Core Valley Lines

Framework Capacity Statement

25th March 2021

Version 4.0
# TABLE OF CONTENTS

1 Introduction ........................................................................................................................................... 4  
2 The Core Valley Lines Network ........................................................................................................ 5  
3 Track Access Contracts .................................................................................................................... 7  
4 Assessment of capacity on the CVL Network .................................................................................. 8  
5 Indicative capacity on the CVL Network ........................................................................................... 9  
Appendix 1 Framework Capacity Statement Data .............................................................................. 10
## Version control

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Description of changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>21\textsuperscript{st} November 2019</td>
<td>Publication version</td>
</tr>
<tr>
<td>2.0</td>
<td>19\textsuperscript{th} February 2020</td>
<td>Publication version with revisions for additional services included in the 96\textsuperscript{th} Supplemental Agreement agreed between Network Rail and Keolis Amey Operations Limited</td>
</tr>
<tr>
<td>3.0</td>
<td>27\textsuperscript{th} July 2020</td>
<td>Publication version with revisions for additional services included in the 1\textsuperscript{st} Supplemental Agreement agreed between Amey Keolis Infrastructure Limited and Keolis Amey Operations Limited. These changes relate to service changes on Sundays from the 17\textsuperscript{th} May 2020. Amendments to legal references to reflect UK legislation changes following withdrawal from the European Union.</td>
</tr>
<tr>
<td>4.0</td>
<td>25\textsuperscript{th} March 2021</td>
<td>Revised version to reflect changes due to new services contained in the 2\textsuperscript{nd} Supplemental Agreement between Amey Keolis Infrastructure Limited and Keolis Amey Operations Limited. These changes relate to service changes on Sundays from the 13\textsuperscript{th} December 2020. In addition, changes have been made to reflect the change of name from Amey Keolis Infrastructure Limited to Seilwaith Amey Cymru / Amey Infrastructure Wales Limited.</td>
</tr>
</tbody>
</table>
1 Introduction

This Core Valley Lines Framework Capacity Statement (this "Statement") has been produced to provide an indication of where capacity may be available for parties seeking new or additional capacity to operate train services on the Core Valley Lines Network (the "CVL Network").

Potential network users are urged to use this document as an initial guide, which should be read alongside the CVL Network Statement, and to contact Seilwaith Amey Cymru / Amey Infrastructure Wales Limited. ("AIW") directly at the earliest opportunity to discuss capacity requirements more specifically.

This Statement is published alongside the CVL Network Statement in order to meet the requirements of the Commission Implementing Regulation (EU) 2016/545 as amended by The Railways (Access, Management and Licensing of Railway Undertakings) (Amendments etc.) (EU Exit) Regulations 2019, on procedures and criteria concerning framework agreements for the allocation of rail infrastructure capacity (the “GB Rail Regulations”)

The third "recital" of the Implementing Regulation (as amended) states the following:

"Potential applicants need transparency concerning the allocated framework capacity and the remaining indicative capacity on a line. With a view to avoiding administrative burden related to framework agreements, potential applicants should get a first impression of how likely it is that their applications will be approved."

Framework capacity is any capacity contracted for sale for more than one (annual) timetable period. Track access contracts agreed between the operators and AIW (the "Track Access Contracts") contractualise the capacity sold. Any firm rights under a Track Access Contract fall within this definition of framework capacity. This Statement has been produced to improve the clarity and transparency of those rights, and the implications for applicants seeking new or additional capacity on the CVL Network.

Infrastructure belonging to other infrastructure managers (such as Network Rail Infrastructure Limited ("Network Rail")) is excluded from this Statement.
2 The Core Valley Lines Network

2.1 Background

The CVL Network is a railway network owned by Transport for Wales and operated AIW. More detail on the CVL Network can be found in the CVL Network Statement.

In total, the CVL Network consists of approximately 210km of track, which is managed and operated by AIW. The CVL Network is a mixed traffic network over which freight, passenger and charter trains can operate on the same tracks.

The CVL Network connects with the Network Rail railway network (the "Network Rail Network") at the following points:

<table>
<thead>
<tr>
<th>Location</th>
<th>Infrastructure Manager</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Boundary</td>
<td>Network Rail</td>
<td>Between Cardiff Central (exclusive) and Cardiff Queen Street stations on the Up and Down Llandaff lines at 0m 13ch (ELR = CEJ).</td>
</tr>
<tr>
<td>West Boundary</td>
<td>Network Rail</td>
<td>Between Ninian Park (exclusive) and Waun-gron Park stations on the Up and Down Trefforest lines at 1m 20ch (ELR = RAD).</td>
</tr>
</tbody>
</table>

2.2 Route Sections

For the purposes of this Statement the following route sections of the CVL Network have been defined:

- East Boundary to Heath via Queen Street;
- Heath Jn to Coryton;
- Heath Jn to Ystrad Mynach South Junction;
- Ystrad Mynach South Junction to Cwmbargoed;
- Ystrad Mynach South Junction to Rhymney;
- Cardiff Queen Street to Cardiff Bay;
- Cardiff Queen Street North Junction to Radyr;
- West Boundary to Radyr Junction;
- Radyr to Abercynon;
- Abercynon to Aberdare;
- Aberdare to Hirwaun Pond Halt (Tower Colliery); and
- Abercynon to Merthyr Tydfil.
### 2.3 Train operators on the CVL Network

Currently the following train operating companies have firm rights to operate on the CVL Network:

<table>
<thead>
<tr>
<th>Operator</th>
<th>Summary of operation on the CVL Network</th>
</tr>
</thead>
</table>
| Transport for Wales Rail Ltd branded as “Transport for Wales Rail” | Provision of regular suburban and rural services on behalf of Transport for Wales. The routes operated are:  
  - Cardiff Queen Street to Cardiff Bay;  
  - Cardiff Queen Street to the CVL East Boundary  
  - Rhymney to Cardiff Queen Street;  
  - Merthyr Tydfil to Cardiff Queen Street;  
  - Aberdare to Cardiff Queen Street  
  - Treherbert to Cardiff Queen Street;  
  - Radyr to the CVL West Boundary; and  
  - Heath Jn to Coryton branch.  
  On the above routes a regular pattern of train services is provided, with more services provided during peak times. |
| DB Cargo (UK) Limited | Freight traffic between Cwmbargoed and the CVL East Boundary.  
  Freight traffic between Tower Colliery and the Network Rail Network.  
  **NB** the line between Aberdare and Hirwaun/Tower Colliery is currently subject to an established short-term Network Change taking it temporarily out of use. |
| Freightliner Heavy Haul Limited | Freight traffic between Cwmbargoed and the Network Rail Network.  
  Freight traffic between Tower Colliery and the Network Rail Network over either the CVL East or West Boundary  
  **NB** the line between Aberdare and Hirwaun/Tower Colliery is currently subject to an established short-term Network Change taking it temporarily out of use. |
3 Track Access Contracts

Regulation 3 of the Railways (Access, Management and Licensing of Railway Undertakings) Regulations 2016 (as amended) defines a framework agreement as either:

(a) an access contract described in section 18(2)(a) of the [1993 Railways] Act [as amended] which satisfies one of the conditions in sub-section (1) of that section; or
(b) a legally binding agreement made other than in pursuance of section 17 or 18 of the Act setting out the rights and obligations of an applicant and the infrastructure manager or, as the case may be, allocation body in relation to the infrastructure capacity to be allocated and the charges to be levied over a period in excess of one working timetable period.

For the CVL Network, the function of framework agreements is fulfilled by a modified model clause Track Access Contract¹ made between the relevant operator and AIW. Some Track Access Contracts include only contingent rights, e.g. Track Access Contracts between AIW and certain freight operators, and between AIW and all passenger charter train operators. Such contingent rights do not constitute framework capacity because the capacity is not allocated prior to the timetable planning processes; effectively these contracts provide a right to request capacity rather than a right to receive capacity.

Applicants or potential applicants for new or amended Track Access Contracts with AIW are encouraged to contact AIW as early as possible, to enable us to help identify where capacity exists that could meet the applicant's requirements and to consider all potential users where capacity is scarce.

This version 4.0 of the Framework Capacity Statement incorporates the following the approved access:

- an access agreement between AIW and Keolis Amey Operations / Gweithrediadau Keolis Amey Limited for the provision of passenger services including amendments made in the December 2020 Timetable Change and amended by the 2nd Supplemental
- an access agreement between AIW and DB Cargo (UK) Limited for the provision of freight services; and
- an access agreement between AIW and Freightliner Heavy Haul Limited for the provision of freight services,

provided that, for the purposes of this Statement, only firm rights in place as at the date of this Statement have been considered.

¹ These are based on the ORR template model contracts for franchised passenger, charter and freight, with certain amendments (including references to the CVL Network as the relevant railway network and AIW as Infrastructure Manager of the CVL Network).
4 Assessment of capacity on the CVL Network

The GB Regulations requires the infrastructure manager to draw up a Framework Capacity Statement indicating, for every section of line on a periodic basis and, if applicable, by type of service, the following information:

- the framework capacity already allocated and the number of train paths;
- the indicative capacity still available for concluding framework agreements on infrastructure for which framework agreements are already concluded; and
- the maximum capacity available for framework agreements for every section of line, where applicable.

The approach taken by AIW has been to use Planning Headways as an indicator of capacity. Planning Headways are the gaps over route sections which trains must observe when following one another. Planning Headways are derived from the technical signalling headways plus an allowance for performance robustness. Capacity which has been granted in the form of a firm contractual right (Quantum, Calling Patterns and Minimum Turnarounds) has then been overlain to determine what indicative capacity is available. This methodology is very simplistic and does not take into account capacity lost as a result of developing a timetable with conflicting movements. Generally, however, the methodology is a useful indicator of where and when capacity exists. It should be noted that the indicative capacity set out in this Statement does not necessarily reflect the capacity available for sale by AIW. This is because, in the sale of access rights, AIW will need to consider (amongst other things):

- how the proposals will impact on the performance of the CVL Network;
- whether the request for capacity could be accommodated without the need for further enhancements for which AIW is not funded (e.g. level crossings); ²
- whether any additional staff would be needed because of the allocation of capacity;
- pathing limitations on the Network Rail railway infrastructure at Cardiff Central and at the boundary of the CVL Network with the Network Rail Network;
- pathing limitations on the CVL Network;
- dwell times in platforms;
- turnaround times at termini stations;
- junction margins, i.e. the time taken for a train to clear a junction and reset that junction to another line;
- engineering access;
- the frequency and interval of services; and
- committed infrastructure and rolling stock enhancements.

² Where a proposal operates over a level crossing an assessment of the crossing will be undertaken to understand if any further mitigation measures are required if the traffic increases. This could include replacement of crossings with bridges or upgrade of the level crossing to the extent that AIW is funded for such replacement works.
The aim of this Statement is to provide an indication of where potential capacity exists on the CVL Network. Applicants should contact AIW in order to apply for capacity on the CVL Network. AIW will then assess whether such capacity can be sold to the applicant following detailed assessments.
5 Indicative capacity on the CVL Network

Appendix 1 shows indicative paths available on the CVL Network by route section. This appendix also identifies the Framework capacity already allocated and the maximum capacity available for Track Access Contracts.

In Appendix 1 definitions around “Peak” and “Off Peak” are used which mean:

"Peak" means, in respect of services scheduled on any part of a weekday, those services that are scheduled:

- to arrive at Cardiff Central between 06.30 and 09.00; or
- to depart from Cardiff Central between 1600 and 18.30.

"Off-peak" means, in respect of services scheduled on any part of a weekday, those services that are scheduled to arrive or depart from Cardiff Central outside the Peak and between 05.00 and 00.00.

"Saturday Peak" means, in respect of services scheduled on any part of a Saturday, those services that are scheduled to arrive or depart from Cardiff Central between 09.00 and 17.00.

"Saturday Off-peak" means, in respect of services scheduled on any part of a Saturday, those services that are scheduled to arrive or depart from Cardiff Central between 05.00 and 00.00 but not during the Peak.

"Sunday" means all services scheduled on any part of a Sunday.

For the avoidance of doubt, Cardiff Central does not form part of the CVL Network.
Appendix 1
Framework Capacity Statement Data
<table>
<thead>
<tr>
<th>Section</th>
<th>Between Mileages</th>
<th>Headway</th>
<th>Morning Peak 06:00-09:00 (3.5 hours)</th>
<th>Evening Peak 16:00-19:00 (3 hours)</th>
<th>Total for Peak (6.5 hours)</th>
<th>14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs</th>
<th>14 hrs between 05:00 and 00:00 Excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs</th>
<th>8 hrs between 09:00-17:00 Except Cardiff Bay services</th>
<th>11 hrs between 05:00 and 06:00 Excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs</th>
<th>10 hrs between 05:00 and 06:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Boundary – Queen Street South Junction to East Boundary Up</td>
<td>0m13ch - 5m32ch</td>
<td>3</td>
<td>15</td>
<td>14.0</td>
<td>3.5</td>
<td>15  5.5  6.5</td>
<td>15  5.5  6.5</td>
<td>15  5.5  6.5</td>
<td>15  5.5  6.5</td>
<td>15  3.3  11.7</td>
</tr>
<tr>
<td>Queen Street South Junction to East Boundary Up</td>
<td></td>
<td>3</td>
<td>15</td>
<td>14.0</td>
<td>3.0</td>
<td>15  5.8  6.2</td>
<td>15  5.8  6.2</td>
<td>15  5.8  6.2</td>
<td>15  5.8  6.2</td>
<td>15  3.3  11.7</td>
</tr>
<tr>
<td>Queen Street South Junction - Queen Street North Junction</td>
<td>0m02ch - 1m17ch</td>
<td>3</td>
<td>15</td>
<td>14.0</td>
<td>3.0</td>
<td>15  5.9  6.1</td>
<td>15  5.9  6.1</td>
<td>15  5.9  6.1</td>
<td>15  5.9  6.1</td>
<td>15  3.3  11.7</td>
</tr>
<tr>
<td>Queen Street North to Queen Street South</td>
<td></td>
<td>3</td>
<td>0</td>
<td>5.0</td>
<td>1.3</td>
<td>8  4.7  2.8</td>
<td>8  4.7  2.8</td>
<td>8  4.7  2.8</td>
<td>8  4.7  2.8</td>
<td>8  1.6  5.9</td>
</tr>
<tr>
<td>Heath Jn to Queen Street North</td>
<td>5m17ch - 5m33ch</td>
<td>3</td>
<td>0</td>
<td>7.0</td>
<td>1.3</td>
<td>8  4.7  2.7</td>
<td>8  4.7  2.7</td>
<td>8  4.7  2.7</td>
<td>8  4.7  2.7</td>
<td>8  1.6  5.9</td>
</tr>
</tbody>
</table>

---

**Peak Times**

- Morning Peak: 06:00-09:00
- Evening Peak: 16:00-19:00
- Total for Peak: 06:00-19:00

**Off-peak times**

- 14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 14 hrs between 05:00 and 00:00 Excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 8 hrs between 09:00-17:00 Except Cardiff Bay services
- 11 hrs between 05:00 and 06:00 Excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 10 hrs between 05:00 and 06:00

---

**Sunday**

- 11.6 hrs between 05:00 and 19:00
- 10 hrs between 05:00 and 06:00

---

**Total for Peak**

- 14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 14 hrs between 05:00 and 00:00 Excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 8 hrs between 09:00-17:00 Except Cardiff Bay services
- 11 hrs between 05:00 and 06:00 Excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 10 hrs between 05:00 and 06:00

---

**Saturday Peak**

- 14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 14 hrs between 05:00 and 00:00 Excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 8 hrs between 09:00-17:00 Except Cardiff Bay services
- 11 hrs between 05:00 and 06:00 Excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 10 hrs between 05:00 and 06:00

---

**Saturday Off Peak**

- 14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 14 hrs between 05:00 and 00:00 Excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 8 hrs between 09:00-17:00 Except Cardiff Bay services
- 11 hrs between 05:00 and 06:00 Excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 10 hrs between 05:00 and 06:00

---

**Off-peak times**

- 14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 14 hrs between 05:00 and 00:00 Excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 8 hrs between 09:00-17:00 Except Cardiff Bay services
- 11 hrs between 05:00 and 06:00 Excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 10 hrs between 05:00 and 06:00

---

**Sunday**

- 11.6 hrs between 05:00 and 19:00
- 10 hrs between 05:00 and 06:00

---

**Total for Peak**

- 14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 14 hrs between 05:00 and 00:00 Excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 8 hrs between 09:00-17:00 Except Cardiff Bay services
- 11 hrs between 05:00 and 06:00 Excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs
- 10 hrs between 05:00 and 06:00
### Section: Between Mileages

<table>
<thead>
<tr>
<th>Headway</th>
<th>Morning Peak 05:30-06:00 (2.5 hours)</th>
<th>Evening Peak 16:00-18:00 (2 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theoretical Capacity per hour</td>
<td>Theoretical Capacity per hour</td>
</tr>
<tr>
<td></td>
<td>Indicative Paths exercised per hour</td>
<td>Indicative Paths exercised per hour</td>
</tr>
<tr>
<td></td>
<td>Rights exercised per hour</td>
<td>Rights exercised per hour</td>
</tr>
<tr>
<td>Section</td>
<td></td>
<td>Total for Peak (4.5 hours)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs</td>
</tr>
</tbody>
</table>

### Peak Times

<table>
<thead>
<tr>
<th>Section</th>
<th>Between Mileages</th>
<th>Headway</th>
<th>Heath Jn - Coryton</th>
<th>3m15ch - 3m58ch</th>
<th>0m32ch - 13m41ch</th>
<th>13m41ch - 20m75ch</th>
<th>0m15ch - 2m58ch</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heath Jn - Coryton</td>
<td>10</td>
<td>4</td>
<td>4</td>
<td>2.8</td>
<td>2.2</td>
<td>2.1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>2.5</td>
<td>1.5</td>
<td>4</td>
<td>1.5</td>
<td>2.8</td>
</tr>
<tr>
<td>Coryton to Heath</td>
<td>10</td>
<td>4</td>
<td>2.7</td>
<td>2.0</td>
<td>2.0</td>
<td>2.3</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>2.5</td>
<td>2.0</td>
<td>2.0</td>
<td>2.3</td>
<td>2.8</td>
</tr>
<tr>
<td>Heath Jn - Ystrad Mynach South Junction</td>
<td>6</td>
<td>6</td>
<td>2.2</td>
<td>3.0</td>
<td>1.4</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>2.5</td>
<td>3.0</td>
<td>1.4</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Ystrad Mynach South Junction to Heath Jn</td>
<td>5</td>
<td>5</td>
<td>2.2</td>
<td>3.0</td>
<td>1.4</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>2.5</td>
<td>3.0</td>
<td>1.4</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Ystrad Mynach South Junction - Cwmbargoed</td>
<td>5</td>
<td>5</td>
<td>2.2</td>
<td>3.0</td>
<td>1.4</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>2.5</td>
<td>3.0</td>
<td>1.4</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Cwmbargoed - Ystrad Mynach South Junction</td>
<td>5</td>
<td>5</td>
<td>2.2</td>
<td>3.0</td>
<td>1.4</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>2.5</td>
<td>3.0</td>
<td>1.4</td>
<td>4.5</td>
<td>4.5</td>
</tr>
</tbody>
</table>

### Off-peak Times

- **Morning Peak 06:30 - 09:00 (2.5 hours)**
- **Evening Peak 16:00 - 18:00 (2 hours)**
- **Total for Peak (4.5 hours)**
- **9 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs**
- **14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs**
- **14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs**
- **14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs**

### Saturday Peak

- **14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs**
- **9 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs**
- **14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs**
- **14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs**

### Saturday Off Peak

- **19 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs**
- **8 hrs between 09:00 - 17:00 Except Cardiff Bay services**
- **11 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs**
- **19 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs**

### Sunday

- **19 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs**
- **8 hrs between 09:00 - 17:00 Except Cardiff Bay services**
- **11 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs**
- **19 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 10 hrs**

---

Page 13 of 16
### Section: Between Mileages

<table>
<thead>
<tr>
<th>Section</th>
<th>Between Mileages</th>
<th>Headway</th>
<th>Morning Peak 06:00-06:00 (2.5 hours)</th>
<th>Evening Peak 16:00-18:00 (2 hours)</th>
<th>Total for Peak (4.5 hours)</th>
<th>Off peak times</th>
<th>Saturday Peak</th>
<th>Saturday Off Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ystrad Mynach South Junction - Bargoed</td>
<td>13m41ch-15m32ch</td>
<td>6 5 0.6 5 3.0 2.0 3.8 1.2 5 2.3 2.7 5 4.0 1.0 5 1.0 3.3</td>
<td>5 0.7 4.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bargoed - Ystrad Mynach South Junction</td>
<td>10 3 1.1 3 5.5 2.6 1.3 1.7 3 0.8 2.2 3 1.0 2.1 3 0.9 2.2 3 0.7 2.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhymney - Bargoed</td>
<td>10 3 1.1 3 1.0 2.1 1.5 1.5 3 0.8 2.3 3 1.0 2.1 3 0.9 2.2 3 0.6 2.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Street South Junction - Cardiff Bay</td>
<td>9 5 n/a 5 0.0 n/a 0.0 n/a 5 4.6 0.9 5 0.0 n/a 5 4.6 0.9 5 0.6 2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardiff Bay to Queen Street South Junction</td>
<td>9 6 n/a 6 0.0 n/a 0.0 n/a 6 4.6 1.4 6 0.0 n/a 6 4.6 1.4 6 3.4 2.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Street North Junction - Radyr</td>
<td>3m17ch-3m32ch</td>
<td>4 9 2.2 9 7.5 1.1 6.9 1.7 9 3.8 4.8 9 5.1 3.4 9 3.9 4.7 9 1.7 6.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radyr - Queen Street North Junction</td>
<td>1m59ch-5m32ch</td>
<td>4 9 2.6 9 7.0 1.6 6.4 2.1 9 4.1 4.5 9 6.6 1.5 9 4.1 4.5 9 1.7 6.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radyr - Queen Street North Junction</td>
<td>1m20ch-5m23ch</td>
<td>7 5 3.0 5 2.5 2.5 2.2 2.8 5 1.2 3.6 5 2.0 3.0 5 1.0 4.0 5 0.0 5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radyr - Queen Street North Junction</td>
<td>1m20ch-5m32ch</td>
<td>7 5 3.4 5 2.5 2.5 2.0 3.0 5 1.4 3.6 5 2.0 3.0 5 1.1 3.9 5 0.0 5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pontypridd - Cardiff Bay</td>
<td>5m32ch - 13m72ch</td>
<td>4 8 1.4 8 7.5 0.0 6.9 0.6 8 3.8 3.7 8 5.1 2.4 8 3.9 3.6 8 1.7 5.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pontypridd - Cardiff Bay</td>
<td>5m32ch - 13m72ch</td>
<td>4 8 2.3 8 7.0 0.5 6.0 1.5 8 4.1 3.4 8 5.3 2.3 8 3.9 3.6 8 1.7 5.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Section</td>
<td>Between Mileages</td>
<td>Headway</td>
<td>Morning Peak 06:00 - 06:00 (3.2 hours)</td>
<td>Evening Peak 15:00 - 16:00 (3 hours)</td>
<td>Total for Peak (6.5 hours)</td>
<td>Off peak times 06:00 - 17:00 (Except Cardiff Bay which is off peak for 18 hrs)</td>
<td>Saturday Peak</td>
<td>Saturday Off Peak</td>
</tr>
<tr>
<td>---------</td>
<td>----------------</td>
<td>---------</td>
<td>----------------------------------</td>
<td>----------------------------------</td>
<td>--------------------------</td>
<td>----------------------------------</td>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Pontypridd to Porth</td>
<td>4 5 6 7 8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>4 5 6 7 8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>4 5 6 7 8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>4 5 6 7 8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
</tr>
<tr>
<td>Porth to Pontypridd</td>
<td>4 5 6 7 8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>4 5 6 7 8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>4 5 6 7 8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>4 5 6 7 8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
</tr>
<tr>
<td>Ystrad Rhondda to Trhelebert</td>
<td>8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
</tr>
<tr>
<td>Trhelebert to Ystrad Rhondda</td>
<td>8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
</tr>
<tr>
<td>Abercwmboi Loop to Abercynon</td>
<td>8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
</tr>
<tr>
<td>Abercynon to Mountain Ash</td>
<td>4 5 6 7 8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>4 5 6 7 8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>4 5 6 7 8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>4 5 6 7 8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
</tr>
<tr>
<td>Mountain Ash to Abercwmboi Loop</td>
<td>8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
</tr>
<tr>
<td>Aberdare to Abercwmboi Loop</td>
<td>3 4 5 6 7 8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>3 4 5 6 7 8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>3 4 5 6 7 8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
<td>3 4 5 6 7 8 9 10</td>
<td>2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5</td>
</tr>
<tr>
<td>Section</td>
<td>Between Mileages</td>
<td>Headway</td>
<td>Peak Times</td>
<td>Off peak times</td>
<td>Saturday Peak</td>
<td>Saturday Off Peak</td>
<td>Sunday</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>------------------</td>
<td>---------</td>
<td>--------------------------</td>
<td>-----------------------------</td>
<td>--------------------------------</td>
<td>--------------------------------</td>
<td>-----------------------------</td>
<td></td>
</tr>
<tr>
<td>Aberdare to</td>
<td>01m34ch-19m77ch</td>
<td>39</td>
<td>0.4</td>
<td>0</td>
<td>0.4</td>
<td>0.0</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>Tower to</td>
<td>01m34ch-19m77ch</td>
<td>39</td>
<td>0.4</td>
<td>0</td>
<td>0.4</td>
<td>0.0</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>Merthyr Vale to</td>
<td>16m26ch-21m51ch</td>
<td>10</td>
<td>4.2</td>
<td>4</td>
<td>2.8</td>
<td>2.8</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>Abercynon to</td>
<td>16m26ch-21m51ch</td>
<td>10</td>
<td>4.2</td>
<td>4</td>
<td>2.8</td>
<td>2.8</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>Merthyr Tydfil</td>
<td>19m77ch-24m47ch</td>
<td>15</td>
<td>4.2</td>
<td>4</td>
<td>2.8</td>
<td>2.8</td>
<td>2.8</td>
<td></td>
</tr>
</tbody>
</table>

19 hrs between 05:00 and 00:00 excluding the peaks for all services except Cardiff Bay services.
8 hrs between 09:00-17:00 except Cardiff Bay services.
11 hrs between 05:00 abd 00:00 Excluding the Peak for all services except Cardiff Bay which is off peak for 19 hrs.
14.5 hrs between 05:00 and 00:00 excluding the Peaks for all services except Cardiff Bay which is off peak for 19 hrs.
19 hrs between 05:00 and 00:00.