Friends of Suburban Bristol Railways (FOSBR)

Response to West of England Draft Joint Local Transport Plan 4 (JLTP4) consultation, March 2019

Contributors: Christina Biggs, Christopher Orlik, John Vasey, Andrew Short, Carol Durrant, Terry Miller, Rob Dixon (proofreader), David Williams (UWE)

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1. The case for rail: a summary

Author: John Vasey; edited by Christina Biggs

Preamble

FOSBR is pleased to support the objectives at Section 3 of JLTP4 to:

- Support sustainable and inclusive economic growth
- Enable equality and improve accessibility
- Address poor air quality and take action against climate change
- Contribute to better health, wellbeing, safety and security
- Create better places

FOSBR argues that rail is the only transport solution currently available that meets all of these objectives.

The necessary rail infrastructure, being freight lines that are currently in use, is largely already in place. The success of the four-tracking of Filton Bank is apparent in the immediately restored reliability of train services across the region, but further infrastructure such as Bristol East Junction is needed to enable MetroWest Phase 1 and 2.

Further substantial improvements could be made quickly and with little disruption if the political will exists. FOSBR suggests in particular: selective redoubling of the Severn Beach line, to enable a Henbury Loop service in both directions, and remodelling of Westerleigh Junction which would enable a dedicated direct service to Thornbury. We also advocate for electric battery trains to address air quality issues.

The huge potential for significant growth in passenger usage is demonstrated by the approximately three fold increase in passenger numbers using the Severn Beach line. This followed the provision of a 40-minute service from a subsidy from Bristol City Council of £420,000 per year, which was subsequently taken into the GWR franchise after five years. Such “pump-priming” is a significantly effective way of introducing step change in rail provision and should be considered by WECA as a useful use of the devolution funds.

Rail improvements are very popular with all sections of the community, and increasingly with young people.

The new proposals for the improvements to the rail network in JLTP4, especially the new stations proposed at Horfield Constable Rd, Charfield, Ashton Gate, Saltford and St Anne’s are welcome. Indeed, FOSBR would like to see much higher priority given to those improvements as compared to road and bus solutions, neither of which can meet all the above objectives, and we have some more suggestions which we are promoting in this consultation submission.
Benefits of Rail Enhancements

An improved railway would move large numbers of people quickly and efficiently. In addition, an improved rail network has major incidental benefits in relation to four of the most serious problems facing our citizens.

- Obesity – 20/30 minutes of brisk walking each day is one of the best ways to reduce the risk of being over-weight, of contracting diabetes, and of incurring cardiovascular problems. Such exercise is typical of walking times to and from suburban railway stations. (insert reference to Travelwest’s essential evidence’ briefing notes on walking distances to suburban stations and on health benefits of walking)

- Air quality - nitrogen dioxide and other car emissions are estimated to kill {insert figure} people each year in the greater Bristol area. Many of those worst effected live in poor quality housing, disproportionately situated near major road arteries. Reduced car use arising from improvements to the rail network would start to address this problem. The benefits will be even greater when electric /hydrogen powered trains are introduced.

- Global warming - greater use of trains would help to meet UK contribution to global CO2 reduction targets.

2. The presenting issues: road congestion, air quality and car travel

2.1 Summary of costs to the public purse (Christopher Orlik)

While 75% of WECA’s written output is about the need for sustainable travel, public transport, walking and cycling, 75% of its budget is currently destined to be spent on roads.

We use the word ‘time’ as shorthand to encompass both time saved in journeys and the time that is being taken to make the changes to reduce journey times

In all transport planning time saved on journeys is critical. Economists, both of the classical and modernist schools see consumers or travellers as rational people who place shortness of journey times as their highest consideration.

80% of the benefits in Cost Benefit Analysis are predicated on time saved. If 10,000 commuters to Bristol can each save six minutes on their journey time to work this amounts to a total saving of one thousand hours per day or 250,000 hours per year.

Here in Bristol the cost in time of traffic congestion in the Bristol area has for many years been an ongoing concern.

A 2016 survey by traffic experts, Inrix, put Bristol in the top 10 cities for the average number of hours commuters spent stuck in traffic at rush hour – 27 hours per year.

Figures from the Department of Transport named Bristol the most congested place in the country with an average speed of just 14.3mph at peak times – London was 14.9mph.
In May of the same year a survey by insurers Admiral named Bristol as the UK’s third most congested city.

As we have seen above ‘time is money’ and in November 2016, Michael Young in Bristol Live reported that

Traffic congestion is costing Bristol businesses about £43.7 million a year in lost productivity, according to research.

The congestion is also causing drivers to spend up to 17 working days just sitting in Bristol traffic every year.

That equates to a cost of £43,733,580 in time spent sitting in traffic for the 47,300 commercial vehicles operated in Bristol.

In the light of these figures from both a business use and non-business use perspective it seems counter intuitive for WECA and the wider South West of England Counties Authority to rank public transport much lower in terms of the spending plans over the next 30 years, than private road transport.

Public Transport in the unitary areas of BANES, Bristol, North Somerset and South Gloucestershire is a success story. In 2018 Bristol was reported as being the only area of the country where bus use was increasing.

Passengers numbers on GWR tell a similar story. In the last 20 years there has been a three fold increase in Bristol, BANES and South Gloucestershire and a more than two and half fold increase in North Somerset. It is tempting to argue that this clearly lower figure alone might prove the need for re-opening of Portishead and Pill stations.

### 2.2 Air pollution

The British Government has now been taken to court three times by Client Earth for breaching agreed air pollution levels. As a result ten cities, including Bristol have been directed to reduce NO2 levels “as soon as possible”.

The Committee on the Medical Effects of Air Pollutants (COMEAP) has provided a means of calculating the deaths attributable to nitrogen dioxide, as well as the combined number of deaths attributable to both nitrogen dioxide and fine particulate matter. This is based on a wide range of studies in cities across the world, where NO2 pollution levels have been correlated with premature death as compared with total annual death figures for a wide range of pollution situations.

In 2014 a report commissioned by Bristol City Council looked at the health impacts of air pollution in the City of Bristol. The report applied the COMEAP formula to Bristol, using the figure of an average level of NO2 of 20ug/m3 across Greater Bristol and the known levels of particulates, generating a hazard ratio of 8.5%. Multiplied by the agreed COMEAP benchmark of total deaths a year, this shows that around 300 deaths each year in the City of Bristol can be attributed to exposure to both nitrogen dioxide and fine particulate matter.
The proportions of deaths attributable to air pollution can be calculated across the city to the varying pollutant concentrations in different wards, from around 7% in some wards to around 10% in others. Concentrations are highest in the centre of the city and therefore so therefore are premature deaths attributable to air pollution. Road traffic is the dominant local source of NO2 emissions contributing to the deaths.

In terms of location, the dominant source of air pollution is from the M32, which brings people from S Glos and further afield into Bristol. It is therefore on S Glos that the current FOSBR proposals for the JLTP4 are focused, with our four major proposals of Pilning, Henbury Loop, Thornbury and Coalpit Heath.

Figure: Air Quality Management Area with NO2 data from 2017 showing exceedances over the legal limit of 40 ug/m3 and the large contribution from the M32 corridor

The most recent update on the Clean Air Plan to the Bristol City Council Scrutiny panel in March 2019 is that of two Clean Air Zone options modelled by Bristol City Council as part of the JAQU modelling, one is modelled to deliver compliance in 2023 and the other in 2025. This sets the scene for the urgency of the need to introduce modal shift away from the car. By comparison, MetroWest Phases 1 and 2 are projected for 2021. It is very possible that these will have a positive impact on the compliance of NO2 required by government directive.
2.3 Commuting to Work in West of England - An analysis of Census 2011 data

The 2011 census figures show that there were around 115,000 Bristolians working in the City and County of Bristol on the day of the Census.

Of these almost exactly 50% drove to work. Assuming these commuters did not all live in Whitchurch and work in Avonmouth, many of these journeys would involve crossing the city centre to travel no more than five miles to their place of work. The majority of commuters to Bristol are in employment around the centre.

BAE and Rolls Royce have large work forces but both are in South Glos so would not make up any part of these figures.

The four tables here show the radial flow patterns into and out of Bristol into the three local authorities surrounding Bristol.

It can be seen that the major commuting flows are from homes outside commuting to work in Bristol (rather than out of Bristol) and the fraction of those taking the train are significantly different according to local authority:

<table>
<thead>
<tr>
<th>Table 1.1</th>
<th>Train</th>
<th>Bus</th>
<th>Car or shared car</th>
<th>Cycling</th>
<th>Walking</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>From S Glos to Bristol</td>
<td>717</td>
<td>4,101</td>
<td>26,559 (78.6%)</td>
<td>1,531</td>
<td>876</td>
<td>33,784</td>
</tr>
<tr>
<td>From Bristol to S Glos</td>
<td>388</td>
<td>2,908</td>
<td>21,239</td>
<td>2,214</td>
<td>1,510</td>
<td>28,259</td>
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<th>Table 1.2</th>
<th>Train</th>
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<th>Car or shared car</th>
<th>Cycling</th>
<th>Walking</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>From N Somerset to Bristol</td>
<td>1,118</td>
<td>1,049</td>
<td>14,340 (80.3%)</td>
<td>462</td>
<td>879</td>
<td>17,848</td>
</tr>
<tr>
<td>From Bristol to N Somerset</td>
<td>115</td>
<td>534</td>
<td>5,812</td>
<td>231</td>
<td>259</td>
<td>6,951</td>
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</tbody>
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<th>Table 1.3</th>
<th>Train</th>
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<th>Car or shared car</th>
<th>Cycling</th>
<th>Walking</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>From BaNES to</td>
<td>1,080</td>
<td>851</td>
<td>5,966</td>
<td>200</td>
<td>140</td>
<td>8,237</td>
</tr>
</tbody>
</table>
Table 1.4

<table>
<thead>
<tr>
<th>From Bristol to BaNES</th>
<th>Train</th>
<th>Bus</th>
<th>Car or shared car</th>
<th>Cycling</th>
<th>Walking</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>From Bristol To Bristol</td>
<td>975 (0.8%)</td>
<td>14,396</td>
<td>57,778 (48.3%)</td>
<td>11,862</td>
<td>34,662</td>
<td>119,673</td>
</tr>
</tbody>
</table>

The above figures (Table 1.4) taken from the 2011 Census show that of the in May of that year 119,673 residents of Bristol worked in the city and that 57,778 (48%) of those employees used their car to get to work within Bristol.

BANES shows the highest proportion commuting by train into Bristol (13%), followed by N Somerset (6%) and then S Glos the lowest at 2%.

The traffic volumes are in the opposite order: S Glos sending in 26,559 cars each day into Bristol; 14,000 from N Somerset and 5,966 from BANES.

However, car travel within Bristol is 57,778 – much of these are short journeys, and are clearly a motivation for the MetroBus and Greater Bristol Bus Network for areas not served by train.

But in terms of regional travel, clearly it is the traffic from S Glos which presents the largest problem to congestion and air quality.

2.4 The growth in train commuting

Perhaps the greatest change over the last ten years has been in numbers of people commuting to work by train.

Bristol Temple Meads Station is a crossroads. The most up to date figures for footfall from the Office of the Rail Regulator are that in 2017/8 11 million people used the station. This is a 60% growth in passenger numbers in the ten years since 2007/8 when passenger numbers at the station amounted to 7 million.

Trains from Temple Meads run in four directions.

1. Trains to the South West call at local six stations on the way to Weston-super-Mare.
2. Trains to the North East call at five stations on the way to Gloucester and Cheltenham.
3. Trains to Wales call at four stations on the way to Cardiff.
4. Trains to London calling at three stations on the way to Chippenham.
Between 2006/7 and 2016/7 the number of people using local stations has increased year on year. There has been an average increase of around 100% in passenger numbers but in some cases a far greater usage of trains to get to work. Figures from the Office of Rail Regulation.

Most striking is Severn Beach which in 2006/7 saw 38,202 passengers but ten years later, 310,818, nearly ten times as much.

Another example is provided by Parson Street on the WSM line where the figure in 2006/7 was 19,172 and in 2016/7 145,608.

Yate and Cam/Dursley are both relatively new stations, opened within the last thirty years and both have shown a doubling in passenger numbers over ten years.

It seems very clear that where there are trains people will use them. It is significant that no one from South Wales catches a train to Avonmouth and Severnside. Only one station on the line, Pilning, serves the area and only two trains a week stop there.

Summary of commuting flows into Bristol using the train:

From North Somerset 1,118 people took the train to work (6% of the total)

From Bath 1,080 (13%),

From South Gloucestershire only 717 out of the 33,784 (2%) commuting daily from S Glos to Bristol used the railway.

More than two thirds from S Glos - 21,259 commuted by car a significantly higher percentage figure than from the other two authorities where there is a good train service.

This shows that where there are train stations people will take them, and that the local authority that needs the most attention is South Gloucestershire. This has informed the FOSBR approach of focusing on S Glos and on four of our proposals in particular: Pilning, Henbury Loop, Thornbury and Coalpit Heath.
3. The FOSBR Rail Plan

3.1 Overview

FOSBR urges WECA to be much more ambitious in the scope of the proposed rail improvements.

We suggest a three-tiered approach:

1. Maximise the potential of the existing rail stations with longer trains, more frequent services and better station and rail-bus interchange facilities

2. Then, implement rail infrastructure improvements to unlock the capacity of the network for both more frequent trains and the possibility of station reopenings.

3. Finally, reopen stations across the network in a clear priority order set by the commuting and congestion situation of each area.

Ambitious targets for re-opening stations and investing in infrastructure to increase capacity would be very politically popular in the affected communities and with the public as a whole. More ambitious proposals would fire public and therefore political enthusiasm. The focus in the current consultation draft of the JLTP4 on proposing highway schemes and a completely new, as yet unfunded mass transit scheme is hugely expensive, fails most of the stated objectives and is very unpopular with many of the public.

*The main statement we take issue with is the stated WECA strategy of “A transport system based on a mass rapid transit, supplemented by road, bus, cycling, walking and rail improvements” is entirely wrong in its focus. Instead, WECA should take the existing rail system as the already rapid, extensive and interconnected rail network we already have, and only once the rail improvements we suggest are implemented should further networks be considered.*

FOSBR considers that next to the huge cost of exploring and implementing a new mass transit network, the FOSBR Rail Plan 2018, even in its entirety, is positively modest and common-sensical in scope and we argue that this will deliver the step change needed in a shift away from the overwhelming dependence on the private car that is the source of the majority of the region’s congestion and air quality woes.
Summary of FOSBR Proposals

FOSBR’s proposals for Bristol and the surrounding communities are summarised in the plan of routes and stations set out above. FOSBR urges WECA to adopt this plan in its entirety.

The FOSBR plan includes:

- Delivery of MetroWest phase 1A half-hour service to Avonmouth to Bath, hourly to Severn Beach
- Delivery of Portishead line with an initial hourly service with planning for half-hourly or 45 minute frequency
- Full Henbury Loop, not just terminus at Henbury
- In addition to the new stations already proposed for the MetroWest programme, FOSBR proposes new stations at Thornbury, Charfield, Winterbourne/Coalpit Heath, Corsham, Saltford, St Anne’s Park, Horfield, Ashton Gate, Long Action/Flax Bourton, Uphill/Locking and Chittering. Taking account of existing and proposed housing developments, these stations would bring an additional [insert figure] people within a 10 minute walk of a station.
- Bristol East and Westerleigh junctions need remodelling
- Pilning Station to be rebuilt to allow Severnside commuting
• Creating rail-bus interchanges with real-time bus information and signage at stations, including at Bristol Temple Meads, Filton Abbey Wood (for Southmead Hospital) and Nailsea and Backwell (for the airport)

• Selective double-tracking of the Severn Beach line

• Longer trains with more seats and room for cycles

• Multi-modal smart ticketing, with guards on all trains

• Electric/hydrogen/reduced emission or light rail trains

• WECA to be given rail powers and operational oversight

3.2 Improvements to existing rail services

An increase in frequency of trains can have a dramatic effect – changing the hourly service from Avonmouth to Temple Meads into a 40 minute service has seen a dramatic increase in ridership. It is anticipated that the further increase to a 30 minute clockface frequency with MetroWest Phase 1A, with the attendant improvement in ease of use of the timetable by passengers, should see a further increase.

3.3 Unlocking capacity with infrastructure improvements

Filton Bank four-tracking was celebrated on Friday 22 February 2019 with a wide range of stakeholders. The speakers from GWR and Network Rail expressed their delight at seeing the reliability of the services improve from the 201 delays and cancellations caused by the introduction of the Turbos Class 166.
FOSBR would like to remind WECA that our aim in campaigning for Filton Bank was not to reverse the effect of an ill-conceived rolling stock introduction or to enable more trains to run to London, but to unlock the capacity for MetroWest Phase 1 and 2 and further phases.

We are therefore very keen that MetroWest Phase 1, 2 and our Phase 3 proposals should be expedited.

We are also aware that other infrastructure improvements, primarily Bristol East Junction, are needed for the critical path for MetroWest Phase 1A to Westbury to proceed, but would not want to see a half-hour service to Temple Meads delayed in the meantime.

Introducing a further step change in service frequency will encourage the public that rail investment has high value for money and is feasible within the timescales envisaged for the Clean Air Plan.

Further projects such as selective redoubling of the Severn Beach Line and remodelling of Westerleigh Junction will bring further benefits by enabling a full Henbury Loop service, facilitating the current bottleneck on the Parkway to Westerleigh stretch and enabling a direct service to Thornbury.
3.4.1 Welcoming WECA’s rail station reopening proposals

FOSBR are delighted that the stations of Constable Rd, Charfield, St Anne’s, Saltford and Ashton Gate have been included in the JLTP4 consultation draft, along with the inclusion of Thornbury Line and Henbury Loop as longer-term aspirations. We look forward to helping WECA build the business case for these stations, and here below propose some further projects, together with an assessment of a possible priority order for the total list of stations, especially in S Glos.

Although ridership will be the primary economic driving factor for the DfT, we will be explaining via the example of Pilning, that some stations can have a disproportionately higher impact on air quality in particular, due to the differing length of journey and therefore pollution savings.
As explained in earlier chapters, the disproportionate impact of commuters from S Glos into Bristol on air quality on the M32, and also the relatively low proportions of people taking the train from S Glos compared to N Somerset and BANES, lead us to propose S Glos as the focus for new rail station improvements.

Specific FOSBR proposals for station reopenings in S Glos

3.4.1 The case for Pilning, Aztec West and Patchway

In 2013 the UK Department for Transport commissioned a number of case study evaluations of the impact of the Local Sustainable Transport Fund (LTSF) investment. Thirty four million pounds from the LTSF between 2011/2 and 2015/6 was awarded to the counties that formerly made up Avon. The aim of the project was to get people out of cars and using public transport which during the period was heavily promoted and subsidised.

Although the LTSF has now ended the project continues to this day with a £1.5 million grant to improve transport links and encourage walking and cycling.

Unfortunately buses do not travel past Avonmouth. The only link is the Severn Beach Line from Bristol Temple Meads to Severn Beach and it is a fact that this is well used by people working in the area. The service is, out of peak hours, infrequent and one of the FOSBR aims is to have in future a half hourly service to Avonmouth and an hourly, off-peak service to St Andrews Road and Severn Beach as set out in WECA’s plan, Metro West Phase 1A

Because the transport links are at present so poor the vast majority of people working in Severnside can only get to work by car.

According to the 2011 census, 1,982 people from Bristol and 1,970 from South Gloucestershire drove to the Severnside Area along with 737 from North Somerset and 216 from South Wales and the Forest of Dean making a total of 4,905 cars daily making two way commutes to the area.

Today eight years on these figures would represent the very minimum numbers of commuting cars.

If Pilning Station were to be provided with an overbridge and a regular train service many of these car journeys could be replaced by rail travel, especially for the 216 travelling from S Wales – if even 10% of those travelling from South Wales (21 people) took the train, this would represent 20 cars taken off the road.

The case for Pilning has been made several times to WECA, to GWR and more recently to CrossCountry. The most common argument back from Network Rail and GWR, that the existing footfall is too low to merit investment, is clearly ignoring the fact that the station not only has a “parliamentary service” of two trains a week, to keep the station barely legally open, but that these trains are in the same direction as the footbridge was removed in 2016.
to make way for the electrification works. Despite this, the valiant efforts of Pilning station group has managed to multiply the footfall by 9 in the last year.

The next argument that has been made by Network Rail is that it is preferable to improve the rail service to Severn Beach rather than reinstate a footbridge at Pilning.

In Appendix A we present some of the data from both the 2011 Census and the TravelWest travel to work survey to show that there are many workers at Severnside businesses who live in Wales and would therefore not be interested in a train service to Severn Beach via Temple Meads. Furthermore, a Park and Ride at Pilning would potentially serve commuters into Bristol from as far afield as Thornbury, Easter Compton and Oldbury who would otherwise congest the M32 and exacerbate the air pollution problem there.

Finally, with the tolls being lifted on the Severn Bridge and a new junction being added on the M49, there is surely now a case for providing a way for cars coming in from Wales to park outside the city boundary of the M5 and take the train for a mere 21 minute journey in contrast to the bus park and ride proposed in the JLTP4 which would get caught up in congestion.

**Aztec West – a possible pilot underground station?**

Figures from the annual TravelWest survey in 2018 indicate that 232 employees of S Glos-based companies worked in the Newport area and 94 in the Cardiff area. This includes not just Severnside businesses but also those at Aztec West and Patchway.

Patchway Station currently has only one train each way hourly and yet it is within a mile for BAE and Rolls Royce, the largest employers in the part of Bristol/ South Gloucestershire.

The line from Patchway Station to Newport and Cardiff goes past Aztec West, a major employment site.

With the determination of WECA to investigate mass transit which will require some underground running, unless it is prepared for wide-ranging pedestrianisation, we suggest that a pilot underground station at Aztec West would give much greater detail to inform the business case for a full underground network.

### 3.4.2 The case for the Henbury Loop

The Henbury Loop is important in providing a link to employment in the North Fringe and Severnside for commuters crossing the city and region and those using the Portway Park and Ride. Such a service would be more convenient than the Severn Beach line and provide public transport across the suburban area where none currently exists.

The main thrust of the 2015 CH2MHiill report on the Henbury Loop was that the estimated extra ridership of the Henbury Loop was only 13 extra people using the service on a daily basis. In our statistical analysis section below we contest this conclusion by an examination of travel to work data in the 2011 census, by coming up with a figure of 6,254 ORR footfall per year, or 20 extra passengers using the service daily. This was arrived at by applying the conservative observation that providing a rail station causes 6.5% less of the stated Census
2011 car users on average for the stations looked at in Appendix A. The modal shift could clearly be more in the case of the Henbury Loop for the many Severnside workers who cannot afford to run a car, especially as no public bus service exists.

Recently, a “SevernNet Buzz” bus service has been introduced to pick up workers from Brentry, Henbury, Southmead and Lawrence Weston and take them to the Western Distribution Park at Severnside, but this service is only available to contributing employers. It is notable that this bus service closely parallels the route of the Henbury Loop.

There has been ongoing development around Filton Airfield at Pitchway and YTL who own the site are proposing a total of 2,675 new homes on the existing airfield. This is within one mile of Henbury Station. The case for the Henbury Loop is also revived by the possibility of an arena at the Brabazon Hanger. Such a facility would generate footfall not just on large event days but also a steady trickle throughout the year from conference facilities. The Henbury Loop would connect the Brabazon to the proposed Park and Ride at Portway station which is just off the M5 and therefore much more accessible than the proposed Park and Ride location on the A38.

3.4.3 The case for Thornbury

The case for Thornbury has been made in detail in the JSP response in January 2019 and included here as an appendix.

To this we would like to add the 2011 census data.

The population of Thornbury is 11,919. It currently has no railway station, though the freight line to Tytherington Quarry has been cleared and brought back into use by freight in November 2018. Datashine figures show that 717 of the Thornbury census respondents said they drove to work in Bristol. In addition 484 residents were driving to the Abbey Wood area and 149 were driving to Severnside.

The Joint Spatial Plan Emerging Findings Transport Topic Paper 22 November 2018 reported that this was “too challenging to deliver; no practical routing into Thornbury; Grovesend tunnel in unknown condition; capacity constraints at Westerleigh Junction”. FOSBR assumes that the low priority given to a Thornbury rail service in JLTP4 arises from this recommendation.

We refer the reader to our consultation submission to the JSP “Emerging findings” consultation in January 2019, which is included as an appendix in this submission.

As delivering a rail station in Thornbury is a long-term prospect, we would commend the use of Pilning station as an interim Park and Ride due to the nearness of Pilning station to Thornbury. Although the roads are rural there are few intervening villages. We have accordingly added the calculated footfall from Thornbury to the case for Pilning.
3.4.4 The case for Coalpit Heath

The population in the Winterbourne, Frampton Cotrell Coalpit Heath triangle is 20,000. The WECA JSP includes a development in Coalpit Heath of 1,800 new homes.

FOSBR visits to the area have shown there is considerable support for a station at Coalpit Heath amongst people living there. It could link with buses to and from Emersons Green, giving residents and workers at the Science Park a link to the railway. There is room there for a Park and Ride, and there are several roads that would link both to Emerson’s Green and north to Winterbourne and Frampton Cotterell. The difficulty of existing rail congestion on the main line between Westerleigh Junction and Bristol Parkway could be eased by recreating the passing loop that existed at the old station, for which there is still ample room. This would enable more local services to Yate and Gloucester in the future (in addition to the MetroWest services) as well as the proposed extra services to Gloucester.

The estimated ORR footfall for a station at Coalpit Heath is 6,587 (Appendix A).

3.5 Other rail improvements

3.5.1 The case for improvements to Nailsea and Backwell

FOSBR supports the proposed development of Nailsea and Backwell station including the addition of stopping Cross Country services, ramps on both sides, better waiting facilities and a bus stop for a minibus shuttle to the airport. We would also request reinstating some, or all, of the A2 bus route as currently there is no public transport connecting Nailsea and Backwell station to the airport. We suggest this could be an electric minibus which could therefore use the back roads in Backwell and not therefore be impacted (or impact on) the present congestion at Backwell crossroads.
4. Summary of FOSBR proposals

Our original formulation of the FOSBR Rail Plan 2018 campaign postcard set out a three-tier approach: the first directed at GWR for improving existing train services, the second directed at Network Rail to deliver infrastructure improvements to unlock capacity, and the third directed at WECA to urge for an ambitious programme of station reopenings. This continues to be the strategic structure of our proposal.

Suggested priority order for new station proposals (WECA and FOSBR)

The precise priority order is not easy to determine, but we would commend as an initial indication two sources of data: firstly the Rail Map survey we carried out in 2016 which gives a ranking based on votes, in which Ashton Gate gained the highest number of votes, and a second, presented here, based on a new study carried out for this consultation submission detailed in Appendix A, being a combination of Census 2011 data and ORR data which attempts to estimate the ORR footfall from new stations as set out in Appendix A.
Figure: Order of FOSBR 2016 proposals from votes in FOSBR Rail Map survey 2016
Figure: Final priority order from Appendix A: estimates of ORR footfall by correlating Census 2011 with existing station ORR footfall.

This is using the result in Appendix A that there are approximately 6.5% less car drivers when a rail station is available (outside urban Bristol) than when there is no available rail station.

The resulting estimate of car drivers using a new train station is converted to an ORR footfall using the equivalent total number of car drivers near existing rail stations.

Clearly this is a very approximate figure and the readers of this report are invited to carry out their own calculations.

It can be seen that the case for Pilning is very much bolstered if the station site continues to be accessible to Thornbury. We have anecdotal evidence that many Thornbury parents drive their children to Severn Beach to take the train to school; clearly commuters from Thornbury to Bristol would welcome a similar service from Pilning.

Another estimate from Severnside employment figures and TravelWest survey data, combined with the formula developed in Appendix A, gives a figure of 86 passengers using Pilning from Wales each day, or 27,090 annually. The reality will probably lie between the two.

The point is also made in the Appendix A that due to the greater distance of Pilning from Temple Meads and Newport compared to other more suburban stations, the reduction of NO2 in particular of these 86 passengers is disproportionate, being equivalent to around 182 urban freight consolidation centres (UFCC) the size of the one currently operating from Avonmouth and serving Bristol and Bath.
Appendix A: The case for S Glos rail improvements: estimates of relative footfall from 2011 Census and ORR data 2011-2018

Author: Christina Biggs, FOSBR

Datashine data collated by Carol Durrant and Christopher Orlik and ORR data collated by Terry Miller.

Task 1: deduce a pattern for existing stations to predict ORR footfall.

The Census data for nodes in the vicinity of a variety existing rail stations was compared with ORR footfall data for both 2011 and 2018. An annualisation factor of 315 was used, as for the Severn Beach Line passenger count.

<table>
<thead>
<tr>
<th></th>
<th>Datashine</th>
<th>ORR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Car = 5142</td>
<td>ORR 2018</td>
</tr>
<tr>
<td></td>
<td>Percentage car = 72.74%</td>
<td>385,182</td>
</tr>
<tr>
<td>Growth factor ORR</td>
<td>ORR 2011/12</td>
<td>294,952</td>
</tr>
<tr>
<td></td>
<td>1.31</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Train = 33</td>
<td>Datashine train x annualisation of 315</td>
</tr>
<tr>
<td></td>
<td>Percentage train = 0.47%</td>
<td>10,395</td>
</tr>
<tr>
<td></td>
<td>Yate 5142</td>
<td></td>
</tr>
<tr>
<td></td>
<td>72.74%</td>
<td>Yate 385,182</td>
</tr>
</tbody>
</table>

The data shows a growth factor of 1.31 for ORR footfall from 2011 to 2018. The Census data indicates a car usage percentage of 72.74% in the vicinity of the stations. The annualisation factor of 315 was used to adjust the data for the previous year's footfall. The key takeaway is the increase in footfall from 2011 to 2018, with a significant rise in usage for the Yate station.
<table>
<thead>
<tr>
<th>Area</th>
<th>Percentage</th>
<th>Value</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clifton/Redland</td>
<td>46.07%</td>
<td>764,192</td>
<td>109,620</td>
</tr>
<tr>
<td>Seaview/Cribbs</td>
<td>77.00%</td>
<td>310,818</td>
<td>141,714</td>
</tr>
<tr>
<td>Avonmouth/LW</td>
<td>83.62%</td>
<td>144,110</td>
<td>88,642</td>
</tr>
<tr>
<td>FAW/UWE</td>
<td>71.36%</td>
<td>1,047,756</td>
<td>771,364</td>
</tr>
<tr>
<td>Sea Mills/Stoke Bishop</td>
<td>70.01%</td>
<td>62,162</td>
<td>51,998</td>
</tr>
<tr>
<td>Barton Hill/Lawrence Hill</td>
<td>73.07%</td>
<td>170,084</td>
<td>102,960</td>
</tr>
<tr>
<td>Bradley Stoke/Stoke Gifford</td>
<td>78.01%</td>
<td>2,324,808</td>
<td>2,254,430</td>
</tr>
<tr>
<td>Brislington</td>
<td>74.73%</td>
<td>145,608</td>
<td>11,025</td>
</tr>
<tr>
<td>Bristol Central</td>
<td>39.06%</td>
<td>11,336,806</td>
<td>8,874,542</td>
</tr>
</tbody>
</table>
This led to the observations that

a) the Datashine train commuter data (in blue) badly underestimates the known ORR footfall, probably due to the low numbers of census respondents and due to single figures of those stating that they use the train. This means that the Datashine train data is unreliable.

b) Where there is a train station in a settlement, there is a reduction in an average of 6.4% of the car commuters compared to settlements that have no trains. This is a depressing statistic, and works best for settlements outside urban Bristol; the reverse appeared to be true for suburban stations! This is an argument for providing out-of-town stations as a higher priority over more suburban stations.

c) The number of daily car commutes in the Census 2011 data can be related to the ORR footfall in 2018 by an average multiplying factor of 59 which takes account of both the response rate, footfall from surrounding areas and the year growth in ORR footfall from 2011/12 to 2017/18.

This provides a way of estimating footfall for new stations compared with existing ones, starting from the Census 2011 car commute data.

Task 2: Use above ORR and Census data for existing stations to generate estimates of ORR footfall for new stations, for an indication of relative priority

An estimate of ORR-equivalent train footfall for a new station was made from the number of car commuters, by multiplying the Datashine car commuters by 6.4% and then by an overall conversion factor from Datashine car to 2018 ORR footfall, by multiplying by 59.

This is compared to the number of commuters who state they use the train even for a settlement with no convenient rail station (presumably by travelling to a distant rail station by car) who would presumably also use a nearer station. Although arguably this would reduce footfall for the existing stations, it would improve overall journey time and reduce carbon and nitrogen dioxide emissions due to the shorter car journey.

We here present the Datashine data for each location, multiplying the train user data from the Census 2011 data by the annualisation factor, and applying the formula above to the car user data to generate an estimate of equivalent ORR footfall in 2018:

<table>
<thead>
<tr>
<th>Location</th>
<th>From train census data x 315 annualisation</th>
<th>Estimate of ORR footfall from 6.4% decrease in car users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thornbury</td>
<td>4106</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td>5244</td>
<td>19</td>
</tr>
<tr>
<td>Thornbury</td>
<td>78.30%</td>
<td>0.36%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>5,985</td>
</tr>
<tr>
<td>Thornbury</td>
<td>Estimate of ORR footfall</td>
<td>15,747</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>21,732</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>Estimate of ORR footfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Westbury-on-Trym</td>
<td></td>
</tr>
<tr>
<td>Henbury</td>
<td></td>
</tr>
<tr>
<td>Henbury East</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Percentage</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Henbury</td>
<td>68.28%</td>
</tr>
<tr>
<td>Henbury East</td>
<td>69.17%</td>
</tr>
<tr>
<td></td>
<td>0.00%</td>
</tr>
<tr>
<td>Total Henbury</td>
<td></td>
</tr>
<tr>
<td>Filton/Southmead</td>
<td>73.66%</td>
</tr>
<tr>
<td>N Filton</td>
<td></td>
</tr>
<tr>
<td>Coalpit Heath</td>
<td>78.08%</td>
</tr>
<tr>
<td>Total Coalpit Heath</td>
<td></td>
</tr>
<tr>
<td>Horfield/Southmead</td>
<td>69.09%</td>
</tr>
<tr>
<td>Horfield station</td>
<td></td>
</tr>
<tr>
<td>Lockleaze</td>
<td>66.27%</td>
</tr>
<tr>
<td>Total Horfield</td>
<td></td>
</tr>
<tr>
<td>Patchway</td>
<td>78.36%</td>
</tr>
<tr>
<td>Patchway</td>
<td></td>
</tr>
<tr>
<td>Ashley</td>
<td>52.46%</td>
</tr>
<tr>
<td>Ashley/Horfield</td>
<td>65.62%</td>
</tr>
<tr>
<td>Ashley Hill/Horfield</td>
<td></td>
</tr>
<tr>
<td>Pilning</td>
<td></td>
</tr>
<tr>
<td>Added to</td>
<td></td>
</tr>
</tbody>
</table>
Note: Pilning has had to be calculated in a different way, by finding the number of people commuting from Wales to Severnside by car, as these people would not be able to take the train, unlike those commuting from Severnside to Temple Meads. This number is 216 people stating in the census survey that they drive by car from South Wales to Pilning. The number from the TravelWest survey is 335; this is for employees living in S Wales who work in S Glos. Applying the same formula to this Datashine data generates the estimate of an ORR footfall of 1,300 from Wales commuters to Pilning, and 16,000 from people driving from Thornbury to a Pilning Park and Ride: a total of 17,012 for Pilning as a regional Park and Ride.

Similarly, the Henbury Loop would serve specifically people travelling from N Filton to Severnside. The figure from Datashine of stated car commuters was 1,631 people. Using the conversion factors above this comes to 6,300 for an annual footfall increase for Henbury and Severnside stations from introducing the Henbury Loop as a connection between the two.

Thus in rough priority order are:

<table>
<thead>
<tr>
<th>Table A</th>
<th>Estimate of ORR footfall from 6.4% decrease in existing car users plus remote train station users</th>
</tr>
</thead>
<tbody>
<tr>
<td>N Filton</td>
<td>45,444</td>
</tr>
<tr>
<td>Patchway</td>
<td>41,938</td>
</tr>
<tr>
<td>Horfield</td>
<td>23,835</td>
</tr>
<tr>
<td>Pilning with Thornbury using P&amp;R</td>
<td>22,997</td>
</tr>
<tr>
<td>Ashley Hill</td>
<td>22,703</td>
</tr>
<tr>
<td>Thornbury Line alone (before proposed new housing)</td>
<td>21,732</td>
</tr>
<tr>
<td>Henbury</td>
<td>19,279</td>
</tr>
<tr>
<td>Coalpit Heath</td>
<td>6,587</td>
</tr>
<tr>
<td>Henbury Loop</td>
<td>6,254</td>
</tr>
<tr>
<td>Pilning from Wales alone</td>
<td>1,265</td>
</tr>
</tbody>
</table>
The chart below represents the data in Table A and is reproduced in the text of this report:

---

**TravelWest travel to work survey – another estimate for Pilning**

In 2018, 335 respondents to the TravelWest survey working in S Glos lived in Wales, mostly from the Newport area. This was from a total of 5,923 responses – so 5.7% of the S Glos workers lived in Wales.

According to the Employment figures provided by Andrew Short, in 2015, between 18,500 and 23,200 commuted to and from the Severnside commuting parks. Assuming the same percentage of Wales-based commuters from the TravelWest survey, this is a total of 1,322 Wales-based employees in Severnside. If even 6.5% of these use Pilning Station if it is made available, this would be 86 people using Pilning station each day.

**Impact on air quality – a different metric**

In air quality terms the picture is changed by the relative impact of the longer journey from Pilning into Bristol compared to suburban train stations.

David Williams in his attached Cost-Benefit Analysis for Pilning, which is a 21 minute journey into Temple Meads, similar to the journey from Pilning to Newport, calculates that 40 daily passengers from Pilning would represent a saving of 1,324,224 kg of CO2 and 7,260 kg of NO2 a year.
Thus the 86 people using Pilning as estimated by Andrew Short would save 2,847,091 kg of CO2 and 15,609 kg of NO2 each year.

For comparison, the Urban freight consolidation centre at Avonmouth has been evaluated by Daniela Paddeu at UWE in 2014 to save 28,677 kg of CO2 and 122.29 kg NOx over the 17 months of operation, being 20,242 kg of CO2 and 86 kg of NOx per year.

A simple footbridge for the existing rail station at Pilning, put at the strategic gateway location of Pilning for an initial outlay of £2.2 million, would therefore represent an impact of 99 freight consolidation centres on CO2 and 182 freight consolidation centres on NO2.

The map below shows how an initial cycle path from Pilning to the M49 junction could provide a way for workers to commute by cycle and train while the details of a road link are worked out.

We also note that a variety of locations could be considered for Pilning station once a regular stopping service has been reinstated at the original site.
Appendix C  FOSBR Response to West of England Joint Spatial Plan January 2019

Technical Evidence Consultation

7th January 2019

Summary:

FOSBR continues to support transport-focused development because it is clear that this results in fewer additional journeys and in particular fewer by private vehicle. Whilst we support the principle of “Urban Living” development in the urban areas of Bristol, Bath and Weston-super-Mare, we do not believe that many of the chosen Strategic Development Locations (SDLs) are appropriate because they are not in locations where development and transport modes are sustainable. We believe that the Inspector is right to question whether alternative locations would have been more effective in meeting the stated aims of the spatial plan. The poor choices of SDLs have resulted in poor transport proposals.

In the original draft Joint Spatial Plan and accompanying Joint Transport Study it was noted that some locations would improve the prospects for specific transport schemes to be developed. We note that the proposals have changed little since then. We believe that this ‘backwards’ way of choosing schemes based on an existing preference for specific road projects has continued, hidden behind the language of transport planning guidance and with alternative sustainable schemes written off or not considered.

This determination on the part of local authorities to progress some long-standing and previously rejected road schemes (such as Whitchurch bypass, previously promoted in 2006-7 as part of the South Bristol Ring Road), together with the choice of less sustainable SDLs such as Churchill, Backwell and Banwell, and Buckover, has inevitably led to the choice of an almost exclusively road-based transport plan.

While FOSBR supports the stated aims of the Joint Spatial Plan (JSP) and its associated transport schemes, we do not believe that these are being followed. We agree that travel options in the West of England are often poor, and agree that the JSP is an opportunity to change this. However, despite its stated aims, with which we agree, there is no evidence that these aims are being followed, in particular the claim that effective public and sustainable transport measures will be instituted before changes to the highways network, since the former are limited in scope.
The number and value of walking, cycling and public transport schemes is small in comparison to proposed new roads and many of them are associated with highway improvements and/or part of new road schemes, such as at Churchill. It is also noted that the schemes due to be implemented first are road projects and not those likely to minimise use of private cars.

As we note below, we do not believe that the stated objectives, principles and national planning requirements have been met, nor that the stated transport approach (Section 3.3.1) has been followed, in that key challenges and impacts have not been sufficiently addressed. Therefore we reiterate our previous view that the whole of the JSP is unsound.

**JSP’s stated objectives, principles and requirements:**

FOSBR strongly supports the stated objectives from the JSP, the Joint Transport Study Sept 2017 (JTS) and the draft Joint Local Transport Plan (JLTP4), which are quoted in the Transport Topic Paper. However we do not believe that the very limited proposed transport interventions “carried forward” in the Emerging Findings and Transport Topic paper meets these objectives, due to the overwhelming emphasis on road schemes. We will also be responding in detail to the JLTP4 consultation as despite the inclusion there of many rail schemes, we consider that again, the balance is very much skewed in favour of road and road-based schemes.

The focus on reducing traffic delays rather than reducing traffic or modal shift (Section 2.3), inevitably leads to a set of transport proposals that is focused on building new roads. This is an inappropriate focus in view of the plan’s stated objectives. There should be a focus on the journeys people wish to make rather than the corridors they presently use, as these may bear little relation to the journey. There is no indication that such research has been done.

FOSBR notes the paragraphs from the national policy planning framework cited in the Transport Topic Paper (Section 1.2.1), the terms of which, we would submit, are not met. We note that there is a requirement to: avoid adverse impacts on the economic, social and environmental aspects of sustainable development; submit a plan that is positively prepared, justified, effective and consistent with national policy. As we stated in our previous response to the draft JSP, due to the selection of inappropriate SDLs and resulting unsustainable transport choices we do not believe that the JSP meets these criteria and so the plan is not a sound one. We reiterate that the selection of SDLs does not address the issues as effectively as other sites. Similarly a more effective selection of schemes is available.

Consequently, while we strongly support the key principle outlined in the Transport Topic Paper (section 2.4) that sustainable travel choices should be maximised, it is clear that the limited extent of such proposals means that the Joint Spatial Plan fails to do this. The vast majority of proposals are
new roads. As illustrated in figure 1, road schemes (£925m or 58 per cent) and road schemes that include some walking and cycling provision (£267m or 17 per cent) together make up 75 per cent of the estimated cost.

The reasons for the lack of sustainable travel proposals appear to be a consequence of the focus on delays to road journey times (Section 2.5) rather than traffic levels and the differing approaches for urban and rural areas identified in Section 2.4. We agree that the approach in urban areas should be to reduce traffic, however we strongly disagree that there should be an approach to increase road capacity and enable more journeys by private vehicles in more rural areas, including the SDLs. The Transport Topic Paper states that because it is possible to increase road capacity in more rural areas and not in urban ones, this is what should be done. As well as being misguided, this is counter to the stated objectives of the JLTP, national planning guidance and principles of the spatial plan, as well as the direction of local and national policy in relation to carbon emissions and clean air.

Failure to meet the challenge of poor travel choices:

Section 3 of the Transport Topic Paper identifies a paucity of travel choices available to residents in the West of England and that major interventions are required to reduce reliance on the private car.
However this section then simply identifies reasons why improving choice is challenging before embarking on a long examination of congestion and where road capacity could be improved. This reinforces that the real priority of the Joint Spatial Plan’s transport proposals is not to improve travel options and enable modal shift but to reduce road traffic congestion and increase capacity for the private car. The importance of and potential for improving choices to have a positive impact on modal shift is highlighted by the example of the Severn Beach Line. In spite of service timings that are inconvenient for the majority of shifts and unreliability (particularly since the introduction of new trains in 2017) it is well-used by those working in Severnside. However these challenges and the poor reliability of the Severn Beach line especially in 2017-18, mean that it is mostly temporary workers who use the service and that they end up having to car share or buy their own vehicle once they have become established in a workplace.

**Economic, social and environmental impacts of traffic:**

We strongly agree that traffic levels have significant economic and social impacts. We agree that reducing road congestion will have a positive impact on business. However these impacts cannot be resolved by increasing road capacity and continuing to enable travel by car and promote its convenience, even as car-shares. As well as enabling modal shift of people from the private car, there is a need to promote the movement of freight onto rail, particularly at Severnside by the creation of a freight interchange at Western Approach and the increased use of intercity trains to carry freight.

Many people in areas of deprivation do not have access to a car, and increasing numbers of young people are choosing to not learn to drive. Improvements to bus and rail services, as well as walking and cycling, are therefore required to improve access to employment. We reject the argument that road building will provide positive social impacts for all. These will only result from the provision of public and sustainable transport, not roads.

Use of public transport may often involve walking or cycling and are more likely to have a positive impact on obesity, whereas the use of a car is likely to reinforce a sedentary lifestyle. Additionally, increasing road capacity will do nothing to counter the road safety fears that prevent people, especially children, from walking or cycling, or the poor air quality experienced in the centre of Bristol and Bath.

The argument that greenhouse gas emissions will drop as a result of reducing the overall volume of car travel is plainly untrue. Firstly the Spatial Plan documents repeatedly note an overall increase in car traffic as a result of development. Secondly it is contradictory to state that emissions will fall more in comparison to other development site choices when the same documents acknowledge that the chosen sites will result in more traffic than urban and Green Belt developments. It is also well known that providing increased road capacity will merely increase the volume of traffic, and
conversely that reducing road capacity has the effect of causing people to change their journey to other modes, or to cancel unnecessary journeys.

Air quality improvements are required by government directive in the Bristol and Bath urban area and some hotspots in S Glos, but will be harder to achieve if new roads in more rural areas encourage car use. If Park and Ride facilities are built, ideally Park and Rail for better transit time, these new roads will still increase pollution and impact on air quality in rural areas, particularly around existing transport corridors. Improving public transport in less urban areas, together with walking and cycling, will have a positive impact on air quality.

We believe that to achieve compliance in air quality, measures such as the conversion of bus fleets to lower emission vehicles, including biogas and electric powered buses in urban areas, implementation of a Bristol light rail transit system, completion of the deferred electrification of the Great Western Railway and the use of dual-mode trains that run on electric battery as well as diesel power should be initiated at the earliest opportunity.

The potential role of the local railway as an effective form mass and rapid transit is downplayed or ignored:

Throughout the previous and current Joint Spatial Plan and Transport Study documents, it has been repeatedly stated that rail can only play a limited role. This ignores the current reality as well as the potential. The map here shows the existing and future potential for the regional rail network, showing transit times from Temple Meads.
Section 2.4.1 of the Transport Topic Paper notes that “rail will play an important role for access to urban centres...”, however this fails to recognise that rail already enables travel between suburban areas, not solely to access city centres. Significant numbers of people commute from Bristol to work in Yate and from across the region to Severnside or Clifton, as well as North Somerset towns, Bath...
and central Bristol. Passenger numbers on the outer section of the Severn Beach line have increased faster than those travelling to and from inner city stations. Commuters are getting the train to Avonmouth and Severn Beach and then cycling or walking to their workplaces, in spite of the train times being inconvenient for many shift times and problems with service reliability. (The large numbers of bicycles on some trains is causing difficulties, which points to a requirement for increased cycle capacity). The potential for mass transit to Severnside will substantially increase with the creation of up to 25,000 new jobs in Severnside in the years ahead. In addition rail services allow easy travel across the regional and urban area, which is usually quicker than by private car and bus, the latter often being a wholly impractical or absent alternative.

Section 3.2 of the Transport Topic Paper considers that bus use in Bristol rose “significantly” between 2010/11 and 2015/16, in contrast to train travel being “modest...” while it “…has grown in recent years”. This is disingenous: passenger numbers at West of England stations have doubled or tripled in the period 1997/98 to 2016/17. Passenger numbers at local stations compare well with those at stations with much better services in other core cities. For example Clifton Down has three trains every two hours, compared to Bromsgrove’s three trains per hour. In 2016/7 stations in the West of England carried 27 million people.

The statistic that only two per cent of commuters living in Bristol commute by rail is a misleading one, as is the statement that rail plays “a relatively small role”. This ignores the fact that the travel to work area extends to South Wales, Wiltshire and Gloucestershire as well as the West of England authorities. Network Rail notes that there are already capacity problems on services and these require action. It also ignores the fact that existing services are often insufficiently regular and poorly timed, and that when improvements have been made passenger numbers have increased dramatically at all stations throughout the region. But the answer is not to ignore rail, but to increase capacity on the rail network by implementing rail infrastructure projects such as the remodeling of Bristol East Junction and Westerleigh Junctions, double-tracking on the Severn Beach Line and expediting moving-block signaling to enable trains to run closer behind other trains at the same speed.

As will be explored below, the potential for rail to mitigate against the impact of development has been ignored.

**Timing of proposals:**

Although we strongly disagree with the nature of the transport proposals, we note that the sustainable transport schemes are largely anticipated to be in the early part of the programme, which we would welcome. We emphasise the importance of any road schemes being delivered only after more sustainable schemes are in place.
Transport Analysis:

We do not consider that the approach identified in Section 3.3.1 of the Transport Topic Paper has been followed. This is because the challenges have not been properly considered: improving travel choices; maximising public and sustainable transport before looking at changes to the highway network; economic, social and environmental impacts. We believe this is largely a result of the non-optimal and less sustainable choices of SDLs, but we also perceive a determination to progress long-promoted schemes and that this is an opportunity to do so.

There is a lack of clarity in Section 3.3.4 of the Transport Topic Paper. It is assumed that Table 3.5 shows new car journeys. There is no comparison with SDLs that were not chosen nor any indication of estimated journeys by public transport. Suggestions are that they are minimal, despite the stated intention to focus on sustainable interventions before highways solutions.

We note that Section 3.3.4 states that the SDLs “will generate concentrated travel demands, which will require sustainable travel choices and effective mitigation of the impacts on the road network.” It is apparent from the list of proposals that the emphasis is on the latter.

We strongly disagree that the transport proposals are “a proportionate response to the future challenges” - there is a disproportionate emphasis on road schemes due to the poor choice of sites, which the plan shows would not be required if alternative sites with better existing urban links or public transport had been chosen.

If the already hugely expensive road schemes prove more costly than anticipated – as has happened with MetroBus and MetroWest, this is likely to prevent more sustainable schemes from progressing.

Choice of Strategic Development Locations (SDLs):

Despite making up 40 per cent of housing, SDLs account for 57 per cent of the expected growth in travel. The Transport Topic Paper notes that this is expected for developments outside urban areas.

As indicated throughout the documents associated with the Spatial Plan, a choice has been taken to develop sites that are known to be less sustainable by choosing to avoid housing development in the Green Belt.
We note that the inspector has asked for clarity about whether the choice of development sites is the optimum available and whether they meet the criteria. We would argue that they do not, and having been chosen, the transport solutions offered do not meet the objectives of the JLTP or follow the stated transport analysis approach.

Specific rail schemes

It is extremely disappointing that the potential for rail to mitigate against the impact of development has been ignored, including the development of rail-bus interchanges and Park and Rail to enable convenient travel by public transport. Many of these are simple and cheap measures, such as signs at stations and bus stops to facilitate passengers changing to other modes.

For this JSP Emerging Findings consultation we have prepared evidence primarily for stations to the north of Bristol, specifically Thornbury and Coalpit Heath and in particular wish to rebut the comments on Thornbury Rail. We will be commenting in more detail on other proposed rail schemes in the JLTP4 consultation closing Sunday 17 February 2019.

Henbury Loop:

We reiterate the importance of the Henbury Loop in providing a link to employment in the North Fringe and Severnside for commuters crossing the city and region and those using the Portway Park and Ride. Such a service would be more convenient than the Severn Beach line and provide public transport across the suburban area where none currently exists.

Nailsea and Backwell:

FOSBR support the proposed development of Nailsea and Backwell station including the addition of stopping Crosscountry services, ramps on both sides, better waiting facilities and a bus stop for a minibus shuttle to the Airport. We would also request reinstating some or all of the A2 bus route as currently there is no public transport connecting Nailsea and Backwell station to the airport.

SDLs south-west of Bristol:

While we would prefer not to see development to the south west of Bristol in the Green Belt, we would be supportive of this provided it is at sites such as the proposed Taylor Wimpey “Vale” development due to the proximity of existing public transport routes and the potential for new ones. For instance we note from Section 11.4 that a proposed Park&Ride at the A38/South Bristol Link road roundabout is expected to be used by commuters from the Churchill and Banwell SDLs. This indicates that insufficient sustainable transport options are being proposed for these SDLs along the
A38 south corridor. Additionally a rail station could be opened where the new South Bristol Link road crosses the rail line, or on Yanley Lane at the old site of Yanley Halt which would be more convenient for Long Ashton residents.

**Coalpit Heath:**

FOSBR visits to the area has shown there is considerable support for a station at Coalpit Heath amongst people living there. It could link with buses to and from Emersons Green, giving residents and workers at the Science Park a link to the railway. It could also resolve the difficulty of rail congestion between Yate and Bristol Parkway by re-creating the passing loop that existed at the old station. This would enable more local services to Yate and Gloucester in the future (in addition to the MetroWest services) as well as the proposed extra services to Birmingham.

**A detailed case for Thornbury in rebuttal of Emerging Findings E08**

FOSBR are disappointed that re-opening the Thornbury rail link to Bristol (using and extending the freight line between Yate and Tytherington) has been discounted as an option being “too challenging to deliver: no practical routing into Thornbury; Grovesend tunnel in unknown condition; capacity constraints at Westerleigh Junction”.

Our arguments in rebuttal of Emerging Findings E08: Transport Topic Paper 22, 24 on Thornbury:

**Thornbury station location and lack of need for Grovesend Tunnel:**

Locating Thornbury station on the Midland Way/Grovesend roundabout removes the issue of routing into Thornbury and the Grovesend rail tunnel, which is currently privately owned and bricked up beyond the A38. A Park and Rail could be constructed at Tytherington Quarry in the interim. Network Rail have cleared the Tytherington line of vegetation as far as its current headshunt just short of the A38, making it visible from the A38 road bridge, and have
been running trial freight services since November 2018.

The road junction on the A38 with Grovesend Rd and the Slad (from Tytherington Quarry) is just adjacent to the rail line and is on level ground. Currently the rail head is located on the south side of the original rail cutting and the Grovesend rail tunnel. If the rail line were diverted to the north to run alongside “The Slad” side road, it would be on level ground and would run to the north of the current A38 road tunnel. It could be taken under the A38 in a new tunnel under the road and then be taken up to ground level and run above ground parallel to the Grovesend Road as far as the roundabout with Midland Way. This is a visually pleasing gateway into the residential part of Thornbury and could be served by a car park in the adjacent field to the SE or NE3.

**Westerleigh Junction**

We concur that improvements are needed for Westerleigh Junction to enable a direct rail service from Thornbury to Temple Meads. Currently there is only level access for services traveling south onto Westerleigh Junction, obliging them to wait for Paddington trains in both directions. This could be done more economically by using the existing Westerleigh Oil Depot line which splits off from the main N-S line at Yate station and passes under the main E-W line to the east of Westerleigh Junction. Reinstatement of the loop at Ram Hill could allow southbound traffic to join and perhaps provide a passing loop. However, changes to Westerleigh Junction is not needed in the short term provided a shuttle service from Thornbury to Yate could be timed to coincide with trains at Yate, or to bolt-on to the MetroWest Phase 2 services from Gloucester.

**Public support**

In 2016, FOSBR carried out a Rail Map survey across the whole of the West of England region. Thornbury was a strong contender, receiving 156 votes from 800 respondents and ranking the sixth most requested station. We understand that when Luke Hall MP surveyed Thornbury residents a rail station was the second most voted-for option after improved health services.

**Transit times compared with bus**

Currently, Thornbury has a bus service T1 and T2, with timetabled journey times from central Bristol of 55 minutes and 1 hr 15 minutes respectively at rush hour.
These are liable to delays from congestion on the M5, M32 and A38. These problems would not be resolved by a MetroBus, which would have similar pinch points. Thornbury Grovesend roundabout to Yate is approximately 10.5km or 6.5 miles. Line speed of 30 mph would give a journey time of 13 minutes and 70 mph line speed would take 5 ½ minutes. A transit time of up to 42 minutes would therefore be possible from Bristol Temple Meads to Thornbury, allowing for a 3 minute stop at Yate. Initially trains from Thornbury could meet or bolt on to MetroWest Phase 2 services at Yate until changes to track layout at Yate station, if required.

**Assessment of Charfield as the JSP-proposed rail station for Thornbury and Buckover village**

While welcome, reopening Charfield station cannot be considered as a suitable transport intervention for Bristol commuters living in the proposed Buckover Village development. Charfield is well to the north-east of Thornbury so Bristol commuters would be required to drive north to travel south. Pilning as a Park&Ride would offer greater opportunities for South Gloucestershire commuters. Many Thornbury parents drive their children to Severn Beach to get the train to school and the 2011 census data below show that the overwhelming number of car commuters from Thornbury commute south. For scale, Charfield is just visible in the top right-hand corner of the map. It is therefore likely that the severe air quality problem at the base of the M32 could be primarily due to car commuters from Thornbury who are not tempted by the 1 hr 15min+ bus commute and therefore be even less tempted by a rail station at Charfield.

*JSP Technical Evidence Consultation response compiled by*

*Carol Durrant, Rob Dixon and Christina Biggs*

*Friends of Suburban Bristol Railways*

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