# Rail Demand Information System (RDIS)

Historic and Forecast Train Loading Portal - User Guide

Version 1.1 | 14 July 2020

**Rail Demand Information System (RDIS)**
Guide to Train Load

**Background**

The RDIS project has Train Load outputs currently being delivered by Realtime Trains through a bespoke version of its website. This differs from the publicly available service at www.realtimetrains.co.uk in the following ways:

- Uses the industry variant of Realtime Trains:
    - using Network Rail TD.net data instead of Open Data, and
    - integrates some outputs from Darwin
- Filtered for passenger services only[1]
- It is based on a stripped down version of the public site with most detailed mode functionality removed[2]

**Release schedule**

Updates and new releases to the Train Load service releases are performed on the following basis:

- Changes to the website are on an as required basis in an agile 'continuous integration and delivery' style and can occur at any time with no downtime
- Changes to the processing engines depend on the nature of the release:
    - Major changes that require downtime are performed within a normal maintenance window on Sunday 0100-0300
    - Minor changes happen on an as required basis

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[1] Defined as any train service within planning categories OL, OO, OU, XC, XX, XU, XZ.
[2] The detailed mode is available as a quicker route on location pages to view services. The simple view is only available in the case of train services.

# Access to the RDIS Train Load Service

**About the RTT Industry Portal**

The Realtime Trains Industry Portal is a single sign-on service providing access to a suite of applications located at https://iportal.realtimetrains.com. The Train Load service is part of this suite of applications.

**Registration to the Train Load service**

E-mail addresses should be provided to the RASIC Consortium of users who will use the RDIS portal service. These email addresses will be entered into the Industry Portal to provide access to the portal.

**User Registration and Login**

If you have been invited to access the RDIS Train Load service, one of two events will occur:

*An account does not exist on Industry Portal*

You will receive an email from *noreply@iportal.realtimetrains.com* with an invitation to register to the portal. To set an account up, follow the link in the email you receive to create an account.

You will need to set a password on the portal to create your account. Once this is completed, you will need to login to the portal in order to set up your access entitlements.

If you do not receive an email, but are expecting to do so, you can use the 'Forgotten Password' link on the login page to regenerate your invitation to register email.

*An account already exists on Industry Portal*

You will receive an email confirming your entitlement to access the RDIS Train Load service. There is no further action required in order to gain access to the application.

**Accessing the Train Load service**

You can access the Train Load service by visiting https://rdis-portal.realtimetrains.com or by clicking the Rail Demand Information System link on https://iportal.realtimetrains.com. If you are not logged in, you will be asked to log in on the Industry Portal first.

**Logging out from the service**

You can log out of the service at any time by selecting the Logout button on the top right of every page on tablets or desktop devices. On mobile devices, this is hidden behind the 'Menu' icon.

# Using the RDIS Train Load Service

**Important Usage Information**

The location codes on the RDIS Portal are as used in *passenger facing* systems.

To clarify, locations such as Glasgow Queen Street High Level (GLQ) and Low Level (GQL) which have two separate CRS codes within CORPUS are categorised under the single CRS code GLQ. If multiple TIPLOCs form part of a single location then their display will be merged.

It is possible to look up a service history of 84 days at present in the RDIS Portal. Data availability starts on 1st June with service and loading information with train allocation history starting at 10th June.

**Train Load Categories**

Where train loads have been calculated, there are four separate categories.

| Indicator | Name | Description |
|:---:|---|---|
| ■ | Train Load Calculated No Capacity Information | The Train Load service has calculated the train load for this service, but the system cannot determine a percentage load due to unavailable information for rolling stock. |
| ■ | Quiet | The Train Load service has calculated the train load for this service and has determined that the train at the time of departure from this station was quiet. |
| ■■ | Busy | The Train Load service has calculated the train load for this service and has determined that the train at the time of departure from this station was moderately busy. With social distancing capacity requirements applied, this train is at risk of reaching capacity with an increase in loading. |
| ■■■ | Very Busy | The Train Load service has calculated the train load for this service and has determined that the train at the time of departure from this station was very busy. With social distancing capacity requirements applied, this means that the train is very near to or over the available capacity. |

Rolling stock capacity is derived from the allocated rolling stock to the service provided through Network Rail's LINX service. If rolling stock capacity is not available, a default consist may be applied to the service to act as a general case.

**Detailed Location Search**

When you first load the RDIS portal, you will be presented with the detailed location search page.



The search menu is on the left-hand side of the page on desktop systems, on smaller screens such as tablet or mobile devices the menu will collapse to the top of the page. You can search by location, train operator and time windows.

The default search window is two hours ahead, and half an hour before, of the current time. The date box is disabled when the 'When?' box is set to 'Now'. It is enabled for all other options. In order to change the search window, use the 'When?' dropdown box to select from a range of options:

- All day (0000 – 2359)
- 0200 – 0159
- 0600 – 2000
- Around time, allows a time to be set with a search window of 2 hours ahead and 30 mins before
- Custom time, allows two times to be set to create a search window from the first to the second. This time window cannot be greater than 23 hours and 59 minutes.

This display will adapt when viewed on smaller devices for content to remain visible.

The columns on the detailed view on tablets, laptops and desktop devices is as follows:

- STP Indicator – displaying WTT (Working Timetable), STP (Short Term Plan), VAR (STP Variation to WTT schedule), VST (STP schedule under VSTP planning arrangements) or VVR (VAR schedule under VSTP planning arrangements).
- Planned arrival time – if this time is in **bold**, public advertised arrival time. Otherwise, WTT arrival. This time will typically be bold other than for services which pick up only at the location.
- Actual arrival time – if this time is in **bold**, the actual recorded time from Network Rail systems. If this is in grey, it is a forecasted time and no report at that location, nor subsequently, has been received. If it shows 'N/R' a report has been subsequently received for that location. If it shows 'pass' then the train did not stop at this station.
- Origin – the station(s) where this train started from
- Platform – if this time is in black or red, it is the actual recorded identity from Network Rail systems. If it is in grey italics, it is the planned platform.
- Headcode – the planned running identity of the service

- TOC – the two-character code used to identify each train operator
- Destination – the station(s) where this train is going to
- Planned departure time - if this time is in **bold**, public advertised departure time. Otherwise, WTT departure. This time will typically be bold other than for services which set down only at the location.
- Actual departure time - if this time is in **bold**, the actual recorded time from Network Rail systems. If this is in grey, it is a forecasted time and no report at that location, or subsequently, has been received. If it shows 'N/R' a report has been subsequently received for that location. If the actual arrival time shows 'pass' then this is the time the train passed that station
- Train load – the colour coded visualisation of calculated train load where available

On mobile devices, the view adapts in order to maintain content to as follows:

| 0743 | from | Shenfield | ■■■ |
| 0743 | to | London Liverpool Street | |
| 2W27 | [XR] | *Plat 4.* Act dep **0742.** | |
| 0746 | from | London Liverpool Street | ■ |
| 0746 | to | Shenfield | |
| 2W20 | [XR] | VAR *Plat 5.* Act dep **0746.** | |
| 0747 | from | Gidea Park | ■■ |
| 0747 | to | London Liverpool Street | |
| 2C23 | [XR] | *Plat 4.* Act dep **0746.** | |

The mobile view reformats the content on the desktop detailed location search. The following three paragraphs explain the reformatting of the data:

The first service shown is TfL Rail service 2W27 departing at 0743 towards London Liverpool Street. It is a heavily loaded service that it is at or very near to capacity.
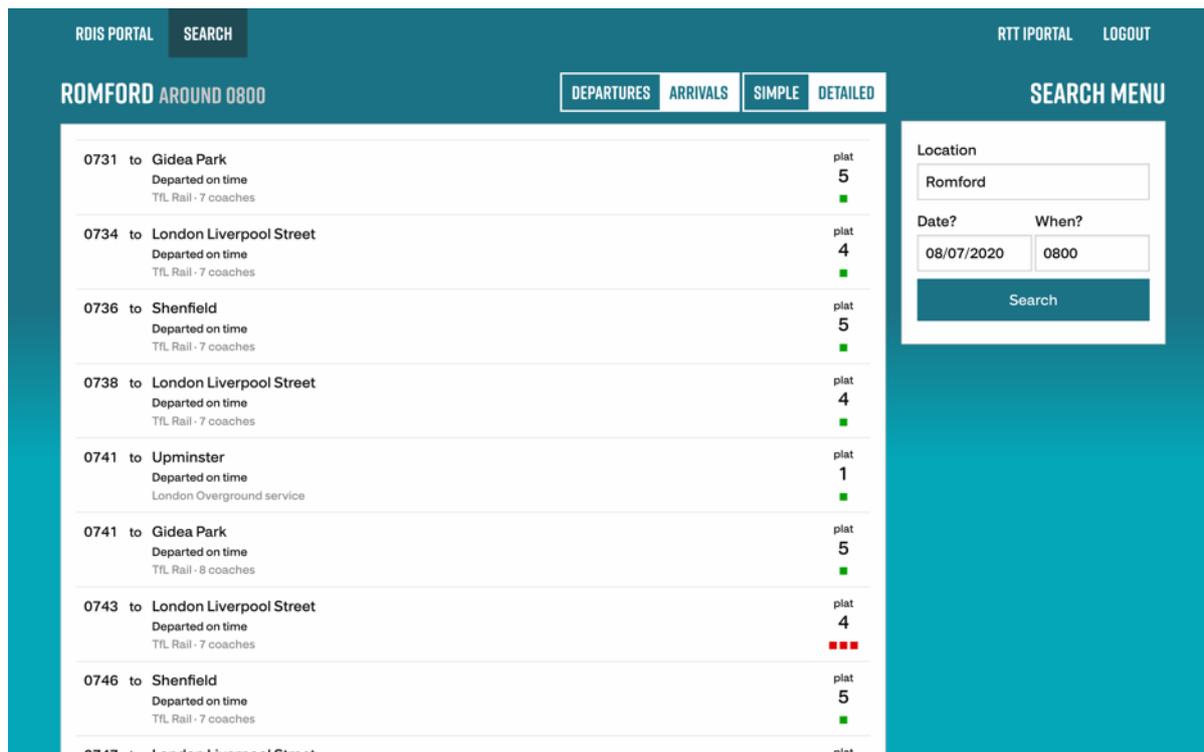
The second service is TfL Rail service 2W20 departing at 0746 towards Shenfield. It is lightly loaded.

The third service is TfL Rail service 2C23 departing at 0747 towards London Liverpool Street. It is moderately loaded, and if a few more passengers board it will likely reach capacity.

To select a train service, click or tap on the row showing the service.

It's possible to search using the simple location pages as well which offers an experience more convenient to those using mobile devices.

**Simple Location Search**



You can search for train services on the simple version by using the textboxes on the right hand side of the page. You can select any station by CRS, TIPLOC or name and suggestions will be offered on a drop-down autocomplete.

By default, the simple version of the service will search for services in the next two hours. To customise this search, use the datepicker by clicking on the "Date?" box and type in a time in the "When?" box. These queries will search two hours ahead, and half an hour before, the chosen time. When a search is successfully made, a list of trains will be provided showing their departure time, destination, train operator and, if available, number of vehicles and colour coded train load. It is possible to switch between a 'Departures' and 'Arrivals' view by using the toggle at the top of the page.

The arrivals view of the page will differ to the departures view by showing arrival times and origin instead of departure oriented information. Screenshots are shown on the next page.

To select a train service, click or tap on the row showing the service.

**Service View**



The service view displays a list of all locations in a train service.

Services display the list of advertised calling points as provided by the base train plan and adjusted subsequently by updates from external systems. If a train ran on a previous day, or on the same day as viewing, then it will display the actual timings as reported by railway systems or forecasted timings.

In column order on tablet and desktop devices:

- CRS codes and location names
- Train load, when available. This is a series of red-amber-green colour coded blocks that represent the forecasted train load on the service.
- Platform number – if this is in black or red, it is the reported platform number from Network Rail systems. If it is in grey, it is the planned platform number.
- Planned timings – the public advertised train times as derived from the plan for that service
- Realtime (arr/dep) – arr/dep columns are the reported timings:
  - If the time is bold, it is the reported timing from Network Rail systems
  - Actual reported timings can be colour coded in blue if the train is at minimum 5 minutes early, or red for at minimum 5 minutes late.
  - If the time is in italics, it is a forecasted time derived from train running
  - No report means that no reporting time is available for that location at all and a subsequent report has been received
  - N/R means that no report has been received for *one* location in the pair, and a report has been received for the other
  - Not Stopping means that the train has or is expected to pass through that station without stopping
  - Cancelled means that the train is fully cancelled at the location
- Realtime (delay) – this is an integer value in minutes of delay as compared to the reporting times. If the value is prefixed with a plus (+) then it shows the train is delayed. If the value is prefixed with a minus (–) then it shows the train is early.

Actual reported timings are sourced from Network Rail through Train Describer mapping tables and TRUST.

If you have access permissions, a menu will be available on the right hand side of the page. On mobile devices, the menu will be below the service data.

The following services are available in the menu:

- Train Load Audit
- Allocation History

Train Load Audit and Allocation History are displayed when data is available within the RDIS Portal.

The menu is available on any of the subpages and it is possible to return to the service by selecting 'View service' on the menu.

**Train Load Audit**

RDIS PORTAL    SEARCH                                                      RTT IPORTAL    LOGOUT

**2W3I 0742 SHENFIELD TO LONDON LIVERPOOL STREET**
DEPARTING ON 8TH JULY 2020                                               OPERATED BY
                                                                         **TFL RAIL**

| Station | Boarders | | Alighters | | Onboard at dep |
|---|---|---|---|---|---|
| | Eligible | Allocated | Eligible | Allocated | |
| SHENFLD | 30 | 30 | - | - | 30 |
| BRTWOOD | - | - | - | - | 30 |
| HRLDWOD | 10 | 10 | - | - | 40 |
| GIDEAPK | 20 | 20 | 10 | 10 | 50 |
| ROMFORD | 10 | 10 | 10 | 10 | 50 |
| CHDWLHT | 10 | 10 | 40 | 40 | 20 |
| GODMAYS | 10 | 10 | 10 | 10 | 20 |
| SVNKNGS | - | - | - | - | 20 |
| ILFORD | - | - | - | - | 20 |
| MANRPK | - | - | - | - | 20 |
| MRYLAND | 10 | 10 | - | - | 30 |
| STFD | - | - | 20 | 20 | 10 |
| LIVST | - | - | 10 | 10 | 0 |

View service

Train Load Audit
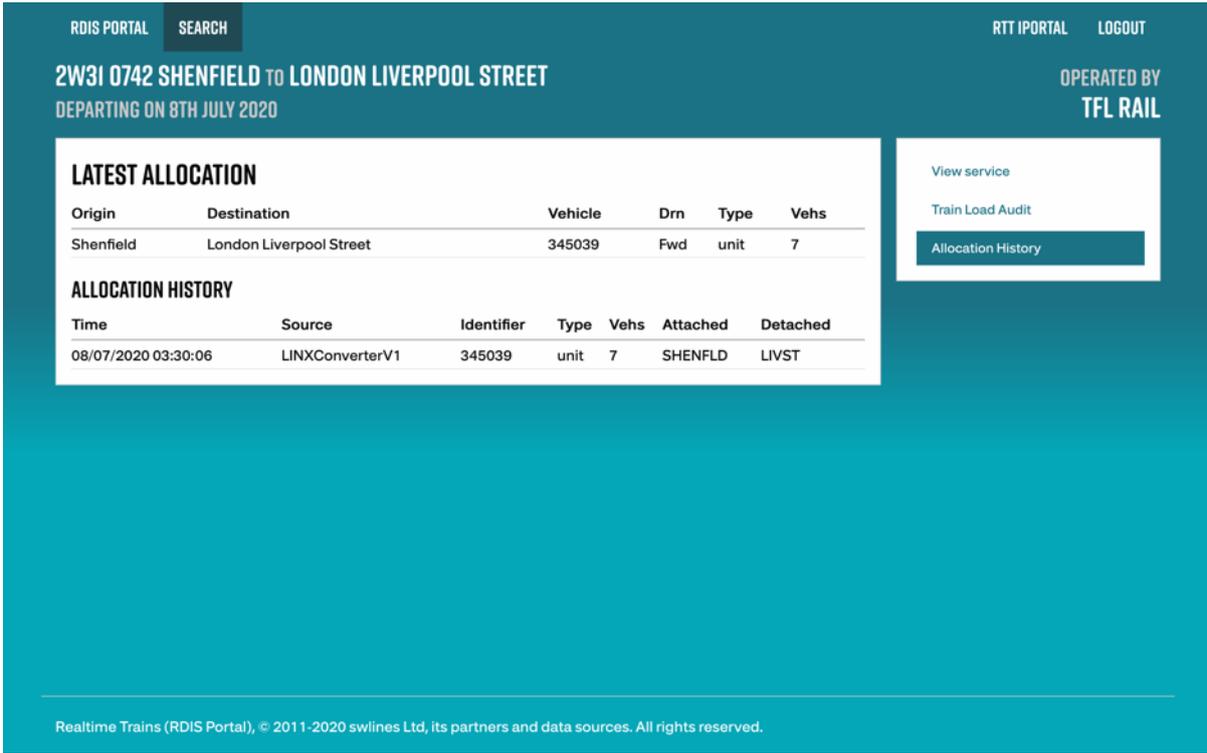
Allocation History

Last updated 12 Jul 2020

The train load audit displays a low level view of the load information outputs.

The tables are as follows:

- Location in TIPLOC form
- Eligible boarders – available boarders in timeslice that could board this service at this location
- Allocated boarders – the number of eligible boarders selected from timeslice to board
- Eligible alighters – available boarded passengers eligible to alight at the service at this location
- Allocated alighters – the number of eligible alighters selected from the timeslice to alight
- Onboard at departure – the number of passengers onboard this service on departure from this station

At the bottom of the data box, the last updated message will denote the date that the data was last updated in the RDIS Portal.

**Allocation History**



Train allocations in the RDIS system are sourced primarily from Network Rail's LINX interface. Some train operator rolling stock data is sourced from TOPS.

This view provides an audit of the allocations that the system is using for capacity calculations.

The *Latest Allocations* section shows the current train allocation for that train service. It shows:

- Origin location name
- Destination location name
- Unit/set vehicle identity
- Direction of travel to normal (fwd/rev)
- Type of vehicle (unit, loco, set, wagon[3])
- Number of passenger vehicles

Coaching stock sets typically have locomotive allocated as part of the set. The processing stage of calculating the current allocation splits those vehicles out of a set for the purpose of display, e.g. for a CrossCountry HST operated service it may show a power car, the set identity then the trailing power car.

The *Allocation History* section shows the historical view of train allocations to that service:

- Time imported
- Source – this is an internal source identifier to RTT
- Unit/set vehicle identity
- Type of vehicle (unit, loco, set, wagon)
- Number of passenger vehicles
- TIPLOC where this vehicle was attached on this service
- TIPLOC where this vehicle was detached from this service

Coaching stock sets are not split in this view.

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[3] Wagon is used within TOPS to output a carriage, e.g. a vehicle in a Caledonian Sleeper service