



# **Transport for London**

## **Network Status & Train Prediction Services**

### **Development Beta SDK v0.2**

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## **1. Data Services Available**

There are four data services available from Transport for London that will return up to date information about train predictions and network status.

### **1.1. Train Predictions Service – Summary**

This service will return train prediction information for an entire line. The information returned will be a list of stations on the line. For each station a list of trains approaching the station will be returned. For each train it will display the time until the train is due to reach the station, the destination of the train and its current location will be returned.

### **1.2. Train Predictions Service – Detailed**

This service will return detailed train prediction information for a nominated station. A line and station must be nominated for this service. The detailed train prediction service returns similar data to the summary service with the addition of more detailed information. The extra data returned includes the time from station represented in seconds, the track identifier of the current location of the train and the departure time of the train.

### **1.3. Station Status**

This service will return the status of all stations on the network indicating station closures, faulty lifts etc. The service can optionally be run to only return stations where the status is not normal. The service will return the station names and the current status of the station indicating what the problem is in the form of a code and a description.

### **1.4. Line Status**

This service will return the status of all lines on the network indicating any delays, disruptions or suspensions on the lines. The service can optionally be run to return only lines where there are abnormal operations. The service will return the line names and the current status of the line indicating what the problem is in the form of a code and a description.

## 2. Service Behaviour

### 2.1. HTTP Status Codes

#### 2.1.1. HTTP 200 OK for successful requests

All valid and successful requests will return a HTTP status code of 200, however if the Transport for London servers return invalid data, but still a HTTP status code of 200, then this status code will also be sent to the developer, it is therefore the prerogative of the client application to handle such occurrences.

#### 2.1.2. HTTP 400 Bad Request for invalid requests

If the URL is malformed, such where it is not in exact conformance with this document a HTTP status code of 400 will be returned.

e.g. <http://example.gov.uk/TrackerNet/PredictionSummary/C/>

#### 2.1.3. HTTP 204 No Content for invalid parameters

If the URL is properly formed but has invalid parameters then a 204 HTTP status code will be returned.

e.g. <http://example.gov.uk /TrackerNet/PredictionSummary/X>

### 2.2. Caching, Timeouts and Response times

#### 2.2.1. Caching

Data is obtained from the originating servers at TfL and cached in the Microsoft CDN for 30 seconds. Hence there is no benefit to the developer in querying any of the data services any more frequently than once every 30 seconds.

#### 2.2.2. Timeouts

The default connection time out that is set at web server is 30 seconds.

#### 2.2.3. Response Times

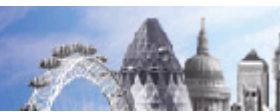
Response times should be within 3 seconds of the request hitting the service.



## 2.3. HTTP Header

### 2.3.1. Sample of part of a header and its explanation

| Header                                       | Description                          |
|--|--------------------------------------|
| HTTP/1.1 200 OK                              | HTTP Status Code                     |
| Expires: Mon, 08 Nov 2010 16:01:22 GMT       | Date and Time the cache will expire  |
| Date: Mon, 08 Nov 2010 16:00:52 GMT          | Date and time of the request         |
| Cache-Control: public, max-age=30            | Number of seconds the cache is held  |
| Last-Modified: Mon, 08 Nov 2010 16:00:52 GMT | When the cache was last updated      |
| Data-Last-Updated: 11/08/2010 16:00:52       | The timestamp of the replicated data |



### 3. Technical Guide to Using Services

All the services are accessed through the one web service provided by London Underground Information Management. The service is called using parameters to determine which service is required and the level of detail to be returned.

#### 3.1. Train Predictions Service – Summary

##### 3.1.1. Description of Service

This service will return train prediction information for a nominated line within 100 minute range. The information returned will be a list of stations on the line. For each station a list of trains approaching the station will be returned. For each train it the time until the train is due to reach the station, the destination of the train and its current location will be returned.

##### 3.1.2. Input

**Service URL**

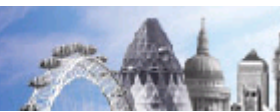
/PredictionSummary/<Line>

**Example Input**

<http://example.gov.uk/TrackerNet/PredictionSummary/C>

##### 3.1.3. Parameters

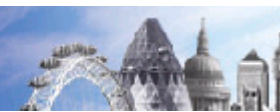
| Parameter | Mandatory | Description                           | Valid Values                                      |
|-----------|-----------|---------------------------------------|---|
| Line      | Mandatory | A code representing the line to query | Must be set to a valid line code (see Appendix A) |



### 3.1.4. Output

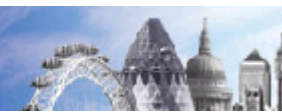
#### Example Output

```
- <ROOT>
  <Time TimeStamp="2009/04/27 09:12:20" />
  - <S Code="BNK" N="Bank.">
    - <P N="Westbound - Platform 5" Code="0">
      <T S="146" T="2" D="547" C="2:30" L="At Liverpool Street" DE="West Ruislip" />
      <T S="145" T="3" D="548" C="3:00" L="Between Bethnal Green and Liverpool Street" DE="Ealing Broadway" />
      <T S="015" T="3" D="547" C="5:00" L="At Bethnal Green" DE="West Ruislip" />
      <T S="016" T="5" D="547" C="7:00" L="Between Mile End and Bethnal Green" DE="West Ruislip" />
      <T S="053" T="5" D="548" C="10:00" L="Between Stratford and Mile End" DE="Ealing Broadway" />
    </P>
    - <P N="Eastbound - Platform 6" Code="1">
      <T S="047" T="4" D="531" C="0:30" L="Between St. Paul's and Bank" DE="Woodford via Hainault" />
      <T S="106" T="4" D="543" C="7:00" L="Left Tottenham Court Road" DE="Newbury Park" />
    </P>
  </S>
</ROOT>
```


**3.1.5. Output Attribute Definition:**

| <b>Attribute</b> | <b>Description</b>   |
|------------------|--|
| Time TimeStamp   | The date/time the service was run in the format YYYY/MM/DD HH:MM:SS              |
| S                | A construct representing a station on the line                                   |
| Code             | A code representing the station (see Appendix B for valid values)                |
| N                | The name of the station  |
|                  |  |
| P                | A construct representing a platform on the station                               |
| N                | The name of the platform   |
| Code             | A code representing the platform   |
|                  |  |
| T                | A construct representing a train in the prediction list                          |
| S                | The set number of the train  |
| T                | The trip number of the train   |
| D                | A code representing the destination of the train                                 |
| C                | A value in representing the 'time to station' for this train in the format MM:SS |
| L                | The current location of the train  |
| DE               | The name of the destination of the train   |





### 3.2. Train Predictions Service – Detailed

#### 3.2.1. Description of Service

This service will return detailed train prediction information for a nominated station on a nominated line within 100 minute range. A station must be nominated for this service. The detailed train prediction service returns similar data to the summary service with the addition of more detailed information. The extra data returned includes the time from station represented in seconds, the track identifier of the current location of the train and the departure time of the train.

#### 3.2.2. Input

##### Service URL

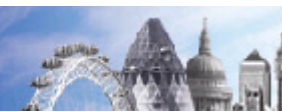
/PredictionDetailed/<Line>/<StationCode>

##### Example Input

<http://example.gov.uk/TrackerNet/PredictionDetailed/C/BNK>

#### 3.2.3. Parameters

| Parameter   | Required  | Description                              | Valid Values   |
|-------------|-----------|--|--|
| Line        | Mandatory | A code representing the line to query    | Must be set to a valid line code (see Appendix A)    |
| StationCode | Mandatory | A code representing the station to query | Must be set to a valid station code (see Appendix B) |



### 3.2.4. Output

#### Example Output

```
<?xml version="1.0" encoding="utf-8" ?>
```

```
= <ROOT xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns="http://tracknet.lul.co.uk">
```

```
<Disclaimer>This system is an INFORMATION ONLY system, relying entirely on information received from the relevant Operational Railway
Control System(s). It is NOT considered a safety related system in the Railway Engineering sense. However, the information reported may trigger
user intervention by staff regarding possible incidents on the railway, and confirmation of the situation observed should be obtained prior to any
corrective action being taken.</Disclaimer>
```

```
<WhenCreated>27 Apr 2009 8:30:31</WhenCreated>
```

```
<Line>C</Line>
```

```
<LineName>Central Line</LineName>
```

```
= <S Code="BNK" Mess="" N="Bank." CurTime="8:30:31">
```

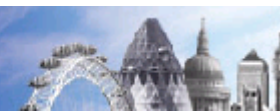
```
= <P N="Westbound - Platform 5" Num="5" TrackCode="TC4708">
```

```
<T LCID="1003515" SetNo="144" TripNo="2" SecondsTo="12" TimeTo="0:30" Location="Approaching Bank" Destination="West Ruislip"
DestCode="547" Order="0" DepartTime="7:30:27" DepartInterval="12" Departed="0" Direction="0" IsStalled="0" TrackCode="TC4704" LN="C" />
```

```
<T LCID="1021215" SetNo="003" TripNo="1" SecondsTo="303" TimeTo="5:00" Location="At Bethnal Green" Destination="Ealing Broadway"
DestCode="548" Order="0" DepartTime="7:27:01" DepartInterval="303" Departed="0" Direction="0" IsStalled="0" TrackCode="TC5214" LN="C"
/>
```

```
<T LCID="1018956" SetNo="116" TripNo="3" SecondsTo="341" TimeTo="6:00" Location="Between Mile End and Bethnal Green"
Destination="North Acton" DestCode="549" Order="0" DepartTime="7:28:52" DepartInterval="341" Departed="0" Direction="0" IsStalled="0"
TrackCode="TC5206" LN="C" />
```

```
<T LCID="1019553" SetNo="010" TripNo="2" SecondsTo="498" TimeTo="8:00" Location="At Mile End" Destination="West Ruislip"
DestCode="547" Order="0" DepartTime="7:30:29" DepartInterval="498" Departed="0" Direction="0" IsStalled="0" TrackCode="TC5426" LN="C"
/>
```



</P>

= <P N="Eastbound - Platform 6" Num="6" TrackCode="TC4709">

<T LCID="1019669" SetNo="024" TripNo="2" SecondsTo="33" TimeTo="1:00" Location="Between St. Paul's and Bank" Destination="Epping" DestCode="530" Order="0" DepartTime="7:30:20" DepartInterval="33" Departed="0" Direction="0" IsStalled="0" TrackCode="TC4701" LN="C" />

<T LCID="1017893" SetNo="070" TripNo="4" SecondsTo="110" TimeTo="2:00" Location="At St. Paul's" Destination="Hainault via Newbury Park" DestCode="532" Order="0" DepartTime="7:30:28" DepartInterval="110" Departed="0" Direction="0" IsStalled="0" TrackCode="TC4611" LN="C" />

<T LCID="1020939" SetNo="025" TripNo="2" SecondsTo="248" TimeTo="4:30" Location="At Chancery Lane" Destination="Epping" DestCode="530" Order="0" DepartTime="7:30:24" DepartInterval="248" Departed="0" Direction="0" IsStalled="0" TrackCode="TC4505" LN="C" />

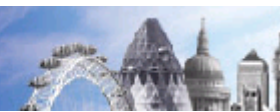
<T LCID="1019794" SetNo="111" TripNo="2" SecondsTo="394" TimeTo="7:00" Location="Between Tottenham Court Road and Holborn" Destination="Newbury Park" DestCode="543" Order="0" DepartTime="7:30:24" DepartInterval="394" Departed="0" Direction="0" IsStalled="0" TrackCode="TC4111" LN="C" />

<T LCID="1020258" SetNo="113" TripNo="2" SecondsTo="551" TimeTo="9:00" Location="At Oxford Circus" Destination="Loughton" DestCode="529" Order="0" DepartTime="7:30:15" DepartInterval="551" Departed="0" Direction="0" IsStalled="0" TrackCode="TC4007" LN="C" />

</P>

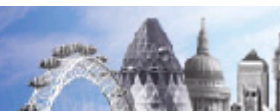
</S>

</ROOT>

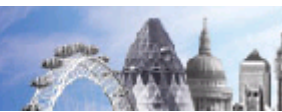


### 3.2.5. Output Attribute Definition:

| Attribute   | Description  |
|-------------|--|
| Disclaimer  | A disclaimer about the information only nature of the service        |
| WhenCreated | The time/date the service was run in the format DD MMM YYYY HH:MM:SS |
| Line        | A code representing the line (see Appendix A)                        |
| LineName    | The name of the line   |
|             |  |
| S           | A construct representing a station on the line                       |
| Code        | A code representing the station (see Appendix B for valid values)    |
| Mess        |  |
| N           | The name of the station  |
| CurTime     | The time the service was run in the format HH:MM:SS                  |
|             |  |
| P           | A construct representing a platform on the station                   |
| N           | The name of the platform   |
| Num         | The platform number  |
| TrackCode   | The track code of the section of track at the front of the platform  |
|             |  |
| T           | A construct representing a train in the prediction list              |
| LCID        | The leading car Id for the train                                     |
| SetNo       | The set number of the train  |
| TripNo      | The trip number of the train   |



|                |  |
|----------------|--|
| SecondsTo      | A value representing the 'time to station' for this train in seconds in the format SSS               |
| TimeTo         | A value representing the 'time to station' for this train in minutes and seconds in the format MM:SS |
| Location       | The current location of the train  |
| Destination    | The name of the destination of the train   |
| DestCode       | A code representing the destination of the train   |
| Order          | Not Assigned. Value will default to zero   |
| DepartTime     | Time train departed the platform   |
| DepartInterval | Interval in seconds between the departure of the specified train and the previous train              |
| Departed       | Boolean value to determine if the train has departed the platform                                    |
| Direction      | Direction of Travel  |
| IsStalled      | Not Assigned. Value will default to zero   |
| TrackCode      | The current section of track the train occupies  |
| LN             | A code representing the line the train is running on (see Appendix A)                                |



### 3.3. Station Status

#### 3.3.1. Description of Service

This service will return the status of all stations on the network indicating station closures, faulty lifts etc. The service can optionally be run to only return stations where the status is not normal. The service will return the station names and the current status of the station indicating what the problem is in the form of a code and a description.

#### 3.3.2. Input

**Service URL**

/StationStatus

/StationStatus/<IncidentsOnly>

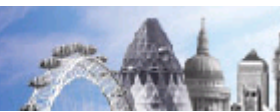
**Example Input**

<http://example.gov.uk/TrackerNet/StationStatus>

<http://example.gov.uk/TrackerNet/StationStatus/IncidentsOnly>

#### 3.3.3. Parameters

| Parameter     | Required | Description   | Valid Values  |
|---------------|----------|---|---------------|
| IncidentsOnly | Optional | An indication of whether only stations that have incidents should be returned | IncidentsOnly |



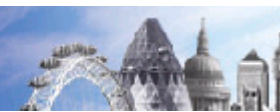
### 3.3.4. Output

#### Example Output

```

<?xml version="1.0" encoding="utf-8" ?>
_ <ArrayOfStationStatus xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://webservices.lul.co.uk/">
_ <StationStatus ID="95" StatusDetails="To the eastbound District and Piccadilly line platforms due to a faulty lift.">
  <Station ID="95" Name="Hammersmith (Dis)" />
_ <Status ID="NS" CssClass="Closed" Description="No Step Free Access" IsActive="true">
  <StatusType ID="2" Description="Station" />
  </Status>
  </StationStatus>
_ <StationStatus ID="110" StatusDetails="To the westbound platform due to a faulty lift.">
  <Station ID="110" Name="Hillingdon" />
_ <Status ID="NS" CssClass="Closed" Description="No Step Free Access" IsActive="true">
  <StatusType ID="2" Description="Station" />
  </Status>
  </StationStatus>
</ArrayOfStationStatus>

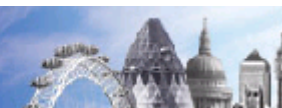
```



### 3.3.5. Output Attribute Definition

| <b>Attribute</b> | <b>Description</b>  |
|------------------|---|
| StationStatus ID | An identifier for the station   |
| StatusDetails    | A description of the status of the station if the status is not normal otherwise this will be blank               |
| Station ID       | A code representing the station   |
| Name             | The station name  |
| Status ID        | A numeric code representing the status of the station   |
| CssClass         | A text code representing the general status of the station e.g. Open, Closed                                      |
| Description      | A description of the status of the station e.g. No Step Free Access   |
| IsActive         | A Boolean indicating if the status shown is active  |
| StatusType ID    | A code representing the status type the service is checking. For this call it will always return the value "2"    |
| Description      | A description of the status type the service is checking. For this call it will always return the value "Station" |





### 3.4. Line Status

#### 3.4.1. Description of Service

This service will return the status of all lines on the network indicating any delays, disruptions or suspensions on the lines. The service can optionally be run to return only lines where there are abnormal operations. The service will return the line names and the current status of the line indicating what the problem is in the form of a code and a description

#### 3.4.2. Input

##### Service URL

/LineStatus

/LineStatus/**IncidentsOnly**

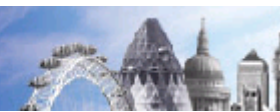
##### Example Input

<http://example.gov.uk/TrackerNet/LineStatus>

<http://example.gov.uk/TrackerNet/LineStatus/IncidentsOnly>

#### 3.4.3. Parameters

| Parameter     | Required | Description  | Valid Values  |
|---------------|----------|--|---------------|
| IncidentsOnly | Optional | An indication of whether only lines that have incidents should be returned | IncidentsOnly |



### 3.4.4. Output:

#### Example Output

```
<?xml version="1.0" encoding="utf-8" ?>
```

```
- <ArrayOfLineStatus xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://webservices.lul.co.uk/">
```

```
- <LineStatus ID="2" StatusDetails="Between Turnham Green and Richmond only, due to a signal failure at Richmond. GOOD SERVICE
on the rest of the line.">
```

```
  <BranchDisruptions />
```

```
  <Line ID="9" Name="District" />
```

```
- <Status ID="SD" CssClass="DisruptedService" Description="Severe Delays" IsActive="true">
```

```
  <StatusType ID="1" Description="Line" />
```

```
</Status>
```

```
</LineStatus>
```

```
- <LineStatus ID="4" StatusDetails="Due to an obstruction on the track in the Westminster area. Valid tickets will be accepted on London
Buses via any reasonable route. Customers should avoid the line where possible.">
```

```
  <BranchDisruptions />
```

```
  <Line ID="4" Name="Jubilee" />
```

```
- <Status ID="SD" CssClass="DisruptedService" Description="Severe Delays" IsActive="true">
```

```
  <StatusType ID="1" Description="Line" />
```

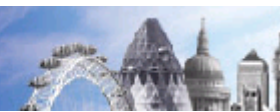
```
</Status>
```

```
</LineStatus>
```

```
- <LineStatus ID="5" StatusDetails="Between Kennington and Camden Town via Bank only, due to a person ill on a train earlier at Angel.
GOOD SERVICE on the rest of the line.">
```



```
<BranchDisruptions />  
<Line ID="5" Name="Northern" />  
= <Status ID="MD" CssClass="GoodService" Description="Minor Delays" IsActive="true">  
  <StatusType ID="1" Description="Line" />  
</Status>  
</LineStatus>  
</ArrayOfLineStatus>
```



### 3.4.5. Output Attribute Definition:

| Attribute         | Description  |
|-------------------|--|
| LineStatus ID     | An identifier for the line   |
| StatusDetails     | A description of the status of the line if the status is not normal otherwise this will be blank               |
| BranchDisruptions | Not Used   |
| Line ID           | A code representing the line   |
| Name              | The line name  |
| Status ID         | A numeric code representing the status of the line   |
| CssClass          | A text code representing the general status of the line, e.g. GoodService, DisruptedService                    |
| Description       | A description of the status of the line e.g. Part Suspended, Severe Delays                                     |
| IsActive          | A Boolean indicating if the status shown is active   |
| StatusType ID     | A code representing the status type the service is checking. For this call it will always return the value "1" |
| Description       | A description of the status type the service is checking. For this call it will always return the value "Line" |

## 4. Help Page

Some brief guidelines on service usage are given at the following url:

<http://example.gov.uk/TrackerNet/Help>

| Uri                                  | Method              | Description  |
|--------------------------------------|---------------------|--|
| *                                    | <a href="#">GET</a> | The default response for an invalid request that does not match any of the listed URLs. The default response is Bad Request (400). |
| /LineStatus                          | <a href="#">GET</a> | Gets line status information for all lines.  |
| /LineStatus/IncidentsOnly            | <a href="#">GET</a> | Gets line status information for lines with incidents only.  |
| /PredictionDetailed/{line}/{station} | <a href="#">GET</a> | Gets the detailed prediction for a given line and a station.   |
| /PredictionSummary/{line}            | <a href="#">GET</a> | Gets the prediction summary for a given line.  |
| /StationStatus                       | <a href="#">GET</a> | Gets station status information for all stations.  |
| /StationStatus/IncidentsOnly         | <a href="#">GET</a> | Gets station status information for stations with incidents only.  |

## 5. Appendix A – Line Codes

### Note:

The station and line codes for Train Prediction services are different from the Network Status station and line IDs.

| Code | Line                 |
|------|----------------------|
| B    | Bakerloo             |
| C    | Central              |
| D    | District             |
| H    | Hammersmith & Circle |
| J    | Jubilee              |
| M    | Metropolitan         |
| N    | Northern             |
| P    | Piccadilly           |
| V    | Victoria             |
| W    | Waterloo & City      |

## 6. Appendix B – Station Codes

### Notes:

The station codes are usually independent of line i.e. the same code is used for a station on all lines that use the station, but this is not always the case e.g. Edgware Road is ERB on the Bakerloo Line and ERD on the Hammersmith and City line.

The station and line codes for Train Prediction services are different from the Network Status station and line IDs.

| Bakerloo |                         |
|----------|-------------------------|
| Code     | Station Name            |
| BST      | Baker Street            |
| CHX      | Charing Cross           |
| ERB      | Edgware Road (Bakerloo) |
| ELE      | Elephant and Castle     |
| EMB      | Embankment              |
| HSD      | Harlesden               |
| HAW      | Harrow and Wealdstone   |

|     |                    |
|-----|--------------------|
| KGN | Kensal Green       |
| KNT | Kenton             |
| KPK | Kilburn Park       |
| LAM | Lambeth North      |
| MDV | Maida Vale         |
| MYB | Marylebone         |
| NWM | North Wembley      |
| OXC | Oxford Circus      |
| PAD | Paddington         |
| PIC | Piccadilly Circus  |
| QPK | Queen's Park       |
| RPK | Regent's Park      |
| SKT | South Kenton       |
| SPK | Stonebridge Park   |
| WAR | Warwick Avenue     |
| WLO | Waterloo           |
| WEM | Wembley Central    |
| WJN | Willesden Junction |

| <b>Central</b> |                     |
|----------------|---------------------|
| <b>Code</b>    | <b>Station Name</b> |
| BNK            | Bank                |
| BDE            | Barkingside         |
| BNG            | Bethnal Green       |
| BDS            | Bond Street         |
| BHL            | Buckhurst Hill      |
| CYL            | Chancery Lane       |
| CHG            | Chigwell            |
| DEB            | Debden              |
| EBY            | Ealing Broadway     |
| EAC            | East Acton          |
| EPP            | Epping              |
| FLP            | Fairlop             |
| GHL            | Gants Hill          |

|     |                      |
|-----|----------------------|
| GRH | Grange Hill          |
| GFD | Greenford            |
| HAI | Hainault             |
| HLN | Hanger Lane          |
| HOL | Holborn              |
| HPK | Holland Park         |
| LAN | Lancaster Gate       |
| LEY | Leyton               |
| LYS | Leytonstone          |
| LST | Liverpool Street     |
| LTN | Loughton             |
| MAR | Marble Arch          |
| MLE | Mile End             |
| NEP | Newbury Park         |
| NAC | North Acton          |
| NHT | Northolt             |
| NHG | Notting Hill Gate    |
| OXC | Oxford Circus        |
| PER | Perivale             |
| QWY | Queensway            |
| RED | Redbridge            |
| ROD | Roding Valley        |
| RUG | Ruislip Gardens      |
| SBC | Shepherd's Bush      |
| SNB | Snaresbrook          |
| SRP | South Ruislip        |
| SWF | South Woodford       |
| STP | St Paul's            |
| SFD | Stratford            |
| THB | Theydon Bois         |
| TCR | Tottenham Court Road |
| WAN | Wanstead             |
| WAC | West Acton           |
| WRP | West Ruislip         |
| WCT | White City           |



|     |          |
|-----|----------|
| WFD | Woodford |
|-----|----------|

**Circle – use Hammersmith and Circle**

| <b>District</b> |                                 |
|-----------------|---------------------------------|
| <b>Code</b>     | <b>Name</b>                     |
| ACT             | Acton Town                      |
| ALE             | Aldgate East                    |
| BKG             | Barking                         |
| BCT             | Barons Court                    |
| BEC             | Becontree                       |
| BLF             | Blackfriars                     |
| BWR             | Bow Road                        |
| BBB             | Bromley-by-Bow                  |
| CST             | Cannon Street                   |
| CHP             | Chiswick Park                   |
| DGE             | Dagenham East                   |
| DGH             | Dagenham Heathway               |
| EBY             | Ealing Broadway                 |
| ECM             | Ealing Common                   |
| ECT             | Earl's Court                    |
| EHM             | East Ham                        |
| EPY             | East Putney                     |
| ERD             | Edgware Road (H & C)            |
| EPK             | Elm Park                        |
| EMB             | Embankment                      |
| FBY             | Fulham Broadway                 |
| GRD             | Gloucester Road                 |
| GUN             | Gunnersbury                     |
| HMD             | Hammersmith (District and Picc) |
| HST             | High Street Kensington          |
| HCH             | Hornchurch                      |

| <b>District</b> |                      |
|-----------------|----------------------|
| <b>Code</b>     | <b>Name</b>          |
| OLY             | Kensington (Olympia) |
| KEW             | Kew Gardens          |
| MAN             | Mansion House        |
| MLE             | Mile End             |
| MON             | Monument             |
| OLY             | Olympia              |
| PGR             | Parsons Green        |
| PLW             | Plaistow             |
| PUT             | Putney Bridge        |
| RCP             | Ravenscourt Park     |
| RMD             | Richmond             |
| SSQ             | Sloane Square        |
| SKN             | South Kensington     |
| SFS             | Southfields          |
| SJP             | St. James's Park     |
| STB             | Stamford Brook       |
| STG             | Stepney Green        |
| TEM             | Temple               |
| THL             | Tower Hill           |
| TGR             | Turnham Green        |
| UPM             | Upminster            |
| UPB             | Upminster Bridge     |
| UPY             | Upney                |
| UPK             | Upton Park           |
| VIC             | Victoria             |
| WBT             | West Brompton        |
| WHM             | West Ham             |
| WKN             | West Kensington      |
| WMS             | Westminster          |
| WCL             | Whitechapel          |
| WDN             | Wimbledon            |
| WMP             | Wimbledon Park       |

| <b>Hammersmith &amp; City, Circle</b> |                         |
|---------------------------------------|-------------------------|
| <b>Code</b>                           | <b>Name</b>             |
| ALD                                   | Aldgate                 |
| ALE                                   | Aldgate East            |
| BST                                   | Baker Street            |
| BAR                                   | Barbican                |
| BKG                                   | Barking                 |
| BLF                                   | Blackfriars             |
| BWR                                   | Bow Road                |
| BBB                                   | Bromley-by-Bow          |
| CST                                   | Cannon Street           |
| EHM                                   | East Ham                |
| ERD                                   | Edgware Road (H & C)    |
| EMB                                   | Embankment              |
| ESQ                                   | Euston Square           |
| FAR                                   | Farringdon              |
| GRD                                   | Gloucester Road         |
| GPS                                   | Great Portland Street   |
| HMS                                   | Hammersmith             |
| HST                                   | High Street Kensington  |
| KXX                                   | King's Cross St Pancras |
| LST                                   | Liverpool Street        |
| MAN                                   | Mansion House           |
| MLE                                   | Mile End                |
| MON                                   | Monument                |
| MGT                                   | Moorgate                |
| PAD                                   | Paddington              |
| PLW                                   | Plaiestow               |
| SSQ                                   | Sloane Square           |
| SKN                                   | South Kensington        |
| SJP                                   | St. James's Park        |
| STG                                   | Stepney Green           |
| TEM                                   | Temple                  |

| <b>Hammersmith &amp; City, Circle</b> |             |
|---------------------------------------|-------------|
| <b>Code</b>                           | <b>Name</b> |
| THL                                   | Tower Hill  |
| UPK                                   | Upton Park  |
| VIC                                   | Victoria    |
| WHM                                   | West Ham    |
| WMS                                   | Westminster |
| WCL                                   | Whitechapel |

| <b>Jubilee</b> |                 |
|----------------|-----------------|
| <b>Code</b>    | <b>Name</b>     |
| BST            | Baker Street    |
| BER            | Bermondsey      |
| BDS            | Bond Street     |
| CWR            | Canada Water    |
| CWF            | Canary Wharf    |
| CNT            | Canning Town    |
| CPK            | Canons Park     |
| DHL            | Dollis Hill     |
| FRD            | Finchley Road   |
| GPK            | Green Park      |
| KIL            | Kilburn         |
| KBY            | Kingsbury       |
| LON            | London Bridge   |
| NEA            | Neasden         |
| NGW            | North Greenwich |
| QBY            | Queensbury      |
| SWK            | Southwark       |
| SJW            | St John's Wood  |
| STA            | Stanmore        |
| SFD            | Stratford       |
| SWC            | Swiss Cottage   |
| WLO            | Waterloo        |

| <b>Jubilee</b> |                 |
|----------------|-----------------|
| <b>Code</b>    | <b>Name</b>     |
| WPK            | Wembley Park    |
| WHM            | West Ham        |
| WHD            | West Hampstead  |
| WMS            | Westminster     |
| WLG            | Willesden Green |

| <b>Metropolitan</b> |                         |
|---------------------|-------------------------|
| <b>Code</b>         | <b>Station Name</b>     |
| ALD                 | Aldgate                 |
| AME                 | Amersham                |
| BST                 | Baker Street            |
| BAR                 | Barbican                |
| CLF                 | Chalfont and Latimer    |
| CWD                 | Chorleywood             |
| CLW                 | Colliers Wood           |
| CRX                 | Croxley                 |
| ETE                 | Eastcote                |
| ESQ                 | Euston Square           |
| FAR                 | Farringdon              |
| FRD                 | Finchley Road           |
| GPS                 | Great Portland Street   |
| HOH                 | Harrow on the Hill      |
| HDN                 | Hillingdon              |
| ICK                 | Ickenham                |
| KXX                 | King's Cross St Pancras |
| LST                 | Liverpool Street        |
| MPK                 | Moor Park               |
| MGT                 | Moorgate                |
| NHR                 | North Harrow            |
| NWP                 | Northwick Park          |
| NWD                 | Northwood               |

| <b>Metropolitan</b> |                     |
|---------------------|---------------------|
| <b>Code</b>         | <b>Station Name</b> |
| NWH                 | Northwood Hills     |
| PIN                 | Pinner              |
| RLN                 | Rayners Lane        |
| RKY                 | Rickmansworth       |
| RUI                 | Ruislip             |
| RUM                 | Ruislip Manor       |
| UXB                 | Uxbridge            |
| WAT                 | Watford             |
| WPK                 | Wembley Park        |
| WHR                 | West Harrow         |

| <b>Northern</b> |                |
|-----------------|----------------|
| <b>Code</b>     | <b>Name</b>    |
| ANG             | Angel          |
| ARC             | Archway        |
| BAL             | Balham         |
| BNK             | Bank           |
| BPK             | Belsize Park   |
| BOR             | Borough        |
| BTX             | Brent Cross    |
| BUR             | Burnt Oak      |
| CTN             | Camden Town    |
| CHF             | Chalk Farm     |
| CHX             | Charing Cross  |
| CPC             | Clapham Common |
| CPN             | Clapham North  |
| CPS             | Clapham South  |
| COL             | Colindale      |
| CLW             | Colliers Wood  |
| EFY             | East Finchley  |
| EDG             | Edgware        |

| <b>Northern</b> |                          |
|-----------------|--------------------------|
| <b>Code</b>     | <b>Name</b>              |
| ELE             | Elephant and Castle      |
| EMB             | Embankment               |
| EUS             | Euston                   |
| FYC             | Finchley Central         |
| GGR             | Golders Green            |
| GST             | Goodge Street            |
| HMP             | Hampstead                |
| HND             | Hendon Central           |
| HBT             | High Barnet              |
| HIG             | Highgate                 |
| KEN             | Kennington               |
| KTN             | Kentish Town             |
| KXX             | King's Cross St Pancras  |
| LSQ             | Leicester Square         |
| LON             | London Bridge            |
| MHE             | Mill Hill East           |
| MGT             | Moorgate                 |
| MOR             | Morden                   |
| MCR             | Mornington Crescent      |
| OLD             | Old Street               |
| OVL             | Oval                     |
| SWM             | South Wimbledon          |
| STK             | Stockwell                |
| TBE             | Tooting Bec              |
| TBY             | Tooting Broadway         |
| TCR             | Tottenham Court Road     |
| TOT             | Totteridge and Whetstone |
| TPK             | Tufnell Park             |
| WST             | Warren Street            |
| WLO             | Waterloo                 |
| WFY             | West Finchley            |
| WSP             | Woodside Park            |

| <b>Piccadilly</b> |                                 |
|-------------------|---------------------------------|
| <b>Code</b>       | <b>Name</b>                     |
| ACT               | Acton Town                      |
| ALP               | Alperton                        |
| AGR               | Arnos Grove                     |
| ARL               | Arsenal                         |
| BCT               | Barons Court                    |
| BOS               | Boston Manor                    |
| BGR               | Bounds Green                    |
| CRD               | Caledonian Road                 |
| CFS               | Cockfosters                     |
| COV               | Covent Garden                   |
| ECM               | Ealing Common                   |
| ECT               | Earl's Court                    |
| ETE               | Eastcote                        |
| FPK               | Finsbury Park                   |
| GRD               | Gloucester Road                 |
| GPK               | Green Park                      |
| HMD               | Hammersmith (District and Picc) |
| HTX               | Hatton Cross                    |
| HTF               | Heathrow Terminal 4             |
| HRV               | Heathrow Terminal 5             |
| HRC               | Heathrow Terminals 123          |
| HDN               | Hillingdon                      |
| HOL               | Holborn                         |
| HRD               | Holloway Road                   |
| HNC               | Hounslow Central                |
| HNE               | Hounslow East                   |
| HNW               | Hounslow West                   |
| HPC               | Hyde Park Corner                |
| ICK               | Ickenham                        |
| KXX               | King's Cross St Pancras         |



| <b>Piccadilly</b> |                   |
|-------------------|-------------------|
| <b>Code</b>       | <b>Name</b>       |
| KNB               | Knightsbridge     |
| LSQ               | Leicester Square  |
| MNR               | Manor House       |
| NEL               | North Ealing      |
| NFD               | Northfields       |
| OAK               | Oakwood           |
| OST               | Osterley          |
| PRY               | Park Royal        |
| PIC               | Piccadilly Circus |
| RLN               | Rayners Lane      |
| RUI               | Ruislip           |
| RUM               | Ruislip Manor     |
| RSQ               | Russell Square    |
| SEL               | South Ealing      |
| SHR               | South Harrow      |
| SKN               | South Kensington  |
| SGT               | Southgate         |
| SHL               | Sudbury Hill      |
| STN               | Sudbury Town      |
| TGR               | Turnham Green     |
| TPL               | Turnpike Lane     |
| UXB               | Uxbridge          |
| WGN               | Wood Green        |

| <b>Victoria</b> |                 |
|-----------------|-----------------|
| <b>Code</b>     | <b>Name</b>     |
| BHR             | Blackhorse Road |
| BRX             | Brixton         |
| EUS             | Euston          |
| FPK             | Finsbury Park   |
| GPK             | Green Park      |

|     |                         |
|-----|-------------------------|
| HBY | Highbury and Islington  |
| KXX | King's Cross St Pancras |
| OXC | Oxford Circus           |
| PIM | Pimlico                 |
| SVS | Seven Sisters           |
| STK | Stockwell               |
| TTH | Tottenham Hale          |
| VUX | Vauxhall                |
| VIC | Victoria                |
| WAL | Walthamstow Central     |
| WST | Warren Street           |

| <b>Waterloo &amp; City</b> |             |
|----------------------------|-------------|
| <b>Code</b>                | <b>Name</b> |
| BNK                        | Bank        |
| WLO                        | Waterloo    |