

# The Avon Metro

The Avon Metro covers the area from Weston Super Mare in the west to Westbury in the east, and from Westbury in the south to Thornbury in the north.

It is required that services run through Bristol Temple Meads, rather than reversing there. This naturally requires there to be equal numbers of destinations on either side. At present there is an imbalance:

1. East of Temple Meads:
  - 1.1. Bathampton
  - 1.2. Westbury
  - 1.3. Yate (with later extension to Thornbury)
  - 1.4. Henbury
  - 1.5. Severn Beach
2. West of Temple Meads:
  - 2.1. Weston Super Mare
  - 2.2. Portishead

A further two destinations are required on the west side, and restoration of the former branches from Yatton to Clevedon and Blagdon is proposed. Two of the eastern destinations will be served from Weston Super Mare.

The proposed metro services on the heavy-rail routes are:

- 2tph Weston Super Mare – Bristol Temple Meads – Bath Spa – Bathampton – Limpley Stoke – Freshford – Avoncliff – Bradford-on-Avon – Trowbridge – Westbury
- 2tph Weston Super Mare – Weston Milton – Worle – St. Georges for Puxton – Yatton – Nailsea & Backwell – Flax Bourton – Parson St. – Bedminster – Bristol Temple Meads – St. Anne’s Park – Keynsham – Saltford – Oldfield Park – Bath Spa – Bathampton
- 2tph Portishead – Portbury – Pill – Ham Green – Clifton Bridge – Ashton Gate – Parson St. – Bedminster – Bristol Temple Meads – Lawrence Hill – Stapleton Rd. – Ashley Hill – Horfield – Filton Abbey Wood – Bristol Parkway – Winterbourne – Coalpit Heath – Yate – Iron Acton – Tytherington – Thornbury
- 2tph Clevedon – Yatton – Nailsea & Backwell – Flax Bourton – Parson St. – Bedminster – Bristol Temple Meads – Lawrence Hill – Stapleton Rd. – Ashley Hill – Horfield – Filton Abbey Wood – Broad Mead – Henbury – Chittening Trading Estate – St. Andrew’s Rd. – Avonmouth
- 2tph Blagdon – Burrington – Langford – Wrington – Congresbury – Yatton – Nailsea & Backwell – Flax Bourton – Parson St. – Bedminster – Bristol Temple Meads – Lawrence Hill – Stapleton Rd. – Monpelier – Redland – Clifton Down – Sea Mills – Shirehampton – Avonmouth – St. Andrew’s Rd. – Severn Beach

In addition, several light rail routes would be advantageous. One such would come in from the Mangotsfield area, following the old Midland route to Temple Meads, passing along the north side of Temple Meads following the route of the former harbour line, splitting into two at Cumberland Basin. One branch would follow the harbour line all the way to Ashton Gate station on the Portishead branch, then on to the Ashton Vale Park and Ride. The other would pass through Hotwells and along the Avon Promenade (see below). A number of halts are suggested, but several more will doubtless be required.

## *The Avon Promenade*

Bristol is a strikingly beautiful city, the due appreciation of which is frequently overshadowed by its (admittedly world-class) neighbour, Bath. Anyone who knows Bristol at all well will certainly know Clifton Village and the Downs, and Brunel's magnificent suspension bridge, but quite likely not be familiar with the nearby area of Hotwells. This is a gem, not exactly hidden, but presently completely ruined by traffic. Like Clifton, this is Georgian Bristol, but in a considerably poorer state of repair.

There was not, historically, a road through the Avon Gorge. It was a remarkably insensitive act of the early 20<sup>th</sup> century to build the Portway, between 1919 and 1926 (when, upon opening, it was the most expensive road in the UK). As a consequence of that loathsome piece of vandalism, one of the most intrinsically beautiful parts of Bristol is now also one of the least pleasant. The damage was compounded in the 1960s (no surprise there!) by the building of a complex of flyovers to the south, to funnel yet more traffic on to the Portway.

I note the following article from the 'Bristol Post' of April 26<sup>th</sup> 2015:

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THE Mayor of Bristol has announced that one of the city's busiest roads will be closed to traffic on Sundays.

The Portway will be closed on five Sundays starting on May 31 to allow pedestrians and cyclists to enjoy a traffic free environment.

In an interview with ITV, Mr Ferguson said: "They are the two weekends each side of big green week where there are events anyway on the Portway so all we're doing is extending the time that the Portway is open to people as I say, let's look at it positively.

"It is good to be able to the place, on occasions, as it should be experienced – a place of nature."

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(Presumably there should be a second 'experience', or equivalent, in the last sentence.) There is clearly an awareness in present-day Bristol of what has been so criminally sacrificed.

The situation is not, however, irrecoverable, given the necessary commitment. My suggestion is to relocate the Portway in a sunken-tube tunnel, in a trench in the bed of the Avon, for a distance of c.1½ miles from map reference ST567725 to just before Sea Mills, i.e. through the gorge itself. Between those points, the former Portway would be closed to all traffic, except pedestrians and cyclists, and light rail as far as the bridge. The Clifton Rocks funicular would be reopened to connect the Avon bank with the Downs. The whole area would be given over to public parks and pavement cafés, under the general character of 'The Avon Promenade'.

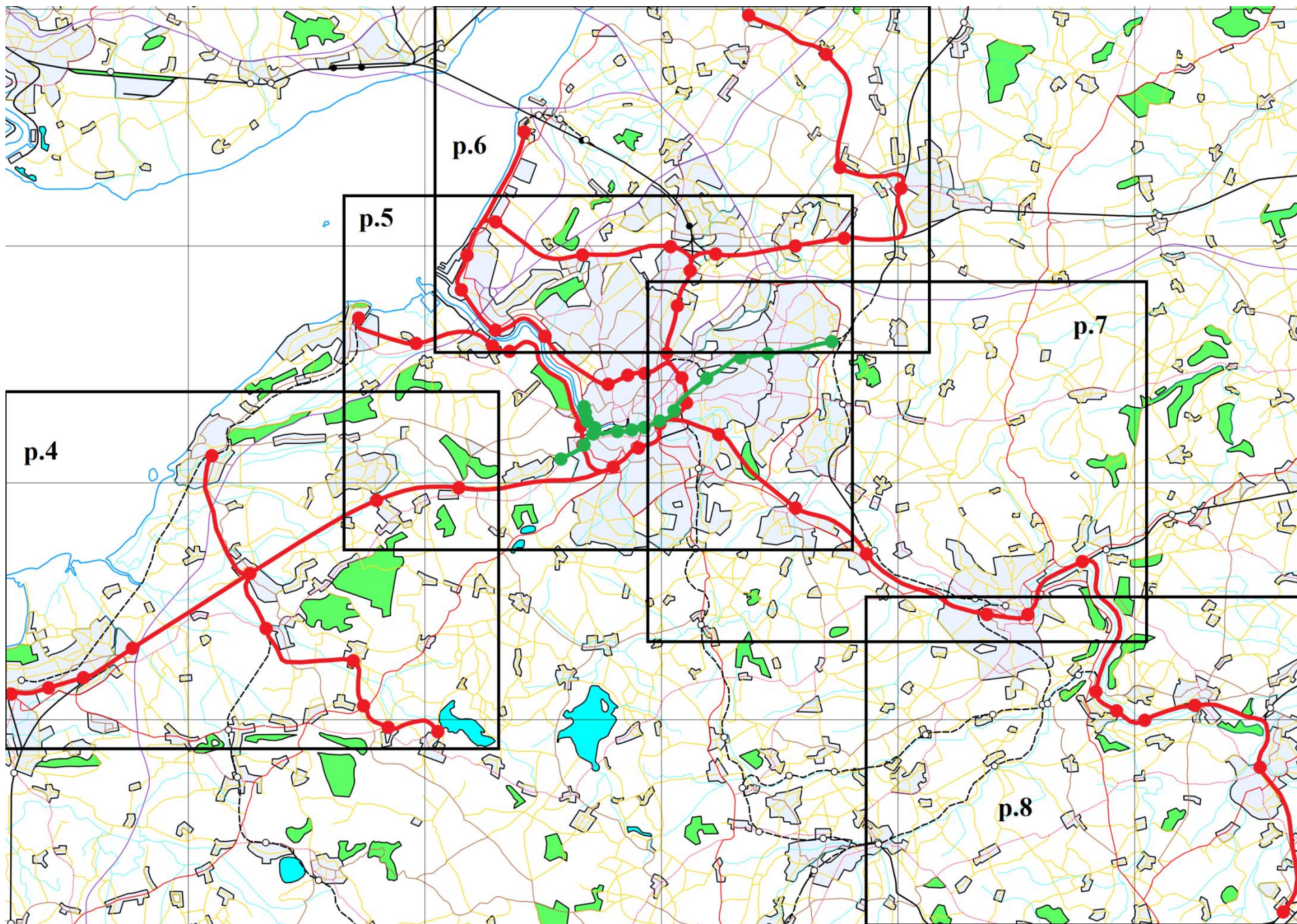
There is no reason why Bristol should not have an additional role as a holiday resort. It has much to offer the discriminating holidaymaker. The ongoing redevelopment of the Floating Harbour area would also be a major attraction.

The following page gives the key to the various maps of the Avon Metro, followed by the maps themselves.

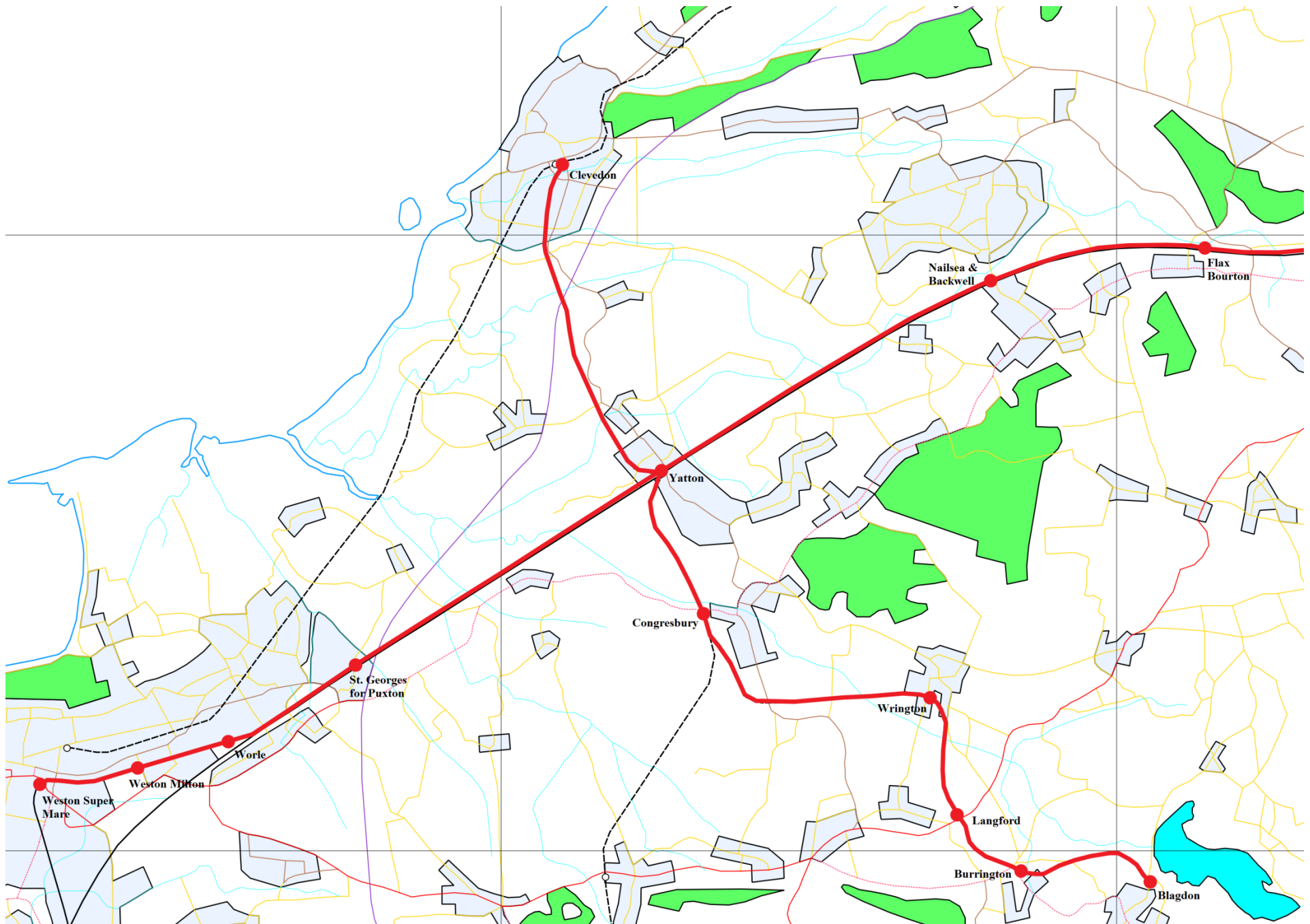
After that come the detailed service plans and timetables.

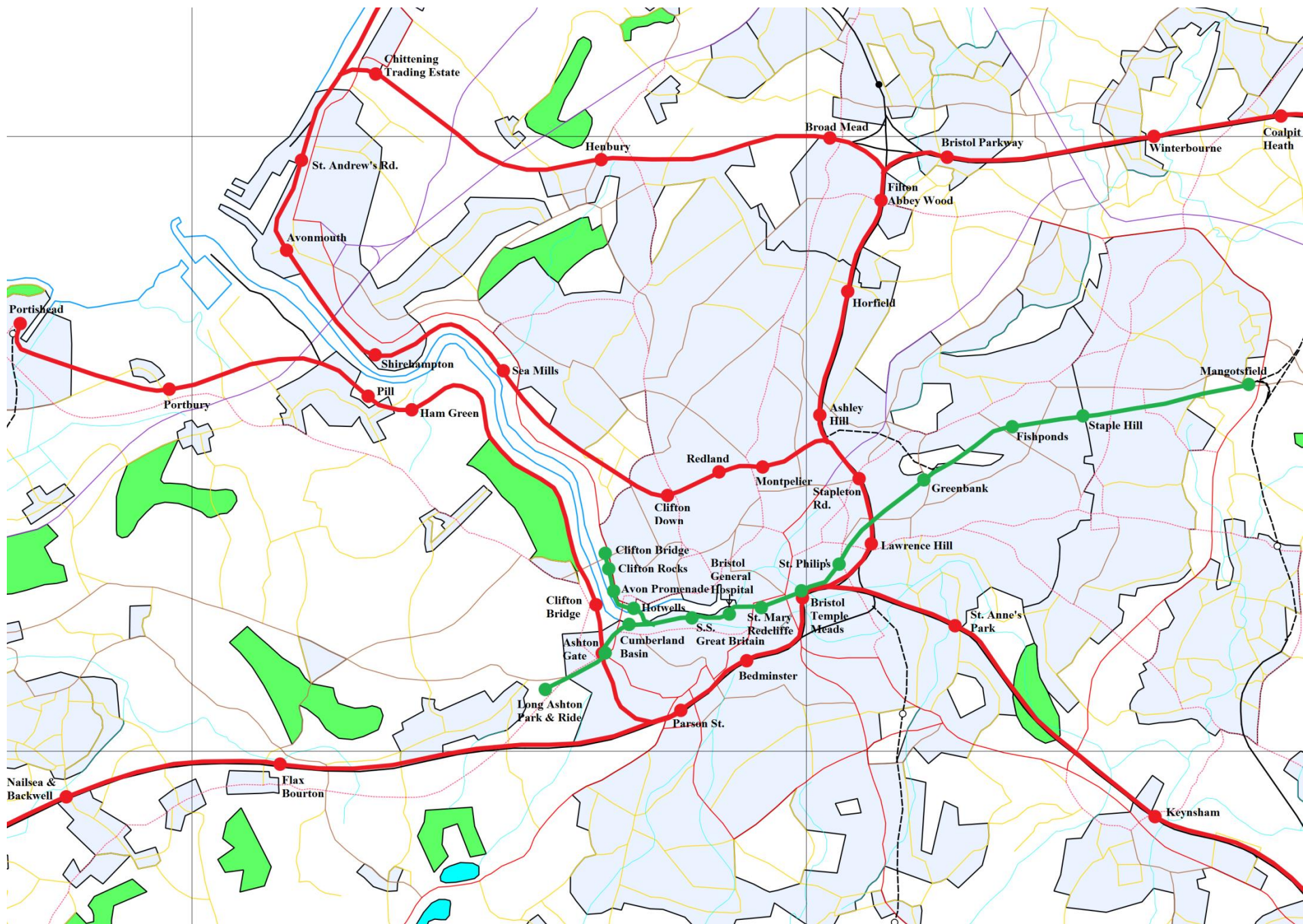
Appendix A describes the platform usage at Bristol Temple Meads.



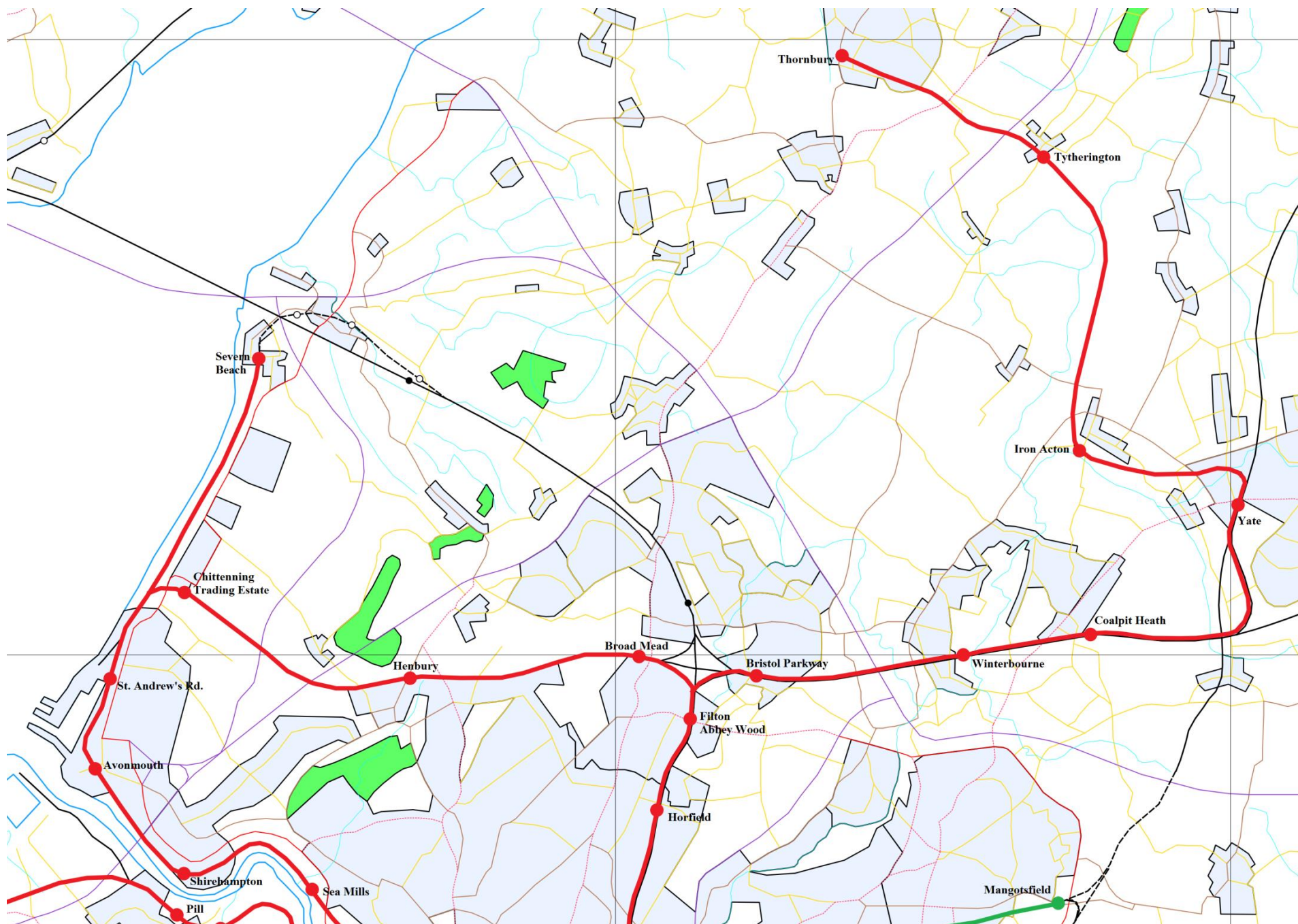




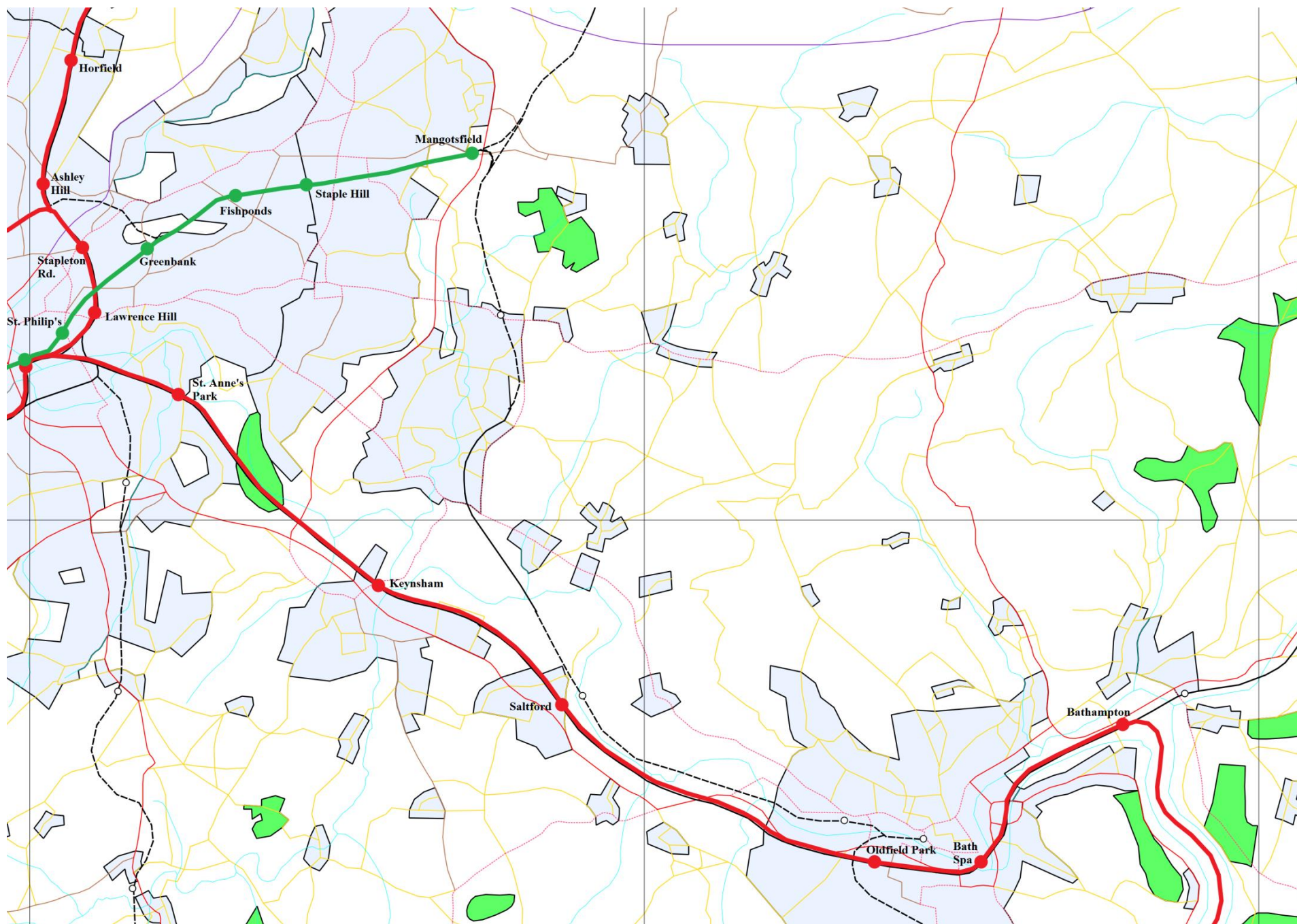




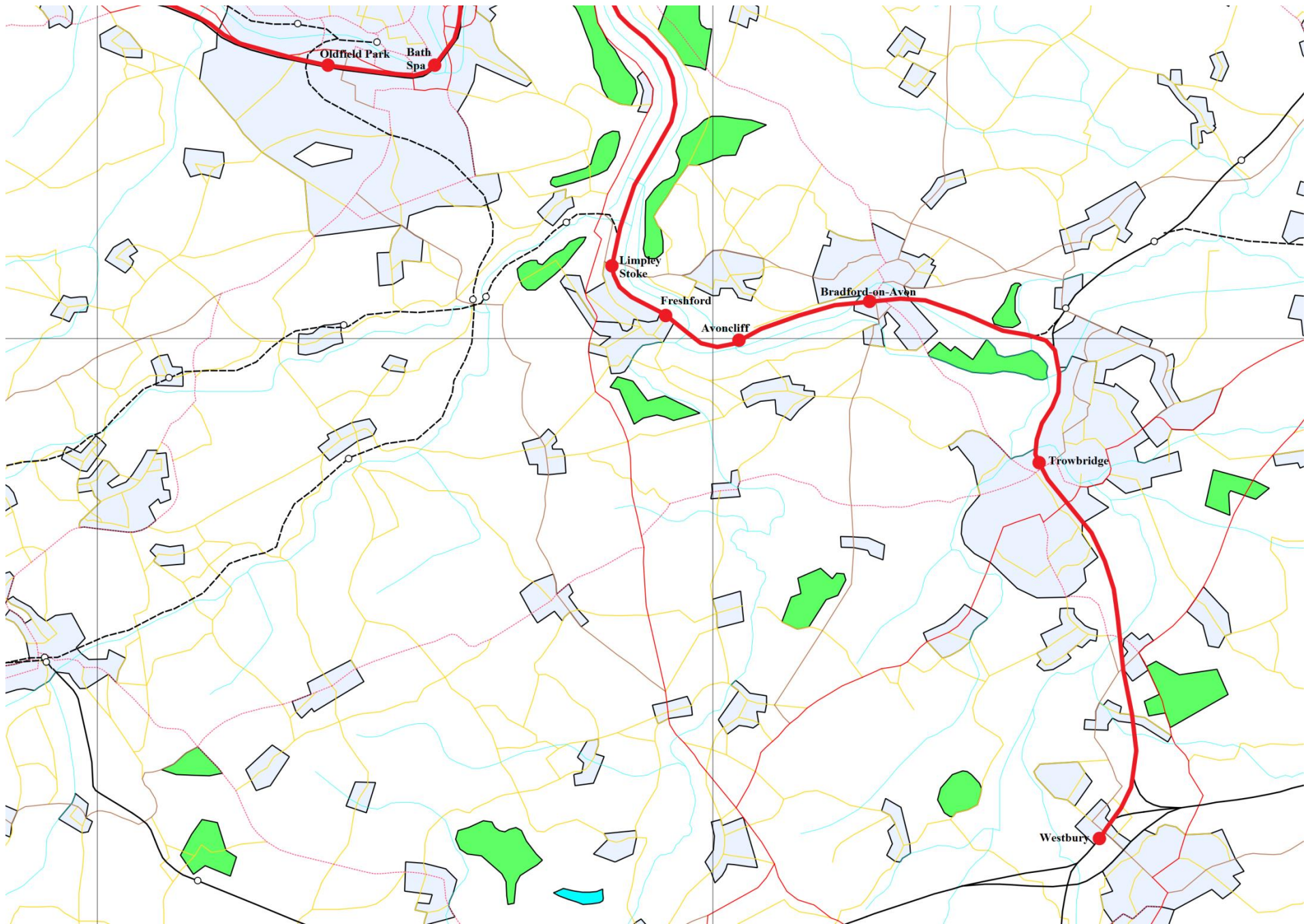














## *The Service Plans*

In deriving the service plans, it is assumed that there will be 4 tracks between Parson St. Junction and Bristol Temple Meads, arranged alternately, and that the northern pair will be reserved for metro traffic, **except** that the Weston Super Mare – Westbury service, non-stop to Bristol Temple Meads, keeps to the southern pair of tracks. It is likewise assumed that there will be 4 tracks between Bristol Temple Meads and Filton Abbey Wood (this is already planned as part of the GW electrification), arranged alternately, and that the western pair will be shared between metro traffic and the service between Bristol and South Wales. The rest of the area is mainly double track (with the Severn Beach, Weston Super Mare and Henbury lines redoubled – in the last case this involves only a short section by Filton Junction). The restored branches to Portishead (planned already), and to Clevedon and Blagdon will be single track, with passing loops at all stations. Passing provision is assumed at the following stations: Yatton, Bathampton (also reversing).

The metro services are listed at the beginning of the article. The following Classic-compatible and Regional Metro services must also be accommodated:

- 2tphC Paddington – Old Oak Common – LHR Interchange (aka Langley) – Swindon – Royal Wootton Bassett – Chippenham – Bath Spa – Bristol Temple Meads
- 2tphR Paddington – Old Oak Common – LHR Terminals 1,2,3 – LHR Terminal 5 – LHR Interchange – Slough – Reading – Thatcham – Newbury – Hungerford – Bedwyn – Pewsey – Devizes – Holt Junction – Bradford-on-Avon – Bath – Bristol Temple Meads (LHS Shuttle)
- 2tphR York – Micklefield – Leeds City – Wakefield Westgate – Rotherham – South Yorkshire (Meadowhall) – Sheffield Midland – Chesterfield – Derby – Burton on Trent – Tamworth – Birmingham New St. – University – Bromsgrove – Droitwich Spa – Worcester Shrub Hill – Ashchurch – Cheltenham Spa – Gloucester (reverse) – Bristol Parkway – Bristol Temple Meads – Weston Super Mare – Highbridge – Bridgwater – Taunton – Tiverton Junction – Cullompton – Exeter St. David's – Dawlish – Teignmouth – Newton Abbot – Totnes – Ivybridge – Plymouth
- 2tphRS Cheltenham Spa – Gloucester (reverse) – Cam & Dursley – Yate – Bristol Parkway – Filton Abbey Wood – Bristol Temple Meads – Nailsea & Backwell – Yatton – Worle – Weston Super Mare – Highbridge – Bridgwater – Taunton – Tiverton Junction – Cullompton – Exeter St. David's
- 2tphR Cardiff – Newport – Filton Abbey Wood – Bristol Temple Meads (reverse) – Bath – Bradford-on-Avon – Trowbridge – Westbury – Warminster – Salisbury – Romsey – Southampton Central – Fareham – Cosham – Fratton – Portsmouth & Southsea – Portsmouth Harbour
- 2tphRS Cardiff – Newport – Magor – Severn Tunnel Junction – Pilning – Patchway – Filton Abbey Wood – Bristol Temple Meads

There are no formal interchange arrangements within the metro area – no available cross-platform provision – but the following arrangement at Westbury is worth noting:

00/30R	Cardiff – Portsmouth
05/35R	Paddington – Plymouth
R	Paddington – Weymouth via Chippenham

i.e. the Cardiff – Portsmouth service connects into the Paddington – Weymouth service (and the Weymouth – Paddington service into the Portsmouth – Cardiff service).

The following timings are derived from FGW timetables (the final column incorporates, as necessary, new/reopened stations):

Weston Super Mare	00:00	00:00	00:00	00:00
Weston Milton			00:03	00:03
Worle		00:06	00:07	00:07
St. Georges for Puxton				00:09
Yatton	00:06	00:12	00:13	00:14
Nailsea & Backwell		00:18	00:19	00:20
Flax Bourton				00:22
Parson St.	00:13	00:22	00:26	00:28
Bedminster			00:29	00:31
Bristol Temple Meads	00:17	00:26	00:33	00:35

The *italicised* timings are estimated passing times, as usual.

Bristol Temple Meads	00:00	0:00	00:00	00:00
St. Anne's Park				00:02
Keynsham			00:07	00:08
Saltford				00:10
Oldfield Park			00:14	00:16
Bath Spa	00:13	00:13	00:18	00:20
Bathampton	00:15	00:15		00:23
Limpley Stoke				00:28
Freshford			00:27	00:30
Avoncliff			00:30	00:33
Bradford-on-Avon		00:25	00:34	00:37
Trowbridge		00:31	00:40	00:43
Westbury		00:38	00:47	00:50

Bristol Temple Meads	00:00	00:00	00:00	00:00
Lawrence Hill			00:01	00:02
Stapleton Rd.	00:03	00:03	00:04	00:05
Ashley Hill				00:07
Horfield				00:09
Filton Abbey Wood	00:06	00:07	00:09	00:12
Bristol Parkway	00:09	00:11		00:15
Winterbourne				00:17
Coalpit Heath				00:19
Yate		00:20		00:26
Iron Acton				00:29
Tytherington				00:32
Thornbury				00:35



Bristol Temple Meads	00:00
Lawrence Hill	00:02
Stapleton Rd.	00:05
Montpelier	00:08
Redland	00:10
Clifton Down	00:13
Sea Mills	00:17
Shirehampton	00:21
Avonmouth	00:24
St. Andrew's Rd.	00:28
Severn Beach	00:37

The following timings, while plausible, are completely speculative, (as are the timings between Yate and Thornbury, already given,) but that hardly matters since they interact with nothing else. The Clevedon, Portishead and Henbury branches lost their passenger services in the mid 1960s, the Thornbury branch in 1944, and that to Blagdon as long ago as 1931. Even if I had their last timetables available, they wouldn't be much help as an indication of modern performance.

Blagdon	00:00
Burrington	00:03
Langford	00:05
Wroughton	00:08
Congresbury	00:13
Yatton	00:16
Clevedon	00:00
Yatton	00:06
Portishead	00:00
Portbury	00:04
Pill	00:07
Ham Green	00:10
Clifton Bridge	00:17
Ashton Gate	00:18
Parson St.	00:20
Filton Abbey Wood	00:00
Broad Mead	00:02
Henbury	00:06
Chittening Trading Estate	00:10
St. Andrew's Rd.	00:12

On the basis of the above timings, the following timetables are built (all to the same time base).

1. Weston Super Mare to Westbury, all services:

	WB	WW	(WB)	(WB)	CA	EC	PY	(EC)	CP	BS
Weston Super Mare	-01:53	00:00				00:08	00:15			
Weston Milton	-01:56									
Worle	-01:58					00:14				
St. Georges for Puxton	00:00		➔					➔		
Yatton	00:05	00:06	00:07		00:13	00:20	00:21	00:22		00:28
Nailsea & Backwell	➔		00:13	➔	00:19	➔		00:28		00:34
Flax Bourton			00:15	00:15	00:21					00:36
Parson St.		00:13	➔	00:21	00:27		00:28	00:32		00:42
Bedminster	=====		=====	00:24	00:30					00:45
Bristol Temple Meads arr. (platform)	BH (13/15)	00:17 (9/10)	BL (13/15)	00:28 (5/6)	00:34 (5/6)		00:32 (9/10)	00:36 (9/10)	00:35 (4)	00:49 (5/6)
Bristol Temple Meads dep.	00:12	00:20	00:27	00:29	00:35		00:35	00:39	00:40	00:50
St. Anne's Park				00:31	=====		=====	=====		=====
Keynsham				00:37						
Saltford				00:39						
Oldfield Park				00:45						
Bath Spa	00:25	00:33	00:40	00:49					00:53	
Bathampton	00:27	00:36	00:42	00:52					00:55	
Limpley Stoke		00:41	=====	=====						
Freshford		00:43								
Avoncliff		00:46								
Bradford-on-Avon	00:37	00:50							01:05	
Trowbridge	=====	01:01							01:16	
Westbury		01:03							01:18	

	WB	WW	(WB)	(WB)	CA	EC	PY	(EC)	CP	BS
Weston Super Mare	00:23	00:30				00:38	00:45			
Weston Milton	00:26									
Worle	00:28					00:44				
St. Georges for Puxton	00:30		➔					➔		
Yatton	00:35	00:36	00:37		00:43	00:50	00:51	00:52		00:58
Nailsea & Backwell	➔		00:43	➔	00:49	➔		00:58		01:04
Flax Bourton			00:45	00:45	00:51					01:06
Parson St.		00:43	➔	00:51	00:57		00:58	01:02		01:12
Bedminster	=====		=====	00:54	01:00					01:15
Bristol Temple Meads arr. (platform)	BH (13/15)	00:47 (9/10)	BL (13/15)	00:58 (5/6)	01:04 (5/6)		01:02 (9/10)	01:06 (9/10)	01:05 (4)	01:19 (5/6)
Bristol Temple Meads dep.	00:42	00:50	00:57	00:59	01:05		01:05	01:09	01:10	01:20
St. Anne's Park				01:01	=====		=====	=====		=====
Keynsham				01:07						
Saltford				01:09						
Oldfield Park				01:15						
Bath Spa	00:55	01:03	01:10	01:19					01:23	



[	WB	WW	(WB)	(WB)	CA	EC	PY	(EC)	CP	BS	]
Bathampton	00:57	01:06	01:12	01:22						01:25	
Limpley Stoke		01:11	=====	=====							
Freshford		01:13									
Avoncliff		01:16									
Bradford-on-Avon	01:07	01:20								01:35	
Trowbridge		01:31								01:46	
Westbury		01:33								01:48	

2. Blagdon/Clevedon/Portishead – Severn Beach/Avonmouth/Thornbury, all services:

	PT	BS	PC	BC	WB	CA	PY	(CA)	EC	(CA)
Blagdon		-01:42								
Burrington		-01:45								
Langford		-01:47								
Wroughton		-01:50								
Congresbury		-01:55								
Clevedon						00:07				
Yatton dep.		-01:58			00:07	00:13	00:21		00:22	
Nailsea & Backwell		00:04			00:13	00:19			00:28	
Flax Bourton		00:06			00:15	00:21				
Portishead	-01:45									
Portbury	-01:49									
Pill	-01:52									
Ham Green	-01:55									
Clifton Bridge	00:02									
Ashton Gate	00:03									
Parson St.	00:05	00:12			00:21	00:27	00:28	➔	00:32	
Bedminster	00:08	00:15			00:24	00:30		00:30		
Bristol Temple Meads arr.	00:12	00:19	00:24		00:28	➔	00:32	00:34	00:36	
(platform)	(5/6)	(5/6)	(3)	(1)	(5/6)		(9/10)	(5/6)	(9/10)	
Bristol Temple Meads dep.	00:13	00:20	00:29	00:30	00:29		00:35	00:35	00:37	
Lawrence Hill	00:15	00:22		00:32	=====			00:37		➔
Stapleton Rd.	00:18	00:25	00:32	00:35			00:38	00:40	00:40	00:40
Montpelier		00:28						➔		
Redland		00:30								
Clifton Down		00:33								
Sea Mills		00:37								
Shirehampton		00:41								
Avonmouth		00:44								
St. Andrew's Rd.		00:48								
Severn Beach		00:57								
Ashley Hill	00:20	=====		00:37						00:42
Horfield	00:22			00:39						00:44

[	PT	BS	PC	BC	WB	CA	PY	(CA)	EC	(CA)	]
Filton Abbey Wood	00:25		00:36	00:42					00:44	00:47	
Broad Mead			=====	=====						00:49	
Henbury										00:53	
Chittening Trading Estate										00:57	
St. Andrew's Rd.										00:59	
Avonmouth										01:03	
Bristol Parkway	00:28								00:48	=====	
Winterbourne	00:30										
Coalpit Heath	00:32										
Yate	00:39								00:57		
Iron Acton	00:42										
Tytherington	00:45										
Thornbury	00:48										

	PT	BS	PC	BC	WB	CA	PY	(CA)	EC	(CA)
Blagdon		00:12								
Burrington		00:15								
Langford		00:17								
Wrington		00:20								
Congresbury		00:25								
Clevedon						00:37				
Yatton dep.		00:28			00:37	00:43	00:51		00:52	
Nailsea & Backwell		00:34			00:43	00:49			00:58	
Flax Bourton		00:36			00:45	00:51				
Portishead	00:15									
Portbury	00:19									
Pill	00:22									
Ham Green	00:25									
Clifton Bridge	00:32									
Ashton Gate	00:33									
Parson St.	00:35	00:42			00:51	00:57	00:58	➔	01:02	
Bedminster	00:38	00:45			00:54	01:00		01:00		
Bristol Temple Meads arr.	00:42	00:49	00:54		00:58	➔	01:02	01:04	01:06	
(platform)	(5/6)	(5/6)	(3)		(5/6)		(9/10)	(5/6)	(9/10)	
Bristol Temple Meads dep.	00:43	00:50	00:59	01:00	00:59		01:05	01:05	01:07	
Lawrence Hill	00:45	00:52		01:02	=====			01:07		➔
Stapleton Rd.	00:48	00:55	01:02	01:05			01:08	01:10	01:10	01:10
Montpelier		00:58						➔		
Redland		01:00								
Clifton Down		01:03								
Sea Mills		01:07								
Shirehampton		01:11								
Avonmouth		01:14								
St. Andrew's Rd.		01:18								
Severn Beach		01:27								
The Avon Metro v1.3										



[	PT	BS	PC	BC	WB	CA	PY	(CA)	EC	(CA)	]
Ashley Hill	00:50	=====		01:07						01:12	
Horfield	00:52			01:09						01:14	
Filton Abbey Wood	00:55		01:06	01:12					01:14	01:17	
Broad Mead										01:19	
Henbury										01:23	
Chittening Trading Estate										01:27	
St. Andrew's Rd.										01:29	
Avonmouth										01:33	
Bristol Parkway	00:58								01:18	=====	
Winterbourne	01:00										
Coalpit Heath	01:02										
Yate	01:09								01:27		
Iron Acton	01:12										
Tytherington	01:15										
Thornbury	01:18										

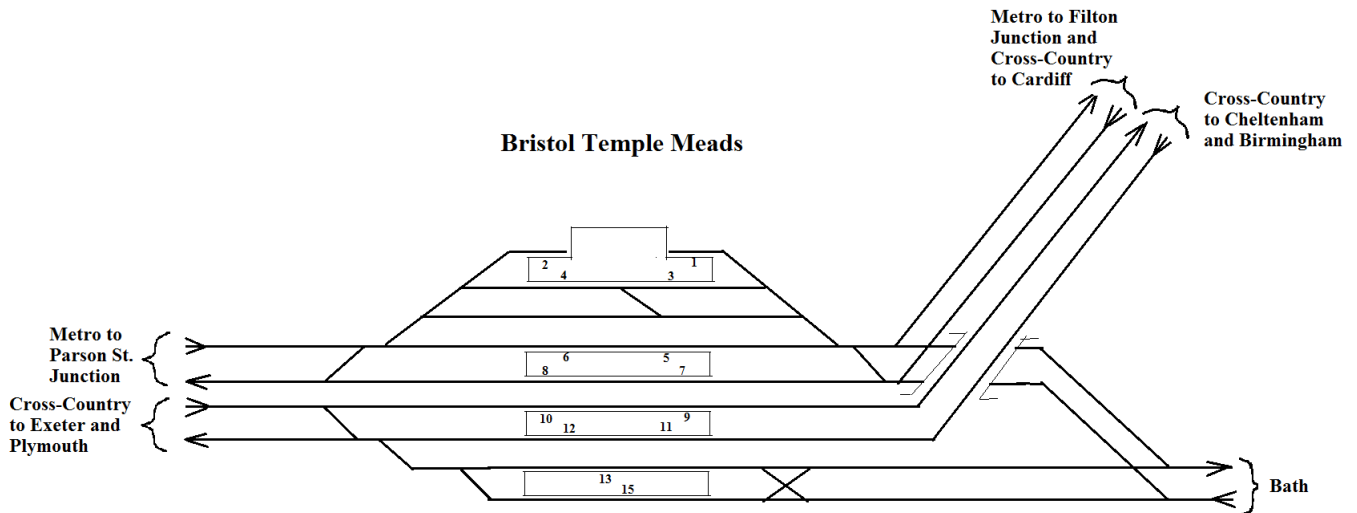
Codes (Avon Metro services):

- WW Weston Super Mare – Westbury
- WB Weston Super Mare – Bathampton
- PT Portishead – Thornbury
- CA Clevedon – Avonmouth
- BS Blagdon – Severn Beach

Codes (HS4 CC / Regional Metro services):

- PY Plymouth – York
- EC Exeter – Cheltenham
- BL Bristol – London (HS4 CC)
- BH Bristol – London via Devizes (Heathrow Shuttle)
- CP/PC Cardiff – Portsmouth / Portsmouth – Cardiff (reverse at Bristol)
- BC Bristol – Cardiff

# Appendix A – Platform Usage at Bristol Temple Meads



Temple Meads station is (in operating terms, ignoring its architectural splendours,) a dreadful mess. It is on a sharp curve, the direct consequence of having to join two routes, from London and Exeter, which arrived at the same destination but at right angles to each other. It is a prime example of infrastructure developed in complete isolation and without any consideration of future requirements or any overall plan, just like HS2.

The above is a topological diagram, showing connections only (and, even there, only those relevant to the present argument). It gives no indication of shape, size or orientation. Note that the Brunel Trainshed platforms, due to be reopened as part of the GW electrification, but foreseen here as for terminating high speed services only in the longer term, are omitted completely. The Cross-Country route to the north is shown as making a grade-separated exit, but no other flyovers or diveunders are indicated, though some will certainly be required.

However, even the existing, rambling infrastructure can be adapted surprisingly well to accommodate the metro. There is a clear logical division of the three island platforms, for metro services, all of which pass through, for cross-country services, which likewise pass through, and for London services, which all originate/terminate here. Specifically:

- Platform 1 serves the stopping service, all stations to Cardiff.
- Platform 2 is unused.
- Platforms 3 and 4 serve the Plymouth – Cardiff service, which reverses in Bristol. Platform 3 is for trains from Portsmouth to Cardiff. Platform 4 from Cardiff to Portsmouth, with access via the crossover from the non-platform track.
- Platforms 5 and 6 are for north-/east-bound metro services, and platforms 7 and 8 for westbound. It is expected that each platform may accommodate two trains, as required.
- Platforms 9 and 10 are for northbound cross-country services, and 11 and 12 for westbound. Note that the metro service Weston Super Mare – Westbury (non-stop between Weston and Bristol, and Bristol and Bath) also uses these platforms.
- Platforms 13 and 15 (whatever happened to 14?) are for London trains. This island platform will need to be lengthened.