N	N	String (3,4)	Three or four-character code identifying a Promotion. E.g., 'BV1' for the 'Bittern Line Ranger'.
NlcCode	N	N	String	If applicable, NLC code of Promotion.
TocContact	N	N	See § 11.2.9	Information about contact at TOC.

Field	Mand	Mult	Type/Values	Description
InternalInfo	N	N	See § 8.2.3.17	Internal information about the promotion (not visible to public).
TicketName	N	N	String	Name of ticket. e.g., 'DAY RANGER'.
AdultFares	N	N	See § 0	Adult fares available under the promotion.
ChildFares	N	N	See § 0	Child fares available under the promotion.
FamilyFares	N	N	See § 0	Family fares available under the promotion.
ConcessionFares	N	N	See § 0	Concession fares available under the promotion.
GroupFares	N	N	See § 0	Group fares available under the promotion.
DayTicket	N	N	See § 8.2.3.19	Not Used.
SeasonTicket	N	N	See § 8.2.3.20	Not Used.
ViewableBy	Y	N	'Public', 'Internal', 'xmlFeed'.	Who can view the promotion?
DiscountsAvailable	N	N	See § 8.2.3.21	Any other discounts available for this Promotion?

8.2.3.4 Promotion Railcard List Structure

Field	Mand	Mult	Type/Values	Description
PromotionRailCard	Y	Y	See § 8.2.3.5	A structure containing a list of railcards.

8.2.3.5 Promotion Railcard Structure

Field	Mand	Mult	Type/Values	Description
RailCardId	Y	N	String	Name of Railcard. e.g., 'Annual Gold Card'.
Price	N	N	String	Price with Railcard. e.g., 24.40.
Details	N	N	String	Any Additional details about the discount available for this promotion with this railcard. e.g., 'Can only be used on...' etc.

8.2.3.6 Link and Details Structure

Field	Mand	Mult	Type/Values	Description
Uri	N	Y	URI	Hyperlink to the referenced material. e.g. https://www.scotrail.co.uk/sites/default/files/assets/download_ct/central_rover_map.pdf
Details	N	N	String	Qualifying detail about referenced material. e.g. 'View area of validity map for this product'.

8.2.3.7 Link Structure

Field	Mand	Mult	Type/Values	Description
Uri	Y	Y	URI	Hyperlink to the referenced material. e.g. https://www.scotrail.co.uk/sites/default/files/assets/download_ct/central_rover_map.pdf

8.2.3.8 Promotion Flows Structure

Field	Mand	Mult	Type/Values	Description
Exceptions	N	N	See § 8.2.3.9	Flow exceptions applicable to this Promotion.

Flows	N	N	See § 8.2.3.10	Flows applicable to this Promotion.
ExceptionsAndFlows	N	N	String	Flows and Flow Exceptions applicable to this Promotion.

8.2.3.9 Exceptions Structure

Field	Mand	Mult	Type/Values	Description
Exception	Y	Y	See § 8.2.3.11	Exception container.

8.2.3.10 Flows Structure

Field	Mand	Mult	Type/Values	Description
Flow	Y	Y	See § 8.2.3.11	Flow container.

8.2.3.11 Flow Structure

Field	Mand	Mult	Type/Values	Description
Origin	Y	N	String (3)	CRS code of Origin.
Destination	Y	N	String (3)	CRS code of Destination.
Reversible	Y	N	Boolean	Is the flow reversible? e.g., 'true'.
Station	N	N	String (3)	CRS code of applicable station.
Tocs	N	N	See § 11.2.21	List of TOCs.

8.2.3.12 Promo Applicable TOCs Structure

Field	Mand	Mult	Type/Values	Description
AllTocs	Y	N	Boolean	Promotion applicable to All TOCs. e.g., 'true'.

OR

Field	Mandatory	Multiple	Type/Values	Description
TocRef	Y	Y	String (2)	List of TOCs, as two-character codes, applicable to Promotion.

8.2.3.13 Nearest Station Structure

Field	Mand	Mult	Type/Values	Description
CrsCode	Y	Y	String (3)	List of nearest stations identified by CRS code.

8.2.3.14 Product Prices Structure

Field	Mandatory	Multiple	Type/Values	Description
ProductType	Y	Y	See § 8.2.3.15	List of Product prices.

8.2.3.15 Product Type Structure

Field	Mand	Mult	Type/Values	Description
Name	N	N	String	Name of Product.
Valid	N	N	String	Validity of Product.
AdultPrice	N	N	String	Adult price of Product.

ChildPrice	N	N	String	Child price of Product.
FamilyPrice	N	N	String	Family price of Product.
GroupPrice	N	N	String	Group Price of Product.
StaffDiscountAdult	N	N	String	Adult Staff discount.
StaffDiscountChild	N	N	String	Child Staff discount.
StaffDiscountFamily	N	N	String	Staff family discount.
StaffDiscountGroup	N	N	String	Staff group discount.
PromotionRailCards	N	N	See § 8.2.3.4	List of railcards applicable to Promotion.

8.2.3.16 Passenger Structure

Field	Mand	Mult	Type/Values	Description
Note	N	N	String	Free text notes regarding passengers. e.g., 'Only valid with specified number of passengers'.
MinAdults	N	N	Integer	Minimum number of adults. e.g., 1
MaxAdults	N	N	Integer	Maximum number of adults. e.g., 1
MinChildren	N	N	Integer	Minimum number of children. e.g.,
MaxChildren	N	N	Integer	Maximum number of children. e.g., 2

8.2.3.17 Internal Info Structure

Field	Mand	Mult	Type/Values	Description
IssuingInstructions	N	N	String	Issuing instructions for Promotion. e.g., 'Issued as a Ranger: Ticket type OEO (Oxford Evening Out) ...' etc.
Details	N	N	String	Further details for staff regarding Promotion. e.g., 'PRV and PRD Discounts are not available on this product.'

8.2.3.18 Promotion Fare Details Structure

Field	Mand	Mult	Type/Values	Description
Price	N	N	String	Price information for Promotion. e.g., 30.00.
Details	N	N	String	Further details regarding price of Promotion. e.g. '£30.00 for a 1 year; £70.00 for 3 years'.

8.2.3.19 Day Ticket Structure

Field	Mand	Mult	Type/Values	Description
Adult	N	N	Decimal	Adult price for day ticket. e.g., 10.20
Child	N	N	Decimal	Child price for day ticket. e.g., 5.10
Railcard	N	N	Decimal	Railcard discounted price for day ticket. e.g., 7.35
Note	N	N	String	Additional information. e.g., 'day ticket not available for this Promotion'.

8.2.3.20 Season Ticket Structure

Field	Mand	Mult	Type/Values	Description
SevenDays	N	N	Decimal	Weekly season ticket price for Promotion. e.g., 25.00
OneMonth	N	N	Decimal	Monthly season ticket price for Promotion. e.g., 100.00
ThreeMonths	N	N	Decimal	Quarterly season ticket price for Promotion. e.g., 300.00
OneYear	N	N	Decimal	Annual season ticket price for Promotion. e.g., 1100.00
Note	N	N	String	Additional information. e.g., 'Season tickets not available for this Promotion'.

8.2.3.21 Discounts Available Structure

Field	Mand	Mult	Type/Values	Description
DiscountDetail	N	Y	See § 8.2.3.22	Detail of available discounts.
PlusBus	N	N	String	
SleeperServices	N	N	String	
OtherDiscounts	N	N	String	

8.2.3.22 Discount Detail

Field	Mand	Mult	Type/Values	Description
TicketTypeName	N	N	String	
TicketTypeCode	N	Y	String (3)	List of three-character ticket type codes.
CardHolder	N	N	String	
AccompanyingAdult	N	N	String	
AccompanyingChild	N	N	String	
Note	N	N	String	Additional information.

9. 'National Service Indicator' schema

9.1 Overview

- 9.1.1 This section defines the structure and provides a high-level description of the National Service Indicator XML tags.
- 9.1.2 Where a tag is marked mandatory, consumers can rely upon the presence of this tag. Tags not marked mandatory are optional, i.e., consumers should not rely on these elements existing. Child tags marked as mandatory are only mandatory if their parent tag exists.
- 9.1.3 Where a tag is marked multiple, this means that this tag can be repeated, tags not marked as multiple will not be repeated.

9.2 Version 4.0

9.2.1 NRE website

- 9.2.1.1 The NRE website displays this data at the following URL:
<https://www.nationalrail.co.uk/status-and-disruptions/?mode=train-operator-status>

9.2.2 XSD

- 9.2.2.1 `nre-service-indicator-v4-0.xsd`

9.2.3 Elements

9.2.3.1 Root

Field	Mandatory	Multiple	Type/Values	Description
NSI	Y	N	See § 9.2.3.2	Root element for National Service Indicator feed which will contain one or more child elements.

9.2.3.2 National Service Indicator List Structure

Field	Mand	Mult	Type/Values	Description
TOC	N	Y	See § 9.2.3.3	Container for TOC level NSI information.

9.2.3.3 National Service Indicator Structure

Field	Mand	Mul	Type/Values	Description
TocCode	Y	N	String (2)	Two-character TOC code. e.g., 'LE' or 'XC'.
TocName	Y	N	String	TOC Brand Name. e.g., 'Arriva Trains Wales'.
Status	Y	N	String	Shows the status of the TOC's NSI. e.g., 'Good service', 'Minor delays on all routes'.
StatusImage	N	N	String	Status image filename. e.g., icon-disruption.png
StatusDescription	N	N	String	Description of overall status of TOC's services. e.g., 'Good service', 'Minor delays on all routes'.
ServiceGroup	N	Y	See § 9.2.3.4	Description of individual incidents affecting a TOC.

TwitterAccount	N	N	String	Twitter account name used by NRE to communicate updates on disruption for that TOC. e.g., 'NRE_ArrivaWales'.
AdditionalInfo	N	N	String	Top level additional information regarding the service status. e.g., 'Follow us on Twitter'.
CustomAdditionalInfo	N	N	String	More detailed additional information.

9.2.3.4 NSI Service Group Structure

Field	Mand	Mult	Type/Values	Description
GroupName	N	N	String	The service group descriptive name. e.g., 'Cambridge Route'.
CurrentDisruption	N	N	String (32)	A unique ID of the service disruption associated to the group. e.g., '174B2A58D5C04FE3B32EF1D64BA45DF1'.
CustomDetail	N	N	String	Details of the service group. e.g., 'Read about this disruption'.
CustomURL	N	N	URI	URL of the service disruption on the NRE desktop website. e.g. http://www.nationalrail.co.uk/ service_disruptions/158481.aspx

10. 'Incidents' schema

10.1 Overview

- 10.1.1 This section defines the structure and provides a high-level description of the Incidents XML tags.
- 10.1.2 Where a tag is marked mandatory, consumers can rely upon the presence of this tag. Tags not marked mandatory are optional, i.e., consumers should not rely on these elements existing. Child tags marked as mandatory are only mandatory if their parent tag exists.
- 10.1.3 Where a tag is marked multiple, this means that this tag can be repeated, tags not marked as multiple will not be repeated.

10.2 Version 5.0

10.2.1 NRE website

- 10.2.1.1 The NRE website displays this data at the following URL:

<https://www.nationalrail.co.uk/status-and-disruptions/>

10.2.2 XSD

- 10.2.2.1 `nre-incident-v5-0.xsd`

10.2.3 Elements

10.2.3.1 Root

Field	Mandatory	Multiple	Type/Values	Description
Incidents	Y	N	See § 10.2.3.2	Root element for Incidents feed which will contain one or more child elements.

10.2.3.2 Incidents

Field	Mand	Mult	Type/Values	Description
PtlIncident	N	Y	See § 10.2.3.3	Container for Incident information.

10.2.3.3 PtlIncident Structure

Field	Mand	Mult	Type/Values	Description
CreationTime	Y	N	dateTime	Time of creation of incident. e.g., 2016-12-25T15:00:00+00:00
ChangeHistory	Y	N	See § 11.2.1	Who changed the data most recently?
ParticipantRef	N	N	String	
IncidentNumber	Y	N	String (32)	Unique ID for the incident within KnowledgeBase. e.g., '8B68D83E08C1415A906022178722BDCB'.
Version	N	N	Integer	Version of the incident, of the form YYYYMMDDHHMMSS. e.g., 20170225125201
Source	N	N	See § 10.2.3.4	Information about source of information.
OuterValidityPeriod	N	N	See § 11.2.18	Not Used.
ValidityPeriod	Y	Y	See § 11.2.18	Overall inclusive Period of applicability of incident.

Planned	Y	N	Boolean	Set to true if the incident is planned engineering work, false if an unplanned service disruption. e.g., 'true'.
Summary	Y	N	String (>0)	A summary of the incident. e.g., 'Disruption at Haymarket expected until 14:00'.
Description	Y	N	String (>0)	Detailed description of incident. e.g., 'The overhead wires at Haymarket have been rectified, allowing all trains to resume running through the station...' etc.
InfoLinks	N	N	See § 10.2.3.5	Hyperlink(s) to other resources associated with incident.
Affects	N	N	See § 10.2.3.6	Structured model identifying parts of transport network affected by incident.
ClearedIncident	N	N	Boolean	Set to true if the incident is over. Incidents may be retained for a period of time after completion to inform users that incident has cleared. e.g., 'true'.
IncidentPriority	Y	N	Integer	
P0Summary	Y	N	String	

10.2.3.4 Source Structure

Field	Mand	Mult	Type/Values	Description
TwitterHashtag	N	N	String	Twitter hashtag assigned to an incident. e.g., '#LondonWaterloo'.

10.2.3.5 InfoLink Structure

Field	Mand	Mult	Type/Values	Description
Uri	Y	N	URI	URI for the hyperlink e.g. http://www.nationalrail.co.uk/static/documents/maps/wat2502.pdf
Label	N	N	String	Label for the hyperlink. e.g., Additional Maps

10.2.3.6 Affects Structure

Field	Mand	Mult	Type/Values	Description
Operators	N	N	See § 10.2.3.7	Operators affected by the Incident.
RoutesAffected	N	N	String	Free text description of the stations and routes impacted by an incident. e.g., 'ScotRail between Milngavie / Helensburgh Central and Edinburgh; TransPennine Express between Manchester Airport and Edinburgh'.

10.2.3.7 Operators Structure

Field	Mand	Mult	Type/Values	Description
AffectedOperator	Y	Y	See § 10.2.3.8	Operators of services affected by incident.

10.2.3.8 Affected Operator Structure

Field	Mand	Mult	Type/Values	Description
OperatorRef	Y	N	String (2)	Two-character TOC code. e.g., 'AW'.

OperatorName	N	N	String	Operator name. e.g., 'Arriva Trains Wales'.
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11. Common data

11.1 Overview

11.1.1 The KB XML feeds share several common data elements which, rather than repeat in each schema, are captured in a 'Common' schema described below.

11.2 Version 4.0

11.2.1 XSD

11.2.1.1 `nre-common-v4-0.xsd`

11.2.2 Change History Structure

Field	Mandatory	Multiple	Type/Values	Description
ChangedBy	Y	N	String	Describes the last change made to this document.
ChangedBy - @ tocAffiliation	N	N	String (2)	Two-character TOC code.
LastChangedDate	Y	N	dateTime	Date and time of last alteration. e.g., 2016-07-12T14:48:00.000+01:00

11.2.3 Available Facility Structure

Field	Mand	Mult	Type/Values	Description
Annotation	N	N	See § 0	Annotation container structure.
Open	N	N	See § 11.2.6	Opening hours of this facility.
Location	N	N	See § 11.2.11	Free text information relating to location.

OR

Field	Mand	Mult	Type/Values	Description
Annotation	N	N	See § 0	Annotation container structure.
Available	N	N	Boolean	A value of true indicates that opening hours are unknown or not applicable. e.g., 'true'.
Location	N	N	See § 11.2.11	Free text information relating to location.

11.2.4 Service Structure

Field	Mand	Mult	Type/Values	Description
Annotation	N	N	See § 0	Annotation container structure.
ContactDetails	N	N	See § 11.2.9	Contact details for TOC.
Available	N	N	Boolean	A value of true indicates that opening hours are unknown or not applicable, e.g., 'true'.
OperatorName	N	N	String	Name of Operator.

OR

Field	Mand	Mult	Type/Values	Description
Annotation	N	N	See § 0	Annotation container structure.
ContactDetails	N	N	See § 11.2.9	Contact details for TOC.
Open	N	N	See § 11.2.6	Opening hours of this service.
OperatorName	N	N	String	Name of Operator.

11.2.5 Travelcards Structure

Field	Mand	Mult	Type/Values	Description
TravelcardZone	N	Y	String	The London Travelcard zone in which this station lies.

11.2.6 Opening Hours Structure

Field	Mand	Mult	Type/Values	Description
Annotation	N	N	See § 0	Annotation container structure.
DayAndTimeAvailability	N	Y	See § 11.2.12	Each DayAndTimeAvailability element provides the opening hours for a particular range of days.

11.2.7 Telephone Structure

Field	Mand	Mult	Type/Values	Description
Exists	Y	N	Boolean	Does the station have telephones? e.g., 'true'.
UsageType	N	N	Cards, Coins, CardsAndCoins	How is it operated? With coins or cards or both? e.g., 'Cards'.

11.2.8 Postal Address Structure

Field	Mand	Mult	Type/Values	Description
PostalAddress	N	N	See § 12.1.1	Address of the station based on 5-line address and postcode.

11.2.9 Contact Details Structure

Field	Mand	Mult	Type/Values	Description
Annotation	N	N	See § 0	Annotation container structure.
PrimaryTelephoneNumber	N	N	See § 11.2.19	Public telephone number for this service.
AlternatePublicTelephoneNumbers	N	N	See § 11.2.19	Alternate telephone numbers available to the public.
AlternateInternalTelephoneNumbers	N	N	See § 11.2.19	Alternate telephone numbers only available to staff.
FaxNumber	N	N	See § 11.2.19	A fax number for this service.
PrimaryMinicomNumber	N	N	See § 11.2.19	A minicom number for this service.
AlternateMinicomNumber	N	N	See § 11.2.19	An alternate minicom number for this service.
PrimaryTextphoneNumber	N	N	See § 11.2.19	A textphone number for this service.
AlternateTextphoneNumber	N	N	See § 11.2.19	An alternative textphone number for this service.
PostalAddress	N	N	See § 12.1.2	Publicly available postal address of the service.
EmailAddress	N	N	String (1-255)	Publicly available email address for this service.
AlternativeEmailAddress	N	N	String (1-255)	Alternative email address for this service.
Url	N	N	URI	Publicly available web site for this service. e.g. http://nationalrail.co.uk

11.2.10 Annotated Structure

Field	Mandatory	Multiple	Type/Values	Description
Annotation	N	N	See § 11.2.11	Annotation container structure.

11.2.11 Annotation Content

Field	Mandatory	Multiple	Type/Values	Description
Note	Y	Y	String	Free text note. e.g., 'This is some text'.

11.2.12 Day and Time Availability Structure

Field	Mandatory	Multiple	Type/Values	Description
DayTypes	Y	N	See § 11.2.13	Pattern of days.
OpeningHours	Y	N	See § 11.2.14	Hours on the specified day or holiday type when the facility is available or unavailable.

11.2.13 Days Group

Field	Mandatory	Multiple	Type/Values	Description
Monday	N	N	Boolean	Available on Monday. e.g., 'true'.
Tuesday	N	N	Boolean	Available on Tuesday. e.g., 'true'.
Wednesday	N	N	Boolean	Available on Wednesday. e.g., 'true'.
Thursday	N	N	Boolean	Available on Thursday. e.g., 'true'.
Friday	N	N	Boolean	Available on Friday. e.g., 'true'.
Saturday	N	N	Boolean	Available on Saturday. e.g., 'true'.
Sunday	N	N	Boolean	Available on Sunday. e.g., 'true'.
AllBankHolidays	N	N	Boolean	Available on all bank holidays, e.g., 'true'.

OR

Field	Mandatory	Multiple	Type/Values	Description
MondayToFriday	N	N	Boolean	Available on Monday to Friday. e.g., 'true'.
AllBankHolidays	N	N	Boolean	Available on all bank holidays. e.g., 'true'.

OR

Field	Mandatory	Multiple	Type/Values	Description
MondayToSunday	N	N	Boolean	Available on Monday to Sunday. e.g., 'true'.
AllBankHolidays	N	N	Boolean	Available on all bank holidays. e.g., 'true'.

OR

Field	Mandatory	Multiple	Type/Values	Description
Weekend	N	N	Boolean	Available on Saturday and Sunday. e.g., 'true'.
AllBankHolidays	N	N	Boolean	Available on all bank holidays. e.g., 'true'.

11.2.14 Daily Opening Hours Structure

Field	Mandatory	Multiple	Type/Values	Description
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TwentyFourHours	Y	N	Boolean	Open 24hrs on the specified days (defined as 00:00 until 23:59). e.g., 'true'.
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OR

Field	Mandatory	Multiple	Type/Values	Description
OpenPeriod	Y	Y	See § 11.2.15	Each time range indicates an open period. Multiple ranges can be used to indicate separate opening hours in the morning and afternoon.

OR

Field	Mandatory	Multiple	Type/Values	Description
Unavailable	Y	N	Boolean	Not available on this specified day. e.g., 'true'.

11.2.15 Closed Time Range Structure

Field	Mandatory	Multiple	Type/Values	Description
StartTime	Y	N	Time	The (inclusive) start time. e.g., 07:00:00
EndTime	Y	N	Time	The (inclusive) end time. e.g., 17:00:00

11.2.16 Half Open Date Range Structure

Field	Mandatory	Multiple	Type/Values	Description
StartDate	Y	N	Date	The (inclusive) start date. e.g., 2017-01-20
EndDate	N	N	Date	The (inclusive) end date. If omitted, the range end is open-ended, that is, it should be interpreted as 'until further notice'.

11.2.17 Half Open Time Range Structure

Field	Mandatory	Multiple	Type/Values	Description
StartTime	Y	N	Time	The (inclusive) start time. e.g., 07:00:00
EndTime	N	N	Time	The (inclusive) end time. If omitted, the range end is open-ended, that is, it should be interpreted as 'until further notice'. e.g., 17:00:00

11.2.18 Half Open Timestamp Range Structure

Field	Mandatory	Multiple	Type/Values	Description
StartTime	Y	N	dateTime	The (inclusive) start time stamp. e.g., 07:00:00
EndTime	N	N	dateTime	The (inclusive) end time stamp. If omitted, the range end is open-ended, that is, it should be interpreted as 'until further notice'. e.g., 17:00:00

11.2.19 Telephone Number Structure

Field	Mandatory	Multiple	Type/Values	Description
TelNationalNumber	Y	N	String (1-20)	Full telephone number including STD prefix.
TelExtensionNumber	N	N	String (1-6)	Any additional extension number.
TelCountryCode	N	N	String (1-3)	Two-character country prefix, e.g., 44 for UK.

11.2.20 Crs Code List Structure

Field	Mandatory	Multiple	Type/Values	Description
Annotation	N	N	See § 0	Annotation container structure.
CrsCode	N	Y	String (3)	Three-character CRS code identifying a station. e.g., 'KGX', 'GLC'.

11.2.21 Atoc List Structure

Field	Mandatory	Multiple	Type/Values	Description
TocRef	Y	Y	String (2)	A list of TOC codes. e.g., 'CS', 'ME'.

11.2.22 Station Group List Structure

Field	Mandatory	Multiple	Type/Values	Description
StationGroupRef	Y	Y	String	A list of station groups. e.g., London

11.2.23 Station List Structure

Field	Mandatory	Multiple	Type/Values	Description
StationRef	Y	Y	String (3)	A list of stations. e.g., PAD, OXF, RDG

11.2.24 Simple Types

Field	Type/Values	Description
AtocCodeType	String (2)	A list of toc codes. e.g., 'CS', 'ME'.
StartDateType	Date	Start of miscellaneous period. e.g., 2017-02-02
EndDateType	Date	End of miscellaneous period. Default value is '9999-09-09' representing 'until further notice'. e.g., 2017-12-31
CrsCodeType	String (3)	A list of stations. e.g., 'PAD', 'OXF', 'RDG'.
NationalLocationCodeType	String (4-7)	NLC code for a location. e.g., '1444'.
TiplocCodeType	String (4-7)	Timing Point Location code. e.g., 'LIVST'.
PopulatedStringType	String (>0)	A string that requires at least one character of text. e.g., 'some text'.
SixteenCharacterNameType	String (16)	A max 16-character version of a station name. e.g., 'ST PANCRAS'.
TicketTypeCodeType	String (3)	Three-character code identifying a ticket type. e.g., 'SOS', '1AF'.
NlcCodeType	String	NLC code for a location. e.g., '1444'.

BbcRegionEnumeration	'BM', 'BS', 'CB', 'GB', 'HL', 'LDN', 'LS', 'MR', 'NC', 'NO', 'NT', 'OX', 'PY', 'SCOTLAND', 'SO', 'TW', 'WALES'.	The list of BBC Region codes.
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12. Address Types

12.1 Version 2.0

The following are common elements from AddressTypes-v2-0.xsd.

12.1.1 UK Address Structure

Field	Mandatory	Multiple	Type/Values	Description
BS7666Address	Y	N	See § 13.1.1	Address container.
UniquePropertyReferenceNumber	N	N	Integer	Unique Property Reference Number. e.g., 1234
SortCode	N	N	String (5)	Mail sort code. e.g., 'ght73'.

OR

Field	Mandatory	Multiple	Type/Values	Description
BS7666Address	Y	N	See § 13.1.1	Address container.
UniquePropertyReferenceNumber	N	N	Integer	Unique Property Reference Number. e.g., 1234
WalkSort	N	N	String (8)	Mail walk sort code. e.g., 'hjgu73h6'.

OR

Field	Mandatory	Multiple	Type/Values	Description
A_5LineAddress	Y	N	See § 12.1.2	5-line address container.
BS7666Address	N	N	See § 13.1.1	Address container.
UniquePropertyReferenceNumber	N	N	Integer	Unique Property Reference Number e.g., 1234
SortCode	N	N	String (5)	Mail sort code. e.g., 'ght73'.

OR

Field	Mandatory	Multiple	Type/Values	Description
A_5LineAddress	Y	N	See § 12.1.2	5-line address container.
BS7666Address	N	N	See § 13.1.1	Address container.
UniquePropertyReferenceNumber	N	N	Integer	Unique Property Reference Number e.g., 1234
WalkCode	N	N	String (8)	Mail walk sort code e.g., 'hjgu73h6'.

12.1.2 UK Postal Address Structure

Field	Mandatory	Multiple	Type/Values	Description
Line	Y	Y (2-5)	String (1-35)	Address line. e.g., '10 Downing Street'.
PostCode	N	N	String (8)	UK postcode. e.g., 'WC1N 1BY'.

13. BS7666 Address

13.1 Version 2.0

The following are common elements from `bs7666-v2-0.xsd`.

13.1.1 BS7666 Address

Field	Mandatory	Multiple	Type/Values	Description
BSAddressStructure	Y	N	See § 13.1.2	Address structure container.

13.1.2 BS Address Structure

Field	Mandatory	Multiple	Type/Values	Description
SAON	N	N	See § 13.1.3	Secondary Addressable Object.
PAON	Y	N	See § 13.1.3	Primary Addressable Object.
StreetDescription	Y	N	String (1-100)	Description of street. e.g., 'This is a street'.
UniqueStreetReferenceNumber	N	N	Integer	Unique Street Reference Number. e.g., 45637
Locality	N	N	String (1-35)	Locality definition.
Town	N	N	String (1-30)	Town definition.
AdministrativeArea	N	N	String (1-30)	Admin area definition.
PostTown	N	N	String (1-30)	Post down definition.
PostCode	N	N	String (8)	UK postcode. e.g., 'WC1N 1BY'.
UniquePropertyReferenceNumber	N	N	Integer	Unique Property Reference Number. e.g., 1234

13.1.3 AON structure

Field	Mandatory	Multiple	Type/Values	Description
StartRange	Y	N	See § 13.1.4	Start range structure.
EndRange	N	N	See § 13.1.4	End range structure.
Description	N	N	String (90)	Description. e.g., 'This is the range'.

OR

Field	Mandatory	Multiple	Type/Values	Description
Description	N	N	String (90)	Description. e.g., 'This is the range'.

13.1.4 AON range Structure

Field	Mandatory	Multiple	Type/Values	Description
Number	Y	N	Integer	Number? e.g., 45
Suffix	N	N	String (1)	Suffix? e.g., 'G'.

End.