

Data Structures

ESR

ESR Data Structure

- refnum (string) - this is made up of a route specific prefix, a three digit incremental counter, plus the two digit year
- speed (object) - "Freight Speed / Passenger Speed" - single number if both are same, units and unrestricted line speed
- route (object) - all properties of the route
- du (object) - responsible Delivery Unit
- elr (object) - ELR of track segment impacted e.g. LTN1
- lor (object) - LOR properties
- location (string) - description of where the restriction is applied, should be "At X" or "Between X and Y"
- reason (object) - describes reason the ESR is imposed
- withdrawn (bool) - 0 = active, 1 = withdrawn
- whenimposed (string) - W3C format date time string, updated during amendment
- etc (null|string) - if set this is a W3C format date time string
- whenwithdrawn (null|string) - if withdrawn === 1, W3C format date time string
- lines (array) - object for each "line". A "line" is the combination of ELR + TrackID
 - elr (object) - as above
 - trackId (int) - e.g. 1100 = Up Main
 - direction (string) - "Up Direction" | "Down Direction" (yuk)
 - linedescription (string) - can be driven by trackId or overridden by Controller
 - routeheader (string) - "Primary Line" | "Additional Line"
 - boards (array)
 - type (string) - short name (no spaces)
 - description (string) - long name
 - elrId (int) - copied from line
 - trackId (int) - copied from line
 - miles (int) -
 - chains (int) - $0 \leq X < 80$
 - serialNumber (string) - not currently used
 - marker (GeoJSON)
- references (object)
- updated_at - time of last database change

Example Response

```
{
  "id": 5,
  "refnum": "AICC 001.26",
  "speed": {
    "value": "40",
    "unit": "mph",
    "linespeed": "120"
  },
  "route": {
    "routecode": "EA",
    "routename": "Anglia",
    "shortname": "AICC",
  },
  "du": {
    "name": "Ipswich",
    "routeId": 2,
  },
  "elr": {
    "elrcode": "LTN1",
    "elrdescription": "LIVERPOOL STREET - TROWSE LOWER JN",
  },
  "lor": {
    "lorcode": "EA1011",
    "lordescription": "SEVEN KINGS TO IPSWICH",
  },
  "location": "At Colchester South Jn",
  "reason": {
    "reason": "Structural - Station",
  },
  "lines": [
    {
      "elr": {
        "elrId": 668,
        "elrcode": "LTN1",
        "elrdescription": "LIVERPOOL STREET - TROWSE LOWER JN",
        "active": true
      },
      "trackId": 1100,
      "routeheader": "Primary Line",
      "direction": "Up Direction",
    }
  ]
}
```

```
"linedescription": "Up Main",
"newStyleBoards": true,
"boards": [
  {
    "type": "commencement",
    "description": "Speed Indicator (Commencement)",
    "elrId": 668,
    "trackId": 1100,
    "miles": 50,
    "chains": 75,
    "serialNumber": null,
    "marker": {
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [
          0.876876605,
          51.90208042
        ]
      }
    },
    "properties": {
      "type": "commencement",
      "description": "Speed Indicator (Commencement)",
      "elrId": 668,
      "trackId": 1100,
      "miles": 50,
      "chains": 75,
      "serialNumber": null
    }
  }
],
{
  "type": "termination",
  "description": "Termination Indicator",
  "elrId": 668,
  "trackId": 1100,
  "miles": 49,
  "chains": 75,
  "serialNumber": null,
  "marker": {
```

```
    "type": "Feature",
    "geometry": {
      "type": "Point",
      "coordinates": [
        0.85427535,
        51.89894058
      ]
    },
    "properties": {
      "type": "termination",
      "description": "Termination Indicator",
      "elrId": 668,
      "trackId": 1100,
      "miles": 49,
      "chains": 75,
      "serialNumber": null
    }
  }
}
]
}
],
"whenimposed": "2026-03-18 11:42:06",
"etr": null,
"withdrawn": false,
"whenwithdrawn": null,
"references": {
  "fmsnumber": "123",
  "ccilnumber": "23645657",
  "tsrreference": "",
  "tdanumber": "",
  "wo": "",
  "rdms": "",
  "trustcode": "",
  "owner": ""
},
"updated_at": "2026-03-18 11:42:06"
}
```

Revision #6

Created 27 August 2026 12:42:19 by Simon Gilhooly

Updated 27 August 2026 13:44:45 by Simon Gilhooly