



Report to the Secretary of State for Transport and the Secretary of State for Communities and Local Government

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an Inspector appointed by the Secretary of State for Transport and the
Secretary of State for Communities and Local Government

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TRANSPORT AND WORKS ACT 1992

TOWN AND COUNTRY PLANNING ACT 1990

PLANNING (LISTED BUILDINGS AND CONSERVATION AREAS) ACT 1990

ACQUISITION OF LAND ACT 1981

ASHTON VALE TO TEMPLE MEADS AND BRISTOL CITY CENTRE

RAPID TRANSIT ORDER 201[]

APPLICATION FOR DEEMED PLANNING PERMISSION

APPLICATIONS FOR LISTED BUILDING

AND CONSERVATION AREA CONSENT

APPLICATION FOR EXCHANGE LAND CERTIFICATE

Inquiry opened: 22 May 2012

Ref: DPI/Z0116/11/24

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GLOSSARY

AAB	Ashton Avenue Bridge
ALA	Acquisition of Land Act
AOD	Above Ordnance Datum
AQMA	Air Quality Management Area
AVTM	Ashton Vale to Temple Meads
BAFFB	Best and Final Funding Bid
BCC	Bristol City Council
BCFC	Bristol City Football Club
BCR	Benefit to Cost Ratio
BCS	Bristol Civic Society
BHR	Bristol Harbour Railway
BRBRL	British Railways Board (Residuary) Limited
BRT	Bus Rapid Transit
CA	Conservation Area
CAAP	Central Area Action Plan
CABE	Commission for Architecture and the Built Environment
CAC	Conservation Area Consent
CCTV	Closed Circuit Television
CEMP	Construction Environmental Management Plan
CGB	Cambridge Guided Busway
CIL	Community Infrastructure Levy
CO ₂	Carbon dioxide
CoCP	Code of Construction Practice
CPO	Compulsory Purchase Order
CS	Core Strategy
DAS	Design and Access Statement
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
EA	Environment Agency
EH	English Heritage
EMLP	Ecological and Landscape Management Plan
ES	Environmental Statement
EZ	Enterprise zone
FrANC	Friends of Avon New Cut
GBBN	Greater Bristol Bus Network

GBSTS	Greater Bristol Strategic Transport Study
ha	Hectares
HGV	Heavy Goods Vehicle
JLTP	Joint Local Transport Plan
km	Kilometres
LAPC	Long Ashton Parish Council
LBC	Listed Building Consent
LRT	Light Rapid Transit
LTP	Local Transport Plan
m	Metres
MfS2	Manual for Streets 2
mm	Millimetres
mppa	Million passengers per annum
MSBC	Major Scheme Business Case
NE	Natural England
NR	Network Rail
NS	North Somerset
NSC	North Somerset Council
P & R	Park and Ride
pa	Per annum
PFI	Private Finance Initiative
PROW	Public Rights of Way
PSB	Prince Street Bridge
QPS	Quality Partnership Scheme
RPS	Residential Parking Scheme
RTPI	Real Time Passenger Information
Re-x	Re-examination
SBL	South Bristol Link
SBR	Supplementary Business Rate
SDG	Steer Davies Gleave
SERA	South West Transport Group
SNCI	Site of Nature Conservation Interest
SRO	Senior Responsible Owner
SSSI	Site of Special Scientific Interest
SUSTRACO	The Sustainable Transport Company
SWOT	Strengths Weaknesses Opportunities Threats

SWTN	South West Transport Network
TfGBA	Transport for Greater Bristol Alliance
TRO	Traffic Regulation Order
TUBA	Transport User Benefits Appraisal
TVG	Town and Village Green
TWA	Transport and Works Act 1992
ULR	Ultra Light Rail
VIG	Visual Identity Guidelines
WEP	West of England Partnership
WHO	World Health Organisation
WPL	Workplace Parking Levy
xx	Cross examination

CASE DETAILS

- This draft Order which is known as The Ashton Vale to Temple Meads and Bristol City Centre Rapid Transit Order 2011[] would be made under Sections 1 and 3 of the Transport and Works Act 1992 (TWA).
- In connection with the application, a direction is also being sought for deemed planning permission under Section 90(2A) of the Town and Country Planning Act 1990.
- Two applications for listed building consent and two applications for conservation area consent are made under Section 10 of the Planning (Listed Buildings and Conservation Areas) Act 1990.¹
- An application is made for a certificate under Section 19(1)(a) of the Acquisition of Land Act 1981 with respect to the proposed use of open space land and the land proposed to be given in exchange.
- The applications for the Order and for deemed planning permission were made on 10 June 2010. The applications for the listed building and conservation area consents were made on 16 June 2011. The application for an Exchange Land Certificate was made on 23 July 2010.
- The Order if made and the applications if granted would authorise and enable the Promoters (Bristol City Council and North Somerset Council) to construct and operate a guided busway system between the Long Ashton Park and Ride site and Prince Street Bridge and the associated realignment of the Bristol Harbour Railway and ancillary matters. The Order would also permit the promoter to acquire land and rights in land for the purposes of the scheme.

Summary of Recommendations:

The draft Order be made with modifications;

Deemed planning permission, listed building consent and conservation area consent be granted subject to conditions;

The Section 19 Certificate with respect to open space land be approved.

1 PREAMBLE

1.1 I have been appointed pursuant to Section 11 of the Transport and Works Act 1992 (TWA) and Section 13(2) of the Planning (Listed Building and Conservation Areas) Act 1990 to hold concurrent public inquiries into the above draft Order and Applications, and to report to the Secretary of State for Transport and the Secretary of State for Communities and Local Government. For ease of

¹ Applications were originally made for three listed building consents and three conservation area consents. One of the applications for listed building consent and one of the applications for conservation area consent have been withdrawn. This is more fully described in Section 2 of this report.

reference, I propose hereinafter to refer to the concurrent public inquiries as “the Inquiry”.

1.2 Inspector Brendan Lyons was appointed to assist me in consideration of matters relating to the Listed Building Consent and Conservation Area Consent applications. He has contributed to those aspects of this report which deal with these matters.

1.3 The Ashton Vale to Temple Meads and Bristol City Centre scheme aims to provide a high quality, bus based, public transport route linking the Long Ashton Park and Ride (P&R) site to the south west of the City with the central area of Bristol. Buses, suitably adapted, would run partly within concrete guideways, partly on unguided sections of new route and partly on existing highways. The draft Order relates to the section of the proposed route between the Long Ashton P&R site and Prince Street Bridge (PSB). The Inquiry however considered the whole of the route, which includes the proposed loop around the City Centre, as the predicted benefits of the Order proposals are dependent upon the whole scheme being implemented. For simplicity in this report, I refer to the whole project as the Ashton Vale to Temple Meads (AVTM) scheme.

1.4 I held a pre-Inquiry meeting on Wednesday 29 February 2012 at Armada House, Telephone Avenue, Bristol BS1 4BQ. The administration and programming of the Inquiry were dealt with by the independent Programme Officer, Mr Graham Groom.

1.5 A website was set up for the Inquiry to assist the parties in accessing Inquiry documents and the programme of appearances.²

1.6 The Inquiry was also held at Armada House and was opened on 22 May 2012. It sat for 21 days, closing on Wednesday 4 July 2012.

1.7 During the period of the Inquiry, I made accompanied site visits on 25 June, 2 July and 3 July. The visit on 25 June was made by bicycle to consider, in particular, those aspects of the scheme which relate to cycling interests. On 2 July the visit involved walking the route of the proposed City Centre section of the scheme. On the final accompanied visit on 3 July I walked the whole of the Order route from the Long Ashton P & R site to PSB meeting with interested parties at various points along the way. On Friday 18 May, prior to the opening of the Inquiry, I visited the Cambridge guided busway on an unaccompanied basis.

1.8 I also visited various locations along the proposed route of the busway on numerous occasions on an unaccompanied basis both prior to and during the Inquiry. These included visits during the week both at peak and off peak times of the day and on one occasion at the weekend. I walked and cycled all the publicly accessible parts of the route and made trips on the existing 903 P & R service both to and from the City Centre. On Saturday 2 June I travelled on the Bristol Harbour Railway (BHR) between the M Shed and the Create Centre.

1.9 A total of 210 objections and three representations were lodged to the draft TWA Order including late objections and some duplicates. The Promoters

² www.persona.uk.com/ashton/index.htm

identified 25 statutory Objectors and 185 non statutory Objectors. 18 of the objections were withdrawn prior to the closing of the Inquiry.³ In addition, there were 43 objections to the Conservation Area and Listed Building Consent applications and 4 to the section 19 application in relation to loss of open space land. Some 45 Objectors appeared at the Inquiry either as representatives of groups or as individuals. The Promoters called 16 witnesses in support of their case.

1.10 The main grounds for objection relate to the lack of justification for the scheme in terms of its transport benefits and value for money, the preference for alternatives, the impact on the environment, pedestrians, cyclists, nearby residents and on areas of conservation interest, notably the City Docks Conservation Area.

1.11 A Statement of Matters about which the Secretaries of State particularly wish to be informed was issued by the Department for Transport's (DfT) TWA Orders Unit on 16 February 2012.⁴

1.12 The application was accompanied by an Environmental Statement (ES) (CD/A12-A13).

1.13 The Promoters confirmed that all the statutory formalities had been complied with.⁵

1.14 This report contains a brief description of the route of the scheme and its surroundings, a note of procedural matters, the gist of the cases presented and my conclusions and recommendations. Those conclusions are structured around the Statement of Matters. Lists of Inquiry appearances, documents and draft planning conditions are attached as Appendices.

2 PROCEDURAL MATTERS

2.1 The application for Listed Building Consent for proposed works to Vauxhall Bridge was withdrawn prior to the Inquiry as works to the bridge are no longer proposed.

2.2 Amendments were submitted prior to the Inquiry to the Listed Building Consent application for Ashton Avenue Bridge.⁶ More detail is provided at paragraphs 7.36.2 to 7.36.3 in this report.

2.3 The application for Conservation Area Consent for demolition of the Green Shed east of A Bond Warehouse was withdrawn prior to the Inquiry.

2.4 The TWA Order relates to the corridor section of the route between the Long Ashton P & R site and PSB. The proposed improvements to bus priority and infrastructure within the City Centre form part of the overall project but would be pursued using Bristol City Council's existing powers as local highway authority.

³ The statistics relating to objections including withdrawal letters are given in OA/271

⁴ INQ/4

⁵ OA/270 Confirmation of Compliance with Statutory Procedures

⁶ Various referred to in evidence as Ashton Vale Swing Bridge and Ashton Avenue Swing Bridge but referred to in this report as Ashton Avenue Bridge

2.5 The draft TWA Order proposes alternative routes for the scheme at Ashton Fields as a result of uncertainty associated with the possible relocation of Bristol City Football Club Stadium for which planning permission has been granted. For details see section 4.17 of this report.

3 DESCRIPTION OF THE SCHEME AND ITS SURROUNDINGS

For an outline of the overall route see plan on page 3 of ES Non-Technical Summary (A13)

For more detailed plans see Fact Sheet 1: Revised Plans for Information (AM/1) and Fact Sheet 2: Revised City Centre Design Plans for Information (AM/2).

For a fuller description of the route see Section 4 of OA/4

3.1 The scheme is divided into two parts. The 'corridor' section runs between the Long Ashton P & R site to the south-west of the City Centre and PSB in central Bristol. This section is approximately four kilometres (km) long and is the part of the scheme covered by the TWA Order. To the north of PSB the scheme would continue via an anti-clockwise loop around the City Centre.

3.2 From the proposed new terminus at the P & R site the route crosses open grassland at Ashton Fields. An area, approximately 2.7 hectares (ha) in size, to the west of the P & R site is proposed as exchange land for the open space that would be lost.

3.3 There are two options for the route across Ashton Fields. One skirts to the south of the site of a proposed new stadium for Bristol City Football Club (BCFC) and is referred to as Work 1A on the Order plans.⁷ The other takes a more direct route across Ashton Fields to the proposed stop on the edge of the Ashton Vale residential area. This route is defined by Work 1B on the Order plans.

3.4 The busway across Ashton Fields would consist of two parallel pre-formed concrete guideways separated by a narrow central reservation with a three metre (m) wide maintenance track alongside.⁸ The maintenance track would be made available for use by pedestrians and cyclists on a permissive basis. Buses using the route would need to be fitted with small horizontal guidance wheels.

3.5 From the Ashton Vale stop, the route continues eastwards through a former allotment site and then along the Portbury Freight Railway line corridor adjacent to the Ashton Vale Road trading estate before crossing the railway and access road to the trading estate via a new bridge. The multi-span bridge would cross the Portbury Freight line between Barons Close and Ashton Vale Road. The span of the bridge has been designed such that the current single track freight line could be doubled to enable passenger services to be reintroduced on this line as part of the Portishead Rail Corridor project.

3.6 The bridge section of the route does not include a maintenance track. Pedestrians and cyclists would cross the Portbury Freight Line at the existing

⁷ There are also two different scenarios for this route option included in the TWA Order. Scenario I assumes the BCFC Stadium would be built before the Scheme. Scenario II assumes the BCFC Stadium would be built after the Scheme. Scenario III assumes the Stadium is not built and the route takes the more direct alignment described under Work 1B. The Promoters state that the inclusion of three scenarios would allow the AVTM project to progress regardless of the outcome of the BCFC development which was granted planning permission in April 2011.

⁸ Parts of the overall route would be unguided eg on bends, in the Harbourside area and on Cumberland Road for outbound vehicles.

crossing linking into Barons Close and re-join the maintenance track north of Brunel Way or, under the with-stadium scenarios, use the proposed new footbridge over the railway line to be constructed by BCFC as part of its development.

3.7 The route continues along the former Bower Ashton railway corridor passing beneath Ashton Road and Brunel Way and close to the new Meridian housing development on its eastern side. It then runs in a north easterly direction through a landscaped area known as 'Sylvia Crowe Park' passing under the Green Footbridge to AAB.

3.8 AAB is a Grade II listed structure over the River Avon New Cut and would be refurbished as part of the scheme. Use of the structure would be divided between the guided busway, operated on a signal controlled one-way basis, and a 3.5 m cycle and pedestrian track. Listed Building Consent is sought for these works.

3.9 North of the AAB bridge, the busway would pass the Grade II listed A Bond Warehouse (now housing the Create centre) and through Butterfly Junction where it would displace the current terminus of the BHR. Butterfly Junction is an area of former industrial land managed by the local community for wildlife benefit and is home to many species of butterflies. The route then skirts around the northern side of the Grade II listed A Bond warehouse. Immediately to the north of this building, the scheme includes the re-opening of the underpass beneath Smeaton Road/Cumberland Road for use by pedestrians and cyclists.

3.10 From the Avon Crescent junction with Cumberland Road to the Cumberland Road skew bridge to the east, the inbound busway would share the alignment with the BHR. The tracks for the BHR would be removed and re-laid within the concrete guideway to allow steam train services to continue on Sundays during the summer months. Outbound vehicles would run on a new bus lane along Cumberland Road accessed at the eastern end via a ramp up from the BHR/busway route as it emerges from the Cumberland Road under bridge. On the occasions when the railway is in use, predominantly summer Sundays, inbound buses would also use the Cumberland Road carriageway via Wapping Road to PSB.

3.11 Cumberland Road is a single carriageway with residential and light industrial buildings to the north and the BHR and River Avon New Cut to the south. The scheme proposals include a series of Traffic Regulation Orders (TROs) to restrict parking and waiting on Cumberland Road to accommodate the proposed outbound bus lane.

3.12 The Chocolate Path, so called because of its small block paved surfacing, runs between the New Cut and the BHR and is a popular route used by pedestrians and cyclists. The path would be repaired and the surface re-laid as part of the scheme.

3.13 A 65m section of the existing retaining wall would be re-built on the north bank of the New Cut in the vicinity of the Ashton Crescent/Cumberland Road junction in order to support the scheme infrastructure. It is also proposed to replace the current small wall between the Chocolate Path and the BHR with a new flood defence wall. The railings which run between the railway and Cumberland Road would, in part, be removed to make way for the new ramp up to Cumberland Road. The remaining railings adjacent to Cumberland Road would be replaced/reused as part of the scheme which provides for a new vehicle restraint wall topped by railings. Conservation Area Consent is sought for these works.

3.14 The route continues under Cumberland Road Bridge again on a one-way shuttle arrangement. The pedestrian/cycle path under the bridge would be retained. This links with the Chocolate Path to the south and the Harbourside to the north. Within the Harbourside area the route would displace a BHR siding and pass to the south of the Framing Factory sheds and the M Shed along Museum Street to Wapping Road. There are a number of historic features of interest in the former working dockside area including the nearby Fairbairn Steam Crane, a scheduled ancient monument.

3.15 The existing roadway serving the south Harbourside area would be realigned as part of the scheme so as to pass to the south of the Framing Factory sheds. The roadway would cross the BHR to the west of the Framing Factory and rejoin the existing access road to the west of the dockside buildings in the vicinity of the Steam Crane.

3.16 The planned Wapping Wharf development, which includes over 600 new dwellings, retail space, restaurants, offices and an hotel, lies immediately to the south of this section of the scheme. The route in this area would be shared with traffic accessing the development and service vehicles and coaches for the M Shed. Access would also be retained for parking on the Harbourside and for servicing of local businesses. Jubilee House would be demolished at the junction of Museum Street and Wapping Road and Conservation Area Consent is sought for this element of the works.

3.17 The route turns north onto Wapping Road and across the eastern side of the Grade II listed PSB. Pedestrian and cyclist provision would be shared on the western side of the bridge. Other traffic, except for emergency vehicles, would be prohibited from using the bridge. It currently has a 3 tonnes maximum gross vehicle weight restriction and strengthening works are proposed to enable rapid transit vehicles to use it. These works are the subject of a Listed Building Consent application.

3.18 A temporary structure would be erected for the duration of the works at PSB to allow pedestrians to cross over the harbour. The proposed structure would also allow for the passage of dismounted cyclists.

3.19 The AVTM corridor section is designed for use by single-decker, including articulated, and double-decker vehicles. Rapid transit stops along the Corridor section would be provided at Long Ashton P & R site, Ashton Vale, the Create Centre, Spike Island and M Shed with provision for an additional stop in the future at Ashton Vale near to the Meridian Housing development.

3.20 The City Centre loop section of the scheme commences to the north of PSB where a stop is proposed outside the Arnolfini. The alignment then turns east onto The Grove on a new bus lane before crossing Redcliffe Bridge to the Redcliffe Roundabout. From here the route travels via a combination of existing and newly provided bus lanes along Redcliffe Way, through Temple Circus and then northwards along Temple Way and Bond Street to The Haymarket and Rupert Street/Colston Avenue. The route continues through to Broad Quay which is already reserved for public transport vehicles. The loop would be completed by the

provision of a new bus lane along Prince Street and rejoin the Corridor section of the scheme at PSB.⁹

3.21 Rapid Transit stops around the City Centre loop would be provided at the Arnolfini, Temple Circus, Cabot Circus, Broadmead and The Centre.

3.22 The pedestrian/cycle links proposed as part of the scheme are shown in OA/130.

⁹ Public consultation commenced during the course of the Inquiry on the City Centre Works for the North Fringe to Hengrove Package BRT. The consultation was due to close on 14 July 2012. It proposes significant changes to traffic management and bus priority in the central area as described in OA/183. The Promoters indicate that the AVTM scheme is not dependent on these changes being approved but would use the revised infrastructure if it is subsequently agreed.

4 THE CASE FOR THE PROMOTERS

Here follow the material points edited from Opening and Closing Submissions with references to Proofs of Evidence (which may have been amended as a result of cross-examination), Oral Evidence and Inquiry Documents including rebuttal evidence and Core Documents, with appropriate cross-references.¹⁰ Appendix B provides a complete list of all the documents submitted to the Inquiry for each of the parties.

4.1 General Introduction

4.1.1 The Order would secure the provision of the first of a series of much needed high quality rapid transit systems to meet the needs of the Bristol area for those travelling into the City Centre and otherwise. It forms part of an overall joint transportation strategy which is the culmination of an extended process of plan-led development and assessment and has been endorsed for public funding by the Department for Transport (DfT) at each relevant stage. It would, in the words of the Bus Rapid Transit (BRT) vision, create a new way of travelling and be a catalyst for transforming public transport travel across the West of England area, underpinning its continuing future economic success and regeneration.

4.1.2 There has been little, if any, challenge to the need for improved public transport provision into Bristol City Centre along this corridor. The scheme's objectives are set out in the various forms in which they have consistently appeared throughout the scheme's development in OA/115.

4.1.3 No one has seriously doubted that this scheme can and will be delivered, should the Order be made. There is no evidence that the DfT funding that is assured in principle for this scheme could or would be transferred to some alternative or substitute scheme to deliver the objectives. Indeed, DfT guidance suggests there is considerable risk in seeking to switch funding between projects.¹¹ With the scheme's rejection, Bristol and North Somerset would simply lose this funding opportunity.

4.2 Approach

4.2.1 The Order is for the first phase of the proposed BRT system for Bristol and includes works to be delivered through the Councils' existing powers. The Order has particular requirements, not least that it is fundamentally for the authorisation of the scheduled works as defined by the Order plans. By its nature that means that the details of what would be constructed is largely not for decision at this stage but would be determined through the deemed planning permission and the conditions to which it would be subject. There are though specific requirements as to some aspects of the Order works included in the Order itself, such as the provision for replacement rights of way and the protective provisions.

4.2.2 There is obvious good sense in the above approach, given the nature of the works and the fact that they would be subject to public procurement and a design and build contract. Hence, the Promoters believe that it is appropriate to proceed on the basis of the illustrative material as shown on the plans for

¹⁰ Inspector's Note: The Promoters' rebuttal evidence (REB/01 – REB/35) and OA/256 (Response to Written Representations) have not been summarised separately in this report as many of the points made are included in this summary of the Promoters' case.

¹¹ OA/107 p. 14

information.¹² However, it is open to the Secretaries of State to make further requirement by condition or otherwise to include specific assurances or provision at this stage. Thus the stance taken is not definitive and would not preclude the addition of further provision for protection of legitimate interests or otherwise, should that be considered appropriate in any particular case.

4.2.3 In addition, there are the applications for Listed Building Consent (LBC) and Conservation Area Consent (CAC) which are to be determined separately. In these respects, the Secretary of State will need to be satisfied that in each case it is appropriate to grant the consent, having regard to the views of English Heritage (EH) and other relevant considerations. Hence, the Promoters have provided specific detail as well as the relevant Design and Access Statement (DAS) and other material, which has been the subject of extensive discussions with EH and the conservation officers of the City.

4.2.4 In common with EH, in the case of the two remaining LBC applications it would be appropriate to leave the detailed works required for strengthening to be settled under a condition, albeit referenced to the current detailed proposals. This would ensure that the works are in due course carried out on the latest information and so as best to respect the heritage value of the particular asset.

4.2.5 The AVTM scheme forms part of the wider proposed BRT system and is consistent with and supportive of the other elements in that system as identified in the Joint Local Transport Plan 3 (JLTP3).¹³ The draft TWA Order does not seek authority for either the South Bristol Link or the North Fringe to Hengrove sections which form part of the proposed overall system. However, the Secretaries of State can be satisfied that there is no prejudice to either of the other BRT schemes. Indeed this proposal would be entirely compatible with and enable the enhanced operation of both those sections to the overall public advantage.

4.3 Scheme Evolution and Design

4.3.1 The history of the scheme has been extensively set out in the evidence and is essentially a matter of record. The Promoters draw attention to the following:

- a) It is a particular feature of transport planning for this area that it has been planned and is now in the process of delivery by joint working between, and the proactive engagement of, the relevant authorities through the West of England Partnership (WEP), as reflected in what is now the JLTP3.
- b) The strategy has a pedigree of considerable public commitment including the safeguarding of a significant part of the current scheme in the Local Plan since 1997.¹⁴
- c) The strategy is integrated and multi-modal, including both enhanced public transport provision with other sustainable modes and complementary demand management and restraint on use of the car. It is a strategy that self-evidently has broad consensus and support from the community.

¹² AM/1 and AM/2

¹³ CD/C7

¹⁴ CD/C22 policy M13

- d) It is also a strategy that is recognised as necessary to address the problems of congestion and accessibility which threaten the continuing economic growth and regeneration of the area.¹⁵
- e) Moreover this is an area where there is a political will and proven commitment to delivery of the strategy. This has included the putting into place of the Greater Bristol Bus Network (GBBN) and Cycling City and bringing forward the current BRT proposals with the implementation of the Bristol Metro and Portishead reopening to follow.
- f) The AVTM is a standalone scheme in the sense that it is not dependent on the other elements of this strategy and in particular the other sections of the BRT. However, without the provision of this high quality public transport link to serve this corridor, the strategy would be damaged as a whole and as a result the residents of this corridor would continue to be disadvantaged by the poor quality of connection and accessibility.

4.3.2 The Inquiry has heard detailed and largely unchallenged evidence on the elements that contribute to the high quality of the proposed public transport system. However, given the nature of some of the objections to the scheme, it is worth recalling some of those features as the context for the consideration of those objections. They include the following:

- a) The proposed service would operate at a high frequency, with a 6 minute interval for the core P&R service to which the North Somerset (NS) services would be added;
- b) It would provide a quality of ride and segregation which is not found with normal bus services in the corridor (or indeed the City);
- c) To that is added the reliability of the service secured through its segregation¹⁶ and mode of operation;
- d) That would be reinforced by the provision of real time information and off bus ticketing;¹⁷
- e) In relative terms it would be high speed; and
- f) On any view (as endorsed by the operators) it would be perceived as a premier service and be significantly more attractive as a mode of transport as a result.¹⁸

¹⁵ The Promoters have not sought to deal with new evidential assertions in some of the objectors' closing submissions but the fact that the Promoters have not done so should not be taken as any acceptance of what is asserted. The Promoters would however note that the suggestion in para 7.3 on p 14 of the Bristol Civic Society's closing (BCS/3) that there is over 1 m sq ft office space to let in the City Centre is not supported by any figures available to the City Council. It is inconsistent with the latest survey figure in the Business Employment Land Study (p9) of a total of 1.05 msq ft "lettable space" in the City Centre, of which at the time some 14.5% was vacant (survey base December 2006).

¹⁶ 93% would be guided (I/1 para 1.6); it is also relevant to have in mind the importance of physical segregation in ensuring self-enforcement, itself central to bus regularity and performance

¹⁷ While this is being brought forward as part of the area wide strategy, it would be provided in any event for the AVTM – see OA/153

¹⁸ This is consistent with the experience at Cambridge Guided Busway (CGB) (OA/100) and the Fareham scheme (OA/246)

4.3.3 The delivery of this quality of provision is secured in a number of ways. In the first place it is intended to be provided through a Quality Partnership Scheme (QPS) and tendered service contract. This would enable, for example, the level of fares to be controlled by the Promoters, ensuring the effective operation of the service. The Promoters have particular and proven experience in the provision of quality bus services through QPS and other means.¹⁹

4.3.4 In the Harbourside area the bus would operate in a shared space environment but at speeds consistent with a tram. Experience demonstrates that this is an effective regime particularly where there are areas laid out with priority for pedestrians.²⁰ The proposed frequency of bus services (15 in the peak hour in either direction) would not be at a level to dominate pedestrian circulation or enjoyment.

4.3.5 As noted below, the overall speeds and acceleration/deceleration rates have been set out in OA/143 as supplemented in OA/257 and are consistent with the proposed alignment with or without the stadium. Equally the three sections of shuttle working have been modelled on an iterative basis and have been demonstrated to be consistent with an uninterrupted pattern of service.²¹

4.3.6 It is one of the inherent advantages of the bus-based system that it is flexible and so able to accommodate and work with the BHR. While the "Sunday" service would inevitably not be as efficient or attractive, it would reflect a sensible response to that interface. The letter from the Head of Museums who is responsible for the BHR confirms the acceptability of the arrangement and Mr Martin for the Objectors did not suggest otherwise. In so far as the "Sunday" service might be adopted on other days, it would not be likely to be during the core working days. The overall functioning or effectiveness of the service would not therefore be affected.

4.3.7 Reference has been made to the operation of the PSB. This has been surveyed and the practical effect of the scheme assessed. Bridge-swings are timetabled²² and the Order provides additional control.²³ The harbour master accepts this arrangement as compatible with the operation of the bridge to meet demands.²⁴ The potential for an increase in travel time due to the bridge being open has been fully taken into account in the modelling and travel time forecasts.²⁵

4.3.8 So far as special events are concerned, these would as always be the subject of bespoke arrangements for the accommodation of the relevant interests

¹⁹ There are already QPSs for the 10 corridors in the Greater Bristol Bus Network, five of which have come into effect to date (OA/117). A QPS sets out the conditions on which operators would be permitted to use public transport facilities such as vehicle requirements, minimum frequency, maximum fares, emissions standards, bus punctuality/reliability requirements, customer care and overall presentation of the operational offer to customers.

²⁰ OA/226

²¹ There are small sections of shuttle working on the CGB but no indication of difficulty in that respect

²² OA/127

²³ PSB may not be swung open between 7.15am and 9.15am or 4.00pm and 6.00pm Mondays to Fridays and outside those times may be swung open no more than once per hour if in the opinion of the harbour authority this is reasonably required - see Part 7, Article 61(2) of the filled up Order (OA/238A)

²⁴ OA/162

²⁵ OA/6 [4.24- 4.26]

on a balanced and proportionate basis. There is no reason to think that the AVTM scheme could not equally be accommodated within that framework. Indeed it would be an attractive means to access the area generally and the Harbourside particularly in so far as that is part of the particular event.

4.3.9 There has in fact been little criticism of the basic design principles of the scheme. There has been some concern expressed as to the proposals for the City Centre in relation to Temple Meads.²⁶ It is accepted that in due course it would be desirable (and is intended) that there should be closer integration with Temple Meads as part of the evolving designs for the Enterprise Zone (EZ). All the evidence is entirely consistent with that intention. However, it is a fact that at this point in time there is no concrete proposal for the EZ redevelopment such that it would be imprudent and potentially prejudicial to seek to pre-empt that design at this stage.

4.3.10 It is recognised that as a long term solution, the stops being some 400 m from the current station portal would not deliver the standard of integration that could be desired, although they would in fact be closer than the current 903 service stops. However, if the alternative is that the scheme should be delayed indefinitely until the EZ proposals come forward, the Promoters are in no doubt that the public interest lies firmly in favour of ensuring the provision of the enhanced public transport system at this stage. Nevertheless, it is recognised that the proposal to serve Temple Meads is interim and would be reviewed in the future. The Promoters submit that at this stage the proposals strike an appropriate and proportionate balance between the relevant considerations. The detail would of course remain to be addressed through the TRO process in due course.

4.4 Modelling and Alternatives

4.4.1 It is important that this aspect of the evidence is seen in context. Forecasting the impacts of the scheme by means of the well-specified and calibrated/validated demand models is of course necessary to reach an understanding of the potential interactions of the complex inputs to the transportation picture. It has a particular role in providing inputs to the relative assessment for funding on a national scale as part of TUBA²⁷ as well as the related economic analysis for determining the Benefit to Cost Ratio (BCR) and other indicators to inform decisions as to funding.

4.4.2 However it should be clearly kept in mind that the benefits of the proposal are not primarily to be judged by any of these measures as such. The objective of the scheme is to secure the provision of a high quality public transport link and with that to encourage a shift in modal choice to public transport and promote social inclusivity by improving accessibility to employment, retail and other facilities in the AVTM corridor.²⁸ The objective of this scheme is not primarily to reduce congestion as such. It is though recognised that it forms an essential part of the overall transportation strategy through the JLTP3. This seeks to address the fundamental problems of congestion through the provision of enhanced

²⁶ This was specifically a matter noted by the cross party working group on 8 June 2011 in authorising the AVTM proposal OA/222

²⁷ Transport User Benefits Appraisal, DfT, v1.8, May 2010

²⁸ OA/115

public transport and the imposition of demand management and restraint through parking controls and other measures.

4.4.3 Thus the achievement of the above objective is more about qualitative judgement based on all the evidence than a modelling issue. The proposed scheme would deliver precisely what is intended, that is a high quality and integrated public transport link. That qualitative enhancement in provision would be attractive to bus users as well as attracting greater use of the P & R site²⁹ and extending the benefits to the hinterland served by the North Somerset buses. It is accepted that in respect of the P & R use there is no specific surveyed analysis of that element which might presently be using car and rail and might then shift to car and bus to access the City Centre and the difference in car journey that might be involved. However, the overwhelming likelihood is that the substantial effect would be to encourage greater use of park and ride thus supporting the use of public transport rather than the car to access the City Centre and similar destinations and is accordingly to be welcomed.³⁰

4.4.4 It is also worth repeating that the system, of which these Order powers form part, includes the City Centre enhancements as part of the overall public transport scheme and it is to be judged as such. That question is not disqualified because the Order powers are not required for the City Centre section. It is the AVTM scheme which is being promoted through a combination of the Order and existing powers. Thus disaggregation of the constituent parts of the system could only be relevant, if at all, to the consideration of alternative means to achieve the scheme objective, that is the provision of the high quality public transport link.

4.4.5 Turning then specifically to modelling, while it supports the decision making process, it is certainly not determinative nor an end in itself, as may have seemed at times to have been the approach of some at the Inquiry. Moreover, the actual criticisms of the extensive and iterative modelling and related studies have in fact been very limited in their range and scope.

4.4.6 In so far as there has been concern as to the evidential base or the specific inputs, this has been confined to limited aspects of the proposal (specifically the current destination/distribution in the City Centre of the P & R ridership). It has been included in sensitivity testing and shown not to detract from the overall judgement as to the good performance of the public transport system underpinning the Order.

4.4.7 Any forecasts will be subject to uncertainty, not least as to the exercise of human choice and behaviour. Modelling is a tool only to be applied with a

²⁹ There was no real challenge to the forecasts in this respect indicating that capacity of the P & R site would be reached by 2026

³⁰ The rebuttal (OA/264) to the TfGBA second supplementary at paras 2.3.20-23 and Table 3 considered a sensitivity test applying the mode constant for the P & R element of the patronage resulting in additional benefit of £60.5 m. This would accord with commonsense and what would be expected as a result of the qualitative enhancement in the service. The Promoters do not seek to change the modelled BCR of 4.22 but rely on the sensitivity test as an indicator of its robustness.

common sense judgement as to overall effect and reality.³¹

4.4.8 The two witnesses who made specific criticisms of the modelling were Mr Buchan (KB) and Mr Chard (RC), the latter being concerned only with the Ultra Light Rail (ULR) alternative, which is dealt with later. So far as KB is concerned, it is to be noted that he was not promoting any alternative. His contention was simply that the case was "not proven". Thus he did not come to the Inquiry alleging specific deficiency in the proposal, still less identified any solution to be preferred to address the acknowledged transportation problems affecting Bristol and this corridor.

4.4.9 Moreover KB's actual criticisms were extremely limited, notwithstanding exhaustive exploration of the material, much of which had been available in the published form for many months.³² There has been no criticism of the specifications or calibration of the various models referred to above. There has been limited criticism of some of the data (specifically, the pattern of trips) which feature in the demand model and the public transport assignment model and some of the forecasting assumptions. There has been no challenge to the mode constant used to represent the benefits that passengers would attach to the particular merits of the AVTM scheme as whole.³³

4.4.10 The criticism of the survey base for the distribution/destination of park and ride trips on the 903 service into the City Centre was limited to that extent; KB had no criticism of the ridership numbers or their validation which, as explained in CD/B28 section 5, which was based on the survey in January 2010.³⁴

4.4.11 It is recognised that the precise modelled effect of journeys to the City Centre on the 903 service will vary depending on the particular destination of the passengers. The enhancement of the park and ride through the provision of the high quality public transport link is not undermined though by any variation as to the particular destination within the City Centre of existing users of the 903.

4.4.12 In any event it is accepted that the BCC surveys on 19/20 November 2009 were demonstrably more comprehensive than the spot checks carried out by Transport for Greater Bristol Alliance (TfGBA) in 2012.³⁵ KB's point really came down to the disparity between the two surveys as reported of two linked figures in the morning peak period for two areas to the north and east of the centre, that is on 19 November recording 1 and 233 trips respectively for the two areas, while on

³¹ A further example of this is in respect of the criticism that there was no contract in place binding any NS operator to use the new system. In the first place it will be recalled that the current operators have expressly supported the proposal. Second in any event, a sensitivity test was undertaken on the basis that there would be no modal benefit in the new system for the P & R users and no NS services used the system. That still showed that the system would retain about 2/3 of its BCR with a rating of good.

³² The closing submissions do not address the assertions made about the availability of material. The Promoters believe that they have gone to very great lengths to put all of the relevant material in the public domain, as evidenced by CD/B1, B2 and B27-30. There are ample means for objectors to obtain any additional material so far as reasonable and proportionate.

³³ The mode constant represents those attributes such as reliability, quality of ride, on-bus and at-stop facilities which are not otherwise reflected in the modelling of the new service. The value for the mode constant was based on published research and represents a conservative level.

³⁴ Which KB did not criticise as he confirmed in XX

³⁵ The criticisms in this respect are set out in the rebuttal OA/264 at para 2.6.19

the 20 November the corresponding figures for trips were 87 and 61. Thus the totals were 234 as against 148 for the two areas.

4.4.13 There is certainly nothing untoward in the above overall totals, given likely daily variation.³⁶ It is not asserted by KB that the trips were not made at all, that would be implausible given the use of trained 'Count On Us' enumerators carrying out the interviews at the P & R site or on the bus before the start of the journey. The highest level at which it is put is that there was an error in recording the particular destinations. The speculative criticisms as to the survey in the annex to KB's second supplementary proof of evidence (TfGBA/1/21) were demonstrably unfounded, as explained in paras 2.6.11-12 of OA/264.

4.4.14 The important point is to ensure that all the information as to the distribution of trips is assessed and that has been done. The sensitivity test (which is not criticised in its reflection of the TfGBA surveys) still shows a BCR of 3.2, which remains good on the prescribed semantic descriptions (but does not include any account of the enhanced qualitative attraction of the new system through the application of a mode constant to this part of the potential ridership.³⁷ This is, wholly consistent with the good performance of recent BRT schemes, as reflected in the reports from the CGB and the Gosport to Fareham BRT.³⁸

4.4.15 KB's second point seemed to be that, as modelled, there were spin-off benefits to other services passing through the City Centre, including to the other two P & R sites. That is indeed one of the additional benefits from the proposed new system with its enhancements in the City Centre. It is hardly surprising as a consequence and is to be welcomed as part of the integrated transportation strategy. But that should not obscure the benefits of the system as a whole in delivering its objectives and in particular the provision of the high quality BRT link though the Ashton Vale corridor to the City Centre.

4.4.16 The above is well reflected in the sectoral benefits for scheme as shown on KB's second supplementary chart 1 (TfGBA/1/21). Essentially, KB's evidence in this respect is directed to the proposition that the existing 903 service along Hotwell Road could effectively deliver that objective assuming the City Centre enhancements proposed as part of AVTM and that some undefined bus priority provision was made in Hotwell Road. As is pointed out later, the Hotwell Road route was examined as a low cost alternative from the outset and rightly rejected as incapable of delivering the objective and in any event demonstrably poor value for money.

4.4.17 There was a highly detailed but last minute critique of the time and speed graphs that Mr Slattery (BS) had provided and explained as part of his evidence in the first half of the Inquiry.³⁹ There were no questions at that stage. BS has provided his response to this critique⁴⁰ and was thereafter cross-examined by Mr Pearson for the TfGBA. It was plain from the resulting exchange that, within the

³⁶ See the assessment in rebuttal OA/264 para 2.6.17

³⁷ Explained in paras 2.3.18-2.3.23 of OA/264

³⁸ OA/100 CGB patronage 1.65m person trips, 40% over the expected patronage for first year; OA/246 Gosport - Fareham - in first six weeks 71% increase in bus use in the corridor and 100,000 passengers in first four weeks.

³⁹ TfGBA/1/19

⁴⁰ OA/257

realistic limitations for assessment of the scheme at this stage, the approach by BS was securely founded on published advice including that in Manual for Streets 2 (MfS2)⁴¹ and otherwise reasonable and robust. In so far as there was any overall difference in the travel time forecasts,⁴² BS's approach is far to be preferred to the TfGBA calculations, which were based on the survey of a single bus on the CGB.⁴³

4.4.18 Similarly, the Promoters modelling of the effect of the shuttle working through iterative testing involving some 20,000 iterations⁴⁴ is to be contrasted to the approach by KB, which was entirely theoretical and limited to the averaging of four notional runs. In the event KB did not seem to press any challenge to the Promoters' conclusions in this respect.⁴⁵

4.4.19 Reference was made to the error in the treatment of the mode constant as part of the initial modelling for the Major Scheme Business Case (MSBC) in March 2009. As set out in OA/264 para 2.2.1 Table 1, this was corrected before the initial programme funding decision by the DfT in October 2009 and well before the Order application in June 2010. The scheme remained of good value with a BCR of 3.32 and was endorsed for funding on that basis.

4.4.20 As summarised in paras 2.2.7-2.2.11 of OA/264, the main alternatives as to route and technology were assessed on a comprehensive qualitative basis without regard to any detailed economic analysis (and not including comparison with the erroneous initial assessment of the BCR). The economic assessment was however notionally involved at March 2009 in comparison with the assessed BCR of 0.73 for the lower cost alternative (Hotwell Road).⁴⁶ That comparison of the BCRs became, once corrected, between 0.73 to 3.32 as opposed to 0.73 to 4.12. It is fanciful to suggest that that would have made any difference to the overall judgement as to whether the lower cost alternative was to be preferred in that respect as a means to achieve the objective. The DfT, who were well aware of the correction, did not suggest so.

4.4.21 The same applies to KB's suggestion that the BCR for the low cost alternative should have been reappraised on the revised TUBA basis to take into account the revised treatment of indirect taxation (such as VAT) and its impact on public transport revenue.⁴⁷ That has to be approached proportionately, in particular is there any reasonable expectation that it would alter the overall judgement? The answer is, as Mr Thompson confirmed, plainly "no", given the considerable disparity in BCR (quite apart from its inherent inability to deliver the scheme objectives). No doubt that is why the DfT has never suggested that the appraisal of the lower cost alternative should be updated in reconfirming its funding support for the scheme based on the updated TUBA appraisal in the Best and Final Funding Bid (BAFFB).

⁴¹ Manual for Streets 2, CIHT 2010

⁴² Table 5 p 25 in TfGBA/1/7 app 1. 11min 14 sec to Arnofini.

⁴³ TfGBA/1/7 App 1 p 10 para 2.1 and confirmed in xx

⁴⁴ OA/233

⁴⁵ TfGBA/1/7 annex 2 para 3.3 p 38

⁴⁶ CD/B1a p 93 table 3.12

⁴⁷ Suggested by KB in XX of Mr Thompson on 27 June

4.4.22 It should be borne in mind that the detailed assessment of the Sustraco ULR scheme used the revised/corrected BCR figure.⁴⁸

4.4.23 As already noted, there has been no criticism of the AVTM modelling as such, which is reported in AM/3, OA/113 and OA/268. It shows some 1,200 person trips using the system in the morning peak hour in 2031, without allowance for the qualitative enhancements in respect of the P & R users or the application of any complementary demand management. In percentage terms, as part of the wider modelled area as a whole, it is accepted that the percentage modal shift is small, although the reductions in the AVTM corridor including the central area are more significant.⁴⁹ However, as pointed out above, this is a scheme that is not directly intended in itself to secure a major reduction in overall traffic flows. Rather its purpose is to extend choice of transport modes, support sustainable development and promote social inclusion through the provision of a high quality public transport link as part of the overall transportation strategy, which will in turn deliver those broader objectives.

4.4.24 Turning then to the appraisal of alternatives, reference has already been made to the extensive review of the alternative routes and technologies as reported in the MSBC and the BAFFB. Specifically as to those considered at the Inquiry:

- a) **Hotwell Road:** this was in fact the lower cost alternative as appraised in 2009; the point now made by Objectors is that priority measures should be included in addition to those that exist. The position was carefully reviewed by Mr Slattery in his evidence.⁵⁰ This included the steps that were taken following the 1993 Buchanan report,⁵¹ which recommended the introduction of inbound priority in Hotwell Road, and how that was implemented in consultation with the operators as the outbound priority lane. Mr Slattery was unequivocal that there remains no further opportunity for the introduction of effective additional priority measures in Hotwell Road, which can be readily confirmed on site. There has in fact been no specific suggestion as to how such a scheme could be introduced and in particular none from TfGBA. In any event, even if limited measures could be implemented, that would not secure the objectives of the AVTM scheme as outlined above.
- b) **Cumberland Road:** The other variation, supported by the Bristol Civic Society (BCS), was to retain the proposed route but continue on road from the AAB to PSB via Cumberland and Wapping Roads. It is apparent from the BCS's response to OA/186 and OA/200 (Plan GAV-TMR-0400-025) that it was not considered that this alternative should be engineered so as to secure some measure of priority along Cumberland Road with the resulting additional cost of £28m. As advanced by BCS, this alternative appeared to be on the basis of what could be achieved within the existing highway limits. This option was also explained in OA/186 and shown on OA/200 (Plan GAV-TMR-0400-024) and appraised in OA/216, "the Sunday service". First it is apparent that such a scheme would not provide on this section a

⁴⁸ May 2011 report produced by RC para 7.3 table 7.1 comparing BCR for the ULR of 1.2 or 0.6 to 3.2 for the AVTMBRT – which was the corrected BCR.

⁴⁹ OA/113

⁵⁰ See also REB/31 paras 2.2/3

⁵¹ OA/129

high quality rapid transit system but would leave the buses to operate effectively without priority as part of the general traffic. As a consequence the benefits of the overall system as modified would be diminished, leading to a reduced BCR of 1.96. Importantly, that takes no account of the effect on its overall qualitative attraction or the consequent erosion of reliability and perception as well as the other implications set out in OA/216. There is of course an important distinction between the adoption of this route with more limited priority at times when the BHR is operating and seeking to elevate it to the core service during weekdays. It is manifest that the BCS variant would fundamentally fail to deliver the objectives of the scheme as set out above in providing a high quality BRT scheme from Ashton Vale to the City Centre.

- c) **Tram:** the repeated assertion that the Promoters and their predecessor authorities had a closed mind to the tram or similar fixed rail mode has been demonstrated to be wholly without foundation. The factual position is a matter of record and not essentially in dispute – that following the Avon proposal in 1989 there was the Local Plan safeguarding of the Rapid Transit route to Ashton Gate (CD/C22 policy M13) and the pilot study of the Bristol Electric Bus, incorporated in the Local Transport Plan 1 (LTP1) as explained in OA/249. Light rail and tram formed a central part of the extensive technology and corridor studies and assessment as part of the Greater Bristol Strategic Transport Study (GBSTS)⁵² and for the MSBC.⁵³ That assessment has been fully set out and has been examined by the DfT as part of its funding consideration.
- d) The thoroughness of the process is well illustrated in the treatment of the ULR proposal in 2010/11. The facts are again not in dispute in that they are a matter of record.⁵⁴ The May 2011 review⁵⁵ is consistent with the earlier assessment referred to in OA/206. The email exchange on 2/3 June 2011 between Colin Jefferson and Councillor Kent makes clear beyond any debate that the assertions made by Mr Skinner in this respect are wholly without foundation.⁵⁶ It is also clear from OA/222 and OA/223 that the proposal was given careful consideration by the Cross Party Working Group in making the final decision on 8 June 2011 and particular attention paid to the acknowledged merits of the ULR proposal, including for example the potential for interchange at Temple Meads.
- e) In reality any criticism of that appraisal by Mr Chard came down to the question of the capital cost of the ULR alternative. However there is no dispute that, as Colin Jefferson indicates in his statement in Appendix 1 to the TfGBA proof⁵⁷ and confirms in his letter of 14 June 2012⁵⁸ the basic capital cost of £38.9 m of the ULR scheme to Ashton Gate was “accepted” and “not questioned” by Sustraco. No cogent answer to the identified

⁵² CD/C4 [5.38]

⁵³ CD/B1b [App 2B(vi)]

⁵⁴ OA 206

⁵⁵ Provided by TfGBA under email 28 June 2012

⁵⁶ OA/235

⁵⁷ TfGBA/1 Appendix 1

⁵⁸ STC/1/25

omissions⁵⁹ from the original Sustraco capital cost figure has been given or suggested.

- f) For the reasons explained by Mr Thompson, the “well-informed guess” by Mr Chard that out of the potential passengers using Temple Meads station of 20 million passengers per annum (mppa) some 2 mppa⁶⁰ would use the ULR system to access the proposed additional P & R at Ashton Gate is totally inconsistent with the surveyed information as to demand and is wholly implausible. Beyond that, Professor Lesley⁶¹ added nothing specific to the consideration as he had not been asked to look at the Order proposals or material. While the differences with Runcorn were manifest, he usefully confirmed the experience at Nantes; the most recent Line 4 bus based system had achieved all the qualities and attraction of the earlier tram schemes but at a considerably reduced cost. This is an outcome which is entirely consistent with the evidence at this Inquiry as to the merits of the BRT as against the tram mode.
- g) Generally in respect of the tram lobby case it needs to be borne in mind that:
- i) A tram system would involve significant additional cost.
 - ii) In reality the prospects of serving the City Centre as a whole would be remote.
 - iii) It lacks the flexibility of the bus based system so that it would not be compatible with the BHR if a regular daily service was to be sustained.
 - iv) If it was to provide a full commercial service, it would have to secure twin tracks along Cumberland Road, which would have very substantial construction implications and risk.
- h) **Heavy rail:** As Mr Kennedy agreed, the WEP is certainly not to be criticised as promoting a one mode transportation solution. On the contrary it can be seen that from the outset with the GBSTS⁶² and the JLTP2⁶³ the strategy was integrated involving all modes. In phase one it was based on the GBBN,⁶⁴ which has been delivered with acknowledged success, as well as the Cycling City strategy.⁶⁵ Phase 2 was to include the BRT system,⁶⁶ followed by the Metro and Portishead line proposals using heavy rail.⁶⁷ The steps to deliver the strategy with the latter proposals are well on course including through the Great Western franchise consultation⁶⁸ and the direct bid to the DfT for funding.⁶⁹ Even the most enthusiastic rail supporters have only relied on the existing rail corridors, which are already part of the

⁵⁹ CD/B2b/4C App c2 p7 as presented at the 1 April 2011 meeting

⁶⁰ STC/1/8 – P7/1 para 21 and STC/1/4 – P5/2 and P7/2

⁶¹ STC/1/16 – EW1

⁶² CD/C4

⁶³ CD/C5

⁶⁴ JLTP 3 CD/C7 box 6a p 57 £70m investment forecasted to secure 3.9m more bus journeys p.a.

⁶⁵ JLTP 3 CD/C7 box 6c

⁶⁶ JLTP 1 CD/C5 para 10.6.8; JLTP3 CD/C7 para 6.9.2;

⁶⁷ JLTP3 CD/C7 para 6.9.4/5

⁶⁸ OA/173

⁶⁹ OA/234 post report 22 June 2012

Metro and Portishead proposals. There is simply no reality in the reformation of a heavy rail link over the AAB, but in any event it would achieve little in that it would simply connect to the Harbourside.

- i) As can be seen from the above, the AVTM BRT remains complementary to these other modes, which form part of the strategy as a whole.⁷⁰ In particular, the Promoters continue to support the enhancement of the general bus network not only advancing the other elements of the BRT but also in carrying forward the GBBN through corridor quality bus schemes as explained by Mr Davies.⁷¹ The steps to enhance rail permeability through the area are well advanced.

4.4.25 In overall conclusion on modelling and alternatives, the Promoters submit that:

- a) The modelling generally can be seen to be robust in reflecting the benefits of the proposed public transport system consistent with its objective of high quality provision;
- b) The criticisms are limited to specific aspects and have been covered by sensitivity tests to demonstrate that they do not materially detract from the overall assessment of benefit;
- c) No alternative has been suggested that even remotely delivers the scheme objective of providing a high quality public transport system for the AVTM corridor; and
- d) Indeed, so far as any alternatives have been suggested, they involve essentially use of the existing highway infrastructure without any real prospect of segregation or effective bus priority.

4.4.26 It can and should be concluded that there is in fact no realistic alternative to secure the scheme objectives. Accordingly the essential question is whether there is any detriment to an interest of acknowledged importance sufficient to deny to the area and its residents the demonstrable benefits of this proposal.

4.5 Delivery

4.5.1 Mr Slattery's evidence as to how the scheme would be built and operated is not in substance challenged.⁷² Construction would be subject to the Code of Construction Practice (CoCP)⁷³ and Construction Environmental Management Plan (CEMP)⁷⁴ to secure protection as appropriate for relevant environmental interests.⁷⁵

⁷⁰ Including the retention of the opportunity to provide interchange with the Portishead line at Bower Ashton as part of the reopening of that passenger service

⁷¹ OA/117

⁷² The single challenge appears to be from Mr Lomas of TramForward who suggested there would be insufficient clearance for the BHR along the shared part of the route. Mr Slattery responded in the Q & A session that he was totally confident that there was sufficient clearance for the scheme and enough time to resolve all issues relating to sectional guidance.

⁷³ See draft 3b at OA/174A

⁷⁴ Annex to OA/174A

4.5.2 Allowance has been made for the costs of any work needed to strengthen ground conditions in the risk allocation to the project.⁷⁶

4.5.3 The one outstanding matter relates to the need to consult the Coal Authority. The Promoters' position on this is set out in note OA/266 which deals with the procedural requirements without prejudice to any relevant interest. The Promoters' are grateful to Ms Flint for drawing attention to the point.

4.6 Commitment

4.6.1 As indicated above, the proposals have a lengthy and considerable pedigree in terms of policy support.⁷⁷ The scheme aligns completely with local transportation policy.⁷⁸

4.6.2 The principal national planning document is the National Planning Policy Framework ("the Framework").⁷⁹ The Framework emphasises the need to achieve sustainable development and promotes sustainable transport to reduce carbon emissions and congestion. The AVTM scheme fully accords with the Framework.⁸⁰

4.6.3 There is comprehensive support or acceptance by the relevant statutory or other authorities. Indeed, apart from Long Ashton Parish Council (LAPC) which has a very specific and limited concern, there is no authority at any level of administration which opposes the proposals. That includes the relevant agencies such as Natural England (NE), EH and the Environment Agency (EA).

4.7 The Bus Operators

4.7.1 There can be little concern over the capacity and appetite of the marketplace to deliver the BRT services and corridor bus services.⁸¹ A procurement options appraisal has been carried out,⁸² with the consequent recommendation for procurement of the BRT service under contract via a competitive tender. This

⁷⁵ Ms Flint raised concern about the ground conditions particularly around the Underfall Yard and Sluices, where there was the landslide in 1981. The Promoters are conscious of the geology of the area having carried out an initial phase 1 geotechnical desk study. This study identified a programme of comprehensive geotechnical works which will commence shortly after the close of this Inquiry. There is also further detailed structural engineering design being undertaken in accordance with the defined programme of works which will take account of the forthcoming geotechnical tests.

⁷⁶ OA/228

⁷⁷ The BRT in its current form emerged first from the recommendations of the Greater Bristol Strategic Transport Study which was commissioned in 2003 to assess a range of transport strategies and in 2006 recommended a network of rapid transit corridors. Following the recommendations of the GBSTS, in March 2006, the West of England authorities published a Joint Local Transport Plan which included the BRT corridor proposals. Subsequent BRT studies culminated in the incorporation of the scheme in the 2011-2026 Joint Local Transport Plan. The scheme has since also been incorporated in the specific transport policies of the Core Strategies of both Bristol City and North Somerset Councils.

⁷⁸ Issues concerning other policies relating to walking and cycling are considered elsewhere.

⁷⁹ CD/D27

⁸⁰ And also in other ways: OA/2 at [4.32]

⁸¹ OA/13 [5.4]. Mr Willcock confirmed to Mr Redgewell that he did not consider that an exclusivity deal, such as was done in Cambridge, was appropriate in Bristol. A tender process would better meet the objectives of the scheme (eg the ability to set fares and vehicle specification).

⁸² In the draft Joint Procurement Strategy (CD/B2)

approach has the advantage that it manages the commercial risks to both the Council and the bus operators.⁸³

4.7.2 The Promoters have engaged with the bus operators and five major operators support the proposed investment in infrastructure to enable the establishment of a BRT network for the sub-region.⁸⁴ First Group has in principle agreed to divert the existing North Somerset services (the X1, 354 and 361) onto the BRT route based on quality and journey time savings. Mr Willcock confirmed that there is continuing dialogue with them and other operators would also be considered.⁸⁵ In addition, the proposed Order gives the potential to re-route the Airport Flyer service from Temple Meads to Bristol Airport, but that is a matter to be addressed in the future.⁸⁶

4.7.3 The scheme is forecast to be revenue neutral after 12 months⁸⁷ and Mr Willcock confirmed that, since the service replaces an established existing service,⁸⁸ there can be confidence in the patronage forecast.⁸⁹ Indeed no one has challenged its viability or prospects for delivery as such.

4.8 Funding

4.8.1 As already noted, the funding case has been scrutinised by DfT on more than one occasion including careful appraisal against alternatives, such as ULR.⁹⁰ Given the number of bidding stages which have all been subject to DfT scrutiny, resulting in endorsement of the proposal, there is a high degree of economic certainty. Since the scheme represents 'Very High Value for Money'⁹¹ it has every expectation of being awarded final funding in the sum presently awarded.⁹²

4.8.2 The BAFFB as a whole has been endorsed by the West of England Joint Transport Committee (July 2011) and approved by Bristol City Council's Cabinet and North Somerset Council's Executive, who sought an independent financial review from Price Waterhouse Coopers to inform their understanding.⁹³ The costs have been recently confirmed by Sweett.⁹⁴

⁸³ OA/13 [5.4]

⁸⁴ OA/13 [5.5]. See letters of support in OA/13/2 Appx 1. In addition, Mr Willcock confirmed to Mr Redgewell there have been a number of meetings with First Group.

⁸⁵ Willcock cross examination in chief

⁸⁶ OA/169 and OA/13 [6.16]: the routing of the flyer is a decision for the Airport: Willcock XX by Mr Redgewell

⁸⁷ OA/14 [4.24]; in fact this is cautious as OA/135 shows a prediction of a surplus of £844,000 in the first year of operation; this is also consistent with experience with the CGB (OA/100). Any revenues from services that generate an operating surplus will be reinvested back into the rapid transport network CD/B2a/2A para 4.8 .

⁸⁸ The 903 service

⁸⁹ Details of the current subsidies for the North Somerset services that would run on the AVTM corridor are set out in OA/155.

⁹⁰ At the MSBC stage: there has been no DfT requirement to do so subsequently, although the ULR assessment is fully reported as part of the BAFFB at CD/B2a/B2c.

⁹¹ BCR of 4.22

⁹² OA/14 [4.17]

⁹³ OA/14 [4.13]

⁹⁴ OA/258

4.8.3 North Somerset Council (NSC) has identified its agreed capital funding.⁹⁵ Bristol City Council (BCC) has a range of available funding sources to which it has access in order to fund its agreed capital contribution to the scheme.⁹⁶ The lead financial officer for the scheme, Mr Robinson, has set out the detail of how the Council's contribution to the scheme costs would be met.⁹⁷ He is satisfied that the funding to deliver the scheme would be identified as per BCC's resolution at its Cabinet meeting on 1 September 2011 and that the Secretaries of State can be confident that there is a reasonable prospect of the project being funded.⁹⁸

4.8.4 A number of Objectors have pointed to cost-overruns associated with the CGB and Edinburgh Tram. There is little to be derived from a comparison with other schemes where funding circumstances are entirely different.⁹⁹ They do not provide a sound basis for questioning the relevant estimates for this scheme, which have included significant risk as well as optimism bias as appropriate.

4.8.5 In all the circumstances it can be confidently concluded that there is a realistic prospect of this scheme being funded if the Order is confirmed.

4.9 Bristol Harbour Railway (BHR)

4.9.1 The effect on the BHR and its infrastructure as part of the heritage issues and otherwise are considered later. It is convenient at this stage to set out the factual position, which appears not to be contentious between the Promoters and the BHR.

4.9.2 In the first place the proposed scheme enables the continued operation of the BHR.¹⁰⁰ It would not adversely affect the BHR's pattern of operation or routing, and users would experience little or no change to the vista and experience

⁹⁵ £1.8 million from its Capital Programme. BCC and NSC have entered into a Joint Promotion Agreement which sets out the cost sharing exercise (see OA/14 Appx 2): BCC's share would be 80% of costs (and any surpluses) and NSC's share would be 20% of costs (and any surpluses).

⁹⁶ £12 million financed from borrowing and capital allocations

⁹⁷ See OA/184. The funding would come forward as part of the overall BRT Network towards which BCC has already identified £15 million from the Local Transport Plan or Community Infrastructure Levy and "The Investing in Bristol's Future Package" funding. In addition, BCC is working with the business community on the appropriateness of a Work Place Parking Levy (WPL), Supplementary Business Rate (SBR) or other options to raise the remaining £27 million and a steering group has been formed with representatives from the business community to facilitate this.

⁹⁸ See OA/184; while the funding commitment is in respect of the whole BRT, it necessarily includes funding of the individual sections including the AVTM. While there is every prospect that this scheme will precede the other two and therefore have first call on the committed BCC funds of £15m which more than covers BCC's share of £11.5 m, this is not certain. However there is commitment to raise the balance through WPL or SBR as explained in the note and in OA/14. There is no reasonable ground to question the ability of BCC as one of the two Promoters to meet its share of the cost of promotion – it manifestly has the means and the political will and commitment to do so.

⁹⁹ Cambridgeshire County Council's Head of Major Infrastructure Delivery, Bob Menzies, has confirmed that there is ongoing litigation in relation to the perceived cost overruns of the CGB and, if the Council is to recover all the sums owing, then the project would be significantly under budget: see OA/100

¹⁰⁰ Apart from during construction of the relevant sections

when the railway is operating.¹⁰¹ It would remain a popular tourist and visitor attraction, supported by BCC.

4.9.3 Indeed there is a powerful synergy between the two forms of transport using the same infrastructure and coexisting with their complementary forms of operation. This is something only the flexibility of the bus can secure. Moreover, as Mr Martin accepts and as explained in evidence which is unchallenged, the replacement of the rail infrastructure and repair of the formation (for example along the New Cut embankment) are all measures that would help sustain the continuance of the BHR for the future.

4.9.4 The BHR is of course in fact operated by BCC's Museums Galleries and Archives team. The Head of Museums Galleries and Archives has confirmed that the scheme is compatible with the working of the BHR and that it would significantly improve the quality of the age-expired infrastructure on the New Cut branch, minimising maintenance and ensuring that this part of the heritage railway has a long-term future.¹⁰² She has given the assurance that the BHR services on the branch to A Bond would continue to operate on (no less than) 30 Sundays during a year and where possible there would be a negotiation over bank holidays and Saturdays. She has also confirmed that the arrangements for the BHR terminus and platform for use by the public at A Bond and replacement rail-accessible storage would be agreed prior to the construction of the scheme and costs met by BCC corporately.

4.9.5 Mr Martin does not suggest anything to the contrary and in particular does not contend that there would be any threat to the continued success and operation of the BHR. He is content with the basis for operation including the requirement for fencing where there is inadequate access space to the BHR as it approaches the underbridge. That is no different to the current position.

4.9.6 Mr Martin recognises the opportunity to rationalise the crossing of the BHR and the roadway at a point to be determined as a matter of detail to the west of the Framing Factory sheds. That is again little different from the present situation but may be of advantage in removing vehicular flows from crossing the square to the east of the Factory which is the present arrangement.

4.9.7 Mr Martin agreed that the western terminus would be a matter of detail design for the future and accepted that the Museum had agreed to replace the storage that would be used to provide the cycle and footway connection by reopening the railway arch to Avon Crescent. He raises no technical issue on the proposed design¹⁰³ or operation, confirming that the BHR operates under the 'one engine under steam rules' which would preclude simultaneous running with other forms of transport using the track.¹⁰⁴

¹⁰¹ The loss of sleepers on the main route would be minimal in terms of the visual experience and the 'clickety-clack' noise: Mr Martin confirmed that the train does not go fast enough for much 'clickety-clack' (in response to Mr Lyons' question)

¹⁰² REB/09 at [2.2]

¹⁰³ See OA/196 the response to Mr Lomas

¹⁰⁴ See REB/09 and also OA/211

4.9.8 His one point is that he would like a guarantee of future Saturday operation. That is however not in the Promoters' gift. It is clear that the scheme would not prejudice that decision, which is for the Museum's senior officer. It has been made clear throughout that the Sunday service would be adopted when the BHR is in operation. Mr Martin explained that this would be his ideal situation and is not an objection. In cross-examination he recognised that the Promoters are simply not in the position to give him any further assurance in this respect.

4.9.10 In short, the scheme's Promoters have worked with the BHR to enable its continued successful operation.

4.10 Landowners

4.10.1 It is a feature of the scheme that there is no outstanding land owner interest that continues to object to the scheme on the grounds of interference with such interest. That is of course particularly relevant to the question whether for the purposes of the advice in Circular 6/2004 there is a compelling case for the acquisition of any particular interest, in that there is no objection on that account.¹⁰⁵

4.11 Walkers & Cyclists

Walkers

4.11.1 This is a transportation scheme, and is not and could not under the TWA be a pedestrian or cycling scheme. There is no dispute that Government and local policy aims to promote walking and cycling.¹⁰⁶ BCC's Core Strategy states in its introduction to its Spatial Vision and Objectives:¹⁰⁷ *"In order to tackle congestion and air pollution, our overarching vision is for a less car dependent city and an emphasis on walking, cycling, buses, rapid transit and rail."* The AVTM scheme would contribute to that vision.¹⁰⁸ It is also complementary to other ways of delivering the vision, through measures specifically designed to promote walking and cycling. There is no conflict with these important aims.

4.11.2 There is limited requirement for rights of way to be stopped up under the Order but, where they are, appropriate provision has been made for replacement. This has not been challenged.¹⁰⁹ It should be clearly understood that there are no

¹⁰⁵ There are land interests who have not formally withdrawn their objection or have opposed it on other grounds – for example Mr Pratt made clear that he was happy to cooperate with the scheme – see objection letter received 5th July 2010 and confirmed in xx

¹⁰⁶ See eg the policy documents set out in Sections 3 and 4 of the Ramblers' proof of evidence (RAM/1).

¹⁰⁷ CD/C8 at p. 16

¹⁰⁸ In the same way, one of the main principles of the emerging Public Realm & Movement Framework (OA/192), relied on by the Ramblers, is the provision of a new Rapid Transit network (Ms Carter XX).

¹⁰⁹ A maximum of four footpaths would be stopped up, three of which would be replaced with new footpaths. No substitute is to be provided for Footpath No. 423 in the City of Bristol, but Article 10(5) requires conditions to be met, one of which is that there is reasonably convenient access to the land otherwise than from the street (footpath) concerned. In any event, the scheme would provide two new footpaths, one from Ashton Avenue Bridge to Avon Crescent, and another from Ashton Avenue Bridge running behind the A Bond building and along the New Cut. In relation to the area near the Park & Ride, the Promoters have responded to objector concerns and propose an amendment to Sheet No 12 Rights of Way Plan in order to provide a better connection

cycle tracks with which there is interference. So far as footpaths are concerned, provision for replacement is properly made by a similar right as a footpath.

4.11.3 Wherever possible, the scheme has been designed to link with existing Public Rights of Way (PROW) and routes proposed by others.¹¹⁰ Where the scheme would cross existing links for pedestrians and cyclists, appropriate crossing facilities would be provided.

4.11.4 In addition, the Promoters have confirmed that the maintenance track would be available for walkers (and cyclists) subject to the requirements of maintenance which remains its primary purpose.¹¹¹ In circumstances where walkers are being provided with a net gain in opportunities for walking access and permeability, the Promoters do not see why there should be a further requirement as part of the Order for the dedication of the maintenance track as a PROW. There is no basis for imposing a requirement to dedicate land required for the operational purposes of the guided busway as a cycleway or footpath in the absence of any identified interference of relevance to public interests. If there is to be formal dedication, it is something that can and should be addressed as part of the Promoters' general powers and duties as local authority.

4.11.5 Ms Carter¹¹² confirmed that the Ramblers are not suggesting that the scheme would physically impact on any footpath or right of way. Rather, any concern was limited to the experience that walkers would have in the vicinity of the BRT scheme.¹¹³ These effects are considered later, but it is noted that, as Ms Carter conceded, there can be no serious contention that any area popular with walkers would be 'blighted' by 'a constant stream of belching high-speed diesels'.¹¹⁴

4.11.6 The scheme would remove the substandard (1.04m wide) footways currently either side of PSB and would create a single 3.5m wide space for pedestrians and cyclists on the western side. Current detailed observations of the patterns of pedestrian movements show that around 70 – 80% of users currently travel on the western side of the bridge in any event. The removal of general traffic from the bridge would significantly reduce any potential for conflict between vehicles and pedestrians and cyclists and generally improve the access and ambience of this area.¹¹⁵ There would also be improvements to surfaces on other

between the proposed new footpath between NP3 and NP4 and existing footpaths to the north (east of the Park & Ride) in relation to Works 1A and 1B. In order to provide connectivity from the PROWs to the Exchange Land C, the Promoters propose a planning condition that the land running along the south of the Park & Ride (as indicated by Mr Slattery on Day 14 question & answer session – OA/213A), would be held for the public for open space purposes and thereby can also be used by the public as a route from footpath LA12/14 to the exchange land. The stopping up of the level crossing at Barons Court would only happen if the BCFC stadium implements its permission and constructs the bridge over the railway. If the stadium is not constructed, the existing provision would remain.

¹¹⁰ See Plans for Information Cycle Network and Key Linkages, GAV TMR-SK03-01 attached to OA/130

¹¹¹ OA/6 [5.63]. The maintenance track has been designed within DfT cycling guidelines (LTN2/08) including width and visibility requirements.

¹¹² Acting for the Ramblers

¹¹³ XX and Re-X of Ms Carter

¹¹⁴ RAM/1 at [16]

¹¹⁵ See OA/130 at [1.16] – [1.17]. The proposed buses constitute less than 4% of the current traffic levels and there would be a likely 110 seconds between buses at peak times.

parts of the route, including across the AAB and along the Chocolate Path.

4.11.7 It is acknowledged that, inevitably, a major transportation scheme such as this would involve some disruption during the construction phase. However, construction impacts would be minimised and diversions and alternative safe routes put in place where necessary.¹¹⁶

4.11.8 In summary, in terms of the opportunities for walking, the situation once the scheme was operating would in many respects be enhanced and in no case worse.

Cyclists

4.11.9 The same is true for cyclists. This is not a cycling scheme and the Order cannot promote cycling as a primary objective. Thus it is misconceived to expect this scheme to provide measures for cyclists comparable with those provided by schemes such as Cycling City, the sole purpose of which is to promote cycling. However, as Mr Slattery explained,¹¹⁷ the Promoters have been committed to working with cycling groups and have done so.

4.11.10 This has resulted in a number of additional facilities provided for cyclists as part of the incidental benefits of the scheme as a whole.¹¹⁸ While it is naturally a matter of judgement as to how beneficial these features are, it is to be recalled that Mr Ginger¹¹⁹ accepted that the following would as a matter of fact be provided and which indicates an impressive contribution to the support and enhancement of cycling facilities as part of the scheme:¹²⁰

- a) a new at-grade signalised pedestrian / cycle crossing at the northern end of Haymarket;
- b) additional cycle movements at the junction of Prince Street and The Grove;
- c) the provision of a fully signalised junction at the junction of Avon Crescent and Cumberland Road;
- d) a new junction between the proposed CONNECT2 cycle footway and the existing route across the landscaped area to the south of AAB to allow cyclists (and pedestrians) to either cross the BRT route to make the connection with the new Festival Way link safely and conveniently, or travel along the maintenance track in either direction.¹²¹ The design of the crossing removes the current substandard arrangements where conflicting tracks meet by the current bridge abutments with insufficient visibility;
- e) reduction in traffic levels around the PSB area;
- f) the provision of a single 3.5m wide space for walkers and cyclists on PSB;
- g) the widening and resurfacing of the connecting path between the Chocolate

¹¹⁶ OA/6 [5.12]

¹¹⁷ On Day 14 Q & A session

¹¹⁸ A comprehensive account is set out in OA/130, which has not been challenged in any material aspect.

¹¹⁹ A former member of Avon County Council's cycle team

¹²⁰ In XX Mr Ginger took issue only with whether the proposed right turn at the junction of Prince Street and The Grove would be "additional" to existing routes.

¹²¹ Detailed on Drawing GAV TMR-400-12 Rev A

Path and Harbourside;

- h) the repair and restoration of the Chocolate Path;
- i) the provision of the maintenance track over AAB, which will provide a wider, smoother and safer environment for pedestrians and cyclists than the current facility;¹²²
- j) the maintenance track with permissive availability for cycling; and
- k) the opening up of the link through to Avon Crescent from the Create Centre stop.

4.11.11 The scheme has been designed to complement the CONNECT2 cycle way,¹²³ and there is scope for further connection to be made in the future, as and when funds become available.¹²⁴ Notwithstanding this, the design of the route at present allows for the continuous provision of a cycle/footway along the whole of the main corridor section.¹²⁵

4.11.12 BCC cycling officers have been consulted and the Promoters have engaged in on-going (and are committed to future) dialogue with Sustrans.¹²⁶

4.11.13 There appears only to be one location on the corridor section where cyclists still argue that existing arrangements would be made worse by the scheme, once operating. That is PSB.

4.11.14 The proposals on PSB have been clearly set out. These are to remove the substandard (1.04 m wide) footways currently on either side of the bridge and replace them with a single 3.5m wide space with an improved surface for both cyclists and pedestrians on the western side of the bridge. It cannot sensibly be contended that that provision would reduce the effective width of the bridge to cater for cyclists and pedestrians. On the contrary, it is clear that the facility would be more cycle and pedestrian friendly and certainly with the overall reduction in traffic, the ambience would be much improved. In these circumstances, discussion over theoretical or actual capacity is beside the point because the facility would be improved and in any event no worse than the existing.

4.11.15 There has also been debate over the pedestrian crossing of the Portishead line at Barons Close. The position is straightforward and unexceptional. In the absence of the stadium proposals, the existing pedestrian crossing over the railway would continue to be available to include the crossing of the guided

¹²² That the section of the AAB available for walkers and cyclists would be improved through its resurfacing and restoration was something which was welcomed by Mr Ginger.

¹²³ The Promoters and BCC have considered options for links under the CONNECT2 funding. The current layout is detailed on Drawing GAV TMR-SK04-12 Rev A although an alternative that may involve a hybrid scheme with a direct connection across the park has been considered. BCC cycling officers and Sustrans were involved in dialogue leading to the production of this drawing (see OA/130 at [1.24]).

¹²⁴ eg The connection between Festival Way and the BRT route at the Park & Ride, suggested by Mr Grimshaw (and supported also by Sustrans: see OA/215a)

¹²⁵ Mr Grimshaw suggested that the route was not continuous because it is proposed to utilise the footbridge to be provided by BCFC (if their permission is implemented) (see OA/109) or otherwise cyclists would have to cross the existing level crossing at Barons Court. The route would be continuous in either scenario: the proposed footbridge has a ramp for cyclists as a matter of fact, and there is no evidence to suggest that cyclists would not be able to use the level crossing.

¹²⁶ As evidenced by the recent meeting on 27 March 2012: OA/215a

busway. Thus cyclists would be no worse off in so far as they wished to use this facility on foot. With the stadium in place, there is the requirement to build the new footbridge with its ramp facility.¹²⁷ That would involve discontinuance of the at grade foot level crossing. That is not in the Promoters' control and is no part of the BRT scheme. It does however form part of the baseline in Scenario 1 where the stadium is provided. If it is provided, it could accommodate the guided busway and has been designed to do so. There would be no worsening of the provision to be made for walkers and cyclists as approved in the permission and required as part of the stadium proposals.

4.11.16 In terms of the cycle connections to Long Ashton,¹²⁸ it is common ground that there could well be merit in making a further connection to the CONNECT2 cycleway which is under construction, something which is likely to be supported by the LAPC as Dr Sterland confirmed. None of that is in dispute. The BRT scheme would not prejudice or have any other effect on the opportunity for that provision nor is it required for the proposed public transport system. Thus there is no basis for a requirement to acquire the necessary land and rights to secure its provision as part of the Order. Indeed it is difficult to see how such a provision could be justified in accordance with the requirements of Circular 6/2004. There is therefore no basis for objection to the Order on this account.

4.12 Heritage

4.12.1 As heritage considerations directly affect the Order and the specific LBC and CAC applications, it is convenient to address them together.

4.12.2 There is nothing further to add on archaeology as this aspect of the evidence was essentially uncontroversial. The following therefore focuses on the designated heritage assets and in particular:

- a) Ashton Avenue Bridge;
- b) Prince Street Bridge; and
- c) The City Docks Conservation Area.

4.12.3 While issues also arise in respect of the setting of a number of other heritage assets (such as the listed buildings in Cumberland Road), the Promoters believe that the relevant effects can be most helpfully addressed by considering the above three assets in turn and including the CAC applications as part of that consideration.

4.12.4 It is to be noted that English Heritage has been consulted throughout and the scheme has evolved in accordance with their recommendations.¹²⁹ This has not been limited to the listed structures but has included wider considerations affecting the conservation area as a whole. English Heritage does not object to the proposals and positively supports the improvements that the scheme would bring.¹³⁰ While there is local objection from the BCS and others, there is no objection from any national body with broader responsibilities for heritage

¹²⁷ OA/207, 209 and 209a. This was also the subject of discussion with Sustrans OA/215 and 215a

¹²⁸ CONNECT2 is in the course of extending the Festival Way to Long Ashton

¹²⁹ Including following scheme changes: see OA/248 and letters dated 11 July 2011, 25 January 2012 and 17 April 2012: OA/146 and OA/147

¹³⁰ eg at AAB: letter dated 17 April 2012: OA/146

interests.

4.12.5 There has been acceptance of the approach taken in the Visual Identity Guidelines (VIG)¹³¹ and commendation of the City Design Group and the design and conservation officers who were central to the development of the principles set out in the guidelines (and which are proposed to be applied through the planning conditions).

4.13 Ashton Avenue Bridge (AAB)

4.13.1 It is manifest that the proposals would secure significant heritage benefit for the AAB through its restoration structurally and functionally, particularly given its present forlorn state and the extent of the required repairs together with its inclusion in the buildings at risk register.¹³² There is nothing in the agreed repairs and related work that would imply any harm to the significance of this important asset.¹³³ It would not only make a major contribution to the heritage value of the bridge but would bring wider benefit to the area generally through its restoration, including the enhancement of the Conservation Area (CA), of which it forms part. None of this is likely to be achieved in the absence of this scheme, at least in the foreseeable future.

4.14 Prince Street Bridge (PSB)

4.14.1 In respect of the PSB there would also be significant benefit in the restoration and repair of the structure, particularly given that it remains a working structure and an active element in the transport network of the city.¹³⁴ It is submitted that on the evidence, and in the light of EH's response, it can be safely concluded that the required works can and would be carried out consistently with the heritage significance of the bridge. Additionally the scheme would provide opportunity for further benefit by removing general traffic and restoring the running surface with sympathetic materials. This could be extended to the removal of surplus signage and other street clutter and the choice of surface materials used for the approaches to the bridge on either side.¹³⁵

4.14.2 Overall therefore the Promoters believe that there would be no harm to the significance of the bridge as a designated asset or its setting; rather overall benefit. However, insofar as it is concluded that there is any degree of harm in a technical or other sense, it is considered that any such harm would be far outweighed by the benefits of the scheme, both to the bridge and its setting and otherwise.

4.15 The City Docks Conservation Area (CA)

¹³¹ CD/A14

¹³² It is included in the survey of 'Listed Buildings at Risk in Bristol' (2009), see OA/8/2 Appx 3 and ES (CD/A19) at 8.4.9. It is considered currently to have a 'very poor' status.

¹³³ OA/8 [4.19] and [5.7] and Griffin X in chief. The current proposals for works to AAB are shown on GAV TMR-0400-103 (OA/140), which shows the additional longitudinal beams and transverse plate stiffeners below the busway and also the storm water drainage proposals.

¹³⁴ See OA/5 Appendix 7 (plan GAV TMR 1700-4960-01) as updated and explained by SG in X in chief and in Halcrow's Technical Note of 30 June 2012: OA/248 para 22

¹³⁵ It is accepted that in this City traditional materials such as level setts can and are used extensively to accommodate modes of all kinds including cycleways and buses.

4.15.1 Turning then to the CA, the debate largely focuses on the effects on the Harbourside. Certainly for the purposes of para 138 of the Framework there would be no harm to the significance of this CA as a whole in the reuse of the abandoned railway formation for a different form of guided transportation, such as is proposed to the south of the New Cut through Sylvia Crowe Park. For the reasons set out above, there is no reality in its reuse for heavy rail and no case for the introduction of ULR, in so far as that is thought to have a materially different effect on the heritage value of the CA (which the Promoters do not accept). Hence there is no evidence of any relevant harm to the significance of the heritage asset in this respect.

4.15.2 To the north of the New Cut along Cumberland Road and the Chocolate Path, EH support the scheme for the restoration and replacement of the railings with the materials proposed for the supporting wall. Indeed, generally that has been accepted as a benefit.¹³⁶ The same goes for the rebuilding of the section of the New Cut embankment which has subsided and is potentially unstable and the repair and restoration of the Chocolate Path itself.¹³⁷

4.15.3 The BHR would continue to operate on its planned steam days and to that extent its contribution to the character and appearance of the CA is preserved and indeed supported through the extensive refurbishment of the track and its formation. Physically the rails would be set in a supporting structure as explained by Mr Slattery¹³⁸ but not covered over, consistent with the treatment traditionally applied to harbour railways where there is common use with other modes of movement. Indeed almost the entirety of the railway to the SS Great Britain is set in concrete along with the remainder of the quayside section of the railway.

4.15.4 That then leaves the use of the railway corridor by the BRT buses when it would otherwise be redundant (in contrast to its former use when operating commercially). The Promoters reject entirely the proposition that this would be alien to this part of the CA or that it would in some way harm its significance as a heritage asset as a whole. The number of buses would be few (some 15 in the peak hour along this stretch of the BHR with buses in the other direction accommodated on Cumberland Road). The overall noise exposure would be reduced¹³⁹ and the air quality along the Chocolate Path improved.¹⁴⁰ The long term parking on the south side of Cumberland Road for trailers and coaches would be removed. Any adverse effect on the CA (which is not accepted) would in any event have to be weighed against the other benefits from the scheme to this part of the CA as described above and generally.

4.15.5 For the same reasons there would be no harm to the setting of the listed buildings along this part of Cumberland Road, which if anything would be

¹³⁶ Following discussions with English Heritage and BCC Conservation Officers, the Promoters have surveyed the state of the existing railings between Cumberland Road and the BHR and propose to retain as many of the existing railings as possible. The overall height would remain as at present (taking into account the new flood wall): this would result in the actual railings being shortened but at least half (and probably more) of the original would remain (as SG confirmed in X in chief). SG confirmed that, where replacement is necessary because of the state of the existing railings, the replacements would appear far more akin to their original character.

¹³⁷ CD/C38 p, 33 – 35, SG X in chief

¹³⁸ See OA/196 the response to Mr Lomas particularly at para 1.4

¹³⁹ OA/11 paras 6.6/7

¹⁴⁰ OA/12 [6.13]

improved.¹⁴¹ It is also to be borne in mind that, in so far as there appears to be support for the use of the same route for a tram system, this would require twin tracks with considerable structural implications for the retention of the railings and Cumberland Road. It would also be incompatible with the retention of the BHR as an operating steam railway.¹⁴²

4.15.6 Moving then to the Harbourside, the relevant considerations include the following:

- a) The area of the Harbourside that would be used by the BRT is at the rear of the Harbourside area and away from the quayside, where it is acknowledged that people generally congregate, as reflected in the identified primary pedestrian route along the quayside.¹⁴³
- b) It is a fact that the buildings are almost entirely post war and modern in appearance; the Harbourside retains its association as a dockside area because of its location and the waterside activities together with the supporting infrastructure. Over the past half century, it has indeed evolved from an inaccessible industrial hinterland to a well-used recreational resource for the City.¹⁴⁴ The City Centre AAP describes it as having "arguably ... the most strongly defined character" of the City Centre neighbourhoods. It retains "a distinctive maritime feel" and "the mingling of new development with retained dockside fabric and the retention of traditional shipbuilding activities has created a unique and engaging combination of modernity and "grittiness" that is softened by sensitively landscaped residential developments as the Floating Harbour opens out towards residential areas of Hotwells".¹⁴⁵
- c) Moreover it is an area that is and has been for many years allocated for regeneration and redevelopment. The recent refurbishment of the M-Shed and proposals for the extensive regeneration of the Wapping Wharf site with a residential and mixed use development have continued the urban renaissance of the character and appearance of the area. Both of these developments have allowed for the retention of the BHR and the introduction of the BRT.
- d) The Wapping Wharf permission, both in outline (including the masterplan) and the proposals submitted for approval of reserved matters for the first phase, reflect what is demonstrably a contemporary urban design approach. This will bring a cosmopolitan ambience to this part of the Harbourside.¹⁴⁶ That is clearly in tune with its character as a centre of activity and commerce, also reflected in the newly refurbished M Shed,

¹⁴¹ Eg by the restoration of the railings and the removal of the coach and trailer parking.

¹⁴² Mr Martin in effect confirmed this when he said that "the two modes could in theory work together but would require extremely significant financial investment in order to do so". This confirms the unchallenged evidence by Mr Fowler and Mr Slattery that the two modes would in practice be mutually exclusive as confirmed by the relevant operating rules for single steam locomotives on the line.

¹⁴³ CD/C24 fig 4.3 p 44

¹⁴⁴ See CD/C38 at 6.1.3. See also the SWOT analysis of the Floating Harbour that has been carried out as part of the City Docks Conservation Area Appraisal, p. 32.

¹⁴⁵ CD/C24 at 7.1.10/12

¹⁴⁶ See OA/208 p 5-7, 12, p 16 para 3.35 and p 20-22.

which will frame the north side of the street.

- e) The Wapping Wharf development has of course throughout been planned to accommodate the BRT, which has been allocated since 1997¹⁴⁷ and is embedded in the proposals. The provision of a modern BRT link along Museum Street is entirely consistent with the current proposals as reflected in OA/241. BCC's Head of Museums, the operator of M Shed, supports the scheme and the inclusion of a stop to serve M Shed on Museum Street will facilitate access for visitors and contribute to the accessibility of the area.¹⁴⁸
- f) Moreover the provision of the BRT along this route has been consistently included as part of approved and emerging policy. That includes the safeguarding in the local plan since 1997, its endorsement in the JLTP3¹⁴⁹ and the Core Strategy (CS)¹⁵⁰ together with the emerging proposals in the Central Area Action Plan (CAAP).¹⁵¹ The City Docks Character Appraisal and Management Proposals¹⁵² are entirely consistent with the BRT proposal, which would comply with all of the identified criteria including the Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis on p.32.
- g) The BRT scheme, as modern transport infrastructure, would therefore retain and preserve the Harbourside's character as a functioning transport corridor, while enhancing its modern vision as an informal leisure destination.¹⁵³ It would generally conserve the rail infrastructure and add to the traditional character of such an area where it would have been typical to have rail running alongside in conjunction with other transport modes and activity.
- h) Jubilee House would be required to be demolished as part of the proposals. The factual position is not in dispute. It is a 1960's building and rightly not identified in the CA appraisal as a landmark building or otherwise a building that positively contributes to the character or appearance of the CA as a whole.¹⁵⁴ It is not on a local list.¹⁵⁵ It is thus correctly characterised as having a neutral role. It has no other attributes of note in terms of its architect, design or otherwise. Its former use as the office of a harbour navigational company¹⁵⁶ is unsurprising given its location.¹⁵⁷ This does not give it any added significance in the context of the CA, at least without

¹⁴⁷ CD/C22 Policy M13

¹⁴⁸ REB/09 para 2.2

¹⁴⁹ CD/C7

¹⁵⁰ CD/C8

¹⁵¹ CD/C24 see Policy MP 1, para 4.33, para 7.1.7/18 and policies HSS 1 and 7 on p 76

¹⁵² CD/C38

¹⁵³ The approach to development of Harbourside is set out in the Central Area AAP as: "Enhance Harbourside's role as an informal leisure destination and a focus for maritime industries, creative industries and water-based recreation, preserving and enhancing the setting of the neighbourhood's major attractions including the Floating Harbour itself" (CD/C24), p. 74

¹⁵⁴ CD/C38 p. 22 Map 4 or map 6 p 42 not as a building of merit

¹⁵⁵ Mr Griffin in response to Mr Lyons' question.

¹⁵⁶ The Bristol Steam Navigation Company Obj 1 doc PM/1 para 2, but their occupation ceased in 1990 when it was acquired for the Avon LRT.

¹⁵⁷ SG in response to Mr Lyons' question.

something more to identify why that should be so.¹⁵⁸ In terms of the streetscape or layout, there is nothing to commend its position, which appears at odds with the traditional street layout. It is submitted accordingly that there is no evidence to support the conclusion that the building makes a positive contribution to the significance of the CA as a whole for the purposes of para 138 of the Framework or that there would be any harm in its removal in that respect.

- i) Moving then to the western section, where the busway emerges from below the Cumberland Road underbridge, the construction of the busway, which is segregated at this point, would require the removal of the BHR rear siding. Mr Martin did not suggest that this would harm the continuing operation of the BHR and in any event it is apparent from his evidence that the sidings are in fact moved in position with some regularity. The busway would leave the rail formation at this point and run on the south side of the other tracks. These would normally be occupied by the associated BHR rolling stock. To the north is located the Brunel Buttery and other modern structures along the quayside with the modern flat developments of Perretts Court and the Quays dominating the position to the south.
- j) It is very difficult to see how the formation of the busway and the relatively low frequency of bus use (mostly single deckers) would or could in any material way so impinge visually or otherwise on the use of this part of the quayside area as to harm the significance of the CA as whole. It is to be noted from OA/175A and B that there would be minimal if any increase in the noise levels (Leq) affecting the quayside at any point from the bus use. The effect on air quality would be negligible.¹⁵⁹ That would also support the conclusion that there would be no material effect, let alone harm, to the setting of any other heritage asset in this respect.¹⁶⁰
- k) Further to the east the busway would run behind the Framing Factory sheds and associated buildings with the five/six storey facade of the Wapping Wharf development on the south side of the street.¹⁶¹ As with Museum Street to the east, this will be a cosmopolitan street scene that has specifically allowed for the incorporation of the BRT and with which it would be wholly compatible. There is no reason why traditional materials¹⁶² should not be used for the stretches of shared space running in a form commonly found in similar situations elsewhere in the City Centre. It is impossible to conclude that as part of the planned regeneration of this part of the CA the inclusion of the buses¹⁶³ would in some way be harmful to the significance of the CA as a whole, particularly when this street is specifically proposed for that purpose as well as other vehicular use.
- l) It is intended that the BRT running speed would be reduced to 12 mph as part of the shared space proposals with a consequent reduction in noise

¹⁵⁸ A full description of the history of Jubilee House is set out in the Environmental Statement: CD/A19 at p. 74 – 75. The assessment in the ES is consistent with Mr Maggs' account of the history of his property.

¹⁵⁹ OA/12/2 Appx p 17

¹⁶⁰ Such as the scheduled Fairburn Steam Crane

¹⁶¹ OA/208 p 20

¹⁶² Such as setts

¹⁶³ Which at this point would be leaving the segregated section to run on street

emission as explained by Mr Williams. Functionally, this form of shared use is effectively indistinguishable from that of a tram, which evidently is regarded as acceptable by many.

- m) In any event the Harbourside has never been, and is not, a 'tranquil' area, as has been suggested by some Objectors.¹⁶⁴ Having said that, Mr Griffin rightly confirmed that the ability to have a tranquil walk along the Harbourside would not be altered under the scheme.¹⁶⁵
- n) Essentially therefore the area of any sensitivity would be limited to the short stretch of shared space on-street running between the Framing Factory sheds and the newly redeveloped M Shed. This area also forms part of the permitted Wapping Wharf development. While the area intended for a public square is excluded from the approved details for the public realm, the Masterplan¹⁶⁶ makes clear that it is intended to be crossed on its southern edge by the BHR accessing the M Shed to the east and the BRT to and from Museum Street. Indeed it is an area that is currently subject to shared use by pedestrians, cyclists and vehicles¹⁶⁷ together with the BHR.
- o) The route of the BRT along the southern edge of the area on the proposed street line linking Museum Street with the street to the west would be remote from the actual quayside. The combination of operational and other characteristics would be very well suited to shared space running, as explained in OA/226.¹⁶⁸ Its speed and operation would be similar to a tram and no more obtrusive. The frequency of bus use is entirely compatible with any crossing movements by pedestrians or cyclist using the proposed link¹⁶⁹ to Gaol Ferry Bridge and the steps to the south, as also confirmed in the safety audit.¹⁷⁰
- p) Given that the link is intended to connect from Museum Street to the proposed street to the rear of the Framing Factory sheds as part of the Masterplan layout, there cannot be anything inherently objectionable in the sight of a bus using the planned BRT route along what is in effect a long safeguarded transport corridor. As Mr Williams explained, any effect on the noise environment of the quayside or the main part of the proposed square would be insignificant.
- q) There would, in addition to the benefits already identified, be the benefit to the accessibility of this area as a tourist and cultural attraction and the

¹⁶⁴ eg Ms Carter of the Ramblers. See OA/202 Mr Williams confirmed that current background noise levels around Harbourside are significant (XX by Ms Carter).

¹⁶⁵ In response to Mr Lyons' question

¹⁶⁶ OA/208 pp 4-7

¹⁶⁷ Mr Martin put in a note on day 18 of the Inquiry giving the vehicle count in Museum Street as an average of 600 vehicles per day over two weeks (attached to DM/4).

¹⁶⁸ See para 1.2.1.3 summarising the principles in LTN 1/11 (OA/252) and the case studies including Weston at para 1.3.3 – traffic flows and speeds are specifically considered in paras 2.13-17 of LTN 1/11 demonstrating the suitability of what are the considerably lower levels of vehicular use as proposed with the current scheme. That is fully consistent with the advice in MfS2 paras 2.9.6/8 (OA/141).

¹⁶⁹ OA/208 pp 4-6,12 and 20

¹⁷⁰ OA/253 para 2.3.1

enhancement of the experience of the traveller using the BRT.

4.15.7 In conclusion, the scheme would make a positive contribution to the significance of the heritage assets of the area overall and any identified harm would be outweighed by the combination of those benefits in heritage terms and generally. There is no realistic alternative that would secure the range of heritage and conservation benefits while delivering the fundamental objective that underpins this scheme.

4.16 Landmark Court/Cumberland Road Residents

4.16.1 There has been complaint from Cumberland Road and Landmark Court residents that they were not adequately consulted. The Promoters consider there has been extensive consultation with a wide-range of stakeholders¹⁷¹ and the community. All statutory requirements for consultation and notification of the scheme under the TWA (Applications and Objections Procedure) Rules 2006 have been complied with.¹⁷²

4.16.2 The visual and related effects along Cumberland Road have already been addressed above. Any contention that there would be any detriment to the outlook from these properties over Cumberland Road is rejected. Indeed in significant respects, such as the reinstatement of the railings and removal of the coach/trailer parking, there would be benefit. Equally in terms of outlook to the north, the relevant Cumberland Road properties and those at the Point would continue to command their panorama across the Floating Harbour, which would be unaffected by any limited view (such as there may be in any particular case) of the new busway or indeed the buses on it.

4.16.3 The predicted noise exposure of the Cumberland Road properties has been set out in OA/171, 205 and 262, which demonstrates that there would be, if anything, a reduction in the noise levels affecting their southern façade. To the north where the busway would be overlooked, the increases would mostly be imperceptible or in the case of Landmark Court on the margin of perception. In that respect it is to be borne in mind that Landmark Court and the remainder of the Point were permitted in, and following, 1999. They were therefore constructed and thereafter occupied in the anticipation of the BRT scheme, which was then subject to formal safeguarding. As one would expect, the windows are all properly fitted with modern double glazing to ensure a good internal noise environment.

4.16.4 While the predicted external level would marginally exceed the World Health Organisation (WHO) guideline, this should be regarded as "highly precautionary" in line with the conclusion in the DfT research.¹⁷³ Mr Williams additionally applied a sensitivity test allowing for a 25% increase in bus

¹⁷¹ The West of England authorities and Parish Councils, equality groups, environment groups, transport groups, utility companies and emergency services, the business community, urban form / realm interest groups (including Bristol Harbourside and Bristol Urban Design Forum: see Appendix E to the Consultation Report (CD/A6)). See also the Appendix to the closing submissions OA/272

¹⁷² OA/270 Folder of documents confirming compliance with statutory procedures

¹⁷³ National Physical Laboratory report (CD/D50), which states: "Exceedences of the WHO guideline values do not necessarily imply significant noise impact and indeed, it may be that significant impacts do not occur until much higher degrees of noise exposure are reached." Indeed, around 56% of the population are exposed to daytime noise levels exceeding the WHO recommended 55 dB(A) Leq, 16 hr.

movements. This only showed an increase in the order of 1 dB in the predicted levels which would not alter the overall conclusions.¹⁷⁴ Certainly there is nothing here that would constitute a “significant adverse impact on health and the quality of life” for the purposes of para 123 of the Framework.

4.16.5 As Dr Marner confirmed there would only be slight impacts on air quality in this area, some of which would be improvements.¹⁷⁵

4.16.6 Structural questions are addressed in OA/189 at para 1.1-4 which demonstrates that there would be no implication in that respect.¹⁷⁶

4.16.7 That then leaves the issue of parking. It is important to be clear what the scheme requires and the Order provides and what it does not. The substantial removal of on street parking on Cumberland Road to the west of the Cumberland Road underbridge is required to enable priority for the west bound buses and the relevant powers are included in the Order.¹⁷⁷ No one has questioned the need for those powers, any issue essentially being as to replacement. As part of the “Sunday” working it is anticipated that it would be desirable to have some limited control over on street parking along Cumberland Road to the east of the underbridge. However, specific powers have not been included in the Order as that provision would be better addressed on a bespoke basis through the City’s existing traffic regulation powers. Again there has been little debate over that approach to the powers or the potential need for that control.

4.16.8 As to any replacement parking it was determined from the outset that this would be better secured through the existing powers and consultation process of the BCC. This has been fully described by Mr Mann in his evidence¹⁷⁸ and as an approach it has been welcomed. There is additionally the potential for some additional parking to be provided to the west of the underbridge as explained by Mr Slattery.¹⁷⁹

4.16.9 BCC already has a city wide approach to address the requirements for coach and related parking. As Mr Mann explained this is a city wide requirement and not location specific to Spike Island. It is far better addressed as such.¹⁸⁰

4.16.10 For the centre fringe areas, where there is inevitably commuter parking pressure, Residential Parking Schemes (RPS) are already being introduced on a

¹⁷⁴ OA/169 para 1.1 confirmed orally in evidence by SW

¹⁷⁵ Pollution concentrations would increase at some locations but reduce at others. The scheme would cause exceedences of the annual mean nitrogen dioxide objective to reduce from four locations to three: OA/12 [6.14]

¹⁷⁶ That is also reflected in REB/30 to Friends of Suburban Bristol Railways (FSBR) at para 2.1, which confirms that the construction at the underbridge would only require an excavation of around 100 mm, which is of no consequence in this respect. So far as relevant, vibration is addressed by SW in his evidence and specifically in response to questions from Mr Spearman in OA/170 Q4.

¹⁷⁷ Article 40 and Schedule 8

¹⁷⁸ See OA/103 - BCC has a clear policy for introducing Residential Parking Schemes (RPS), as evidenced in the Cabinet reports of 13 October 2005 and onwards and can draw on the experience of the recently introduced RPS at Kingsdown.

¹⁷⁹ See OA/111 and 187 indicating a potential of up to 17 additional spaces in the vicinity of 81-90 Cumberland Road where it has been confirmed by Cumberland Road objectors (e.g. Ms Heneghan and Mrs Hamner) that there are a total of 4 properties on Cumberland Road which do not currently have off-street parking.

¹⁸⁰ That would include the new coach park in Castle Park

coordinated basis with full consultation of the relevant interested parties. That clearly applies in this area where Mr Gott confirmed that it is already difficult to park in Cumberland Road during the working day due to the large numbers of commuters using it for commuter parking.¹⁸¹

4.16.11 The evidence demonstrates that there is ample opportunity for the introduction of a RPS, which would properly balance the different requirements.¹⁸² Indeed residents generally seem to have a reasonable level of off street parking and there is a good level of on street potential away from Cumberland Road. Moreover it would fit well with the overall transportation strategy of controlling non-residential parking in connection with access to the City Centre.

4.16.12 In the event, there was no real opposition to the approach taken by the Promoters in this respect. Indeed there would be identifiable benefit in bringing forward a RPS for this area at an earlier stage than might otherwise have been the case.¹⁸³

4.16.13 Overall it is submitted that the scheme would have remarkably little effect on residential interests, particularly bearing in mind the potential challenges generally faced by schemes that seek to connect to a City Centre through established urban areas. Such impact as there might be would be largely confined to the construction stage where some disturbance is inevitable but would be limited in extent and duration. Certainly there is nothing in the overall effects which would militate against approval for the Order proposals, having regard to the enhanced accessibility for the area and other benefits.

4.17 Ashton Fields

4.17.1 At Ashton Fields two alternative routes are proposed on land which is designated Green Belt. Work 1B (the alignment originally proposed) cuts across the open space in a direct route. The alternative route, Work 1A,¹⁸⁴ skirts the proposed stadium development, along the edge of the Green Belt.

4.17.2 The Promoters have set out the justification for retaining both options as alternative routes in OA/191. In essence, it is in the public interest that Work 1A is constructed if the stadium is built or it is clear at the time of route choice that the stadium will be built. Otherwise, it is in the public interest that Work 1B should be constructed if the stadium development does not take place since that is the optimal route in a 'no stadium world' for a number of reasons, as set out in Table 1 of OA/191.¹⁸⁵ That was expressly supported as an approach by Dr Sterland for the

¹⁸¹ XX of Mr Gott

¹⁸² The current parking layout and proposed loss of spaces is shown on OA/111. The existing position can also be seen on the aerial photographs of the area (OA/110 and the marked up version produced by Mrs Hanmer).

¹⁸³ It was confirmed that the proposal for a RPS at Spike Island is to be taken to Cabinet on 4 July 2012

¹⁸⁴ Subsequent to initial design of the scheme, Ashton Vale Project Limited and Vence LLP were granted planning permission for a new football stadium at Ashton Fields for BCFC. There is clearly compelling reason in the public interest why the football stadium should go ahead (as had been recognised by the decision-maker who had granted permission for it despite its Green Belt location). Hence the Promoters included an alternative route, Work 1A, which skirts the proposed stadium.

¹⁸⁵ Including the fact that less of the Green Belt would be taken by Work 1B than by 1A and less of the land which may imminently be registered as TVG would be taken by Work 1B than by 1A.

LAPC and others. Indeed no one has spoken against it at the Inquiry.

4.17.3 This approach to alternatives accords with DfT's 'Guide to TWA Procedures'.¹⁸⁶

4.17.4 Local resident and former councillor, Alderman Crispin, referred to the value which local people place on the limited open space in the area.¹⁸⁷ This scheme, however, unlike the football stadium development, would:

- a) be appropriate in the Green Belt for the purposes of paragraph 90 of the Framework comprising local transport infrastructure which can demonstrate a requirement for a Green Belt location; and
- b) preserve the openness of the Green Belt and not conflict with its purposes.¹⁸⁸

4.17.5 The Secretaries of State thus do not need to go on to consider whether very special circumstances exist for this development in the Green Belt. However, should they disagree with the professional views of Mr Linfoot, Mr Chapman and Mrs O'Driscoll, it is submitted that in the light of the compelling benefits of and need for the scheme 'very special circumstances' exist which would clearly outweigh any harm to the Green Belt.

4.17.6 There is a world of difference between a large permanent building on the land, such as the stadium, and a linear track on the ground which would be used by intermittent buses passing at a peak rate of one every 2 minutes. The recreational environment would not be damaged. Such interruption as there would be with Work 1B would be limited, particularly having regard to the opportunities to cross the busway.

4.17.7 The proposed noise barrier at Ashton Fields¹⁸⁹ would mean that no property in the area would be subjected to an increase in noise level of more than 3dB(A)_{L_{10, 18 hr}} resulting in a neutral to slight or moderate negative significance of effect.¹⁹⁰ The barrier would also have benefits for those using the area for outdoor recreation. There would be a negligible impact on air quality in the area.¹⁹¹

4.17.8 In so far as open space land would be taken for the scheme, it would be replaced on an equivalent basis, as set out below. Land that is or may be registered as Town and Village Green (TVG) when the scheme comes to be implemented, would be replaced where necessary as 'open space'. There is no need for replacement of the land already registered as TVG where the flood mitigation works are due to take place under Work 1A (assuming they have not already been carried out by the stadium), since the land would not be compulsorily acquired and would remain in use for its present purposes.

¹⁸⁶ CD/D63, para 41

¹⁸⁷ Describing Ashton Fields as 'Ashton Vale's front garden'

¹⁸⁸ OA/16 [3.50]; OA/9 [7.5]. Note that in Mr Linfoot's view, there would be a slight loss of openness between the P & R and nearby housing under Work 1B. However, planting appropriate to the landscape character would integrate the scheme into the landscape and mitigate these effects: OA/9 [5.8 – 5.18]

¹⁸⁹ Exact location set out in OA/199

¹⁹⁰ ES (CD/A12) at 11.7.2

¹⁹¹ OA/12/2 Appx Fig 2B p 16

14.7.9 Section 38 of the Commons Act 2006, referred to by Dr Sterland of LAPC, has no application since it relates only to 'common land' and not to a TVG. The Order provides the necessary powers to ensure that the works could proceed notwithstanding any potentially conflicting statutory provision in the relevant legislation.¹⁹² Thus, although much has inevitably been made of the recent litigation concerning TVG registration in the area, it has very little, if any, bearing on this TWA Order and the scheme.

4.18 Acquisition of Land Act Section 19 (ALA)

4.18.1 The exchange land is proposed separately for what the Promoters accept is open space at Ashton Vale (areas A and B depending on which of Works 1A or B proceed) and an area of what was considered at the time of making the application could be open space at Bower Ashton (area D).¹⁹³

4.18.2 The relevant principles are sufficiently set out in Appendix L to Circular 6/2004. The relevant definition of open space for this purpose is that the land should be "used for the purpose of public recreation."¹⁹⁴ It is accepted that the land at Ashton Fields meets this definition. The issue in this respect arises with regard to area D.

4.18.3 To satisfy the definition the following is required:

- a) The land must be put to that use in its present state at the time of the proposed acquisition if the requirements of Section 19 are to be triggered and the grant of a certificate becomes relevant. This would be a matter for the Secretary of State in the light of the findings of the Inspector on the evidence and any consequent recommendation.
- b) Public recreation means just that; it must be recreation, albeit it can be formal or informal, and it must be by the public at large, not just by an individual or group of individuals.
- c) It must be an identified use of the land for that purpose, i.e. it must have some regularity so as to be recognised as a use of the land.
- d) It must be lawful; unlawful trespass by breaking onto fenced land or otherwise cannot comprise a relevant public use for recreation, unless that use has in effect become lawful through the acceptance of the land owner.

4.18.4 As set out in the Promoters' statement of case,¹⁹⁵ although the Promoters had no evidence of use of area D for public recreation, the land was part of a designation for open space under policy NE1 of the Local Plan 1997.¹⁹⁶ As Mr Wickham accepted in cross-examination and is explained in the supporting justification for the policy at paras 3.4.1/3 of the Local Plan, the designation does not require that the land is actively used for public recreation. It may be included for its visual or landscape quality without public access of any kind. Thus as evidence of actual use it is neutral.

¹⁹² OA/238, Part 7 Article 61(3)

¹⁹³ CD/A18

¹⁹⁴ ALA s 19(4) – CD/D6

¹⁹⁵ CD/B26

¹⁹⁶ CD/C22

4.18.5 The evidence that has come forward at the Inquiry is from two sources, British Railways Board (Residuary) Limited (BRBRL) and Mr Wickham. BRBRL is unequivocal that the land has been securely fenced for many years, mainly by a three metre high palisade fence, that it has not been used for public recreation, that any use that there has been¹⁹⁷ has been incompatible with public recreation and that any unlawful trespass onto the land has been met by repairing the fencing as necessary.

4.18.6 Mr Wickham's evidence was not in fact materially in conflict with that of BRBRL. He confirmed that the land was indeed fenced. His point was that it was accessible by climbing through the fence where it had been broken down and that he had done so with his dog. Thus he confirmed in cross-examination that his main point was that it was possible to access the land through the breaks in the fencing. Beyond that he did not assert any recreational use of the land within the meaning described above. Indeed, apart from gaining access to the land, he did not suggest that he had made use of it for recreation (although this would not in any event have constituted public recreation for the reasons explained above). Indeed the photographs that he produced¹⁹⁸ did not indicate any evidence of public use of that kind. On the contrary, it had all the appearance of land which was simply abandoned and overgrown.

4.18.7 Perhaps most significantly there was no one else at the Inquiry who gave evidence of any kind that they or anyone else had made use of this land for public recreation or that it was so used (it will be recalled that Dr Sterland for LAPC expressly withdrew the suggestion that it was used as a part of a football pitch).

4.18.8 In these circumstances, the Promoters believe that the weight of the evidence is powerfully against any finding that the land comprises open space for the purposes of the 1981 Act. Indeed there has been no evidence to that effect. If the Secretary of State is of the same mind in the light of the Inspector's findings, Section 19 would not be engaged and there would be no need for the certificate to address the exchange land for this land (area E).¹⁹⁹

4.18.9 If on the other hand the Secretary of State does conclude that area D is open space, then the Promoters would pursue the application for the certificate for area E on the ground that it demonstrably satisfies the relevant requirements, being no less in area and equally advantageous.²⁰⁰ In this respect the advice in appendix L to the Circular gives the relevant guidance.

4.18.10 As is made clear in para 25 of that appendix, the exchange land need not possess the same character or features as the land to be acquired or offer the same advantages. The question is whether, judged as a whole, the exchange land would provide advantage that is of at least equal value to that of the land to be acquired. In the case of area E, that would plainly be the case, having regard to the following:

¹⁹⁷ As a construction site and for storage

¹⁹⁸ SW/19

¹⁹⁹ This would also mean that the definition of Exchange Land in art 34(3)(a) would need to be amended by deletion of the reference to land reference 03/01 and the definition of Open Space Land in art 34(3)(b)(i) and (ii) by deletion of the reference to land reference 5/28, 05/32 and 06/01.

²⁰⁰ ALA s 19(1)(a) – CD/D6

- a) The land would be transferred to NSC providing security for its future use as open space and subject to a scheme of management;²⁰¹ that is to be contrasted with area D, which is in private ownership so that any use is precarious and would be liable to be brought to an end as would be consistent with the evidence of Mr Gilbert; there has been no claim to a right to use the land for public recreation.
- b) It would provide a connection between footpaths LA 12/11 and 12/14,²⁰² which Mr Wickham accepted would be attractive in enabling a circular walk involving the two footpaths.
- c) It is plainly suitable for the purpose – see the photos at OA/265.

4.18.11 While it is accepted that it is at some distance from Bower Ashton, taking the overall public advantage in the light of the above there would be at least equal advantage to those using area D for public recreation (which appears to be negligible, if any) and the potential with area E as set out above.

4.18.12 Coming then to area C, attention is drawn to the following:

- a) the qualities of the land are clearly suitable for informal recreation of the type presently carried out at Ashton Fields; it is broadly level and open;
- b) the land would be subject to the equivalent rights so that its status as TVG or otherwise is of no further relevance;
- c) it would be transferred to NSC and thus secured for its purpose as open space;
- d) it would be subject to a scheme of management;
- e) it would be directly accessible though the proposed pedestrian connection;²⁰³
- f) as a matter of fact it would meet all of the requirements for appropriate exchange set out at para 12 of LAPC proof of evidence;²⁰⁴
- g) in terms of equality of advantage it is also relevant to consider the relatively marginal effect of the works at Ashton Fields on open space use with work 1A or 1B;²⁰⁵
- h) the effect of the South Bristol Link or the expansion of the P & R is irrelevant to the present consideration; the exchange land is made available subject to similar rights and assurances as the present land to be acquired and subject to the requirements of art 34; any future scheme would have to be determined against that background on its own merits; and
- i) finally in considering the overall balance of advantage it is appropriate to take into account the merits of the scheme as a whole, which are compelling.

²⁰¹ CD/A2 (Art 34(1)(2))

²⁰² See OA/15/2 App 2

²⁰³ Secured under condition 14 – OA/251

²⁰⁴ LAPC/2

²⁰⁵ With work 1A the stadium would effectively have precluded any substantial use on the remainder of the area so that the effect would be marginal; with work 1B the actual effect on open space use is very limited and there would be ample opportunities to cross the busway to access the remainder of the land.

4.18.13 Accordingly, the Secretary of State should find:

- a) that area D is not open space for the purposes of Section 19;
- b) that alternatively, if it is, a certificate should be granted for area E as exchange land; and
- c) that a certificate should be granted for area C as exchange land for areas A and B as appropriate.

Statement of Matters

In summary, the Promoters' response to the Secretaries of States' Statement of Matters is as follows:²⁰⁶

4.19 The aims and objectives of, and the need for, the scheme (Matter 1)

4.19.1 Bristol is an economically important 'Core City'²⁰⁷. Workers' commuting patterns are polycentric along established transport corridors, particularly into Bristol City Centre. Economic success has come at a price, however, in terms of a high percentage of car ownership and dependency.²⁰⁸ Bristol's highway network experiences significant levels of congestion in peak periods²⁰⁹ with the average morning peak hour vehicle speed on locally managed 'A' roads being the lowest of the English Core Cities (outside London), at 15.5 mph.²¹⁰

4.19.2 Air quality in central Bristol fails to meet European standards due to the level of vehicle emissions.²¹¹ The West of England area is forecast to accommodate over 70,000 new dwellings by 2026,²¹² increasing its population by an estimated 250,000. This level of growth, while necessary to deliver jobs and drive economic performance, will, if further action is not taken, exacerbate network wide congestion. By 2016 (from a 2006 base), a further 12% growth in traffic is forecast,²¹³ with an increase in congestion of 70%; this is predicted to cost the local economy £600 million per year.²¹⁴

4.19.3 It is against this background that the Promoters have developed specific transport policies and proposals to tackle Bristol's problems.

²⁰⁶ Each of the Promoters' witnesses had a specific section of their proof of evidence dealing with relevant parts of the Statement of Matters and the Promoters' opening statement was structured around them.

²⁰⁷ 'Core Cities' is an organisation representing 8 major cities in England outside London

²⁰⁸ JLTP 2006/07 – 2010/11 (CD/C5) states that 21.9% of households in the West of England area did not have access to a car, compared to 26.8% of households in England and Wales

²⁰⁹ Estimated in the JLTP3 to cost some £600 m pa – OA/3 para 3.27 – CD/C7 box A p.6

²¹⁰ Department for Transport statistics Table CGN0201a (CD/C14); of all cities outside London only Reading (not a Core City) has a lower speed of 15 mph

²¹¹ Bristol City Council currently has one AQMA which covers Bristol City Centre, Hotwell Road and most of the proposed route (see [7.4.1] and Figure 7.3 and [7.4.3] and Table 7.9 of the Environmental Statement: CD/A12)

²¹² 72,000 new households: Bristol Core Strategy (CD/C8) at [4.5.6]

²¹³ The number of motor vehicle kilometres travelled in the West of England area grew by 18% between 1997 and 2007, with Bristol experiencing a 9% growth. This sub-regional growth is larger than both the national (14%) and South West (16%) averages (MSBC (CD/B1) Appendix 2A.3) (Fowler P/E at 3.25).

²¹⁴ JLTP3 (CD/C7) at [1.1.6]. See also OA/2 at [3.1] – [3.9]

The vision of the BRT network is of a: *"higher quality experience; reliable, easy to use and understand, with modern vehicles and its own right of way. The BRT will have clear information, fast boarding and 'smartcard' ticketing linking with wider bus and rail services, creating a new way of travelling and be a catalyst for transforming public transport travel across the West of England area."*²¹⁵

4.19.4 The primary objectives of the AVTM scheme as part of the BRT network include to:

- a) extend the choice of transport modes for all, in particular for private car drivers, to encourage a shift to public transport;
- b) promote sustainable development by providing high quality public transport links; and
- c) promote social inclusion by improving access to employment, retail, community, leisure and educational facilities.²¹⁶

4.19.5 The above primary objectives are underpinned by a range of secondary objectives. These are to:

- a) improve access to public transport for areas that currently have poor provision;
- b) improve integration of the public transport network; and
- c) improve safety along corridors by reducing use of private cars.

4.19.6 The AVTM scheme would deliver the above objectives through a combination of a route largely segregated from general traffic, high quality vehicles, a reliable and predictable forecast journey time, premium stops and interchanges, and information and marketing.²¹⁷

4.19.7 The scheme would also:

- a) accommodate trips on regular service buses from further afield (taking advantage of the segregated infrastructure to improve journey times and reliability), building on the flexibility of a bus-based mode to enable operation both on segregated alignments and on conventional highway;
- b) increase opportunities for cycling and pedestrian trips taking advantage of the improved, parallel provision for these modes delivered as part of the scheme;
- c) improve access into Bristol City Centre, including the potential to facilitate the creation of new jobs in this sustainable employment location;
- d) improve access to Bristol Temple Meads station and the Temple Quarter Enterprise Zone, with the potential to play a significant part in providing access to job opportunities in this regeneration area and promoting its development;
- e) serve the important A370 corridor from Weston-super-Mare into Bristol City

²¹⁵ Vision endorsed by the Joint Transport Executive Committee in December 2011 (Appendix 1, OA/2/2)

²¹⁶ See OA/2 at [4.22]; inclusivity is an important part of the objectives having regard to the limited car accessibility in certain areas – eg for Ashton Vale some 30% of residents do not have access to a car (MSBC CD/B1, Figure 2A.4)

²¹⁷ OA/2 at [4.37]

Centre;²¹⁸

- f) support the existing park and ride infrastructure at Long Ashton by securing a bus link that provides sufficient quality, reliability and speed of connection to enhance the attraction for car users to use the facility; and
- g) enhance safety as a result of attracting more persons to use bus as opposed to the car as a mode of transportation.²¹⁹

4.19.8 Thus the AVTM scheme is needed as an essential element of the transportation strategy and the BRT network which seeks to address the pressing transportation and congestion problems confronting the Bristol area, threatening its continuing economic success and sustainability as a community and city.²²⁰ It is comprehensively supported by the bus operators who have been consulted throughout and will be central to its delivery.²²¹

4.20 The Justification for the Proposals (Matter 2)

4.20.1 The proposal is justified by, and is needed to deliver, national and local transport policy. It would tackle congestion and achieve a shift from the private car onto a more sustainable transport mode; it would increase job opportunities and improve accessibility and social inclusion along a corridor where there is disadvantage and under provision in that respect; it would have positive impacts on air quality and carbon emissions and have the potential to assist economic growth in Bristol City Centre. Additionally, there would also be wider benefits to heritage interests and walking and cycling permeability.

4.21 Alternatives Considered (Matter 3)

4.21.1 The GBSTS²²² considered a range of transport options, and recommended a bus-based option for the rapid transit network. Subsequent detailed mode assessments have supported this recommendation.²²³ A full range of alternative mode options have been considered in a set of iterative assessments, including mass transit options, Light Rail / Tram, Tramtrain and a specific, route-based comparison with an Ultra Light Rail alternative.²²⁴

4.21.2 Alternative route alignments have been considered as part of the economic appraisal for the AVTM scheme²²⁵ and have been found to offer lower value for money compared to the proposed alignment.

²¹⁸ OA/2 at [4.35]

²¹⁹ The monetised safety benefit of the scheme by 2016 is estimated at c. £4.5 m (OA/6/2 table F2 p. 62)

²²⁰ The overall strategy for control of demand and parking is at sections 6.6 and 6.7 and paras 6.911-12 of the JLTP 3 (CD/C7)

²²¹ OA/13 at [5.5] and OA/13/2 Appendix 1

²²² CD/C4

²²³ eg the Greater Bristol Bus Rapid Transit – Technology Assessment (MSBC Appendix 2B(iii) (CD/B5))

²²⁴ eg West of England Rapid Transit – Technology Review (MSBC Appendix 2B(iv) (CD/B6)) and OA/3 at Section 6 and BAFFB Appx C (CD/B2)

²²⁵ eg Greater Bristol: Public Transport Corridor Options (MSBC Appendix 2B(i) (CD/B3)); Bus Rapid Transit – Corridor Options Short List Report (MSBC Appendix 2B(ii) (CD/B4)); Lower Cost Alternatives Report (MSBC Appendix 2B(v) (CD/B15)); OA/3 at Section 6 and OA/216 street running along Cumberland Road/Wapping Road

4.22 Consistency with national and local planning, transport and environmental policies (Matter 4)

4.22.1 The proposals are the culmination of extensive and detailed assessment and policy development involving extensive and iterative consultation with stakeholders and the public.²²⁶

4.22.2 In March 2006, the West of England authorities published a Joint Local Transport Plan²²⁷ which included the BRT corridor proposals following the recommendations of the GBSTS. Subsequent BRT studies²²⁸ culminated in the incorporation of the scheme in the 2011-2026 Joint Local Transport Plan (JLTP3).²²⁹

4.22.3 The scheme has since also been incorporated in the specific transport policies of the Core Strategies of both Bristol City²³⁰ and North Somerset Councils.²³¹

4.22.4 This policy framework promotes the delivery of a single, integrated BRT network improving public transport links to and through Bristol City Centre, of which AVTM scheme is a part.²³² The network would connect centres of employment, retail, leisure, regeneration and housing and offer reliable and comfortable public transport journeys.

4.22.5 The economic appraisals²³³ demonstrate robustly that the scheme would perform as a standalone proposal. It would also play a central and essential role as part of the overall BRT network.²³⁴

4.22.6 The scheme thus aligns completely with strategic and local policy.

4.22.7 The principal national planning document is the National Planning Policy Framework ("the Framework").²³⁵ The Framework emphasises the need to achieve sustainable development and promotes sustainable transport, to reduce carbon emissions and congestion. In this respect, the AVTM scheme fully accords with the Framework.²³⁶

4.22.8 As explained below, the scheme, which largely follows established transport routes, would deliver the BRT system consistently with environmental and related policies. The route of the BRT from PSB to the Portishead railway has been

²²⁶ OA/3 at Section 3

²²⁷ CD/C5

²²⁸ Including route prioritisation studies by Steer Davies Gleave in 2007 (CD/B3 & B4) and appraisals supporting the transport Major Scheme Business Case

²²⁹ CD/C7

²³⁰ CD/C8, Policy BCS10, adopted June 2011

²³¹ CD/C9, Policy CS10, publication version, 2011

²³² The other schemes are the South Bristol Link and the North Fringe to Hengrove Package

²³³ The MSBC (CD/B1) and BAFFB (CD/B2)

²³⁴ Scheduled for completion by 2017

²³⁵ CD/D27

²³⁶ And see also in other ways: OA/2 at [4.32]

safeguarded as a rapid transit route in the Local Plan since 1997.²³⁷

4.23 The likely impact on local residents, businesses and the environment of constructing and operating the scheme (Matter 5) including:

(a) Noise and vibration

4.23.1 Noise mitigation measures would reduce any noise at dwellings. There would be no significant adverse impacts caused by the operation of the scheme. There would inevitably be some disturbance caused by construction. However, appropriate plant selection and adherence to the Code of Construction Practice (CoCP) would provide effective mitigation. A summary of the issues has been provided.²³⁸

(b) Impacts on air quality

4.23.2 The proposal would lead to an improvement in air quality within the Air Quality Management Area (AQMA) and a reduction in carbon emissions. A summary of the issues has been provided.²³⁹

(c) Impacts on water resources, including flood risk and the potential for contamination

4.23.3 These are important matters on which the Inquiry received substantial evidence although largely not at issue. In particular, the statutory agencies are content. The Promoters have provided a summary of the issues involved.²⁴⁰

(d) Impacts on navigable waterways and their users

4.23.4 There would be no impact on the use of either the Avon New Cut or Floating Harbour waterways. During construction works, when PSB would be closed to the public, it is envisaged that the bridge would be held in an open position so that there would be no impact on the navigable waterway.²⁴¹

(e) Impacts on landscape and visual amenity, including the extent to which the proposed development is consistent with Government policies

4.23.5 As set out in paras 4.17.4 - 4.17.5 above, both Works 1A and 1B would be appropriate development in the Green Belt and would not harm the openness of it. Alternatively, very special circumstances exist.

(f) Impacts of the scheme on archaeology, the setting of listed buildings and the character and appearance of the conservation areas

4.23.6 The potential for buried archaeology has been explored.²⁴² A planning

²³⁷ CD/C21; CD/C22 policies M12 and M13

²³⁸ OA/272 [Appendix paras 21-29]

²³⁹ OA/272 [Appendix paras 30-36]

²⁴⁰ OA/272 [Appendix paras 10-20]

²⁴¹ OA/3 at [5.61]

²⁴² OA/8 at [3.4] – [3.6]

condition is proposed for a programme of archaeological recording/monitoring which would be agreed with the City Archaeologist.²⁴³

4.23.7 The scheme would have negligible impact upon the listed buildings along Cumberland Road and the scheme would provide some benefit.²⁴⁴ The works to PSB would result in no more than a slight adverse impact²⁴⁵ and there would be a beneficial impact on AAB,²⁴⁶ since the scheme would ensure that the structure is maintained into the future including its function.²⁴⁷ There would be further heritage benefits in the restoration and replacement of the railings along the Chocolate Path together with the renewal of the rail infrastructure for the BHR.

4.23.8 The scheme would pass through and run adjacent to Conservation Areas,²⁴⁸ in particular the City Docks Conservation Area. The overall character of the Conservation Areas would be preserved.²⁴⁹

4.23.9 The proposals would be complementary to the proposal for redevelopment at Wapping Wharf, underpinning the consequent preservation and enhancement of the character and appearance of the Conservation Area.

4.23.10 EH has been consulted throughout and the scheme has responded and evolved in accordance with its recommendations.²⁵⁰ EH does not object to the proposals.

(g) Impacts on leisure/tourist interests, including Bristol Harbour Railway (BHR), the Museum of Bristol (M Shed) and the historic waterfront

4.23.11 The scheme's flexibility means that it could support the continued operation of the BHR. It is welcomed by BCC's Head of Museums in that it would bring benefit to the BHR in improving the relevant infrastructure, ensuring its long-term future. Stops at SS Great Britain and adjacent to M Shed would facilitate access for visitors and contribute to the accessibility of the area.

(h) Impacts on land use, including effects on commercial property and the viability of businesses, the relationship of the scheme to other proposed developments with planning approval, and effects on rights of access

4.23.12 There are no outstanding landowner issues and no identified impact on businesses which has not been addressed though protective measures or otherwise. Overall the scheme is supportive of the continuing growth and

²⁴³ OA/8 at [4.36] and [4.43], see also Environmental Statement at 8.6.1

²⁴⁴ Due to the removal of the bus and coach parking which would improve the vistas from the properties across to the harbour railway and New Cut area (OA/8 at [4.8])

²⁴⁵ OA/8 at [4.14] and Environmental Statement CD/A12 [8.5.13]

²⁴⁶ Which is presently included in the survey of 'Listed Buildings at Risk in Bristol' (2009), see OA/8/2 Appx` 3 and Environmental Statement at 8.4.9. It is considered currently to have a 'very poor' status.

²⁴⁷ OA/8 [4.19]

²⁴⁸ See location drawings 8.1 (OA/8/2, Appendix 1) and 8.2 (OA/8/2, Appendix 2) from the Environmental Statement (CD/A12), also reproduced at OA/8/2 Appx 1 & 2

²⁴⁹ OA/8 [5.3]

²⁵⁰ Including following scheme changes: letters dated 11 July 2011 and 25 January and 17 April 2012.

regeneration of the City.

(i) Impacts on utility companies and their network

4.23.13 Wessex Water and Western Power have withdrawn their objections.²⁵¹ Bristol Water has not identified any further issues that need to be addressed beyond the protective provisions in Schedule 10 to the filled Order.

(j) Impacts on the statutory interests of Network Rail (NR) and British Railways Board (Residuary) Limited (BRBRL)

4.23.14 Protective provisions have been agreed with NR.²⁵² Agreement has also been reached with BRBRL with regard to providing suitable access to their land. Their objection to the application pursuant to the Section 19 of the Acquisition of Land Act 1981 to seek designation of part of BRBRL's land as open space has also been withdrawn. BRBRL agree that the issue concerning their statutory liability in respect of AAB is not a matter for this Inquiry.²⁵³

(k) The effects of the scheme on open space and the proposals for providing replacement open space

4.23.15 The suitability of the replacement land has been considered in paras 4.18.10 – 4.18.12 above. It is considered that the evidence confirms that area D is not open space for the purposes of ALA Section 19.

(l) The implications for the scheme of the application for certain land at Ashton Vale to be registered as a town or village green (TVG), including the outcome (if known) of the judicial review of Bristol City Council's determination of that application.

4.23.16 Since the Order includes the necessary powers, and exchange land is proposed for open space to be acquired, the Promoters do not consider the potential registration of any land as a TVG poses any impediment to the scheme.

4.24 The likely impacts of the scheme during construction, and during operation, on; (Matter 6)

(a) Pedestrians and (b) Cyclists;

4.24.1 The permanent scheme²⁵⁴ would provide additional opportunities for pedestrians and cyclists. The overall provision would be better, and certainly no worse, than at present.

(c) Private and commercial motorised road users (including residential parking provision)

²⁵¹ OA/271

²⁵² Formal withdrawal of NR objection imminent

²⁵³ OA/271

²⁵⁴ It is inevitable that there would be minor inconvenience to current users during construction, but no route would be closed without a reasonably convenient and safe alternative being provided and clear signing and guarding of all diversion routes would be ensured throughout the works.

4.24.2 Motorists would not suffer any significant impacts either during the construction works or as a result of the closing of PSB to general traffic or otherwise. In any event the proposals are consistent with the overall strategy for transportation in the JLTP 3 and endorsed through the Core Strategy. That includes the restraint of use of the car for access to the City Centre and the support of other sustainable modes of movement. Residential parking on Cumberland Road is most appropriately addressed as part of the current strategy to introduce residential parking schemes in City fringe areas where there is pressure from commuter parking as at Spike Island. As a consequence, there will be a better parking regime for on street parking for residents.

(d) Bus and coach services (including provision of coach parking)

4.24.3 Existing bus and coach services would not be significantly affected during construction.²⁵⁵ Once the scheme is operating, bus services with access to the busway²⁵⁶ would enjoy significant benefits from journey time, ride quality and reliability improvements.²⁵⁷ All bus and coach services would benefit from improved priority measures within the City Centre.

4.24.4 The provision for coach parking is being considered by BCC on a City wide basis which will include replacement facilities for that displaced on Cumberland Road. The evidence is that adequate provision can and will be made to meet the relevant overall requirements for what is a City wide demand, and not one locationally specific to Cumberland Road.

(e) Rail services, including whether the scheme would affect any prospect of reopening the Portishead to Bristol line to passenger traffic

4.24.5 The scheme has been designed to complement current plans to reopen the Portishead line to passenger services, including the potential for an interchange at Ashton Gate.

4.25 The likely impacts of the scheme on ecological interests (Matter 7)

4.25.1 No European or nationally designated site would be affected by the scheme.²⁵⁸ Vegetation that would need to be removed would be replaced by new planting and ecological and landscape areas along the length of the scheme.²⁵⁹ Newly created areas would be designed and managed in accordance with an Ecological and Landscape Management Plan (EMLP).

4.25.2 There would be a likely significant impact on approximately 1.1 ha of the Bower Ashton Mineral Railway (disused) Site of Nature Conservation Interest

²⁵⁵ OA/6 at [5.10]. Note that issues of procurement of bus services are considered in OA/13

²⁵⁶ eg services X1, 354, 361

²⁵⁷ OA/6 at [5.50]

²⁵⁸ OA/10 at [4.9] and Environmental Statement at 10.5.2 and 10.5.3 Note also that all air quality changes to the Ashton Court SSSI would be extremely small and are considered not significant (the critical loads for nitrogen deposition currently exceeded at worst-case locations within the Ashton Court SSSI)

²⁵⁹ Along the section from Long Ashton Park & Ride to AAB

(SNCI).²⁶⁰ However, it has not been challenged that this would be adequately compensated for through the proposed habitat planting and habitat creation adjacent to the BRT route, to be managed in accordance with the ELMP.²⁶¹

4.25.3 Any loss of significant individual trees²⁶² would be mitigated as part of extensive planting of native tree and shrub species along the route on a 1:1 basis.²⁶³

4.25.4 All significant impacts on Wildlife Network Sites²⁶⁴ and watercourses and drainage channels would be fully mitigated through habitat protection measures and through the use of appropriate pollution prevention measures.²⁶⁵

4.25.5 Ecologically sensitive areas of Butterfly Junction would be protected during construction.²⁶⁶ The assurance has also been given that permanent protection would be considered as the project develops.²⁶⁷ This has been confirmed in writing and details of the form and location of the protection would be further discussed and agreed.²⁶⁸

4.25.6 There would be no significant adverse impacts on protected species, as all effects would be mitigated by relocation and the provision of new habitats.²⁶⁹ Mitigation for bats²⁷⁰ would be implemented in accordance with a European Protected Species licence from NE.²⁷¹ The tests for granting a licence can be met.²⁷²

4.25.7 The implementation of all ecological mitigation measures would be guided by the developing ELMP and Construction and Environmental Management Plan (CEMP). NE, the EA and BCC's Nature Conservation Officer were fully consulted and are content with the proposals.²⁷³

4.25.8 The overall effect of the scheme on nature conservation is considered to be neutral.²⁷⁴

²⁶⁰ Of County significance: see Environmental Statement at 10.5.6 and 10.5.44. The scheme is considered a regionally significant development and therefore the impact to the SNCI can be justified under local plan policy NE5 (OA/10 at [4.11]) and BCC Core Strategy Policy BCS9 (see OA/10[4.11]). See also OA/10/2 Appx 6Table 4.1

²⁶¹ AM/1, drawing no. GAV TMR-0200-109, OA/10 at [4.11]

²⁶² Environmental Statement at 10.5.21

²⁶³ OA/10 at [4.19]

²⁶⁴ Environmental Statement CD/A12 [10.5.46 – 10.5.51]

²⁶⁵ OA/10 at [4.14] and [4.16]

²⁶⁶ As shown on the Revised Plans for Information (AM/1) and see OA/3 para 5.40

²⁶⁷ This might take the form of fencing to the back of the footway accessing the stop and appropriate materials sympathetic to the site, for example railway sleepers.

²⁶⁸ OA/182

²⁶⁹ Environmental Statement CD/A12 [10.5.25 – 10.5.34]

²⁷⁰ In respect of the impact on a single pipistrelle bat summer roost on AAB

²⁷¹ OA/10 at [4.22] – [4.24]

²⁷² OA/10 at [6.4]

²⁷³ OA/10 at [3.12]

²⁷⁴ OA/10 at [7.4]

4.26 The measures proposed by the Promoter for mitigating any adverse impacts of the scheme, including: (Matter 8)

(a) The proposed Code of Construction Practice (CoCP);

4.26.1 The draft CoCP demonstrates that the proposed mitigation and limits to be placed on the contractor would be sufficient to ensure the effects of the scheme on the environment would not be adverse. The current draft of the CoCP is at OA/174A. Its contents have not been criticised by any party at the Inquiry.

(b) The proposed Construction Environmental Management Plan (CEMP);

4.26.2 A detailed CEMP would be included in the contract documents of the scheme. The current draft requirements are included as Annex 1 to OA/174A.

(c) Rights of way

4.26.3 A maximum of four footpaths would be stopped up, three of which would be replaced with new footpaths. In the case of the footpath for which no replacement would be provided, conditions must be met including that there is reasonably convenient access to the land otherwise than from the street (footpath) concerned (see Article 10 of the filled Order – OA/238).

(d) Any measures to avoid, reduce or remedy any major or significant adverse environmental impacts of the scheme

4.26.4 The design of the scheme has consistently had regard to the need to avoid, reduce or remedy adverse environmental effects²⁷⁵. Where these inevitably occur, they can and would be mitigated through the CoCP, CEMP, the Environmental Management Plan, the Flood Management Plan and planning conditions.

(e) Whether and, if so, to what extent any adverse environmental impacts would still remain after the proposed mitigation

4.26.5 There are no relevant residual environmental impacts which would have an unacceptable effect or justify rejection of the Order.

4.27 The Adequacy of the Environmental Statement (ES) (Matter 9)

4.27.1 This was a matter expressly raised by the Promoters at the PIM so that if need be any relevant additional environmental information could be provided and subject to consultation if appropriate. Aside from a few passing comments concerning the quality of the ES, no party at the Inquiry has contended that it is inadequate for the purposes of the 2011 Regulations or the Directive.

4.28 Conditions and Circular 11/95 (Matter 10)

4.28.1 These were considered at the Inquiry session into conditions. There has been no suggestion that the draft planning conditions are anything other than necessary, relevant, enforceable, precise and reasonable having regard to

²⁷⁵ See eg Section 5 of OA/9 in relation to landscape mitigation measures for each of the character areas and the noise barrier to reduce noise to properties on Silbury Road: OA/11 [5.27]

paragraph 207 of the Framework and Circular 11/95.

4.29 The Promoters' Proposals for Funding the Scheme (Matter 11)

4.29.1 The scheme has a robust and 'very high' value for money case, which has been scrutinised by the DfT on a number of occasions, as well as by BCC and NSC with the aid of independent consultants. It has every expectation of being awarded final funding by the DfT. BCC and NSC have a range of available funding sources to fund their agreed contributions. Once operating, the scheme would be revenue neutral.

4.30 Whether there is a compelling case in the public interest for conferring on the Promoters powers compulsorily to acquire and use land for the purposes of the scheme, having regard to the advice in Circular 6/2004 and whether the land and rights in land for which compulsory acquisition powers are sought (or required) by the Promoters in order to secure satisfactory implementation of the scheme (Matter 12)

4.30.1 The transportation, social, environmental and economic benefits provided by the scheme demonstrate that there is a compelling case in the public interest for the compulsory acquisition of private interests. The scheme has been designed to minimise the effects on private interests by only acquiring land and rights required.²⁷⁶ There is no outstanding landowner objection.

4.31 Consent of the Crown Estate for acquisition of land at the River Avon (New Cut) (Matter 13)

4.31.1 A copy of the Crown Estate's agreement to allow access for work to AAB and to grant the Promoters a lease for the construction of the proposed development along the New Cut has been provided to the Inquiry at OA/181.

4.32 The purpose and effect of any substantive changes proposed by the Promoters to the draft TWA Order and whether anyone whose interests are likely to be affected by such changes has been notified (Matter 14)

4.32.1 The changes to the filled Order have been fully set out in OA/237A and discussed at the relevant session at the Inquiry.

4.33 The Effect on PSB (Matter 15)

4.33.1 As set out in paras 4.14.1 – 4.14.2 above, there would be no harm to the significance of this heritage asset for the purposes of the Framework para 132. Any effect there may be on the structure would be demonstrably outweighed by the benefits of the proposal for the integrity of the bridge and generally. EH are content with the works subject to appropriate conditions.

4.34 The effect on the Vauxhall Bridge (Matter 16)

4.34.1 The listed building application for Vauxhall Bridge has been withdrawn as no changes are now planned to the structure.

²⁷⁶ OA/15 at [7.11]

4.35 The effect on Ashton Avenue Bridge (Matter 17)

4.35.1 The effect of the scheme would be beneficial to the heritage asset, ensuring that the structure is restored and preserved and could remain in use as an important transport link. EH support the amended proposals.

4.36 The effect on the City Docks Conservation Area of the removal of the railings along Cumberland Road and the demolition of Jubilee House (Matter 18)

4.36.1 The railings along Cumberland Road would be restored where possible or replaced as part of the scheme, resulting in an overall beneficial effect on the Conservation Area. EH is again supportive of this element of the proposal.

4.36.2 Jubilee House is not a landmark building or identified as a positive contributor in the CA appraisal. There is no evidence that it makes a positive contribution to the significance of the CA as a whole for the purposes of para 138 of the Framework, or that there would be any harm in its removal in that respect.

4.37 Conclusion

4.37.1 For all of the above reasons, it is manifestly in the public interest that the Order proposals should be approved, and deemed planning permission and the related applications granted. This would enable the scheme to proceed without further delay as an essential part of the overall transportation strategy for the area. This would be in the interests of the area's continued growth and regeneration and the promotion of sustainability and social inclusion, including in particular along the AVTM corridor.

5 THE CASE FOR THE SUPPORTERS

The following material points were submitted in writing by Supporters of the scheme.

5.1 Evidence of general support for the scheme from a number of organisations and statutory bodies is included in the Consultation Report submitted with the application.²⁷⁷

5.2 Support in principle for the scheme was also received from five bus operators; First Group, Go-Ahead, National Express, Stagecoach and Wessex Connect.²⁷⁸

5.3 The South West Regional Development Agency supported the scheme which it believed was essential for the economic vitality of the area.²⁷⁹

²⁷⁷ CD/A5 [Appendix E Table E.1]

²⁷⁸ OA/13/2 [Appendix 1]

²⁷⁹ INQ/5 (nb the organisation no longer exists)

6 THE CASE FOR THE OBJECTORS

The following material points are edited from closing submissions and other documentation submitted by Objectors with references to Proofs of Evidence (which may have been amended as a result of cross-examination), Oral Evidence, Inquiry Documents and Core Documents. Appendix B provides a complete list of all the documents submitted to the Inquiry for each of the parties.

6.1 Long Ashton Parish Council

6.1.1 **Green Belt and Town and Village Green (TVG)** - Part of the scheme would be built on Green Belt land, which currently separates Long Ashton from Bristol. A substantial part of the land at Ashton Fields, recently designated as TVG, would be dug up and turned into a flood pond. No exchange land would be offered for this. This seems unfair to those who fought hard to achieve the TVG status and expect to be able to use the land for recreation. The Promoters seem to have overlooked the requirement for consent under Sections 38 to 40 of the 2006 Commons Act. Similarly, should the northern area of Ashton Fields be granted TVG status then consent for construction would again be required under the Act.

6.1.2 **Flooding** - It is clear from the EA correspondence (OA/190) that a lot more work is required in order to satisfy EA requirements on flooding, contrary to the impression given by Mr Philip in OA/7. In addition, it appears that the Promoters have not considered the impact of a possible inundation of the scheme from over topping or failure of the Barrow Tanks reservoirs as recognised in Section 6.10 of the Strategic Flood Assessment carried out for Bristol as a whole in 2009. Also, the Promoters have not considered the potential effect that construction of the proposed works on Ashton Fields would have on the surrounding area, in particular on nearby properties, and have not considered an emergency plan.

6.1.3 **Land Exchange** - Land area C is considerably further from centres of population than the areas A or B to be taken. One of the footpaths (LA12/12) which is suggested as part of the route to land C is currently impassable. One of the footpaths (FP203) would no longer be available should the stadium be built. Land C is generally wet and currently grazed by cattle rendering it unsuitable for dog walking. It does not seem "equally advantageous".

6.1.4 There is no clarity on how the exchange land could be affected by a possible extension to the Park and Ride. The issue of the management plan for the exchange land (OA213) is welcomed, however the permissive path referred to should be a designated public footpath.

6.1.5 **Footpaths** – Mr Mole recognised that continuity of footpaths is important and agreed to consider maintaining continuity of LA12/14 with a designated footpath rather than a permissive path. Details of the proposal have been provided in OA/210. While continuity is provided, Options 1 and 2 would involve crossing the busway, presumably using an uncontrolled crossing. Provision of a tunnel, as proposed for Option 3, would be preferable.

6.1.6 The drawings attached to OA/210 show that users of FP 422 and FP 207 would have to cross the busway twice (Options 2 and 3). Details of the crossings are not shown. In Option 1, there would be no direct footpath to access the replacement land area C. Proper linkage is required between these footpaths and to FP 423.

6.1.7 **Journey Time and Comfort** - The Promoters have stressed that the route

would provide a high level of comfort and therefore be an attractive alternative to car use. The journey time estimated to the Arnolfini stop is 9.5 minutes. The modelling makes several incorrect assumptions with respect to acceleration, changes in speed and comfort requirements which would reduce the calculated overall journey time.²⁸⁰

6.1.8 The Promoters have assumed that passengers wishing to reach the City Centre would always adopt the quickest journey, which in this case involves a 10 minute walk from Queen Square, rather than a longer journey on the bus. This assumption provides the largest time saving and best benefit to cost ratio. It is clearly unreasonable to assume that all the passengers behave in the same way all the time. It is another example where the modelling has been adjusted to provide the best possible outcome. Without considerable effort and access to the details in the model, it is not possible to be sure that all the assumptions are reasonable. Given the cost of the scheme, a peer review should be carried out by independent experts before determining whether the scheme should proceed.

6.1.9 **CO₂ Emissions** – OA/3 and OA/6 are contradictory in respect of whether the CO₂ emissions would be increased or decreased by the scheme. No explanation was received as to how the claimed benefit of the reduction in CO₂ emissions in OA/3 Paragraph 3.52 was calculated. It seems clear that the scheme would not produce any significant reduction in CO₂ emissions. The question of whether the additional CO₂ emissions during construction have been taken into account has not been adequately answered.

6.1.10 **Detrimental Impacts** - These have no numerical cost and therefore do not appear in the benefit to cost ratio. The concerns expressed in the LAPC proof of evidence remain.

6.1.11 **Conclusions** - This is an ill-conceived scheme which replaces an existing satisfactory bus service with one that would take longer to reach the most popular destinations. Even using the Promoters' distorted analysis, the scheme would have little effect on overall car journeys, congestion or CO₂ emissions yet would discourage cycling and walking. There would be a significant detrimental effect on open space and green belt. Cost over runs and delays seem probable and these would be borne by local council tax payers, including those in North Somerset.

6.2 The Bristol Civic Society

6.2.1 **Transport and Works Act (TWA)** - The Society recognises Greater Bristol's need for investment in rapid transport and it supports any improvement to Bristol's public transport system. If the Secretaries of State are satisfied that the financial aspects of the AVTM scheme are viable, the Society objects to the power sought under paragraph 5(1) of the draft Order to construct works 4, 5, 5A, 5B & 6 described in Schedule 1 of the Order (ie the section between Ashton Avenue and Wapping Road). The Society has no objection to the listed building consents sought in relation to the Ashton Avenue Bridge (AAB) and the Prince Street Bridge (PSB).

6.2.2 **Statement of Matters** - The AVTM scheme is not a new transport facility. The Promoters must demonstrate that the improved service to replace the 903 bus

²⁸⁰ LAPC/3 Section 5

plus the possibility of use by feeder buses justifies the £50m construction budget, in accordance with Matters 1 and 2.

6.2.3 In the absence of an adopted cash flow plan, the evidence of the Promoters' ability to fund the balance of the local investment in accordance with Matter 11 remains unclear. There is a real prospect that the capital cost of AVTM would exceed the estimate submitted by the Promoters unless there is a reduction of the engineering work to be undertaken, contrary to Matter 11. On a balance of probability, the Promoters fail to prove that the scheme is viable without a continuing revenue subsidy, which would be contrary to the intent of Matter 2.

6.2.4 The Promoters have failed to consider adequately the main alternative option of a less segregated route along the Cumberland Road in accordance with Matter 3. They also fail to justify the substantial harm that the AVTM and feeder buses would cause to the visitor destination centre ancillary to M Shed. Also, for the harm which would be caused through the new Museum Square and west along the Harbour to the Cumberland Road, Cumberland Bridge and to the setting of the numerous designated heritage assets.

6.2.5 ***Do AVTM's public benefits outweigh its cost?*** - The costs must be judged against the scheme's limited objectives.

The scheme's advantages are:

- a) A 903 bus replacement and faster journey time for some, but not all of its passengers. In the Society's view the new scheme must produce an improvement of journey time of at least 10 minutes for the majority of its passengers. Passengers would fail to appreciate any lesser gain, which they would consider to be within the current normal journey time variation. The majority of passengers would join at the Long Ashton P & R. Cabot Circus, the Marlborough Street Bus Station, or the Centre would be the most popular destinations on their inward journey. The difference of run by AVTM on roads from PSB to the Marlborough Street Bus Station and the inward 903 journey is approximately the distance from the P & R over the Cumberland Basin elevated road system. The bypass of the elevated road system is where the scheme would achieve the greatest advantage over the 903 bus. The AVTM would enjoy a greater advantage on the return journey to the P & R, at peak times.
- b) The opportunity for feeder services to access the busway.

6.2.6 The scheme's principal disadvantages are:

- a) its cost of £50m plus the risk of a cost overrun.
- b) the probability of a continuing subsidy for the medium term and
- c) the harm that it would cause to the visitor destination between the Cumberland Road Tunnel and the M Shed Museum.

The Promoters' evidence shows that the scheme would not achieve a significant modal transport shift, reduce congestion or improve air quality.

6.2.7 First Group has yet to carry out a survey of its North Somerset passengers to ascertain whether they would prefer their services to reroute along the AVTM busway or to remain on the Hotwell Road. There remains the possibility that passengers would prefer their buses to retain their current routes. The busway route conveys a benefit only at peak hours.

6.2.8 **Funding** (Matter 11) - The City Council's £42m contribution to the three BRT schemes would include a £10m loan from the 'Investing in Bristol's Future Package'. The £10m does not qualify as local funding as it would be from a Government fund. Over the 60 year assessment period at an interest rate of 3%, the interest on the loan would have a Present Value of over £9m. This should be shown as an additional cost. Thus the total BCC contribution at present value would be £24m.

6.2.9 The Secretaries of State should note that there is no restriction or designation within the BCC capital funding programme and that allocating additional funding for this scheme could affect any other Council programme. Its effect would not be confined to the transport budgets.

6.2.10 Mr Robinson said that the AVTM would produce a positive revenue stream in its first year of operation. The Society submits that the evidence does not support this belief.

6.2.11 **Community Infrastructure Levy (CIL)** - If development in the current economic climate achieves the cash flow that Mr Robinson promises, virtually the whole of the CIL proceeds would be invested in BRT.

6.2.12 **Workplace Parking Levy (WPL) and Supplemental Business Rate (SBR)** - The City Council has yet to decide whether it intends to introduce either supplementary funding scheme. If the Council had received a positive response to its consultation exercise on these potential funding streams, it is reasonable to infer that this would be part of its case. It should be inferred that the business community opposed any supplementary levy. Also that it reminded the Council of the fragility of the City Centre retail economy and that any supplemental fiscal burden would add pressure on businesses to move to suburban business parks.

6.2.13 The Society infers that the £10m appropriated from the prudential borrowing loan would provide working capital during the AVTM construction period. The DfT pays stages of the Transport Capital Grant three months in arrears of the supervising engineer's stage certificates. AVTM would appear to exhaust the City Council £10m transport appropriation of its £50m prudential borrowing loan. The AVTM construction drawdowns would begin in 2013 and possible CIL cash flow begin in 2015. The Society remains concerned about the City Council's ability to generate supplementary revenue from alternative sources to repay the £10m prudential borrowing loan and fund the £42m balance of the local contribution for SBL and the Northern Fringe to Hengrove BRT.

6.2.14 The Society does not underestimate the delay that determined opposition from the business community could cause to introducing measures to source supplementary funding to invest in local public transport. The City Council does not appear to have reached the foothills of adopting a scheme to produce supplementary revenue to fund its £42m contribution to the three transport schemes.

6.2.15 The Promoters estimate the construction cost of AVTM at around £24m with a risk provision of approximately 50%. They make these estimates before survey of the above ground structures and geotechnical investigation of the below ground structures.

6.2.16 The Promoters cannot contractually insulate themselves against all risk. The tendering stage would test the adequacy of the current estimates and risk

provision under the proposed form of contract. The principal area of risk that concerns the Society is the alignment of the BHR between Cumberland Road and the New Cut. This work would involve the removal of the surface layers, the installation of the concrete busway and the one metre tall flood wall. The underlying structures of a 200 year old wall at New Cut and a 100 year railway wall would need to withstand the additional concrete load and the vibration of construction machinery. If this is a design and build contract, the Society assumes that the risk would be expressed at the tender stage of the contract.

6.2.17 Mr Willcock said in evidence that a central control room would tightly control the scheme. The controller would track vehicles and regulate the light system to maintain timetable reliability. The consequence is that the BRT controller would regulate the volume of traffic entering Cumberland Road from the west to ensure that congestion does not occur to delay the buses. The likely outcome is that through traffic would reroute leaving only local access traffic on Cumberland Road.

6.2.18 Two further traffic proposals should be noted. Firstly, the redevelopment of the Hospital site on Commercial Road proposes to stop northbound running along Lower Guinea Street which will remove a popular rat run to Redcliffe Hill from the west and further reduce Cumberland Road traffic. Secondly, the Society anticipates the construction of a second busway control at the eastern end of Cumberland Road to give priority to BRT3 vehicles. On a balance of probability, the combination of bus priority at the east and west accesses to Cumberland Road would deter through traffic. This would reduce traffic in Cumberland Road and the consequent delays to buses by non-bus traffic.

6.2.19 The traffic restrictions that the Promoters intend to introduce into Cumberland Road contradicts the Promoters' statement that Cumberland Road continues to be an "important highway link".²⁸¹ It could not function as such with the BRT schemes in place.

6.2.20 The Society agrees that there would be some loss of on street parking with a less segregated road running scheme. There are pinch points where parking restrictions would be required. A less segregated road running scheme may cause the loss of fewer parking places than the loss that the Promoters' preferred route would cause. The Society supports the introduction of a residents' parking scheme to alleviate residents' parking problems. The retention of the Chocolate Path, unaffected by the close proximity of the BRT vehicles, more than compensates for reduction of the on road cycling appeal of the Cumberland Road.

6.2.21 OA/216 addresses the on road running route superficially. For example, Section 1.1 second paragraph: "*potential capital costs over the section between Avon Crescent and Museum Street would be limited.*" To understand the significance of this gloss on the cost saving of the less segregated route it is necessary to consider those cost items which would be avoided in the Promoters' scheme. These are summarised in BCS/3 para. 6.8.

6.2.22 The Promoters have not provided cost information broken down in a way that enables BCS to put a figure to the works which would not be required. These works comprise a substantial proportion of the overall construction estimate for the

²⁸¹ OA/186 p.5

scheme and probably over half the risk element of the costs due to the uncertainties, latent problems and technical difficulties associated with the New Cut works. The difference between the cost of building a 2 kilometre busway re-using the BHR with all the ancillary works and the cost of modifying either Cumberland Road or the Hotwell Road would be millions of pounds.

6.2.23 The BHR section would be AVTM's greatest area of cost and carries the greatest cost overrun risk. The Society submits that the Promoters would make a better business case if they omitted this section. There is a compelling reason to ensure that the Promoters complete the first scheme of a three scheme programme with a minimum risk to the overall budget as soon as possible. The Society remains unconvinced that the Secretaries of State have enough information to decide that the AVTM scheme offers the best value for money.

6.2.24 The Promoters fail to justify Works 5 and 6 described in Schedule 1 of the draft TWA Order (Ashton Avenue to Wapping Road). The cost of Works 5 and 6 would produce no socio-economic benefit. The Promoters do not justify the heavy additional cost of adapting the BHR to achieve an unquantified operational advantage over a less segregated route running on Cumberland Road or Hotwell Road.

6.2.25 The Benefits of the less segregated alignment on Cumberland Road are:

- a) a huge reduction of the construction cost, a shorter construction period, less CO₂ production and disruption during construction;
- b) retention of the full working of the BHR as a tourist and heritage asset;
- c) no harm to the setting of the multiple heritage assets in the Harbourside and enhancement of the Harbourside in conformity with BCC policies and;
- d) removal of an alternate working, single lane section enhancing journey time and reliability.

6.2.26 **Revenue subsidy** - Mr Fowler said that the Promoters intend that the AVTM fare box would meet the operating costs of the busway and that AVTM would be revenue neutral. In the assessment of AVTM's viability, the possible use of the busway by feeder bus services is a non cash-convertible, ancillary benefit to be disregarded.

6.2.27 The Society disputes Mr Thompson's estimate of the patronage level of the Long Ashton P & R in 2016, when AVTM is scheduled to open. For the last five years, the maximum occupancy has been steady at about 880 vehicles a day.²⁸² This patronage generates 1250 passengers each way for the 903 bus service. There is a relatively low churn rate to indicate that commuters are the principal users.

6.2.28 Mr Thompson uses an economic calculation to forecast that by 2016 the use of the P & R would rise to 1250 a day, a rise of 42% or 10% per year.²⁸³ To support his calculation Mr Thompson refers to car free City Centre residential developments. The Society is not aware of any. Developments in the Old Market area to the east of the busway would be unlikely to produce additions to the passenger load. Similarly, the development of the Enterprise Zone would have a

²⁸² OA/6 para 4.28

²⁸³ OA/6 para 4.31

marginal effect on passenger numbers. Mr Thompson refers to commercial expansion in the City Centre. The Inspector will have seen the forest of 'to let signs' in the central areas of the City. There are more than 1m square feet of office space to let in central Bristol, mainly in obsolete empty office buildings. The City Council has set the CIL at nil % in this area because of the commercial property market's fragility.

6.2.29 The flaw in the passenger revenue forecasts is that they rely on the projected increase in the number of passengers. This forecast ignores the level of passenger demand over the preceding five years. Contrary to the evidence of a standstill in construction and a weak commercial and retail sector, Mr Thompson assumes a significant rate of economic growth before 2016. Mr Thompson takes no account of widespread commuter preference to choose free, on street parking. The underlying evidence cannot support Mr Thompson's increased patronage forecast. In the absence of any other factor, the evidence of the passenger usage of the 903 over the past five years remains the best evidence of the passenger demand for the near future.

6.2.30 Messrs. Fowler, Thompson and Robinson testified that the quality of the AVTM would attract more commuters to use the AVTM after 2016. The Society disagrees. There is a large body of commuters who will always choose free on street parking as long as it is available to avoid paying for a multi-storey car park or a P & R. The payment of an annual £100,000 subsidy for the 903 service after 18 years is the strongest evidence to support the Society's belief about commuter behaviour.

6.2.31 The Society agrees with Mr Thompson that the P & R could achieve a substantial increase of use but for a different reason. After political opposition, the City Council has belatedly introduced residents' parking schemes into the City's ring of inner suburbs. The Society strongly supports this policy but it will only be successful if the ring is completed. Following the success of a pilot scheme, there are three more schemes evolving. Only the complete withdrawal of free on street parking would modify commuter behaviour. No one can calculate the proportion of on street parking commuters who will choose to transfer to public transport, City car parks or which P & R scheme they might use.

6.2.32 In his evidence, Mr Robinson enthusiastically adopted Mr Thompson's projection of a positive return in the first year of AVTM operation. Mr Willcock anticipates that the AVTM scheme would "not require subsidy after the initial period".²⁸⁴ Mr Willcock has practical, transport operation experience and his evidence should be preferred. Both Messrs Thompson and Robinson rely on financial modelling based on data drawn from other bus services in the West of England travel to work area. The Promoters' witnesses appeared reluctant to admit that the AVTM is dissimilar from the bus services that supplied their data. Those services all serve population centres. The segregated route of AVTM avoids population centres. The operators withdrew the 500 bus route which ran anticlockwise around the Harbour because of inadequate patronage/subsidy. The subsidy transferred to the 506 route, which runs across the City. The transferred subsidy enables an extension of the 506 service around the Harbour.

²⁸⁴ OA/13 paragraph 3.4

6.2.33 In the Society's submission, the number of AVTM passengers would be directly proportional to the P & R's patronage. The P & R patronage would be directly proportional to the withdrawal of free on street parking in the City's inner suburban ring. This was Bath's experience when it introduced residents' parking schemes. The Tables of 'Promoter Passenger Forecasts' in 'Green Light for Light Rail', suggests a cautious approach to the Promoters' passenger forecasts.²⁸⁵

6.2.34 Mr Willcock gave evidence of a buoyant bus operator market in the West of England travel to work area. However, potential AVTM operators all wrote guarded responses following the Promoters' presentation event. While registering an interest they all reserved 'overriding commercial considerations'. In 2011, the City Council sought tenders to re-let Bristol's local bus services. It is common ground between the parties that despite considerable effort, the Council failed to interest any rival operator to bid against First Group. First Group renewed its operating contract unopposed and remains the dominant supplier.

6.2.35 Mr Willcock said that the Promoters would offer the AVTM service for tender towards the end of the construction period. The Society questions that decision. In the current economic climate, commercial developers do not invest without contractually securing the ultimate occupier. The Inquiry heard from other witnesses that the Promoters of other schemes have sought pre-let agreements with bus operators. The Promoters would be in a weak bargaining position with potential AVTM operators at the end of the construction period. They would be under intense political pressure to ensure that buses operate on the busway as soon as it opens.

6.2.36 The Society believes that the Promoters must have considered their bargaining position. It may be inferred that the Promoters believe that they would have a better P & R use to show potential operators in 2016. The Society submits that the critical contractual issue would be the terms of the subsidy. Given the history of the 903 subsidy, it is probable that the Promoters would have to accept the fare box risk as they have done for the preceding 18 years.

6.2.37 Currently, the City Council subsidises the 903 services and the P & R. The Promoters' prospective service quality agreement would create operating costs that are higher than the current 903 service costs. The AVTM would operate longer hours and on Sunday and pay a charge to use the busway. The 903 uses the public roads free of charge. At the moment, Bristol has free Sunday on street parking in the central parking zone. Political pressure to open the service, higher operating costs and uncertainty of P & R usage would have consequences. The Promoters' service quality agreement would need to be renegotiated. The choices would be a more limited operation, less expensive buses, or more probably both. A higher subsidy would not be an option in today's economic climate. The 18 year history of the 903 subsidy would also rule out the Promoters offering a subsidy for a limited period.

6.3 Bristol Industrial Archaeology Society

6.3.1 Bristol is one of the top tourist places in England. This scheme would ruin the tourist experience. Why should people want to come back to the docks and M Shed if the Harbour Railway is a shadow of its former self (and stopped running for 2 years)? The Long Ashton Park and Ride has never paid its way so why should

²⁸⁵ BCS/1/2 Table 3.1

this? Taxpayers would have to subsidise any problems that occur such as subsidence and find the money to fund it in the first place.

6.3.2 **Prince Street** - Why is it acceptable to stick a huge glossy aluminium bus stop in the middle of Prince Street adjacent to a grade II* listed landmark building? It would ruin its setting by removing the cobbles and spoiling views of the bridge and other grade II listed buildings.

6.3.3 Why is it in order to ignore planning policies regarding damage to views and settings for a possibly unviable transport system?

6.3.4 The 'transport people' see a wide street and think it would be great to put a bus stop in the middle of the road where 360 people can congregate with buses approaching in the wrong direction. It would not be safe. There have been huge problems in Old Market with a central stop and the dangerous layout could cost as much as £2.25million to change.

6.3.5 **PSB** – This is a well loved area and would no longer be safe for pedestrians. Also, it would not be pleasant with big buses on it. There would be a likelihood of large vehicles hitting the bridge given the proposed width of 2.60m when proposed vehicle width is 2.55m. The vehicles would be longer, wider and heavier and approach from the other side of the road. Their turning circle would not allow them to stay on the correct side of the road. Look at the battered bollards now to see what would happen.

6.3.6 The little rubber guide wheels would not be adequate. There has been a problem with guide arms fractures in Cambridge. This problem would be exacerbated with constant switching between guided and unguided tracks.

6.3.7 Guided buses cannot overtake so if a vehicle breaks down on the BHR there would be a massive build-up of vehicles. Passengers are all supposed to wait at the nearest shelter. They could not jump over the railings to get off. An evacuation strip is proposed but given the width would not be safe in an emergency.

6.3.8 Why should the bridge swing less when sometimes it can now swing 9 times in a day? It is already limited to once per hour and does not swing between 8am-9am and 5pm-6pm. This is a Harbourside amenity as well as a crossing point for light traffic and should stay like that.

6.3.9 If this scheme is allowed, the proposed North-South BRT route would also use the bridge or any bus with a guided wheel. It is too narrow and a potential bottleneck.

6.3.10 **Bristol Harbour Railway (BHR)** - is the most popular working exhibit down at the docks. It is a locally made engine running on a traditional railway line. You can imagine you are in the countryside because you go through shrubbery, alongside the river and end up in the middle of nowhere. The wagons are always full of people young and old. It is an experience and makes you want to come back to M Shed. It is a reminder of our industrial past.

6.3.11 The Promoters wish to restrict the BHR to run only on Sundays in the summer months when for many years it has run on both Saturdays, Sundays and bank holidays. The Promoters say that it would operate on no less than 30 Sundays during a year with negotiation on bank holiday weekend Saturdays. Last

year it ran 37 days. It would lose half its sidings as shown on the photomontage at OA/9 para 5.81.

6.4 Transport for Greater Bristol Alliance (TfGBA)

6.4.1 TfGBA recognises the need for rapid transit. However, it is opposed to the bus rapid transit scheme AVTM because it would not add any quality to the built environment and is not the most sustainable solution. Moreover, the evidence has established that it would not encourage modal shift from private car to public transport and therefore provides no real advantage over the existing Long Ashton to City Centre P & R service.

6.4.2 Given the existing extensive and underused rail infrastructure within Greater Bristol, the concept of guided bus is inappropriate. Evidence of the impact of AVTM on cyclists, walkers, air quality, the natural and built environment, local history and industrial archaeology was presented by individual organisations and members of TfGBA. Nearly all these concerns would be met by a light rail based system.

6.4.3 **Benefits** - A significant proportion of the public transport benefits from the scheme are not associated with the segregated section from Long Ashton to PSB, in particular:

- a) the majority of the benefits to the three P & R sites as a whole are from the City Centre priority measures;
- b) a significant majority of the benefits to other public transport users are not associated with the segregated section; and
- c) most of the benefits are not to P & R users.²⁸⁶

6.4.4 No structured incremental assessment of the BCR was undertaken; in particular no test of the City Centre improvements without the segregated section or vice versa.²⁸⁷

6.4.5 **Modelling and Appraisal of the scheme** – Four models have been used for different purposes as listed below.²⁸⁸

- a) MSBC March 2009
- b) MSBC October 2009
- c) BAFFB September 2011
- d) Public Inquiry 2012

6.4.6 A list of the changes to the models and the dates was supplied to the Inquiry in response to Objectors' requests.²⁸⁹ However, in relation to the MSBC March 2009 model, this omitted a key new process ie improving the City Centre junctions through signal optimisation. This was missing from the Promoters' Proof and all subsequent material until it was admitted in rebuttal OA/264 and agreed in examination of Mr Thompson. It changed a £176m highway disbenefit into a £24m

²⁸⁶ OA/221, TfGBA1/20, cross examination of Mr Thompson day 19

²⁸⁷ Cross examination of Mr Thompson day 19

²⁸⁸ There have been other runs but these four are the ones used for the Inquiry

²⁸⁹ TfGBA 1/17

benefit.²⁹⁰ Without this, the March 2009 model would have produced a BCR of less than 2. Thus City Centre junction priorities and optimisation play a key role in any benefit calculation. The changes in model assumptions overall have had a dramatic impact on the predicted benefits including changing them from positive to negative.

6.4.7 The modelling undertaken for the Inquiry shows a negligible change in traffic in the Greater Bristol area as a whole.²⁹¹ Even in the AVTM corridor the effect is very small. Thus the objective of attracting people from car to public transport would not be achieved.²⁹²

6.4.8 The March 2009 model also had a simple but major error which exaggerated public transport benefits. The mode constant (a benefit to travellers reflecting the quality of BRT) was multiplied by four (to 36 minutes) and applied to all trips. The March 2009 model was run and shown to be sensitive to changes in the level of the constant. The DfT asked for changes in its application and also identified the error. A revised version of the MSBC was never issued and it remained with the old results on the West of England Partnership website throughout the consultation on the BAFFB. It was submitted to the Inquiry with the sensitivity tests as a Core Document with no amendment.

6.4.9 The above error was only known to members of the internal AVTM team and DfT. There was no document or report produced by them which identified it. It only became public after a technical meeting between the Promoters and TfGBA to discuss the mode constant on 18 April 2012.

6.4.10 The impact of making P & R more attractive on the parallel rail route cannot be assessed because the rail model cannot be validated. There is no validation count for the main railway station at Temple Meads.²⁹³

6.4.11 **Alternatives** - Apart from a Cumberland Road option, modelled tests of alternatives were not undertaken with the model used for scheme appraisal at the Inquiry. None of them were undertaken with the City Centre improvements included. The low cost alternative was tested with the March 2009 model and methods which have changed significantly in relation to public transport appraisal. It is clear that a low cost alternative, including Hotwell Road with inbound bus priority and City Centre bus priority, has not been tested.

6.4.12 A ULR test was undertaken with the October 2009 model with junction optimisation. However, the ULR scheme was tested without the current optimised version of the City Centre improvements which are a major source of benefits and have low cost. Thus the test is not comparable to the Inquiry appraisal of the AVTM.

6.4.13 **Survey errors** - In relation to the destinations of Long Ashton P & R passengers, the Promoters survey was over two days. It produced remarkably different results on the two days. Also, the survey results do not accord with the location of major trip generators in the central area. They also produced a result on one of the two days which shows a large number of people going to a less

²⁹⁰ OA/264 Table 1

²⁹¹ TfGBA 1/6, using data in AM/3

²⁹² See Concise Statement of Aims, Document A4

²⁹³ Confirmed in cross examination of Mr Thompson Day 15

obvious employment area outside the Centre. At the same time, fewer people travelled to well known employment areas in the immediate vicinity of the Centre. Results from the other survey day show a large number of morning peak commuters going to the main shopping area.

6.4.14 The Promoters' Rebuttal OA/264A reveals that the interview numbers have not been factored to match the count data. A different sample rate and thus a different total number of interviews was obtained for the two survey days. TfGBA/1/20 is based upon the data actually used in the modelling and has been factored to the counts.²⁹⁴

6.4.15 **Journey times** - The speeds assumed by the Promoters for the curved sections of the scheme are not in tune with the benefits from improved ride quality which they assume. The speeds approaching single track and guided sections are higher than TfGBA has used. Also, it is not agreed that single sections of working (either single track or through the junction at Cumberland Road) would not cause delays.

6.4.16 The Promoters' sensitivity tests of mode constant and journey time show little change in value for money. This is because only a small number of passengers benefit from the mode constant. With respect to journey times, only a minority of the benefit is from the P & R users.²⁹⁵ Also, only a minority of total journey costs are from the time spent on the bus due to other factors such as walk and wait time and boarding penalties.²⁹⁶

6.4.17 The very late claim by the Promoters that there are additional benefits of over £60m because the mode constant is not applied is not supported by modelling.²⁹⁷ This simply adds a perceived quality bonus to all passengers and is not the same as a real time saving. The DfT 2009 review clearly sets out how the mode constant should be used and it is not in the way the Promoters suggest. The figures in OA/221 are the ones before the Inquiry and it is the distribution of these costs which should be relied upon.

6.4.18 The point that Smarter Choices or the WPL would generate the need for new bus services on different corridors to the AVTM was agreed.²⁹⁸ For this reason, while it is not certain how the WPL would be passed on to employees, one of the two methods under consideration for funding the AVTM would change the base year demand for public transport to a significant extent.

6.4.19 **Recommendations** - For the above reasons and those set out in TfGBA evidence and tested in cross examination, it is recommended that:

- a) the City Centre bus priority measures are proceeded with;
- b) the segregated section from Long Ashton to PSB is refused;
- c) the Council engage constructively with all parties to explore improvements

²⁹⁴ Statement by Mr Purchas and submission of OA/264, Day 19

²⁹⁵ See OA/221

²⁹⁶ See generalised cost tables OA/218 Appendix A

²⁹⁷ See OA/264

²⁹⁸ Cross examination of Mr Thompson, day 19

for all modes (including walking and cycling) on the Ashton Vale to Prince Street Harbourside route;

- d) the above take account of the emerging rail strategy, in particular the Portishead rail line reopening for passengers;
- e) guidance is issued by DfT or the Planning Inspectorate on the minimum form of modelling, forecasting and appraisal information supplied to Objectors to avoid the delays such as those that occurred at this Inquiry.

6.4.20 **Transport Planning Issues** - TfGBA supports the City Centre bus priority measures which must include provision for a loop via Temple Meads (Plot 6) and Temple Back East while safeguarding future options for a tram.

6.4.21 The long term aim could be for a tram based service round the City Centre, which would serve current travellers (and the latent unmet travel need from the station) and promote modal shift. However, this concept is lower down any priority list than the development of the Greater Bristol Rail Metro and the Portishead passenger services through Bedminster. Once these are established, much of the route of the AVTM might eventually form an integral part of that network. This would include a main West- East spine, to form a circle (via Ashton Gate and Parson Street in the West and Temple Meads in the East) with a quadrupled existing mainline through the Bedminster Parson Street area, (the Greater Bristol Metro) and further connections with a reopened Portishead line.

6.4.22 The potential network described above would also include elements beyond the geographical scope of the TWA Order, including a City Centre circle with physical connectivity (as illustrated in TfGBA/1 Appendix 5) with main line rail using tram trains at places such as the proposed transport interchange at Plot 6, Temple Meads.

6.4.23 One hidden cost of the Promoters' scheme is that it would inhibit part of a potential LRT network for which the route has been reserved. Retaining much of the route for a rail based solution would be an asset, whereas BRT would be a liability and a waste of resources which would have little to contribute to future modal shift. Consequently, a significant aim of the TfGBA case is the future-proofing of the Ashton Gate Station to City Centre rail alignment for these long term possibilities.

6.4.24 The Promoters consider that the creation of an West-East spine is merely a very long term aspiration and not in the plans of the West of England authorities or NR for the area. Hence they argue that it should not form part of the deliberation relating to the AVTM scheme. It is agreed that it is a long term aspiration. However, it is relevant to the Inquiry, especially as the Greater Bristol Metro and Portishead services are now a realistic prospect. In addition, the evidence has cast considerable doubt on the efficacy of AVTM as an alternative to an enhanced Hotwell Road route to serve the needs of a P & R at Ashton Vale.

6.4.25 The Promoters' earlier appraisals of tram-train options were undertaken before recent developments in the regulatory climate and four tracking of the main rail lines in the Bristol area became serious propositions.

6.4.26 **Need for BRT2** (Matter 2) – The Promoters have no evidence of complaint from passengers about the inadequacy of the existing Long Ashton P & R service.²⁹⁹ The Promoters also have no certainty that buses from North Somerset would actually use the AVTM route.

6.4.27 **Impact of BRT2** (Matter 5) - Evidence was presented by numerous Objectors that a bus route through South Harbourside would degrade the new Museum Street proposed as an open space for café culture. Promenades through the docks that local people and tourists presently enjoy would become less attractive, safe and relaxing.

6.4.28 Trams are ideally suited to such environments whereas buses would be detrimental to the amenity and safety of the area. Tram routes through high amenity areas provide little detriment and can even enhance the public realm and tourist appeal. This is a widespread phenomenon with examples at Nottingham Old Market Square, Amsterdam and Soller, Mallorca. Other examples include Manchester Piccadilly Gardens and medieval Prague. Regarding AVTM, the unguided sections would provide no safety advantages over conventional bus services while the guided sections would considerably inconvenience pedestrians because of the severance caused.

6.4.29 Trams have an appeal for passengers that buses lack, are demonstrably safe and would promote modal shift.³⁰⁰

6.4.30 **Access to Temple Meads Station** - The proposed AVTM route is described as reaching Temple Meads when it would not in fact do so. The 400m distance from the proposed stop at Temple Circus to Temple Meads would be well beyond the 250m recommended for an interchange for the able bodied and far exceeds any recommended distances for the disabled.³⁰¹

6.4.31 The pedestrian routes from Temple Meads to the Temple Circus stop do not comply with many of the required features outlined in Accessible Train Station Design for Disabled People: A Code of Practice Version 03 (Dated Nov 2011).³⁰²

6.4.32 The Promoters forecast very low use of the Temple Circus stop on Redcliffe Way and they have not seriously investigated potential use by rail passengers arriving from Temple Meads if the stop were located nearer to Plot 6.³⁰³

6.4.33 **Modal Shift** - Most of the claimed tram-like qualities of BRT could equally be implemented on existing bus routes. The X1 service vehicles have already been upgraded, including wi-fi, and other attractive features and are proving popular with younger commuters.

6.4.34 OA/203 shows that with the scheme in place, the proportion of car journeys would reduce insignificantly from a base of 88.5% to 88.2% in the morning peak in

²⁹⁹ Cross-examination of Mr Thompson

³⁰⁰ TfGBA/1 paras 3.6.4, Section 3 and References 13 and 14

³⁰¹ TfGBA/1/11 Extract of DfT publication dealing with 'access - inclusive- mobility' and TfGBA/1/13 Extract of DfT leaflet Accessible Train Station Design for Disabled People: A Code of Practice Version 03 (Dated Nov 2011)

³⁰² TfGBA/1/12 Photographs

³⁰³ Cross examination of Mr Thompson and OA/164. See also TfGBA's own research referred to at TfGBA/1/23 p12

2031 and that there would be an inter-peak increase from 91.6% to 92.4%. The equivalent PM peak figures would be identical to the base figure, at 91%. Therefore the impact of the AVTM scheme on modal shift would be negligible.

6.4.35 Consideration of future possible alternative routes - A route between Ashton Gate and Temple Meads Station via Portwall Lane is reserved for LRT and would be ideal for it as well as for other routes throughout the City. The Portwall Lane tram route uses less width than a bus lane, and would remove mass transit from most of Redcliffe Way.³⁰⁴ The protected LRT route would also serve the proposed transport interchange alongside a possible (new) station entrance. This was generally accepted by both Promoters and Objectors.

6.4.36 Proposals now being contemplated such as the Greater Bristol Metro and the Portishead line could eventually allow for the development of a modern rail based system, in conjunction with interchange with local buses, as is found in many European cities and progressive conurbations in Britain. The map at TfGBA/1 Appendix 4 shows the position of local rail lines through Bedminster and from the Portishead direction. The logic of replacing much of the layout of the AVTM proposal with a light rail service connecting to those rail routes was pointed out to the Inquiry.

6.4.37 Among the suggested routes set out in the TfGBA/1 Appendix 5, an eventual possibility is to take a tram route east from Museum Street alongside the Floating Harbour through the Redcliffe Wharf area and onto the car parks alongside Portwall Lane. This off road route would completely overcome the problems and objections associated with crossing PSB. With this route, a stop could be located at the eastern end of Museum Street immediately before crossing Wapping Road to replace the Promoters' Arnolfini stop. This would also promote the regenerative and tourist potential of the Museum Street area; likewise a stop located along Redcliffe Wharf would do the same for that area.

6.4.38 Weakness of Business Case (Matter 2) - Cross examination of Mr Thompson by the TfGBA has indicated that a high proportion of the benefits listed in OA/154 could have been achieved at much lower cost by continuation and expansion of the existing 903 P & R service, vehicle upgrading and the implementation of City Centre improvements as proposed in the AVTM scheme.

6.4.39 In cross- examination of Mr Thompson by Dr Jefferson and Mr Chard it was established that it was hard to see how benefits of increased revenue to public transport operators of £47m as shown in OA/154 could be achieved without a corresponding increase in operating costs. Operating costs are indicated at £6.9m with an operating surplus of £40m. No evidence was given of any bus service operating at this level of surplus. TfGBA consider this forecast of operating surplus to be quite unrealistic.

6.4.40 It can therefore be concluded from the above and from the evidence of Mr Buchan that the three major components of the total benefit of £169.7m have been significantly exaggerated, so justifying the TfGBA's assertion that AVTM has a weak business case. The low cost alternative route via Hotwell Road, coupled with the proposed traffic management measures in the City Centre, either alone or including

³⁰⁴ See TfGBA/1 Appendix 5

an eventual LRT scheme via Temple Meads station, might each have a better BCR and business case than that of the proposed scheme if a realistic assessment of benefits was carried out.

6.4.41 *Other lost opportunities and failure to take a holistic approach to transport developments* - The failure to take an holistic approach to transport planning has had other consequences concerning Plot 6 at Temple Meads and the surrounding areas. If proposals for a transport interchange there come about this would be a good opportunity to close the junction of Station Approach and Temple Gate to all but emergency vehicles and a few maintenance vehicles. The removal of the light controlled junction would improve traffic flow in Temple Gate. It would also enable the development of a pedestrianised piazza area in the former Station Approach area.

6.4.42 Proposals for the development of Temple Meads and the EZ have now become somewhat clearer. Though this is welcome, the lack of clarity and preparation with respect to the proposed scheme and these developments was apparent during cross examination of Mr Thompson and others.

6.4.43 The Promoters sought to suggest that the existence of the JLTP was evidence of holistic transport planning. TfGBA has reservations about this based on the many examples of lack of integration between bus and rail to be found throughout Greater Bristol. Holistic planning should be evidenced on the ground as experienced by travellers not just in abstract processes.

6.4.44 The Promoters asserted that a Real Time Passenger Information (RTPI) system has successfully been introduced which could be used to provide information for AVTM users and for the management of the proposed single way running.³⁰⁵ It was established during the Inquiry that the Promoters have no passenger satisfaction surveys for the RTPI system.³⁰⁶

6.4.45 The Promoters referred to efforts to develop smart ticketing.³⁰⁷ However, it was established that there has been slippage in the extensive plans for this and that little has been achieved on the ground so far with only marginal impact on boarding times.³⁰⁸ Lack of concise proposals is evident. Contactless ticketing is, so far, no more than an aspiration. The failure to have a clear proposition in place is also evident in the Promoters' AM/1 para 1.22 which states that there is now a project to replace the proposed BRT ticket machines with a City wide contactless ticketing system whereby people wishing to travel may pay by proximity credit or smart cards available at convenient locations.

6.4.46 Subsequent to these shortcomings being exposed, the Promoters issued OA/153 which only serves to confirm the vacillation during the Inquiry about the most appropriate method of ticketing and the lack of clear proposals to take forward.

6.4.47 The DfT Assessment of the AVTM scheme raises concerns about governance of the project and the ability of the Project Board to bear scrutiny due to the

³⁰⁵ OA/13 Section 8 P24

³⁰⁶ Cross examination of Mr Willcock

³⁰⁷ OA/13 Section 7 (p24)

³⁰⁸ Cross examination of Mr Willcock

unclear reporting role of the Senior Responsible Owner (SRO).³⁰⁹ The Assessment concludes that clarification and assurance of governance arrangements is a recommended condition of approval (if any). The DfT has reservations about the procurement strategy, the use of the guided busway by longer distance services and the detail of Quality Partnerships.

6.4.48 **Conclusion** - It is clear that the weight of evidence against the proposal exceeds any benefits that the Promoters try to claim. The evidence by TfGBA and others has covered a wide range of topics. Mr Buchan's work indicates that the main benefit of the scheme would arise from the proposed traffic management measures for the City Centre section. Since the TWA Order does not apply to the central loop, these measures could be implemented independently, at much lower cost, without any need for the Order.

6.4.49 The case for this TWA Order has not been established on the balance of probabilities.

6.5 **SUSTRACO (The Sustainable Transport Company)**³¹⁰

6.5.1 The Promoters have placed considerable emphasis on their technology review. Sustraco disagreed with the findings and conclusions and sent their comments to the Promoters, but there was no follow up. Although a representative of Steer Davies Gleave (SDG) assisted Mr Fowler at the pre-Inquiry meeting with Sustraco, SDG did not give evidence to the Inquiry and they were not available to be cross examined about their work. Therefore it is submitted that much weight cannot be given to their technology review.

6.5.2 The Promoters claim that Sustraco agreed to various documents, data and procedures. However, working groups of professionals are rarely concerned to agree or disagree and generally simply "comment" because they know very well that all such things are subject to change and many revisions. Where it is necessary to agree working assumptions, standards or evaluation procedures the quality assurance regime should ensure that agreement to a specific document is recorded in writing. For this project, sufficient well managed meetings and properly recorded agreements are not much in evidence. As a company, Sustraco has not been asked to agree to anything.

6.5.3 It is noted that in the Promoters' response to Sustraco's request for clarification, they accept that WebTag is only advisory.³¹¹ It is Sustraco's opinion that as WebTag advice was not written for the purpose of comparing ULR and busways, it is not a complete or adequate guide for that task. It does contain much useful advice but needs to be supplemented and modified to take account of the specific benefits of ULR. The Promoters have not done that and as a consequence their comparison of alternatives is deficient and unreliable. The Promoters are unable to address the Statement of Matters questions adequately for ULR because they have not gone beyond the minimum requirements of WebTag advice.

³⁰⁹ TfGBA/1/18

³¹⁰ Sustraco presented separate closing submissions for two of their three witnesses; Mr Chard (STC/1/18) and Mr Skinner (JS/2). This summary is based on Mr Chard's closing submission as he acted as Advocate for the Sustraco case.

³¹¹ Web based guidance on the conduct of transport studies produced by DfT

6.5.4 At the outset of the Inquiry, Sustraco was not fully aware of all the errors in the Promoters' claimed BCR value of 4.2: 1 which have since been exposed by Mr Buchan for TfGBA. Sustraco's assumption was that if the busway proposal was such good value for money then, with a full understanding of ULR and with good design, it would be possible to develop a ULR scheme which would be broadly similar but better value for money. It would also have some additional benefits delivered by ULR technology which simply cannot be delivered to the same extent by busway technology. However, it may be that there is no busway option of any kind which represents even average value for money. If for example, the ratio is an average of 2 million passengers per annum for a capital expenditure of £60 million, then that is, over 30 years, a cost of £1 per passenger trip.

6.5.5 The above example does not compare at all favourably with some light rail projects. It is a worryingly poor ratio when it is appreciated that it could be a lot worse with capital cost over-runs similar to Cambridge busway, operating deficits, reduced bus subsidies, rises in fuel costs and rise or decline in passenger numbers. The true costs of these risks to the BCR are not included in the Promoters' optimistic assumptions and calculations, although they would be a liability to BCC. In contrast, the cost of risks are always included in the BCR of a conventional tram project funded by a Private Finance Initiative (PFI) and add about 15% or more to initial capital costs via the franchisee bid.

6.5.6 Sustraco's case is that it cannot be pre-judged as to whether there is a ULR scheme which is better value for money than a busway, or good value for money, because the Promoters have not employed the necessary experts, adopted appropriate comparison procedures or undertaken the necessary work to find out. The Secretaries of State should be advised that while ULR might well be a better alternative it has simply not been properly considered and compared.

Statement of matters

6.5.7 ***Matter 1*** - For a ULR scheme the aims and objectives of the scheme would be to achieve the best possible value for money and the lowest cost to the public purse by understanding the benefits of ULR. The Promoters have not done this.

6.5.8 ***Matter 2*** - The justification for a busway is that since 2006 the DfT has consistently offered more funding for busways than ULR and on significantly better terms. The justification for ULR is that it is necessary to have genuinely affordable, zero carbon, sustainable public transport to be serious about tackling climate change on all fronts.

6.5.9 Sustraco cannot agree with the Promoters' statements of anticipated transportation benefits. It is always difficult to predict reliably the regeneration benefits. Without full cooperation from BCC, which has not been forthcoming, Sustraco cannot do it alone. The environmental and socio-economic benefits of a ULR scheme are different from a busway scheme but are unknown because the Promoters have not been prepared to work with Sustraco to calculate them or to fund the necessary work.

6.5.10 ***Matter 3*** - The Promoters chose the technology of their preferred scheme before they considered ULR as the main alternative. That cart before horse approach led to incomplete and flawed comparison procedures. Their poor understanding of the capabilities of ULR has meant that the ULR scheme option has not evolved to optimise the ULR benefits. The evaluation comparison procedures are flawed and cannot reliably identify a best choice.

6.5.11 **Matter 4** - The proposed busway scheme is not consistent with the Framework nor is it the best choice to achieve best fit to most environmental policies.

6.5.12 **Matter 5(h)** - The impacts of the scheme and proposed developments at Temple Meads Station and the Temple Quarter EZ have not been fully or reliably explored. For example, likely interchange from the National Rail Network to ULR is not modelled and NR's opinions are not known.

6.5.13 **Matter 11** - The Promoters wrongly assume that the best funding regime is identical for busway and ULR tramway. They have not considered Sustraco's suggested alternative funding options for ULR.

6.5.14 In conclusion, there can be no confidence that alternatives to the chosen busway scheme have been properly considered and a correct choice of technology made. Therefore, Sustraco respectfully request that the Promoters' proposals in the draft TWA Order are not approved.

6.6 TramForward

6.6.1 One of the main strands of the objection is the selection process and the atmosphere in which the process was carried out. In questions to the Promoters on this, two main strands were queried: firstly the various studies took place in an era where there was Government bias against tram schemes and secondly, the reason for the change in direction from supporting tram schemes and the change from dismissing the AVTM route to actively promoting it. No satisfactory answer was received on the second point. The Promoters claimed to be unaware of the first although it is hard to understand this when tram schemes were being turned down and there was a difference in the percentage of grant available for tram and bus. As a result, it is hard to disagree with Mr G Smith in his comment "...that the application for a TWA Order arises solely to claim a government transport grant – at that time thought to be available for 'guided bus' but for no other form of major urban public transport project".³¹²

6.6.2 Including rail lines in the guideway is a potential for cost overrun. It is surprising how little detail the Promoters' documents show in this area and that the matter was not to be addressed until detailed design was completed. The suggestion that the alignment of the rails within the guideway could be gently changed did not really indicate whether this would make matters better or worse. No diagram to indicate the relationship of the rails to the bus tyres was provided nor was there any diagram to indicate the clearances of the rail vehicles. While Mr Slattery seemed confident the problem could be resolved, it was not clear how this would be achieved. It remains a concern that this could contribute to increased construction costs and increased ongoing maintenance.

6.6.3 A further strand was the effect on local rail services. Although not part of TramForward's evidence, the TfGBA rail policy is supported ie a Bristol Metro with the possibility eventually of a tram-train to connect past Temple Meads through the City Centre to rejoin the railway in the Bedminster area but not utilising the Harbourside route. Although it was agreed that the figures showed the BRT option came out best on this route, the route was chosen for BRT. The other modes

³¹² GS/1 para 3

considered were compared on a route which one would not have used either at all or in its entirety for them.

6.6.4 The proposal would not give any real benefit to Bristol. A far more effective transport provision could be achieved by development of the Bristol Metro proposals extended into the City Centre combined with properly integrated bus services with a common fare structure.

6.7 Rail Future

6.7.1 The proposed scheme would isolate the BHR from the national rail network at Ashton Junction and prevent it from having any future role in public transport for the Greater Bristol conurbation.

6.7.2 The scheme would not achieve modal shift and was conceived during a period when the then Secretary of State for Transport encouraged local authorities to seek Central Government funding for bus, but not for rail, projects.

6.7.3 Rail is a more energy efficient mode than bus because less energy is required to move steel wheels on steel rails than rubber tyres on concrete.

6.8 South West Transport Group (SERA) and South West Transport Network (SWTN)

6.8.1 A tram/train service could run through the City Centre, Broadmead, Cabot Circus and via Old Market Roundabout to Temple Meads (the Plot 6 area) as an interchange for bus, tram/ train and heavy rail. It would then run behind the old signal box up to the Henbury loop and the Thornbury branch. In the other direction it could provide for travel as far as Weston super Mare. Potentially a full suburban service is feasible.

6.8.2 Bus re-routing proposals are supported with a limited number of buses along Plimsoll Swing Bridge/Hotwell Road and Brunel Lock Road/Cumberland Road. Ashton Avenue Bridge should be protected for future rail re-instatement. Cumberland Road could become restricted 'bus/taxi/access only' with other traffic taken along Coronation Road. There is ample room for bus stops and other infrastructure along this route. Detailed suggestions are made for improvements to local transport services (SWTN/1 Paras 1-8)

6.8.3 The Harbour Railway should be restored back to a connection with Ashton Gate/Parson Street Stations. This would be operated with, for example, a Parry People Mover/ULR/Heritage stock as a fixed transport corridor. It is not possible to operate such services over AAB along with a BRT scheme. The proposed alterations to this bridge, and the continuing track bed to the South West, would make it costly if not impossible to recreate a rail permanent way.

6.8.4 Ashton Gate Station is a proposed 'flagship interchange' as part of the WEP's own Greater Bristol Metro plans, yet is reduced to an 'aspiration on a mineral line' in the AVTM proposal. There is yet no formal plan developed for the desired interchange adjacent to the Portishead Branch. This would need to include inter-modal access and infrastructure for disabled users.

6.8.5 At Temple Meads, the interchange should be improved to permit closer access to heavy rail. The current proposal appears to show a ¼ mile walk to the

London platform which would be virtually impossible for a passenger carrying heavy luggage or for a disabled user.

6.8.6 Drop-offs are intended, including at Temple Circus, Evening Post, Cabot Circus but would not enter the bus station. Again, this would make it extremely difficult for passengers with heavy luggage.

6.8.7 Instead of converting the Harbour Railway, investment should be directed at extending bus services, provision of tram/trains and also extending/improving the rail services in the Greater Bristol Area.

6.9 Mike Ginger, John Grimshaw, Martin McDonnell (On behalf of Bristol Cycling Campaign) and Terry Miller (CTC Right to Ride Representative)³¹³

6.9.1 **Overview** - Cycling and walking together fulfil a valuable strategic role in meeting Bristol's transport needs and this continues to grow. This role is in line with the 2011 Local Transport White Paper, local policies and local sustainability aspirations. In comparison, substantial investment in Bristol's bus infrastructure has resulted in limited growth in bus patronage.

6.9.2 Features of the scheme threaten this strategic role particularly in the Prince Street /Chocolate Path areas both during construction and with the final scheme. Other parts of the scheme fail to recognise and provide opportunities for improved cycle and walking access. While some progress has been made on the latter point in the course of the Inquiry, there remain outstanding concerns. The implications for cycling and walking demand have not been considered in the context of the business case for the scheme. Little was heard at the Inquiry to change the view that the scheme would be detrimental to cycling and walking. Neither has been treated as a serious mode of transport nor as a strategic desire of the City Council in the same way as bus and other motorised transport have been.

6.9.3 **Prince Street/ Museum Street** - A number of concerns remain. These include the lack of width on the footway for shared use between south of PSB and Museum Street; the treatment of Museum Street and the interaction with the Umberslade link; space taken by bus facilities in close proximity to each other; pedestrian and cycling conditions on PSB; cyclist turning movements and shared space north of PSB. It is still not clear what restrictions would apply on walking and cycling in Prince Street.

6.9.4 **Museum Street –Long Ashton P & R** - The Promoters have responded to some of the points raised and have introduced real improvements to the cycling provision on this section. A major exception is the case of the Portishead Railway crossing. Here they are relying on a substandard and oppressive bridge to be provided by the Stadium Developers. From the site visit it became clear that slight adjustments to the alignment of the busway alone, or combined with the acquisition of a sliver of the car park to be used for the construction of the busway, would enable a good quality shared use path to go through on the level to Ashton Vale Road.³¹⁴ If the proposed busway had followed Network Rail's boundary more closely, space would have been released for a 3m path.

³¹³ Mike Ginger, John Grimshaw and Martin McDonnell all presented individual proofs and supplementary evidence to the Inquiry. This summary is based on their joint closing submission on the cycling and walking aspects of the scheme.

³¹⁴ Shown on Plan attached to MG/7

6.9.5 Given all the uncertainties of the Stadium development it would have been both prudent and good practice for the Promoters to have shown this level route through to the Ashton Vale Road crossing. In this way they could have demonstrated that their contention of providing a continuous cycling route was in fact true. It is hoped that this crucial amendment can be included in any final proposals. This would then allow the scrapping of the ramped element of the supporters' footbridge resulting in a considerable cost saving.

6.9.6 **Operational issues** - Examples were given in the Objectors' proofs of poor attention to detail for cycling and walking both during construction and in final scheme design. No reassurances have been provided on this. Further examples of where good intentions go wrong at the execution stage have been provided.³¹⁵ A particular example is Mead Reach Bridge which was designed to be part of the strategic cycle network but where 'no cycling' signs have been erected and the Local Planning Authority has not been able to control this. This highlights the risk of the maintenance track not becoming a statutory right of way.

6.9.7 Requests for automatic count data were repeatedly made by the Objectors which would have allowed a much fuller assessment of cycling flows affected by the proposal. Cycling and walking was never properly scoped in the planning of the project.

6.9.8 OA/207 (minutes of a meeting with Network Rail dated 3 December 2009) is subjective with no actual counts. The issue of Network Rail's agreement to a more intensified use, including cyclists, of the railway crossing at Baron's Close appears to be outstanding (should a suitable bridge not be provided).

6.9.9 **City Centre loop** - Concerns remain about the proposal to mix cyclists with an increased number of buses (particularly "Bendy" buses) in bus lanes. This is not an ideal solution for experienced cyclists and certainly would not be attractive to the new cyclists the City is trying to encourage. Separate provision should (and could quite simply and cheaply) be made in a number of locations. Careful consideration needs to be given to space in bus lanes around bus stops and whether it would be safe for cyclists to pass buses at congested bus stops.

6.9.10 There are also concerns about shared space used by cyclists adjacent to bus/coach stops and potential conflict between passengers, walkers and cyclists trying to pass through the area.

6.9.11 Further work should be done to look at making better connections and providing crossings for cyclists and pedestrians that link to popular walking and cycling routes. Pedestrians and cyclists should take priority over motorised traffic.

6.9.12 While the above points are not fundamental to the provision of the bus corridor, they support the issues raised elsewhere that the proposals do not properly address the needs of cyclists. In order to address such provision properly, walking and cycling need to be designed in from the start. The costs of such provision should be borne by this project.

6.9.13 Plans for other City Centre schemes (Hengrove to North Fringe Rapid Transit and City Centre Access) have started to come to light during the Inquiry

³¹⁵ MG/7 Appendix 1

which may add to the congestion on these busy bus routes. Should these further plans go ahead then proposals within this scheme would need to be altered and further opportunities to improve cycling and walking addressed.

6.9.14 *Have concerns been met?* - A number of detailed concerns have been addressed which is good. A number more are to be investigated by the Promoters but without commitment at this stage. However, a significant number have not been addressed including the fundamental issue of large numbers of cyclists and pedestrians sharing routes and space with buses including the visual and environmental impacts.

6.9.15 *What key points have not been rebutted?* - The substantive elements of the Objectors' case on cycling and walking have not been effectively rebutted. The Objectors' involvement has resulted in greater attention to the details of the scheme in relation to walking and cycling. It has also resulted in belated involvement of the City Council Cycling Officers and Sustrans. The Objectors trust that this will now be an on-going and genuine dialogue.

6.9.16 *Process issues* – The way the Promoters have handled some aspects of the process has been very disappointing. These issues relate to timing of information, misleading evidence on consultation undertaken, difficulty in gaining access to information, basic errors in drawings and calculations and on-going alterations to plans with no clear baseline.

6.9.17 *Conclusion* - The scheme is significantly detrimental despite recent suggested changes to some sections. There is concern that in practice the potential improvements would not be provided due to financial factors. The Executive Member for Transport for the City Council has stated that options for funding are being examined but there is a real risk that this would be at the expense of existing programmes.³¹⁶

6.9.18 Major concerns about the scheme have been expressed by other Objectors, notably relating to the technical assessment and the impact on heritage. For these reasons, the scheme should be rejected. However if accepted, strong conditions would be needed to secure improvements to the scheme from a walking and cycling stand point and to ensure that genuine involvement of Council and non-Council consultees takes place. A condition to provide a statutory right to walk and cycle on the maintenance track should be included.

6.10 The Ramblers (Avon Area and Bristol Group)

6.10.1 The Ramblers would actively support a rapid transit scheme that significantly reduced the number of vehicles in the City and did not significantly damage key walking routes. The Ramblers' initial assessment was that this scheme failed on both counts. Regrettably, the Promoters have not produced any evidence at the Inquiry to alter that view. The Ramblers' concerns are set out below with reference to the Statement of Matters.

6.10.2 *Aims, objectives and need (Matter 1)* - The scheme would not make a material contribution to achieving any of its three primary objectives.³¹⁷ On the contrary, it would be both environmentally and socially damaging.

³¹⁶ See MG/7 para 21

³¹⁷ RAM/1 para3

6.10.3 As for need, Mr Fowler suggested in his evidence that both car and bus access into Bristol from the west were poor.³¹⁸ Increasing travel by car is not an objective of either national or local transport policy. There are high levels of satisfaction with the existing park-and-ride bus service. Further, Mr Fowler accepted in cross-examination that train access from the west was good. In any case, travel from the west is relatively insignificant. Mr Mann's evidence showed that only 9% of the City's workers come from North Somerset.³¹⁹ There is unlikely to be enormous growth in this regard. Both BCC and NSC have abandoned their proposals for major housing development in the south west of the City.

6.10.4 The Promoters have failed to show that the scheme is needed. Insofar as there are problems with travel from the west, they could be reduced by discouraging car travel into the City and by encouraging more travel by train.

6.10.5 **Benefits (Matter 2)** - The benefits the Promoters claim for the scheme include:

- a) Reduced journey times for buses using the route. These claims have been challenged by other organisations during the Inquiry.
- b) Reduced traffic in Bristol. Again the claims have been challenged. Even if the forecasts are technically correct, the predicted reductions on roads into the City are very small.³²⁰ A minor change in the underlying assumptions could convert them into an increase. In the City, the Promoters accept there would be more congestion.³²¹ Given they recognise in the context of the City Centre that cars fill any vacated road space³²² it is hard to understand the reductions in traffic predicted for Hotwell and Coronation Roads.
- c) Reduced severance. The scheme may appear to improve accessibility to and from Ashton Vale. However, at least one local resident has disputed this. In any event, in the context of the whole, Ashton Vale is a relatively small area. The remainder of the corridor route is quite remote from centres of population.³²³

6.10.6 The Promoters have failed to demonstrate that the scheme would bring significant benefits.

6.10.7 **Alternative options (Matter 3)** - The Ramblers are especially concerned about the impact of the proposed scheme on the Harbourside and the 'Chocolate Path'. Two alternatives are suggested:

- a) Cumberland Road and Redcliffe Hill, with buses running on Cumberland Road itself in both directions; or
- b) Hotwell Road.³²⁴

6.10.8 On-road options along both Hotwell Road and Cumberland Road had been considered by the Promoters.³²⁵ They had been dismissed at an early stage

³¹⁸ OA/3 para3.31

³¹⁹ OA/1/2 16/17 para1

³²⁰ RAM/1 para 14

³²¹ OA/6/1 para 3.2

³²² OA/6 para5.44

³²³ RAM/1 para24 Hotwell Road description

³²⁴ RAM/1 para 24

³²⁵ OA/3 paras 6.6 and 6.7

because they were on-road schemes and the rapid transit buses would take up road space. In cross-examination Mr Fowler agreed that these were inherent characteristics of on-road schemes. They should not in themselves be grounds for dismissal.

6.10.9 In the course of the Inquiry, the Promoters looked again at a route which would avoid the Harbourside by running along Cumberland Road.³²⁶ Much of the assessment was subjective. Where modelling was used, it demonstrates only 4% to 5% changes compared with the current proposals and that only by heroically projecting as far ahead as 2031. If additional traffic management along Cumberland Road were assumed, these very uncertain forecasts of small reductions in benefits could be converted into more definite predictions of gains and in a much shorter time scale.

6.10.10 The Hotwell Road option was examined in more depth earlier, as set out in the 'appraisal of the low cost alternative'.³²⁷ However, this appraisal lacks a convincing explanation of the high £20.3m price tag. This is fundamental.

6.10.11 The Promoters have failed to consider the Ramblers' two preferred options adequately. Combined with a range of traffic management measures, either option could produce faster running times for buses without inflicting the significant environmental and social damage currently proposed.

6.10.12 **Consistency with national and local planning, transport and environmental policies (Matter 4)** - Paras 17 to 20 of the Ramblers' Proof of Evidence³²⁸ deals with the current national and local policies relating to walking that should apply to this scheme. They point to the Promoters' failure properly to take these important policies into account. Paras 5 and 6 of the Ramblers' Supplementary Proof³²⁹ deals with the Bristol Central Area Action Plan Options Document and the associated Public Realm and Movement Framework.

6.10.13 The Promoters drew attention to many of the same documents but with (noticeably) scant reference to the provisions relating to walking. The scheme is not consistent with national or local planning, transport and environmental policies in relation to walking. Consistency cannot be measured simply by reference to the number of short trips, as Mr Thompson implied.

6.10.14 In relation to walking, the scheme would not:

- a) give priority to pedestrian and cycle movements;³³⁰
- b) create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians;³³¹
- c) make walking 'convivial' and 'comfortable';³³²
- d) put the pedestrian top of its transport user priorities;³³³ or

³²⁶ OA/216

³²⁷ OA/163

³²⁸ RAM/ 1

³²⁹ RAM/2

³³⁰ CD/D27 page10

³³¹ CD/D27page 10

³³² CD/C7

- e) have a positive impact on the pedestrian environment.³³⁴

6.10.15 In terms of broader environmental and social policies, the scheme would not:

- a) contribute to protecting and enhancing our natural, built and historic environment;³³⁵
- b) conserve heritage assets in a manner appropriate to their significance so that they can be enjoyed for their contribution to the quality of life of this and future generations;³³⁶ or
- c) protect open spaces important for recreation, leisure and community use, townscape and landscape quality and visual amenity.³³⁷

6.10.16 **Noise and vibration (Matter 5a)** - It was clear from Mr Williams' evidence that noise from buses would have a significant impact on the present enjoyment of walking and related recreational activities all along the corridor route and in adjacent areas.³³⁸ In particular:

- a) **Harbourside** - Mr Williams' map showed a perceptible noise increase over a wide area.³³⁹ The noise levels close to the route from west of Landmark Court to the far end of Museum Street would be above the WHO guidelines for 'serious annoyance'.³⁴⁰ The National Physical Laboratory may be relaxed about the impact of such noise levels on the majority of people but it does accept they are 'onerous' for a minority.³⁴¹ Such levels would certainly make conversation difficult. They would certainly not contribute positively to the walking environment.
- b) **'Chocolate path' and Cumberland Road** - Slight declines in noise levels were forecast here.³⁴² These forecasts were, however, predicated upon significant decreases in traffic along Cumberland Road and the use of 'quiet buses'. In cross examination, Mr Williams accepted that passing buses would be heard distinctively. It should be noted that existing noise levels here are already high, emphasising the desirability of more traffic management measures.
- c) **Sylvia Crowe Park** - This is an area where people like to linger to enjoy the fine views, often as the end point of a walk. The precise impact of the scheme on noise levels is unclear. As the route is not adjacent to roads, the impact would presumably be significant. Any increase would lessen the very special 'escapist' character of the Park.
- d) **Ashton Fields** - The increase in noise would be such that screening would

³³³ CD/C8 page 82

³³⁴ CD/C37 page 15.

³³⁵ CD/D27 page2

³³⁶ CD/D27 page6

³³⁷ CD/C8 Policy BCS9 page 75.

³³⁸ OA/11

³³⁹ OA/175A

³⁴⁰ OA/175B and REB/19

³⁴¹ OA/11 para 5.53

³⁴² OA/11 para 5.30 and 5. 31

be provided for houses.³⁴³ There would be no screening for people wishing to enjoy walking and other forms of recreation in the fields.

6.10.17 The noise of buses would be everywhere intrusive, by the side of the route and for some distance beyond. The forecasts mask the impact of the buses by assuming sharp reductions in the noise from other traffic along Cumberland Road but no reduction in vehicular traffic on the Harbourside. They also underestimate the effect on any walkers who are less than 10 metres from the kerb of the nearest guideway.³⁴⁴

6.10.18 **Air Quality (Matter 5b)** - Dr Marner's evidence painted a dismal picture of generally deteriorating air quality, albeit to levels that would not lead to immediate health problems. Very small overall improvements could be claimed only by projecting into a future so distant as to be highly uncertain (2029).³⁴⁵ The underlying assumptions are questionable and uncertain:

- a) **Traffic reductions.** The main benefits would come from reductions in traffic on Hotwell Road, which have been challenged³⁴⁶. Significant reductions are also assumed along Cumberland Road.
- b) **High quality buses.** Not guaranteed. The Promoters would have a right to refuse applications but not to force anyone to run services.
- c) **Cumberland Road flows.** Not necessarily true that existing traffic would be routed further away from walkers on the 'Chocolate Path'.³⁴⁷ Parked cars, buses and lorries currently provide a shield that would be removed, to be replaced by rapid transit buses.

6.10.19 **Landscape and visual amenity (Matter 5e)** - Paras 15 and 16 of RAM/1 deal with the blight the scheme would inflict on popular walking routes along the corridor section. Paras 2 and 3 of RAM/2 added concerns about the potential loss of open countryside through the expansion of the Park and Ride site. The Promoters have done nothing to allay fears on any of these points.

6.10.20 Mr Linfoot suggested that the scheme would bring benefits through improvements in the visual appearance of AAB and minor investment in, for example, the replacement of railings along Cumberland Road.³⁴⁸ These changes need not be dependent on a transport scheme. AAB must be a good candidate for heritage funding and the other, small-scale changes might be paid for by local fund-raising.

6.10.21 Mr Linfoot pointed out that the moving buses would have an adverse impact that could not be mitigated, first, on the heritage railway along Cumberland Road³⁴⁹ and, second, on Wapping Wharf. He suggests railway wagons might provide some screening and noted that other vehicles already used the

³⁴³ OA/11 para 5.33

³⁴⁴ OA/11 para 5.26

³⁴⁵ OA/12/2 tables 6 and 7

³⁴⁶ OA/12/1 para 5.6

³⁴⁷ OA/12 para 6.13

³⁴⁸ OA/9/1 para 3.2

³⁴⁹ OA/9 para 5.64

Harbourside.³⁵⁰

6.10.22 In cross-examination, Mr Linfoot explained that no attempts had been made to screen the buses along the Harbourside because that would block views of the harbour for those using the maintenance track. This seems a poor reason. A maintenance track at that point would be likely to be so noisy and fume-filled that few walkers would choose to use it. Many more people would be likely to walk along the Harbourside. The existing traffic is not a justification for introducing more. Indeed there are already mounting pressures to end parking here.³⁵¹

6.10.23 As for the rolling stock, it is difficult to see how its permanent presence could be guaranteed. In cross-examination Mrs O'Driscoll suggested that the Council would find a way because it was important, but she did not specify a mechanism. Mrs O'Driscoll also suggested that there would be only 'glimpses' of buses. The dictionary definition of a glimpse is a "faint and transient appearance, momentary or imperfect view".³⁵² Not an obvious descriptor of a stream of large buses some of which may have to stop on the Harbourside.

6.10.24 There would be adverse impacts on landscape and visual amenity all along the route. The Harbourside merits particular protection. It is not an appropriate place for buses. If they are routed there, they must be properly and permanently screened. Screening would be difficult. Re-routing would be the better option.

6.10.25 **Setting of listed buildings and conservation areas (Matter 5f)** - Mr Griffin suggested the scheme would be of benefit in heritage terms largely because of the restoration works planned for AAB. He drew attention too to the positive impact of removing bus and coach parking along Cumberland Road.³⁵³ As has already been suggested, the work on AAB could be undertaken independently of the rapid transit scheme. The removal of bus and coach parking has no necessary link to it. Parking could be stopped tomorrow at no cost.

6.10.27 Mr Griffin's evidence is narrowly focused on individual structures and pays very little attention to their settings. The corridor route passes through some of the most precious parts of Bristol's historic heritage, which the City Council is rightly committed to protecting and enhancing. This scheme is sadly at odds with that commitment.

6.10.28 The scheme would have adverse impacts on the setting of listed buildings and conservation areas.

6.10.29 **Impacts on leisure/tourist interests (Matter 5g)** - The Promoters argue that the scheme would bring benefits for tourist sites along its route, notably the SS Great Britain and M Shed. However, the current route has equivalent advantages for other important tourist sites, notably At-Bristol and the Aquarium.

6.10.30 Further, the SS Great Britain is already well-served by ferries and has a large car park. Most visitors will approach from the east. The lengthy loop round

³⁵⁰ OA/9 paras 5.79 and 5.80

³⁵¹ RAM/3 Appendix1 para 6.5.5

³⁵² Concise Oxford Dictionary, Sixth Edition, 1976

³⁵³ OA/8 paras 4.19 and 4.8

the City Centre and the route's distance from Temple Meads mean they would be unlikely to use the rapid transit buses.

6.10.31 Moreover, the quayside walk from M Shed to the SS Great Britain is an attractive and popular one. The Harbourside is one of Bristol's major tourist sites. The Ramblers' main objection to the scheme is the harm that would be done here. Providing slightly better access by bus for the few would be wholly inadequate compensation for the detriment suffered by the many.

6.10.32 As well as the main tourist attractions, there are important areas for recreation all along the corridor route, from Ashton Fields, through the Sylvia Crowe Park, and along the Chocolate Path.

6.10.33 Overall the impact on tourist and leisure interests would be extremely damaging.

6.10.34 **Open space (Matter 5k)** - There is limited open space in South Bristol which is easily accessible to local people. In cross-examination Mr Mole did not make this land sound attractive or useful. It appears remote from people and close to traffic, with inadequate statutory rights of access. It is not clear that the proposed exchange meets the criterion that the land should be equally advantageous to the public to the land being acquired.

6.10.35 The scheme would have a destructive impact on the limited open space in South Bristol.

6.10.36 **Impacts on pedestrians and cyclists during construction and operation (Matter 6)** - Construction of the corridor route would cause major disruption for pedestrians and cyclists. The Promoters have been unable to provide significant re-assurance. Both cyclists and the Ramblers have expressed concerns about sharing limited space along the maintenance track.³⁵⁴ A four metre maintenance track should be re-instated wherever possible. Walkers and cyclists should be separated, preferably with a physical barrier such as a kerb but otherwise with white lines.

6.10.37 Cyclists and the Ramblers also have common concerns about sharing limited space on PSB and about the adverse impact on walking and cycling in the City Centre. The Promoters suggest that access to the maintenance track would be a major benefit for walkers and cyclists.³⁵⁵ This access is, however, offered only on a permissive basis. Mr Fowler suggested in cross-examination that the track was not being designated as a right of way because it was for maintenance. However, the two uses are not necessarily incompatible. The Ramblers have proposed two ways in which permanent rights of access might be awarded while allowing closures for necessary maintenance.³⁵⁶

6.10.38 There should be a statutory right to walk and cycle on the maintenance track.

³⁵⁴ RAM/1 para 34

³⁵⁵ OA/104

³⁵⁶ RAM/1 paras 31 and 32 and RAM/3 paras 2 and 3

Impacts on walking in particular areas

6.10.39 **General** - Bristol's Councillors have put pedestrians top of their transport user priorities. They have said: "Walking routes should be pleasant, and interact with an interesting environment and other people....People should feel free to exercise their right to walk around the City in the best possible environment".³⁵⁷ Further, they see that 'Walking is not just a mode of travel, it is an enjoyable and cheap form of recreation for many. Bristol's green spaces, fine Harbourside, and built heritage provide excellent walking opportunities for residents and visitors alike. These opportunities need to be protected and enhanced."³⁵⁸ More generally, Councillors have asserted that: "Any transport scheme should have a positive impact on the pedestrian environment".³⁵⁹

6.10.40 **Harbourside** - Against the above policy backdrop, the proposal to route a rapid transit scheme through the Harbourside is extremely difficult to understand. The City Council has been working towards developing a continuous Quayside Walkway since the 1970s. The emerging Central Area Action Plan contains policies to protect and enhance this walkway (MP9) and to extend it (MP8).³⁶⁰

6.10.41 The Promoters' cross-examination of Ms Carter focused on whether the rapid transit route would interrupt the line of the Quayside Walkway or other safeguarded pedestrian routes. The Promoters appear to have missed the point of these policies, which are intended to create routes for enjoyment and relaxation, not just functional travel.

6.10.42 The Promoters point out that the Harbourside was traditionally used for transport; that the concept of a system of rapid transit passing through the Floating Harbour has long been part of the development plan;³⁶¹ and that the space west of M Shed is already shared with vehicular traffic.³⁶² They suggest that buses would contribute to the 'gritty' character of the area.³⁶³ None of these arguments can provide adequate justification for the scheme. The character and use of the Harbourside have changed materially since the 1970s when it was last a commercial port. The transport that was appropriate then is not appropriate now. Equally, putting something in a development plan long ago does not mean it should become a reality without further examination now.

6.10.43 As for current vehicular use, this is low. Further, there is existing pressure to end parking between M Shed and the SS Great Britain.³⁶⁴ Recent research shows that shared use is only appropriate in certain circumstances and does not benefit pedestrians.³⁶⁵

6.10.44 The Promoters have been unable to produce any evidence that people like walking in the proximity of buses. By contrast, a very recent consultation exercise

³⁵⁷ CD/C37 page 5

³⁵⁸ CD/C37 page 5

³⁵⁹ CD/C37 page 15

³⁶⁰ CD/C24

³⁶¹ OA/16 para 3.75

³⁶² Multiple references, including OA/16 para 3.77

³⁶³ OA/16 para 3.76 supported by Mrs O'Driscoll in cross-examination

³⁶⁴ RAM/3 para7

³⁶⁵ RAM/3 paras 4-6

showed the Floating Harbour was valued because it was relatively traffic-free. The Harbourside was identified as an area where people sought further greening (with no mention of 'grittiness').³⁶⁶

6.10.45 The Harbourside is a unique and precious asset. Running rapid transit buses through it would significantly reduce the enjoyment not only of walkers but of many of the people of Bristol and visitors to the City.

6.10.46 **Museum Street/ Princes Square** - The Wapping Wharf development has been presented within Bristol as improving the public realm through the creation of a new Museum Street, a dockside square with cafes and a new pedestrian route from Southville. Rapid transit buses would make all these areas very much less pleasant. Attention has already been drawn to the particularly high predicted noise levels in Museum Street.

6.10.47 The Promoters drew attention to plans showing that the rapid transit route had been taken into account in the original proposals. This does not mean that the scheme has to go ahead. The Wapping Wharf development is not dependent on it in any way. The plans confirm how dominating the buses would be, including their visibility from the opposite side of the Harbour.³⁶⁷ The Wapping Wharf development's potential to improve the public realm in the Harbourside would be significantly reduced by the bus rapid transit scheme as proposed.

6.10.48 **Prince Street Bridge** - Cyclists and the Ramblers have complained about potential congestion on PSB if their access is reduced to one side. The Ramblers' proof of evidence highlighted the unpleasantness of sharing the bridge with buses and the dangers of walking near the Arnolfini stop. In cross-examination, Mr Thompson suggested buses would be less intrusive than the current levels of vehicular traffic. This ignores the fact that this traffic could be removed anyway. The proposed Wapping Wharf development includes a new pedestrian link to take walkers away from Wapping Road. They should not then have to compete with traffic on PSB. Nor, of course, should they have to dodge rapid transit buses when crossing Museum Street.

6.10.49 Either of the Ramblers' preferred alternative rapid transit routes would avoid PSB. If the bridge were to be used by rapid transit buses, then the Ramblers suggest a separate footbridge should be provided for pedestrians. In their rebuttal, the Promoters implied that this proposal had been considered and rejected.³⁶⁸ This is not actually the case. As the Ramblers explained in their supplementary proof, only larger bridges have in fact been considered.³⁶⁹ Should the scheme go ahead, the Ramblers would want it to be made conditional on the provision of a footbridge.

6.10.50 **'Chocolate Path'** - The Promoters have drawn attention to various improvements planned along the route, such as replacement railings, the removal of coach and lorry parking and traffic reductions. All these could be achieved anyway and independently of the scheme. Indeed there is scope for significantly more environmental improvement here. If a rapid transit route south of the Harbour is judged necessary, the impact on the Chocolate Path should be

³⁶⁶ CD /C24 page36

³⁶⁷ OA/208,page 17 – aerial view of site from the south

³⁶⁸ REB 14 OBJ/146 para 2.2

³⁶⁹ RAM/2 para4

minimised by closing Cumberland Road to through traffic, stopping on-road parking and running the buses on the road.

6.10.51 **Ashton Avenue Bridge/ 'Sylvia Crowe' Park** - Because of the fine views of the Suspension Bridge, the routes and green space here are valued by walkers from beyond the local area, as well as those living nearby. In cross-examination of Ms Carter the Promoters focused on the retention of the designated walking routes. They would indeed be retained but enjoyment of walking on them or in the Park would be much reduced by the presence of buses. The value to walkers and others of this special area would be reduced.

6.10.52 **Ashton Fields and along Colliters Brook** - The Promoters do not dispute that the changes in noise levels would be perceptible but have relied upon the fact that this is not a designated 'tranquil area'.³⁷⁰ To local people who currently walk in the fields and along the brook, this is immaterial. The 'relaxing and natural' character noted in the visual identity guidelines would be lost. The scheme would be particularly intrusive where it crosses Colliters Brook and near Silbury Road. The value of this area for walking and other recreation would be much reduced.

6.10.53 **City Centre** - Pedestrians complain that much of Bristol City Centre is dominated by traffic.³⁷¹ There are campaigns to reduce the number of cars and to pedestrianise more routes.³⁷² The scheme would exacerbate the current problems. Mr Thompson acknowledged in his evidence that there would be increases in both the number of vehicles and in the delays experienced.³⁷³

6.10.54 In their proof of evidence, the Ramblers drew attention to the substantial loss of footways that would result from carriageway widening and from the creation of rapid transit stops and other features. The first would bring walkers closer to traffic and both could make paths harder to negotiate. Overall the scheme would make the City Centre significantly less attractive for walking. The route round the loop would need to be accompanied by measures to reduce through traffic to make it acceptable.

6.10.55 **Quality of Promoters' evidence** - The Promoters' witnesses have been unfailingly helpful and courteous. The Ramblers would, however, like to record some disappointment with the quality of their evidence.³⁷⁴

6.10.56 **Conclusions** - The benefits of this scheme appear limited at best and, in practice, none may be realised. Its costs in terms of damage to Bristol's environment are sadly much more certain. The character of Bristol's unique and beautiful Harbourside would be traded for hypothetically faster journey times for relatively few people. The present character and future potential of the locally important 'oases of calm' in the New Cut and Ashton Fields would be lost. Enjoyment of the world-class views from the Sylvia Crowe Park would be spoilt. Prince Street Bridge would no longer be a place to linger. The City Centre would become more congested and unpleasant.

³⁷⁰ OA/202

³⁷¹ RAM/2 para5

³⁷² RAM/3 Appendix1

³⁷³ OA/6 paras 5.44 and 5.47

³⁷⁴ RAM/3 Section IV paras 56-59

6.10.57 For walkers throughout the City and beyond, the impact on the Quayside Walkway and its surroundings would be the most severe. The Harbourside is a top attraction for residents and visitors alike. This scheme is quite unacceptable if routed along the Harbourside as currently proposed. The area is too precious to be damaged in this way. Further, the scope for the Wapping Wharf development to enhance the attraction of the Harbourside would be much reduced if the area is dominated by rapid transit buses.

6.10.58 There are other areas that could be made equally attractive. The 'Chocolate Path' is already important to local people and has the potential to become a major asset. Cities around the world are realising the potential of old transport routes for recreation.³⁷⁵ The Avon New Cut could become equally renowned. The 'Sylvia Crowe' Park is already an increasingly popular destination. The local effects on the amenity of Ashton Vale and South Bristol generally should also not be ignored by a City committed to social inclusion.

6.10.59 Should the benefits of the scheme be judged sufficient to justify its undesirable impacts, the Ramblers would suggest that a number of changes are required to lessen the environmental damage. In particular, buses should be kept 'on road' either north or south of the Harbourside, using one of the Ramblers' two preferred alternative routes and better traffic management devised. If Prince Street Bridge were to be used, the Ramblers would wish a separate footbridge to be built.

6.10.60 The Ramblers would also wish to see the conditions relating to the following imposed:

- a) screening wherever practicable, especially in sensitive areas like the Harbourside, with trees, hedges, walls or fences as appropriate;
- b) 4 metre maintenance track wherever possible;
- c) statutory right of access to the maintenance track;
- d) more environmental improvements to the public realm along the route; and
- e) restrictions on the type of buses that may be used.

6.10.61 Finally, the Ramblers stress their support for the general objectives of the scheme. What the Inquiry has demonstrated above all is the undesirable impact of existing traffic on the quality of life in Bristol. It urgently needs to be reduced. In the Ramblers' view this would be best achieved by better traffic management combined with better public transport and, of course, a better environment for walking and cycling. Building new routes, whether for buses or cars, cannot be the answer.

6.11 The Friends of the Avon New Cut (FrANC)³⁷⁶

6.11.1 The Friends of the Avon New Cut (FrANC) is a group of local people who are promoting a greater understanding and appreciation of the Cut, including its history, its wildlife and its role in making Bristol work.

³⁷⁵ eg The 'High Line' (New York), the 'Promenade Plantée' (Paris) and in Seoul they have taken an old, unused train route and converted it into a world class bike path.

³⁷⁶ FrANC's case is based on the proof of evidence (FrANC/1) of its former Chairman Mr John Purkiss who sadly died during the course of the Inquiry. A supplementary proof (FrANC/3) was submitted to the Inquiry by Mrs Hanmer based on notes prepared by Mr Purkiss.

6.11.2 **The Chocolate Path** - The 'Chocolate Path' that runs alongside the current railway track provides local people with a pleasant and attractive route along which to walk and escape from the bustle of city life. It is far enough distant from Cumberland Road to be little affected by traffic noise. It also offers excellent views of the river and wildlife. All this would be lost if the project goes ahead, with no gain whatsoever for pedestrians and local residents. The effect on the Chocolate Path of running vehicles immediately adjacent to it has not been considered, even though the path is much closer to the proposed busway than the buildings are. The noise levels on the Chocolate Path would be bound to increase, which would make it less attractive to pedestrians and cyclists.

6.11.3 Air quality assessments appear to be based on the use of new low emission rapid transit vehicles. However, the Inquiry was informed that the existing fleet of double-decker buses running between North Somerset and Bristol City Centre would also use the proposed rapid transit route. Even though Airport buses would re-locate to the route, the Promoters are deliberately omitting these from the calculations, hiding seriously damaging impact on the environment, air quality and the ambiance of the New Cut and the Chocolate Path.

6.11.4 **Inconsistency with local strategies** - The above adverse effects are at variance with BCC's Walking Strategy for 2011-2021 (October 2011).³⁷⁷ The Walking Strategy has been drawn up to accord with the Local Development Framework which aims to ensure that the pedestrian environment is enhanced through future development. Introducing buses alongside the Chocolate Path is not consistent with this policy. Neither is it consistent with the Council's declared principle of ensuring that any transport schemes should have a positive impact on the pedestrian environment.

6.11.5 **Wildlife - The Avon New Cut** - The Avon New Cut acts as a wildlife corridor into the City with over 30 species of birds being identified over the past five years alongside the Chocolate Path and over 120 species of wildflowers growing along it and the railway line. The loss of wildlife habitat on the railway track would have an adverse effect on the biodiversity of the Cut. Table 10.4 of the ES notes there would be a likely significant ecological impact on toads, hedgehogs and breeding birds along the route which is hardly surprising if much of their habitat is to be destroyed. The Promoters have not confirmed where habitats of equal or greater value than those existing would be created.

6.11.6 **Wildlife - Butterfly Junction** - At least 20 species of butterfly have been observed on the site. The reasons that such an unusually high number of butterflies have been observed in this small space is because (a) some of them breed on the mixture of undisturbed wild grasses growing on its waste ground and (b) the wild flower and scrub habitat provides food for these and visiting butterflies. FrANC is pleased that its representations were taken into account and that mitigation measures have been included. However, there remain doubts about the Promoters' true intentions and their understanding of the site. Verbal assurances were given by the Promoters during a site visit on 30 March 2012 that drawing number CRT ADU-SK-001, which shows Butterfly Junction allocated as a contractor's compound, has been withdrawn and that the site would be fenced both during and after construction.

³⁷⁷ CD/C37

6.11.7 **Engineering risks** - FrANC is unaware of any consideration having been made of the effect of vibration on the ground below the busway. No mention is made of this risk in the Promoters' risk register apart from recognition that unforeseen ground conditions might be discovered and technical problems with structural / civil works might come to light during construction. These risks could result in considerable additional costs to the project.

6.12 **SAVE and Ashton Vale Heritage Group**³⁷⁸

6.12.1 The area adjacent to Ashton Vale is under constant threat from developers and this scheme would cut through most of what is left. The only proposed stop in Ashton Vale would be on the periphery of the area which is already served by an existing bus route.

6.12.2 The route would be a mismatch of green belt land, railway line, a one-way swing bridge and a one-way bus lane. How the proposed service would retain its frequency in the peak periods has not been explained. The proposed stop at Temple Meads is a long way from the station platforms across a very busy interchange. There would be no apparent provision for people with heavy luggage or the disabled.

6.12.3 The two route options would both run very close to housing in Silbury Road and would increase noise, vibration and pollution in what is now a quiet residential area.

6.12.4 The route would pass through land which is subject to a disputed TVG application. If all the land is subsequently designated as TVG then it would be divided by the scheme. Suitable mitigation and access arrangements would be required to enable both parts to be used. Compensatory land would also be needed but as proposed would be further from the residents.

6.12.5 The route is ill thought out and certainly not value for money. There are alternatives which would give better value for money such as using the existing rail network.

6.13 **The Point Residents**

6.13.1 **Lack of consultation with residents** – The Point residents have not been consulted by the Promoters and this is contrary to the Government Code of Practice on the Dissemination of Information (1999). Leaflets the Promoters claim were delivered were not received. The Promoters admit that no responses were received from Point residents. Given the likely impact of the scheme within a few metres of the residents' property, a reasonable interpretation is that leaflets were not received. Also, site notices were not prominently displayed. This cannot be effective communication.

6.13.2 **Proximity** – Residents object to the scheme on grounds of its extreme proximity to The Point dwellings and the ensuing noise, disturbance, and vibration of buses travelling along a concreted route. This would be exacerbated by the constant stopping, engine idling and starting at the proposed lights. The ES states that there are no dwellings or other sensitive receptors located within four metres of any section of the busway. The satellite image shows this assertion to be false.

³⁷⁸ These two objectors represented by Alderman Peter Crispin

The quality of life of The Point residents in buildings adjacent to the proposed route would be destroyed.

6.13.3 **Pollution** – The pollutants generated in the relatively confined space of the route, directly the other side of The Point wall, would adversely affect the health and well being of residents. The Consultation Report (May 2010) (A5) indicates that modern, accessible, low emission vehicles would use the route. It is now understood that considerable numbers of diesel fuelled buses (including double deckers) would be used, exposing residents to serious health risks. The Promoters' own figures indicate a bus every two minutes at peak time with a further 12 per hour if the South Bristol Link (SBL) is built. Quotes from local councillors on the matter only add to the concerns of residents (PR/3 p5/6).

6.13.4 **Detrimental Effect on Character and Amenity of the Harbour** – The comments made by other Objectors on this aspect including the impact on the BHR and wildlife are supported. The Point residents emphasise that the stretch of The Harbour from The Point development to the M Shed, part of the dock Conservation Area, is a unique landscape enjoyed by residents and increasing numbers of visitors. Linked to the Chocolate Path, it is a focal point for walkers, runners and cyclists seeking healthy and picturesque surroundings. The proposed scheme would blight this amenity.

Individual Objectors

6.14 **David Martin** has worked on BHR since prior to its opening in 1978. He is employed by the City museum service on a sub-contract basis and has full responsibility for all operational issues. His objection is made in a personal capacity.

6.14.1 BHR was established as a working exhibit of the former Industrial Museum using the steam locomotives in the collection and ran along Princes and Wapping Wharves carrying passengers. BHR operations were extended in 1995 to the Create Centre when permission was granted to use the former BR line along the New Cut. An important part of the railway is the collection of wagons that represent types that would have been seen around the docks in their working heyday.

6.14.2 BHR currently operates on 36 days per annum (pa) on selected Saturdays, Sundays and Bank Holidays and in addition by arrangement for private parties. There is no restriction at present on when or how often the railway chooses to run. Passenger numbers are estimated to be currently over 15,000 pa.

6.14.3 The operations generate in excess of £30,000 pa. used to offset operating costs. This revenue does not cover all the costs of renewal and overhaul with the difference being covered by the Museum and significant contributions from the Friends of Bristol Museums. A loss of revenue would lead to a review of the value to the Museum of the railway operation.

6.14.4 BHR is an integral part of the new M Shed Museum. The Heritage Lottery Fund grant of £11m towards the cost of M Shed was partly conditional on the retention of the working exhibits.

6.14.5 BHR is a surviving part of the former industrial and dock use of the area. It is crucial to interpreting the movement of goods and the use of the quayside cranes, particularly the Fairbairn steam crane of 1876, as no road vehicles could

handle loads of up to 35 tons in the 19th Century. The Promoters' scheme would fundamentally alter the railway operation and context by:

- a) moving the Create Centre platform to a short spur out of sight of and significantly further from the Centre;
- b) changing the traditional track to a tramway thus degrading significantly the "heritage" aspect of the railway;
- c) reducing the frequency of operation to Sundays only thus diminishing the essential revenue; and
- d) removing the unique route of the trip, it would be available at any time on a bus.

6.14.6 Together the above factors make the survivability of passenger operations to the Create Centre highly doubtful.

6.14.7 In addition the scheme would damage irrevocably the context of the railway sidings and the wagons on Wapping Wharf due to visual intrusion. It would also reduce the length of sidings significantly, making a cull of wagons a certainty to avoid congestion.

6.14.8 There is also the downside of the removal of the permanent secure rail linked store under Smeaton Road bridge currently housing the Fox Walker locomotive, the diesel shunter and the rail crane, without recompense or alternative accommodation. These items cannot be left un-housed.

6.14.9 BHR is run by volunteers who are motivated to give their time and expertise, in part by the opportunity to operate trains on traditional track for a reasonable distance. The track on Princes and Wapping Wharves is shared with other users which mandates slow running. It is evident that some of the existing train crews would not give their services to a BHR that reverted to just the wharves and others would not feel able to stay to operate the proposed tramway. Their expertise takes years to acquire and is not easy to replace.

6.14.10 To enhance the likelihood of retaining crews and reduce the impact of the proposals on BHR, the following conditions should be imposed if the scheme is to be approved:

- a) that Saturday and Bank Holiday operating by BHR is permitted;
- b) that the Promoters supply a replacement rail accessible shed at their expense at a place to be decided; and
- c) that the cycle/pedestrian route on the north side of A Bond warehouse is abandoned to allow the railway to locate its track and platform in this area.

6.14.11 The impact of the scheme would be so detrimental to the BHR and its historical context that, in conjunction with the many other downsides demonstrated at the Inquiry, the scheme should be abandoned.

6.15 **Chris Hanmer** is a local resident who lives at 82 Cumberland Road. BRT would not provide improvements on existing services, is very costly and represents very poor value for money. The points made on these aspects are included in more detail in other Objectors' cases.

6.15.1 Despite questions, documents, modelling and expert opinions, it is impossible to understand the Promoters' claims that there would be little or no

adverse effect on the Avon New Cut, the Chocolate Path, the public spaces in the Harbour and PSB. Running buses along a route where there are currently none would inevitably affect noise, air quality and the ambience of the area.

6.15.2 The Promoters have used different models and methods for predicting car traffic along Cumberland Road (OA/114, OA/169). They all ignore drivers' behaviour of taking up freed-up road space. This would be inevitable on Cumberland Road because it is one of the few main routes into the City across and along the river. The number of cars on Cumberland Road would not reduce as the Promoters predict.

6.15.3 The calculation of daily bus movements also remains unclear (OA/169 and CH/4). There is a lack of clarity on the actual hours of running along the route and the type of buses. The Promoters conveniently discount the additional bus movements per day which the airport buses would bring to the route if the South Bristol Link road is built as planned.

6.15.4 In summary, the damaging impact of the scheme on residents in terms of noise and air quality is being significantly underplayed.

6.15.5 There has been a woeful lack of any appropriate consultation with many of the people who would be affected by the scheme. The sole information provided four years ago was vague and aspirational; there was no detail, no debate, no choice and no subsequent dialogue.

6.15.6 The Chocolate Path is below the level of Cumberland Road so is currently afforded some noise protection by the Harbour Railway wall at the boundary with the road. The proposed volume and frequency of the buses running immediately adjacent to the Chocolate Path (with some buses idling as they wait for the shuttle signals) would increase noise levels and make it much less attractive to pedestrians and cyclists.

6.15.7 Objections about the adverse effect on the New Cut in relation to wildlife, Butterfly Junction and inconsistencies with local strategies are addressed in more detail in the evidence of FrANC. In summary, BRT would significantly and detrimentally change the character and environment of the river corridor.

6.15.8 The scheme would remove all parking on both sides along Cumberland Road and introduce a 'No waiting at any time' restriction. This would affect all residents and businesses located on or near the road.³⁷⁹ While some have parking spaces within their boundaries at the front, Numbers 81-91 do not and rely on on-street parking. Some residents at Nos 81-91 have access to parking at the rear of their houses; others do not. For these properties, the only parking space available, including for visitors, is on Cumberland Road.

6.15.9 The parking plans put forward by the Promoters during the Inquiry are not acceptable and realistic alternatives for consultation are awaited.

6.15.10 If the scheme is approved, it would be preferable to have buses running along Cumberland Road rather than see the environment of the New Cut and ambience of the Harbour completely ruined for all those who use, visit and enjoy it.

³⁷⁹ Aerial photos annotated with existing parking facilities on Spike Island can be seen at CH/3

6.16 **Margaret Heneghan**³⁸⁰ is a local resident who lives at 81 Cumberland Road. The scheme would duplicate at great cost an existing P & R service and would not offer any truly innovative alternative mode of transport. It does not seem feasible that a scheme costing upwards of £50m, with all the consequent impact on affected environments, could generate greater benefits than the contrastingly modest cost of upgrading an existing and satisfactory transport route. Improvements could be made to existing bus lanes and new ones developed with effective enforcement.

6.16.1 In very recent times there have been huge changes affecting the Harbourside area leading to a greatly increased number of people using it for recreational purposes. The great majority of visitors arrive as pedestrians and would not enjoy the transformation of the area into a major transport route. There would be a negative impact on freedom of access and tranquillity of the site.

6.16.2 81 Cumberland Road is a grade II listed, end of terrace house sited adjacent to the railway bridge under which the BRT would run. The house was not constructed as an end terrace but became so when the railway was built. As a result, the gable end wall has only the strength of an interior wall with minimal footings. The concern is that major engineering works involved in modifying the rail track under the bridge, plus the continuing vibration from the frequency of buses travelling every six minutes along it, would have serious impact on the stability of the property.

6.16.3 The justification for the forecast reduction in traffic flow on Cumberland Road is unclear. Proposals to remove all parking would result in a road clear of all obstructions and car traffic would increase. Most car traffic using Cumberland Road does not take the route crossing PSB but proceeds right into Commercial Road. BRT buses would be diesel based increasing air pollution.

6.16.4 Currently, the rear of 81 Cumberland Road is traffic free. The scheme would bring frequent buses within a few metres of the back of the property which would be sandwiched between the air and noise pollution at the front on Cumberland Road and the proposed bus route to the side. This area would also be the location of the start of the proposed one-way running with all the attendant noise of braking, idling and restarting. This is unacceptable as other cleaner alternatives are available.

6.16.5 It is unreasonable to remove residents' parking on days when the BHR is operating as this situation is likely on less than 10% of days in the year.

6.16.6 Concerns are also raised regarding consultation, inconsistency with local strategies, overstatement of scheme benefits, level of mode shift and value for money. These aspects are covered in more detail by other Objectors.

6.17 **Dominic Robinson** is a local resident who lives on Cumberland Road. Issues raised by other Cumberland Road residents are supported. Objections relate to noise and air pollution, impact on public spaces on the south side of the harbour, duplication of the existing 903 service and the financial risk of cost overruns. Also, there seems to be a lack of clarity as to what would happen to the green bank between the cycle path and rear gardens of numbers 69 to 78 Cumberland Road. This bank, with its variety of small trees, bushes and other plants is a valuable

³⁸⁰ Also referred to as Margaret Fay in some documents

wildlife habitat and provides an attractive green backdrop both to residents' gardens and to the Harbourside. Reassurance is sought that this would not be disturbed or destroyed by the proposed development.

6.18 **Mark Robinson** is also a local resident on Cumberland Road. The scheme has not been widely publicised. It would result in the Harbourside being concreted over to accommodate half-empty, cancer-causing, diesel buses. People prefer the convenience, speed and comfort of their cars. So, if this scheme goes ahead, the people who would use it would be the same people who use the buses now. For some it would make their journey a couple of minutes quicker. For others it would be slower, particularly if they work at the Council House, the University, the hospital, the City Centre or on that side of the Harbour, since they would have much further to walk at the end of their journey.

6.18.1 The alternative suggestion for turning one of the two inbound lanes on Hotwell Road into a bus lane is a better solution. Quite apart from the enormous cost savings, most passengers would find that route far more convenient and it would protect the Harbourside.

6.18.2 The number of car journeys the Promoters claim would be removed from Cumberland Road is misleading. These car journeys would simply be moved as people found alternative routes. The Council would open up the route to extra vehicles if the scheme did not prove popular. The scheme would undo all the good work to rejuvenate the area.

6.19 **Derek Hughes and Sara Worth** are also local residents on Cumberland Road. The principal objections are loss of on-street parking for residents of Nos. 81 – 91 Cumberland Road, the environmental impact on the Chocolate Path, the threat to wildlife along Avon New Cut and at Butterfly Junction and the liability of Bristol City Council tax payers for any cost overrun.

6.19.1 Perhaps one successful outcome from the Inquiry is that the Promoters now at least appear to recognise that there are parking issues that need to be resolved for the Cumberland Road residents who live immediately to the west of Cumberland Road Bridge. It was surprising to learn that the matter of on-street parking on Cumberland Road is now a matter of extreme importance within Bristol City Council. Cumberland Road is to be included as part of a Residential Parking scheme that will be proposed to the Council leaders shortly. That is the mitigation offered by the Promoters, as usual, at the eleventh hour.

6.19.2 Since giving evidence, nothing has been heard from the Promoters regarding the details of how this Residential Parking scheme would work, nor have they attempted to consult residents on the matter, either individually or collectively. As a result, the objection to the TWA Order application still stands.

6.19.3 In the event that the TWA Order application is granted, one of the conditions imposed on the scheme should be the requirement that Cumberland Road residents be consulted regarding the provision of on-street parking, especially those residents of Nos. 81 – 91 Cumberland Road where this is the only parking option available. Cumberland Road residents should also be fully consulted should a Residential Parking scheme be proposed. Proper consideration should also be given to more radical solutions such as the compulsory purchase of part of the Aardman Animations temporary car park, as discussed at the Inquiry.

6.19.4 It is difficult to believe that that introduction of frequent single-decker and double-decker buses along the New Cut would have minimal environmental impact. While it may be argued that these vehicles would have little or no effect on noise and air pollution, what is beyond doubt is that this proposed scheme would irrevocably transform what is currently a quiet, tranquil area in the heart of Bristol, enjoyed by many, into a bus superhighway. The radical change to the whole character of this part of the New Cut is not worth sacrificing for the sake of a rapid transit system whose benefit to cost ratio, as other Objectors have shown, is questionable.

6.19.5 Since the start of the Inquiry there have been so many changes to the scheme which formed the basis of the BAFFB that it is not clear whether the original cost estimate is still valid. Concerns remain therefore regarding potential cost overruns and the fact that these would be met by Bristol City Council tax payers.

6.20 **Susan Flint** - the transport authority has done little to make bus transport more acceptable. A number of low-cost improvements have been put to the Promoters with little success so far.

6.20.1 The Promoters have produced flood maps for various scenarios of climate change and accept that the probability of floods will become more frequent and of greater severity as climate change effects increase. The probability of a 1 in 5 years flood event does not mean that one has to wait 5 years for such an event to happen. It does mean that it is most likely to happen at some time within that 5 years although it could happen at any time. Similarly a 1 in 100 year probability does not exclude an event much sooner in the future although it is less likely.

6.20.2 The flood maps show that the route of BRT in the Spike Island area traverses the potentially most severely affected flood area in the City. They also show that the highest flow rate of flood water occurs through the narrow gap of the PSB, a physical bottle neck for flood waters. Bristol's Director for Transport agreed that an aim of the scheme was to reduce bottlenecks. In the traffic flow context, forcing large numbers of buses both ways over a single lane of that narrow bridge would surely add to the bottle necks.

6.20.3 1850 metres of the route lies on Spike Island, a strip of land bounded on its north by the Floating Harbour, at either end of which are tidal waters, and on the south by the tidal New Cut. The existing BHR track is known to become flooded on occasions while water may reach the soffit of the Ashton Avenue Bridge over which the route would pass. Such occasions will almost certainly become more frequent as sea levels inevitably rise. Without extra protection, flooding of the route would be certain. Further protection would be needed as climate change effects already initiated take effect. There would be an ongoing cost of construction throughout the lifetime of the route. Improved public transport is very desirable, even essential. However, it is not essential to introduce it into such a flood-prone zone.

6.20.4 There are alternative routes on Hotwell Road and Coronation Road which are at a much higher level Above Ordnance Datum (AOD). Mr Philip, the Promoters' Flood expert, points to the existing Hotwell Road route as an alternative to be used in the event of a flood threat (OA/7/2 Appendix 4). If the Secretaries of State are minded to grant the TWA Order they should make it a condition that both timetables and tide tables are posted at all BRT bus stops.

6.20.5 The Promoters have chosen not to refer the project to the Coal Authority. This is required to check whether there has been any mining activity under the route, which might explain the subsidence which occurred in July 1981, or warn of any future subsidence. It is understood that the Promoters will now seek advice from the Coal Authority concerning all areas where the track passes over referral areas. It is noted that the Promoters intend to conduct ground surveys along the trackway. If the earlier landslip proves not to be due to coal mining, any decision to approve the scheme should be contingent on a satisfactory explanation for the cause of the land slip and conditional on an appropriate remedy being put in place before use of the route commenced.

6.20.6 A major scheme such as that proposed would be demanding of much fossil fuel in its construction. Even the planning process, including the Inquiry itself, is demanding of energy. It is suspected that the CO₂ payback time for this scheme would be unacceptably long.

6.20.7 The idea of building the route across Spike Island has passed its sell by date, and, if constructed, would soon be past its use by date. The idea of a quarter century ago should now be abandoned. Any road capacity released on Hotwell Road would probably be filled by more cars.

6.20.8 Projections assume that current conditions remain the same or that existing trends continue at the same rate. They cannot anticipate the unexpected. Results depend on assumptions made at the outset which in other areas have proved to be inaccurate.

6.20.9 The Promoters' modelled expectations seem overly optimistic. They should be treated with much caution. The Promoters should ask themselves why many thoughtful citizens have raised logical and coherent objections to the scheme while few other than the Promoters have spoken up to show support.

6.21 **Stephen Layland** suggests an alternative approach which would take the opportunity to both enhance and deepen Bristol's identity with the engineering ambition of Isambard Kingdom Brunel. The alternative would be to install an underwater "monorail" or near-evacuated "vactrain" shuttle-service (using only prefabricated tunnel sections and units) in a newly excavated trench along and around the natural line of the Floating Harbour. It would probably be necessary to double-up the trench width of the prefabricated tunnel to allow service access. The trench could be excavated 'in the dry' by simply opening, and then afterwards closing, the lock gates of the Floating Harbour.

6.22.1 The sections and units of the prefabricated tunnel could be readily delivered by road, if not by water. There would be a series of intermediate shuttle stops adjacent to the Arnolfini/M Shed; Canons Marsh; SS Great Britain and into Cumberland Basin. The scheme could be extended in the future to the Suspension Bridge.

6.22.2 The cost of the whole undertaking could in entirety be discounted against the knowledge that the huge global community of shipping and railway enthusiasts would be certain to add a visit to Bristol in their holiday plans. The high-profile challenge of the project would turn the attention of the world on developments in Bristol. The trench location in Bristol's Floating Harbour would place the emphasis not on high speeds but on the smoothness and dependability of the shuttle-ride.

6.22.3 The precedent of establishing this relatively small and easily affordable venture in transport would be seen to anticipate the promise of an underwater vacuum tube-line between Europe and America, via the coast of Greenland and Canada. The latter prospect has almost become an obsession of the speculative community. The precedent would cause Bristol to be the naturally accepted and adopted terminus of the main spur-line of that transatlantic railway.

6.22.4 While the proposed scheme may be held to agree with some existing Plan it would be difficult to reconcile with the principle of enhanced urban "place making". The complementary point is that the existence of the BRT scheme would lessen the enchantment with the prospect of the underwater shuttle service between Temple Meads, the SS Great Britain and the Cumberland Basin.

6.23 **Hugh Pratt** is a resident of Bristol and the lessee of a small car park at Wapping Wharf which would be affected by the scheme. He would be happy to co-operate if the land were to be leased on a temporary basis for the purposes of the scheme but objects to any extinguishment of work rights or compulsory purchase. The tunnel under St Mary Redcliffe Church referred to in OA/3 page 52 is owned by Mr Pratt and it is untrue to say it is not available. This shows a lack of proper research. The Promoters failed to consider running trains into the centre from Ashton Gate.

6.24 **David Gott** is a local resident who lives at 71 Cumberland Road. The "fastest" dedicated track section of the scheme would have an average speed of just 18.75 mph (2 to 3 mph above peak-hour City Centre traffic speeds for Bristol). This fact alone makes rejection of the proposals obvious.

6.24.1 At a cost of at least £49m and at least 2.5 years of massive disruption, and with the loss of the historic Harbourside, 0.3% of commuters might get to the M Shed, where they probably didn't want to go, 2 minutes faster.

6.24.2 The scheme would thus have all the negatives of a dedicated busway (high construction costs, inflexible route, vehicle adaptations and driver training), but without the key potential benefit; speed. The DfT has agreed in principle to contribute £34m; the large majority of the initial costs. The Promoters are now well aware that the data they supplied to the DfT is seriously flawed and massively exaggerates the benefits of the scheme. The true benefits are nowhere near good enough to meet DfT guidelines to receive funding. Thus, even if the Inquiry gave the scheme a green light, it would be necessary for the Promoters to inform the DfT of their faulty submission. The same applies to the funding promised by Bristol Airport.

6.24.3 Specific objections include the following: the scheme is misleading as it does not go to Temple Meads Station; general impact on the Harbourside area; effect on new public square outside M Shed; the scheme is not rapid transport; restriction of pedestrian movement on PSB; restriction of BHR operation and effect on its authenticity and attractiveness; loss of Harbourside parking; impact on residential/visitor parking and loading facilities on Cumberland Road; loss of a sense of place, including views over the New Cut, for users of the Cumberland Road corridor; unnecessary parking restriction on a Sunday; lack of attraction for bus companies; scheme not viable on special event days; effect on wildlife; likely escalation of scheme costs; effect on coach parking; likely increase in traffic volumes on Cumberland Road due to removal of parking; a less pleasant, more hazardous and more polluted environment for pedestrians and cyclists; closure of

key routes during construction; creation of hazardous intersections and crossing points; delays to City Centre traffic during construction with resulting increased pollution; prevention of the closure of PSB during events and hindering the swinging of the Bridge for boats; no noticeable effect on congestion or any other significant benefits. The points made by others, as listed in DG/1, are also supported.

6.24.4 Do nothing would be a far better alternative. The railway line from Ashton Gate could be used to create a route through to Temple Meads Station. If the scheme goes ahead, what can Bristol expect? The lessons from a similar scheme in Cambridge are that the guided busway there does not improve journey time and reliability. It is also involved in a court case relating to significant cost overruns.

6.25 **Gavin Smith** has worked as a transport planner for over 30 years including 10 years with Bristol City Council.

6.25.1 The Promoters' further evidence and rebuttals to the Inquiry have not altered the view that the scheme as currently proposed would be deleterious to the enhancement of public transport infrastructure in the City. In particular, the scheme would obstruct both the achievement of further bus-priority and the renaissance of the sub-region's rail network. There remains no identified need for this scheme. It was conceived initially as an LRT scheme to serve anticipated large housing developments around Long Ashton, utilising a supposedly redundant rail alignment (the Wapping Wharf line); but both these features have lapsed. Today, public needs in this corridor of the City are already met by existing services.

6.25.2 There would be no great journey time saving. Any impact upon modal switch towards public transport may be anticipated to be minimal. For the individual traveller, the time saving would effectively be valueless.

6.25.3 The scheme is not comparable to the Cambridgeshire scheme which is a 25km long rail conversion scheme.

6.25.4 BRT 'guided bus' would not be a useful precedent for the City. As Mr Davies points out (REB/31, para. 2.9): "the AVTM scheme is not designed to provide a precedent for the sub-regional transport network". Indeed, the scheme is not a useful first step in some emerging Bristol BRT 'guided bus' network because there are almost no other potential 'guided bus' routes in the city.³⁸¹

6.25.5 If the Promoters' attention and financial resources continue to be directed towards BRT schemes then other more beneficial schemes will inevitably be pushed into the long grass (page4 GS/3).

6.25.6 Because the bid for 'guided bus' funding was composed in isolation, the potential for integrated transport planning was not even considered. There appears to have been no review of the potential for redirecting buses to serve the rail network stations (existing and potentially re-openable). Such a review would have greatly enhanced the perceived benefit of rail-based alternatives. It would also have hastened the drive towards interchangeable ticketing.

³⁸¹ GS/3 page 3 - commentary on other transport corridors in Bristol and their suitability for different forms of public transport

6.25.7 Symptomatic of the isolationism evident within the BRT bid is that the City's bus services would derive no benefit from it. This is in spite of the fact that buses are the City's main public transport mode. Again, this is an irrational use of limited financial resources.

6.25.8 There would be severe and unavoidable environmental impacts of the scheme on the popular Chocolate Path, the existing and planned open space areas at M Shed and on PSB.

6.25.9 The impacts on walking and cycling, the growth of which plays an important part in Bristol City Council's transport policy, would not be positive.³⁸²

6.25.10 It is accepted by all with intimate knowledge of the BHR that the scheme would seriously jeopardise its future operations and existence. The BHR was a principal aspect of the City's recent large Government award for the improvements to the Industrial Museum (now M Shed).

6.25.11 The Promoters' compulsion to win a guided bus DfT grant 'because it was there' has already had a distorting effect on the City's transport planning. Crucial components of current infrastructure plans have been omitted by the Promoters including: completion of inbound bus-lanes on Hotwell Road; reopening of Ashton Gate station and Avonmouth-Henbury loop within the Greater Bristol Metro proposal. It is clear that these omissions have occurred, either consciously or subconsciously, because their inclusion might be seen to undermine the case for the BRT scheme.

6.25.12 The Low Cost Alternative has not been properly evaluated and is a do nothing option (GS/3 p6). The rail mode alternative has not been adequately evaluated (GS/3 p8).

6.25.13 The selected transport planning consultancy has not acted objectively and neutrally in evaluating the alternatives (GS/3 para 7.3). In its current form, the scheme is environmentally damaging and unnecessarily expensive, with little or no transport planning justification. If built, it would prove to be a financial liability to its sponsors, entailing a very high transport planning 'opportunity cost'.

6.26 **Andrew Spearman** is a Chartered Town Planner and former employee of Bristol City Council working in the areas of town planning and transport planning.

6.26.1 Matters 1 and 2 - The Inquiry has revealed that there is no proven need, slight and dubious regeneration benefits which are not justified by the high overall cost and very few environmental and socio-economic benefits.³⁸³

6.26.2 Matter 3 - This was addressed primarily by Mr Fowler for the Promoters. His evidence (OA/3 Section 6) is generalised and sketchy. His analysis of the option of electric trolleybuses (OA/3 paras 6.44 to 6.46) is notably superficial. Comparative costs set against enhanced modal share, cleaner air and less noise are not given. Institutional factors in the UK outside London, including deregulation, are key factors that go unmentioned.

³⁸² GS/3 page 5 - list of impacts

³⁸³ See AS/1 Sections 4, 5 and 6

6.26.3 Matter 4 - The scant regard given by the Promoters to foundation policy documents in both planning and transport has been a cause of particular surprise and disappointment. Whereas town planning policies adapt to spatial change brought about by development, channels and modes of movement only alter when major transport initiatives are programmed and implemented. Vital transport solutions should build on a tested bedrock of proposals supported by a wide community. If unimplemented, they should be protected and brought forward when they can be. They should not be revised without justification every few years at the whim of external agencies. Mr Davies, on cross examination, was not confident on the matter of public participation in the GBSTS which increasingly influenced subsequent JLTPs and gave rise to this particular scheme.

6.26.4 Matter 5 - Mr Linfoot conceded that the dynamic of large diesel vehicles on or near historic structures would be detrimental. He agreed that frequent unguided bus movement in Museum Street would inspire less confidence for other users than a tracked swept path such as that of a tram. Mr Griffin agreed that he had been given insufficient background information on Jubilee House before compiling his evidence, and that his OA/8 paragraph 4.35 on "natural evolution" was inappropriate.

6.26.5 The Inquiry has not altered the opinion expressed in AS/1 paras. 6.1-6.3 regarding the impact the scheme would have on the setting and character of the historic harbour and the Harbour Railway.

6.26.6 With respect to impacts on commercial property, Jubilee House has been occupied continuously and is currently believed to be functioning as a taxi business. Proposed development options by Umberslade may be constrained by the close proximity of the scheme.

6.26.7 Matter 6 - Evidence heard during the Inquiry has elaborated on each of these five criteria. The impact on pedestrians and cyclists is addressed in paras 7.4 to 7.7 and 6.5 and 6.8, 6.16, respectively, in AS/1. With respect to the impact on existing bus services the response is in paras 4.2 and 4.4 of AS/1.

6.26.8 Matter 8 - Certain remedial measures have been considered during the Inquiry by the Promoters in response to deep concerns raised by many Objectors. The position remains that these impacts should have formed part of the City Planning Directorate's original assessment. They should have engaged in dialogue with the Promoters seeking an iterative series of modifications at a much earlier stage. It is difficult to see how due process under the General Development Orders and Town and Country Planning Acts has actually taken place if City Members were not told of adverse impacts before forwarding this scheme for determination by the Secretaries of State. There can be little confidence that conditions and mitigation measures would be properly enforced by the relevant authorities should the project proceed.

6.26.9 Matter 11 - On capital funding, the Inquiry was made aware of a cost escalation of 100% plus associated with the Cambridgeshire project and on-going litigation. Also of relevance to costs is the risk associated with ground conditions for the new Portishead railway overbridge and stability of the flood wall to the Avon New Cut. Bristol City Council's 'lion's share' contribution of a stated £12 million would inevitably rise and render the scheme unaffordable. There is no confidence or certainty about work place car park charging schemes which the City relies upon and which remains the West of England Partnership's sole, voluntary, travel

demand management tool. On the revenue side, the evidence of Mr Willcock reveals how tentative financial arrangements are on commercial tendering arrangements, operational surplus or deficit, who would bear operational risk and bus guideway access charges.

6.26.10 Matter 14 - While understanding the distinction between an Order application and a planning appeal, all Objectors are justifiably indignant about the manner in which numerous changes to the scheme since the Order was deposited have been managed by the Promoters. It has not inspired confidence in the process so far.

6.26.11 Matters 15, 17 and 18 – The proposed changes to the Ashton Avenue Bridge would be damaging in visual terms and its established function within a valued natural landscape setting (AS/1 para. 6.8). With respect to the modifications to Prince Street Bridge, EH accepts the changes only on the basis that the special qualities of the bridge would not be jeopardised. The extra weight penalty caused by the modifications, made worse by the stated frequency and oscillation effect of six ton buses, is almost certain to compromise these qualities (AS/1 para 6.10).

6.26.12 Jubilee House is entirely in keeping with the varied commercial landscape of the Conservation Area. It is a perfectly adequate building and should be kept (AS/1 para. 6.11).

6.26.13 **Cross examination points** – It is recognised that it is the Promoters' intention to redirect bus route X1- Weston-super-Mare to and from Bristol Bus Station, along the AVTM guideway and that it formed part of the GBBN enhancement programme. The redirection of any North Somerset bus services was intended, as a late addition, to enhance the BCR of the scheme. The GBBN initiative insofar as route X1 is concerned resulted in better bus shelters and raised kerbs in selected places. Frequencies of actual bus services, and the type of vehicles to be used, are a commercial decision in the hands of the operator, First Group.

6.26.14 Enhanced commercial bus services along the above route coincide with the local train service from the same place, also run by First Group. Enhancement of the latter is long overdue and, in terms of reducing overall road traffic, would be more sustainable. The further point is that local trains for North Somerset passengers actually reach Temple Meads Station, whereas AVTM would not.

6.26.15 For the Cambridgeshire busway, the 140% patronage above projections falls well below targets given at the Inquiry into that scheme.

6.26.16 **Proposed planning conditions** (A10) - Essentially these are outline planning conditions with many detailed matters reserved. It is normal planning practice not to entertain major proposals in outline form within a Conservation Area or affecting Listed Buildings and there is provision in the Act to require submission of necessary details. It is expected that many of the illustrative details put forward as evidence during the course of the Inquiry would be properly referenced and attached to individual conditions and the Promoters bound by them.

6.26.17 In view of the genuine misgivings raised by Objectors to so many aspects of the project, a further planning condition should be included as follows:

"In the event that construction of this guideway is commenced but, for whatever

reason, it is forced to cease before completion, the Promoters shall ensure that works and materials are completely removed and the site restored to its original condition, including railway track, rights of way, fencing, replacement planting and other related features, to the satisfaction of the local planning authority. Reason: in the interests of visual amenity, accessibility and in order to preserve and enhance the character of the Conservation Area". It is the type of condition commonly attached to applications for minerals extraction, landfill sites or significant developments of a temporary nature.

6.26.18 **Conclusion** - A case has not been made for the imposition of a guided busway that would sacrifice the character and integrity of an historic, highly valued and largely undisturbed approach to Bristol City Centre.

6.26.19 The Inquiry has adduced that, at an average speed along the guideway of only 15mph, public transportation would not be rapid. In concept, the scheme resembles the uncoiled length of cable, thread, hose or rope at the end of a reel. The total length of this cable is, maybe, 40 km if a generous view of the overall BRT network is taken, or perhaps 14 km for Hengrove to North Fringe element. It would be nearly all unguided, on existing roads. Only buses beyond the City from a west or south west direction would encounter this non-rapid, guided "springboard" or "loose end" of the reel, only 4 km in length.

6.26.20 Evidence has revealed that provision of improved bus services is an ephemeral thing. In Greater Bristol there is no appetite for regulation or a legally constituted Transport Authority. Yet a concrete guideway is a tangible, static and permanent change. The local planning authority, in particular, has proved itself indifferent and, regrettably, negligent towards procedure, scrutiny and balanced judgement. Their evidence has not been properly "owned" on the day. Issues concerning nature conservation, heritage and townscape matters were left entirely to the Promoters' team to field. The motto of the Royal Town Planning Institute is "mediation of space; making of place". Instead of mediation, the Inquiry heard complicity; instead of making of place, it heard desertion and detriment. Instead of substance, it heard slogans.

6.26.21 The language of recent Transport Plans (AS/3 Appendix 2) reveals increasing alarm and desperation about the inevitable consequences of projected increases in road traffic. As a reaction, the local authorities have deluded themselves that a negligible length of guided busway along a corridor that seemed "easy to do" would be a cure-all panacea and kick-start a step-change in urban modal split. It will not happen. The only outcome would be an ugly, permanent scar along a familiar face with actual adverse consequences on tourism and residential amenities.

6.26.22 For these reasons and for others heard at the Inquiry, this Order should not be confirmed thereby enabling alternative, practical and acceptable solutions to be advanced instead.

6.27 **Jane Miller** - A convincing case has not been made that the proposed scheme would help mitigate the chronic traffic congestion from which Bristol suffers. As no valid passenger survey appears to have been done, credence cannot be given to the projected patronage figures.

6.27.1 The points made by others are supported with respect to impact on the Harbourside; inconsistency with the Central Area Action Plan; delays due to swinging of PSB; delays due to BRT3 buses; the good service provided by the

existing 903 bus; poor access to Temple Meads and the withdrawal of the 500 bus service pointing to a lack of patronage.

6.27.2 Pedestrians and cyclists would be directed to the western side of PSB. BRT3 would direct pedestrians along the eastern pavement on Wapping Road. They would therefore have to dodge the traffic to cross Wapping Road before the PSB and the reverse for the return journey. Wapping Road would still be busy with two rapid transit routes, local service vehicles and traffic generated by the Wapping Wharf development.

6.27.3 If this scheme goes ahead, Bristol citizens would be left with a wrecked Harbourside area and huge costs because of potential cost overruns and subsequent subsidies due to insufficient patronage of the route. These are matters which cannot be rectified in the future if the scheme is approved. Bristol's local railway stations should be re-opened thus freeing up road space and there should be more prioritised bus lanes on existing well-used bus routes.

6.28 **Stephen Wickham** - Objection seeks to address matters that were not properly addressed by the Promoters' proposals or by other Objectors. These included the Vauxhall Bridge closure which has apparently now been withdrawn. Also, with respect to the underside of Brunel Way it is important that the soffits are kept free of mechanical and electrical apparatus to maintain the Conservation Area appearance and the avoidance of vandalism. Sylvia Crowe footbridge is a key viewpoint and grade separation asset and must be retained in the City Docks Conservation Area.

6.28.1 The Sylvia Crowe Landscape now seems better understood as a result of evidence heard at the Inquiry. However, a Design-and-Build contractor would not know any of that. Also, the cycleway proposals in this area, as shown in OA/130, put a very convoluted and wide set of infrastructure through the artificial railway cutting between Ashton Avenue Bridge and Brunel Way. The final design needs to be "in-a-cutting" with the lower North West bund creating a ha-ha to hide the BRT infrastructure from park users. Solutions that do not include retaining walls are often best as these can be ugly and provide something people can fall off. Retaining walls here would be in the Conservation Area so would need a pennant stone finish to match the Ashton Avenue Bridge.

6.28.2 With respect to the CAC application for the City Docks Conservation Area, the Cumberland Road railings and the Cumberland Road ramps and bridge-under-cutting, are in poor and apparently inaccurate detail. Also, Jubilee House should be retained.

6.28.3 The extensive piling proposed in Cumberland Road was not communicated to the noise consultant for vibration and other assessments regarding domestic property, listed buildings and river wall stability. These issues have not been assessed at all regarding use of the harbour railway route.

6.28.4 The drawings appear to beg many questions. The change made to the scheme may indicate a responsive promoter to some but "making it up as they go" to others. Expect spiralling costs if this continues due to general unreadiness for procurement.

6.28.5 Winterstoke Road Bridge is no Institution of Civil Engineers prize-winner in aesthetics. The Landscape Architect has a glass half empty view of the route in general whereas local people seem to like it a lot more as it is. Are Halcrow the

right people to supervise this given they are also pushing the route? A practice with similar flair to Dame Sylvia Crowe for the finished appearance would be better.

6.28.6 The Promoters are repeatedly selective in their interpretation of mapping. This carries through to Bristol City Council's planning report (OA/16) which again frequently seems selective of one side of an argument without providing a protective balance.

6.28.7 The extent of public consultation is overstated by the Promoters. There is the dichotomy of Council leaders continually saying "nothing is decided" while those Objectors emerging for the first time with close-proximity issues are being told they should have attended trite shallow-level meetings in 2008 or read notices on the lamp posts in 2010.

6.28.8 The stand-alone nature of the scheme is also a frustration with no integration with the linked BRT3 and SBL schemes. Consultation took place on both these projects during the Inquiry and incompatible answers received regarding the interface with the proposals the subject of this Inquiry including treatment of the same spaces. It seems a case of 'left hand, right hand' and possible differences in philosophy.

6.28.9 The "£22 - Million" treatment of the Cumberland Road Sunday alternative (OA/200) is scaremongering and completely incompatible with BRT3 thinking. No one asked anyone for a four-lane Cumberland Road. Also, the Promoters have left it too late for even a bus stop on the Wapping Wharf site.

6.28.10 In respect of open space, the land at Bower Ashton near to the Meridian development³⁸⁴ was frequently walked both before the removal of the tracks and afterwards. Since the completion of the adjacent residential development, the land is not 'pedestrian secure' being fully accessible to residents and visitors. At the eastern side near Brunel Way there is a fence but it is not continuous. To the west, the land is accessible from a rough track which can be accessed from the bridge over the Portbury line. The provision of exchange land for this area would be appropriate. However, the exchange land area E is badly drained. It does not have similar characteristics to area D which it would replace and is remote from the Meridian development so would be of no use to the residents.

6.28.11 The exchange land proposed at area C would not be suitable for the transfer of flora and fauna from area D due to drainage problems and grazing of the land. It would also be remote from Ashton Vale and difficult to get to for residents.

6.29 **Ann Wickham** – does not wish to see any adverse impact on the harbour railway. The Sunday route for the BRT on Spike Island should be used all the time.

6.29.1 The Sylvia Crowe Park is an oasis of green quiet. The viaduct traffic noise is ignored if you are not level but the lower bus route would introduce new perceptions of danger. It is important that the footbridge is retained.

³⁸⁴ This is the land referred to as area D in the application for a certificate under the Acquisition of Land Act 1981 to replace open space land that would be lost due to the scheme.

Other Matters

6.30 **British Railways Board (Residuary) Limited (BRBRL)** - BRBRL maintains its objection to the Draft Order in relation to the AAB. The Bridge is in the ownership of the BCC and BRBRL, as statutory successors to the Great Western Railway Company. It is submitted that the use of the bridge by the guided busway would result in intensification of its use with consequential increased maintenance costs.

6.31 The statutory liability to contribute to the maintenance costs of the Bridge is currently shared equally between the BCC and BRBRL. It is submitted that the BCC should assume total responsibility for the future maintenance costs of the Bridge and that BRBRL's liability for one half of such maintenance costs should be transferred to the City Council. However, it is accepted that this is a matter to be pursued outside the Inquiry process.³⁸⁵

Other Written Representations

6.32 The issues raised in other written representations are largely covered by the evidence submitted by Objectors who appeared at the Inquiry as reported above. The material points raised in addition are:

- a) option 1B alignment through Ashton Fields cuts across the site of the proposed Stadium development for Bristol City Football Club and would make it impossible to carry out the development;
- b) the scheme would prevent many south Bristol residents from accessing the cross-harbour ferry;
- c) the scheme conflicts with the Commission for Architecture and the Built Environment (CABE) guidance on design;
- d) the Silbury Road stop would not take residents to local shops;
- e) property values would decrease;
- f) engineering costs would be reduced if smaller vehicles were used thus avoiding need to provide increased bridge clearances;
- g) adverse effect on Childrens' Club in Silbury Road, multi-sports court and disused allotments; if scheme delayed areas of the site would be closed off and rendered useless for some years;
- h) there would be no benefit to Ashton Vale residents; detrimental impact on local shopping areas; effect on visibility from car park access serving the North Block of Merchants House; railings on Cumberland would be a safety hazard.³⁸⁶

³⁸⁵ OA/271 Letter of 25 June 2012 from Lee Bolton Monier-Williams on behalf of BRBRL

³⁸⁶ The Promoters' response to these matters and other issues raised in written representations is at OA/256

7 CONCLUSIONS

Inspector's Note: References in square brackets [] indicate the paragraph(s) in this report in which the relevant source material can be found. Other references to Inquiry documents are given in circular brackets () or as a footnote.

7.1 The structure of this section of my report follows the topics listed in the Statement of Matters issued by the Secretaries of State.³⁸⁷ These are the matters on which they particularly asked to be informed. Bearing in mind the submissions and representations I have reported, the information contained in the Environmental Statement and all other information supplied, I have reached the following conclusions.

The Statement of Matters

7.2 The aims and objectives of, and the need for, the Scheme (Matter 1)

7.2.1 It is clear from evidence submitted to the Inquiry and my own observations that there is a high level of traffic congestion in Bristol particularly during peak periods. If this issue is not addressed it will undoubtedly be exacerbated by future traffic growth with serious implications particularly for economic growth and air quality. The West of England Partnership (WEP) has recognised that these problems can only be tackled effectively by an overall strategy for the area and such a strategy has been approved through to 2026 [4.3.1]. This sub-regional approach is important given the major influence of Bristol in setting travel patterns over a wide area.

7.2.2 The primary and secondary objectives of the Ashton Vale to Temple Meads (AVTM) scheme have been clearly identified by the Promoters. The objectives have been consistent during the development of the project [4.1.2]. There was little dispute at the Inquiry that these objectives are relevant to circumstances in Bristol and worth pursuing, the issues being the extent the proposed scheme would help to achieve them and whether an alternative approach would be preferable. I address these issues in my conclusions on the other Matters.

7.3 The justification for the proposals in the draft TWA Order including the anticipated transportation, regeneration, environmental and socio-economic benefits of the scheme (Matter 2)

Transportation Benefits

7.3.1 The transportation benefits of the scheme would arise from the provision of a new, largely segregated public transport route and the frequency, reliability and quality of service proposed along it. The forecasts indicate that the scheme would result in reduced journey times for many users in the A370 corridor linking the Long Ashton P & R site in the south west of the study area with central Bristol. Passenger numbers are forecast to increase significantly on the P & R service as a result.³⁸⁸

³⁸⁷ INQ/4

³⁸⁸ OA/203 [Table 7]

7.3.2 The scheme also has the potential to provide much wider public benefit to communities more generally in North Somerset. This would be achieved through the use of the guided busway by existing and potentially new bus services directly to and from these areas. Given, the increased reliability and reduced travel times offered by the largely segregated route, it is predicted that the scheme would encourage much greater use of the North Somerset services.³⁸⁹ This aspect of the proposals is important if the scheme is to meet its wider objectives. In particular, it would accord with one of the primary objectives of the proposal to extend the choice of transport modes by making use of the bus more attractive for car users. It would be an alternative both to use of the car for the whole journey and to the park and ride option.

7.3.3 Although the TWA Order relates only to the corridor section of the route between the Long Ashton P & R site and Prince Street Bridge (PSB), the proposed improvements to bus priority and infrastructure within the City Centre form an essential part of the overall project. These works would provide substantial benefits for public transport users in the City not just for those in the Ashton Vale/A370 corridor [4.4.15]. I return to this issue below as it is one of the aspects of the scheme which is challenged [7.3.15 – 7.3.18].

7.3.4 The methodology on which the transportation and economic benefits of the scheme are based is described in the Environmental Statement (ES) and in OA/6/2. It formed the basis for submission of the business case to the Department for Transport (DfT) on two occasions following which support funding has been provisionally agreed [4.8.1]. The review undertaken by the DfT as part of this process is a rigorous one including detailed checks on modelling techniques and assumptions and their compliance with guidance. This provides a degree of confidence in the robustness of the transport and economic justification for the scheme.

7.3.5 The economic assessment shows that the benefits of the overall scheme, including the City Centre works, would substantially outweigh its costs. The Benefit to Cost ratio represents 'Very Good Value for Money' based on DfT guidance [4.8.1].

7.3.6 Objectors challenged several aspects of the transportation benefits claimed for the scheme. I consider these below under a series of headings which cover the principal issues:

- Journey time savings;
- Passenger forecasts including modal shift;
- Integration;
- Revenue;
- Quality of service;
- Other modelling issues.

7.3.7 **Journey time savings** – The forecast savings in journey time are one of the principal benefits claimed for the scheme. They also represent a significant element of its economic justification. The Inquiry heard that they had been derived

³⁸⁹ OA/6/2 [Figure F.16]

from the AVTM transport model.³⁹⁰ The Promoters confirmed that the model uses an average speed for BRT vehicles along each link based on data supplied by vehicle manufacturers and other comparator sources including maximum vehicle acceleration and deceleration, comfort factors and the likely dwell times at stops.³⁹¹ For the segregated alignment this resulted in an average speed of 30kph being applied to each link with a resulting travel time from the terminus at the P & R site to the proposed Arnolfini stop of 9.5 minutes. Some Objectors observed that this was not a rapid service in terms of high speed [6.24.2, 6.26.19]. While this is acknowledged, the more important consideration for potential users is likely to be the overall journey time and its reliability rather than the speed which vehicles might achieve.

7.3.8 The assessment of travel times was supported by a separate analysis based on 'time v speed' graphs for the two route alignments through Ashton Fields. For those sections of the scheme where the BRT vehicles would operate with general traffic, speeds were taken from the highway assignment model and so varied by direction of travel, traffic flow and time period with allowance made for those sections with bus lanes.

7.3.9 The above methodology and outcome was criticised by a number of Objectors, particularly in relation to the corridor section between the P & R site and the Arnolfini [4.4.17]. Notably, Transport for Greater Bristol Alliance (TfGBA) and Long Ashton Parish Council (LAPC) challenged the assumed speed of the BRT vehicles entering guided sections and on curves and the resulting impact on ride quality [6.1.7, 6.4.15,]. TfGBA's own assessment suggests an equivalent travel time between these same two points of just over 11 minutes and this was compatible with that estimated by LAPC.

7.3.10 Based on TfGBA's measurements on the Cambridge Guided Busway (CGB), the Promoters' assumptions on vehicle speeds do appear to be over optimistic. However, I note that TfGBA's measurements were largely based on observations of a single vehicle and this may not have been typical of the average performance of vehicles and drivers along the CGB route. In particular, I have doubts on the reliability of the TfGBA's measurements relating to the speed of vehicles entering the guided sections. My own limited experience of travelling on the CGB was that vehicles entering the guideways travel at much greater speeds than the 10mph observed by TfGBA. Indeed, the operator of that scheme has confirmed that the maximum speed when entering and leaving the guideways is 30mph which is equivalent to the maximum speed envisaged for the AVTM on the segregated section of the route.³⁹² The Promoters have assumed an entry speed to the guided sections of 24mph which is consistent with their observations on the CGB scheme and appears reasonable.

7.3.11 In response to Objectors' comments on the assumed speed of vehicles on curves, I note that the Promoters based this on data from Manual for Streets 2 (MfS2). I have no reason to believe that this approach is unsound. The Promoters did however acknowledge some errors in their 'time v speed' graphs, which affected vehicle acceleration and deceleration rates. The tabulated data was

³⁹⁰ OA/6/1

³⁹¹ OA/257

³⁹² OA/100

however correct and the graphs themselves were corrected without impact on the travel times.³⁹³

7.3.12 Objectors also challenged the Promoters' calculations on the effect that the proposed 'shuttle working' sections of the scheme would have on travel times and reliability. However, given the frequency of the proposed service and the capabilities of the signal control system, I am satisfied that any delays could be minimised and the reliability of services largely maintained. The robust assessment undertaken by the Promoters using micro-simulation techniques gives further reassurance in this regard.³⁹⁴

7.3.13 Routing BRT vehicles across PSB would give rise to delays of several minutes when the bridge swings to allow for the passage of vessels in the Harbour. This is clearly not ideal for a rapid transit service. It is the case though that delays to services would be minimised by the proposed restrictions in the TWA Order on 'bridge swings', particularly at peak times. These restrictions are acceptable to the Harbour Master.³⁹⁵

7.3.14 There are a number of variables which dictate the on-board travel times that would be achieved in practice along the proposed route. I appreciate that these cannot always be modelled with any precision. It seems to me that based on all the evidence I heard at the Inquiry on this issue, the predicted on-board travel times on the corridor section of the route are likely to be towards the optimistic end of the scale. In light of this, the sensitivity tests undertaken by the Promoters are important and provide confidence in the overall results. The tests considered the effect of varying the running speeds of vehicles by $\pm 25\%$. This is a significant variation and generally encompasses the likely on-board travel times suggested by Objectors. A decrease in running speeds of 25% would have only marginal effects on the monetary benefits of the scheme and the forecast number of passengers using the service.³⁹⁶

7.3.15 I appreciate that the time spent by passengers on the vehicle is only one component of the overall journey time. The findings of the above sensitivity tests are not therefore an unexpected result. An important factor is the significant increase proposed in the frequency of the new P & R service. This would significantly reduce waiting times and hence overall journey times. In addition, it is also the case that a significant element of the overall journey time savings, and hence monetary benefits, would be derived from the proposed improvements to bus priority in the City Centre. These would benefit all the services using them not just those from the Long Ashton P & R site and North Somerset.

7.3.16 The above finding was confirmed by the table showing a sector by sector analysis of journey time savings.³⁹⁷ This reveals that there would be significant benefits, for example, to users of the Portway and Brislington P & R bus services arising from the City Centre improvements. In comparison though, the forecast savings in overall journey time for users of the Long Ashton P & R service would be

³⁹³ OA/257

³⁹⁴ OA/233

³⁹⁵ OA/162

³⁹⁶ OA/6/1 [4.44-4.48]

³⁹⁷ OA/221 and OA/264 [Table 2]

considerably greater, indicative of the journey time benefits which would be derived from the corridor section of the scheme.

7.3.17 Some Objectors argue that the significance of the benefits arising from the City Centre improvements undermines the case for the scheme. They suggest that this part of the project could be carried out on its own account or in conjunction with improvements to the service on the existing corridor [6.4.3, 6.4.6, 6.4.48]. It is also argued that an incremental assessment should have been undertaken on this basis [6.4.4].

7.3.18 There would be little merit in a substantial investment in a new public transport corridor as far as the edge of the City Centre without addressing potential delays to the proposed new service within it. I recognise therefore that the City Centre improvements are an essential part of the proposals. The provisional funding for the project has been established on this basis. It is therefore entirely appropriate in my view that the benefits accruing from this element of the scheme should be included in assessing its justification. I have considered elsewhere in these conclusions the merits of alternatives including use of the existing corridor [7.4].

7.3.19 There was criticism of the modelled travel times on the existing 903 P & R service which the Promoters had based on the timetable. These are an important input to the transport model as they have a direct bearing on the benefits to be derived from the proposed new service for Long Ashton P & R users. I appreciate that the timetable might well include some 'slack time' to allow for late running. However, I heard no convincing evidence which quantified the extent of this sufficient to suggest that allowance for it would have a significant impact on the predicted journey time savings on the new route.

7.3.20 There would undoubtedly be increases in journey time for some users of the new route in comparison to that which they currently enjoy on the 903 service via Hotwell Road. In particular, some passengers who currently alight on Anchor Road would be disadvantaged although this would depend on their ultimate destination. The transport model outputs show that there would be winners and losers in this respect confirming that the model does reflect this reality.³⁹⁸ It is also evident from this same analysis that the benefits to public transport users in journey time savings would substantially outweigh the disbenefits for some passengers. Contrary to the views of Objectors [6.18, 6.24.1], there would also be quite significant savings for certain users, reflecting the distinction between travel time on the bus and overall journey times.

7.3.21 Based on the above considerations and all the evidence submitted to the Inquiry on this issue, the forecast journey time savings for the scheme appear to be soundly based. They rely, at least in part, on the ability of the largely segregated route to sustain a higher frequency of service which would reduce waiting times. If the scheme is to proceed, it is important that this higher level of service is provided, or a significant element of the benefits of the scheme would be foregone.

7.3.22 **Passenger forecasts** – The forecast patronage on the BRT service from the P & R site is challenged by TfGBA on the grounds that the original surveys on

³⁹⁸ OA/221 [Table 4]

which it is based contain errors resulting, it is argued, in an incorrect distribution of travel patterns in the transport model [6.4.13]. This is an important aspect in the modelling of the scheme's performance, affecting ridership figures, revenue forecasts and overall benefits of the proposed system.

7.3.23 The Promoters' surveys were undertaken during the period 2008 to 2010 whereas TfGBA's were carried out in 2012.³⁹⁹ Given the major developments in the City Centre in recent times, the Objector's more recent surveys ought to be more realistic in terms of current trip making. However, the Promoters' surveys are more comprehensive and reliable, undertaken as they were by a Company specialising in traffic surveys [4.4.12-4.4.13]. The Promoters' defence of their survey data and how it had been applied is also robust and persuasive.⁴⁰⁰

7.3.24 The results of the sensitivity test using the TfGBA survey data demonstrate that, although the monetary benefits of the scheme on this basis would reduce by 22%, the Benefit to Cost Ratio (BCR) would remain high and continue to represent good value for money.⁴⁰¹ Given the limited nature of the TfGBA survey, it would be inappropriate to regard this assessment as being indicative of the scheme's actual performance. However, it does provide a further degree of assurance on the soundness of the predicted benefits of the scheme.

7.3.25 Bristol Civic Society and others doubt the passenger forecasts and likely use of the route by non-BRT services on a number of grounds. Principally these include uncertainty about the transfer of North Somerset services onto the route [6.2.7, 6.26.13], the difficulty of persuading motorists to give up their cars [6.18, 6.2.29], the lack of growth in usage of the Long Ashton P & R site over the last 5 years, the limited scope for future developments in the City Centre [6.2.28] and the likely lack of any growth in commuting from North Somerset [6.10.3]. I consider each of these below.

7.3.26 There does not appear to be any definite commitment by First Group to divert its commercial North Somerset services onto the route. However, at meetings with the Promoters, the Company has indicated its desire to do so.⁴⁰¹ It has also given its support in principle to the overall proposals and an interest in providing the core BRT service, as have other operators, subject to the business case being made.⁴⁰² The Promoters' surveys of the passenger destinations on the X1, 354 and 361 suggest that diversion of these North Somerset services to the AVTM route would appear to be a very attractive proposition in terms of likely journey time savings, particularly at peak times.⁴⁰³ There would also be the attraction of improved service reliability and the quality improvements offered at stops along the route. All of these factors could help to reduce vehicle operating costs, attract more passengers and reduce the potential for subsidy.

7.3.27 Operators of North Somerset services would no doubt balance the above advantages against the additional costs of adapting buses to run along the guided busway and the payment of the proposed track access charges. Vehicles would also have to meet the minimum quality standards. This balancing equation would

³⁹⁹ TfGBA/8 and TfGBA/9

⁴⁰⁰ OA/264

⁴⁰¹ OA/13 [6.9] and Willcock E in C

⁴⁰² OA/13/2

⁴⁰³ OA/6 [5.54-5.61]

not become clear to potential operators until the operational framework and service specification were finalised. However, it is unlikely in my view that the costs, or conditions for operating along the route, would represent a significant obstacle or outweigh the benefits of transferring to it. I heard no persuasive evidence to suggest otherwise.

7.3.28 The Promoters indicate that, based on experience on the Cambridge Guided Busway (CGB), the cost of fitting the guidance wheels is minimal. They also recognise that the track access charge would need to be lower than the operational cost savings to bus companies.⁴⁰⁴ Taking all of these factors into account, I am satisfied that the X1, 354 and 361 services would in all likelihood divert to the new route and complement the core BRT service. There might be a question mark on the timing of the transfer. Operators could decide to wait and see how well the core BRT service ran before making the commitment. This would delay the anticipated benefits for these services.

7.3.29 The forecasts suggest that a significant increase is anticipated in use of the BRT services between the two forecast years of 2016 and 2031.⁴⁰⁵ A number of factors appear to have contributed to this predicted growth. These not unexpectedly include increases in population and employment across the sub-region and the effect of increased congestion on the highway network due to traffic growth. In part therefore, the growth relies on new trips finding the enhanced public transport network more attractive and a shift taking place in the balance between use of the private car and public transport. Indeed, an objective of the scheme is to encourage this [4.19.4].

7.3.30 The Promoters accept the point raised by several objectors that the effects of the scheme on modal shift would be small when measured across the whole of the modelled area [4.4.23, 6.4.34, 6.7.2, 6.25.2]. This is unsurprising given the size of the study area and the number of journeys taking place within it. The effects are a little more significant when the impact on modal share is considered for City Centre trips. I agree that this is a more meaningful comparison.⁴⁰⁶ Even so, the improvement of public transport along one corridor route into the Centre would be unlikely on its own to have a major impact in this regard.

7.3.31 The forecasts suggest that the small percentage reductions in car use would be sufficient to give rise to significant reductions in delay on the highway network in the City Centre resulting in a forecast increase in vehicle speeds.⁴⁰⁷ In congested networks such as Bristol, this would be likely to encourage additional car use and quickly offset any benefits gained by the scheme in this respect [6.15.2]. The scheme would be unlikely therefore to have much impact on congestion levels in the City although I note that this is not one of the specific objectives of the scheme.⁴⁰⁸

7.3.32 It is generally accepted that persuading significant numbers of car users to transfer to more sustainable forms of transport requires more than simply providing improvements to non-car modes. Such improvements are though clearly

⁴⁰⁴ OA/13 [6.17]

⁴⁰⁵ OA/203 [Table A7]

⁴⁰⁶ OA/113

⁴⁰⁷ OA/113 [Table 2]

⁴⁰⁸ OA/115

a prerequisite if such a transfer is to be accomplished on any significant scale. I heard that the forecasts for this scheme do not take into account the introduction of any further measures to manage the demand for private car use in the City Centre. On this basis alone, the proposals would be unlikely to have any great effect on modal shift and this is confirmed by the forecasts. Demand management is however very clearly part of the transport strategy for the area [4.4.2]. JLTP3 for the period 2011 to 2026 confirms that it is a key element in support of plans to make it easier to car share, use public transport, walk and cycle.⁴⁰⁹

7.3.33 The supply and management of commuter parking in central areas is a critical element of the above strategy. It is likely to be the major determinant as to the success of the AVTM scheme in terms of achieving a significant modal shift to public transport in the A370 corridor. I note that JLTP3 contains little by way of detailed policies on parking management in the constituent authorities of the WEP. However, in Bristol the Council has adopted a wide range of measures in its parking strategy for the City including the control of existing parking as well as that planned for new developments.⁴¹⁰

7.3.34 The Inquiry also heard that Bristol City Council (BCC) had commenced investigations into a Workplace Parking Levy (WPL). This is clearly at an early stage and cannot be guaranteed [6.2.12]. It would undoubtedly be controversial. Such a scheme if pursued might well change the base demand for public transport. However, I do not share the implied criticism that it would have a negative impact on the case for the AVTM proposals [6.4.18]. Although the effect would depend on the details of the scheme, it would in all likelihood make commuting by car generally less attractive on all the main corridors into the City Centre and hence increase the attraction of alternative modes.

7.3.35 There is a much clearer commitment to extend residential parking schemes in Bristol to control commuter parking. I heard that some schemes had been introduced with plans to extend the approach to other areas [4.16.10]. They are likely to have an increasing effect on commuter behaviour. I do not agree with the view of the BCS that it will be necessary to remove all such parking before the effects are felt as each area covered would have some impact [6.2.31, 6.2.33]. However, it is the case that such schemes tend to displace commuter parking to adjacent areas and a comprehensive approach will be needed to be fully effective.

7.3.36 The introduction of more rigorous parking controls on peak hour commuters is only likely to prove acceptable if the alternatives to private car use are in place. I heard that major steps have already been taken in Bristol in this regard with the Greater Bristol Bus Network (GBBN) and Cycling City initiatives [4.3.1(e)]. The BRT network, of which this scheme would be the first phase, is an adopted part of this strategy as are major improvements to the rail network and further enhancements to quality bus corridors [4.4.24(i)]. The Inquiry heard that plans for the remainder of the BRT network are already well advanced [4.2.5].

7.3.37 The demand management measures envisaged would in my view significantly enhance the attractiveness of public transport services particularly those of high quality and reliability as proposed in this case. As the justification for

⁴⁰⁹ CD/C7 [6.6, 6.9.11]

⁴¹⁰ OA/103

the AVTM proposals does not take this factor into account, it is likely to be a conservative assessment of the scheme's potential benefits.

7.3.38 BCS pointed to the lack of growth in the use of the P & R site at Long Ashton over the last five years and suggests that the forecast rise in use of the site in 2016 is unrealistic [6.2.27]. Whilst I agree that the Promoters' assumed growth in the economy may be slow to be realised by this date [6.2.28], the predicted increase in usage of the site also reflects the attractiveness of the scheme to new users. Although it is not possible from the information available to separate these two effects, it seems to me that the enhanced frequency, quality and reliability of the new service would be likely to result in a significant uplift in demand on its own account.

7.3.39 With respect to the criticisms regarding the scope for future developments in the City Centre and the likely lack of growth in commuting from North Somerset [6.10.3], I note that the projections of demand to 2016 and 2031 follow DfT guidance.⁴¹¹ They are based on local forecasts of population and employment within the WEP area, taking into account the likelihood of individual developments proceeding, including only those that are 'certain' or 'near certain'.⁴¹² The Inquiry heard that the forecasts excluded, for example, the proposed relocation of the football stadium and the redevelopment of its current site, both of which are located near to the scheme corridor but remain uncertain. The evidence also confirms that the demand model was updated to remove the growth associated with the proposed major housing area at Ashton Park as this is no longer part of the development strategy.⁴¹³

7.3.40 Taking into account the above considerations, particularly the sensitivity tests undertaken and the conservative approach adopted on some important determinants of growth in public transport usage, I consider that the passenger forecasts form a sufficiently robust basis on which to assess the scheme's justification.

7.3.41 **Integration** – The integration of the public transport network is one of the secondary objectives of the scheme. In this respect, the proposed BRT service would provide a quicker and more reliable link from the Long Aston P & R site to within 400m of the main line station at Temple Meads [4.3.10]. This would though be an unattractive option for rail users given the need for two changes of mode and the forecasts indicate there would be little demand. However, it was accepted by the Promoters that the demand model lacks data on rail based journeys. Nevertheless, it seems likely that there would be significant demand from the station to destinations in the City Centre.

7.3.42 I agree with the Objectors that the proposed stop at Temple Circus is poorly located to serve the needs of passengers wishing to access or egress the station particularly for those with disabilities [6.4.30-31, 6.8.5, 6.12.2]. This is an undoubted weakness of the scheme. There would be much greater potential for use of the BRT system by rail passengers if the stop were to be located much closer to the station [6.4.32]. The Promoters have indicated their intention to review the current proposals as part of the evolving plans for the Enterprise Zone at Temple

⁴¹¹ OA/6/2 [Appendix 1]

⁴¹² Thompson in xx

⁴¹³ OA/6 [6.7]

Quarter [4.3.9-10]. This seems to me to be a sensible approach. An interim scheme pursued in advance of such plans might incur significant abortive costs given the constraints imposed by the need to cross the Temple Circus gyratory. The final arrangement could also open up the opportunity to create a major transport interchange at the station in conjunction with proposals for electrification of the main railway line.

7.3.43 There would also be the potential to link bus services on the new route with a reopened passenger rail service on the Portishead line. Although it would appear that the latter proposal does not currently provide for reopening the Ashton Gate station, the AVTM scheme does not preclude the option. Such a facility would open up new opportunities for travel by public transport and, in particular, improve accessibility to central Bristol for the growing population in Portishead. The core BRT services would not directly access the bus station but the proposed new signalised crossing of The Haymarket would improve the connection for passengers [6.8.6]. Other bus services from North Somerset which are likely to transfer to the scheme would in all probability continue to access the bus station directly and therefore maintain good integration with other services.

7.3.44 Approval of the AVTM scheme is being sought based on its own costs and benefits even though it is part of a proposed and much wider BRT network [4.2.5, 4.3.1 (f)]. In terms of scheme delivery, including funding considerations, the approach taken is understandable. However, it did give rise to criticism and some confusion during the Inquiry regarding the number of vehicles which might use the route in the future and the interface between the different elements of the overall project [6.28.8]. A phased assessment of the BRT project as a whole would have been helpful in answering a number of these concerns. On the evidence available to the Inquiry, it seems to me that the return on the investment in the 'first phase' AVTM scheme would be much enhanced with the completion of the South Bristol Link and the North Fringe to Hengrove sections. These schemes would undoubtedly benefit from the shared use of infrastructure provided under the first phase. The completed network would significantly increase the opportunity for integration with other public transport services in the City thereby improving accessibility over a much wider area.

7.3.45 **Revenue** – The Promoters claim that based on the passenger forecasts and likely operating costs, the BRT core service would be revenue neutral after 12 months [4.7.3]. They argue that this is a cautious assessment as updated figures predict a surplus in the first year of operation.⁴¹⁴

7.3.46 The existing 903 service has a long standing history of subsidy. However, the forecast of passenger usage for the proposed service is the major component of the revenue estimates and I have found this to be robust [7.3.40]. It is predicted to be at a significantly higher level than that of the current 903 service, thus generating more revenue. Another significant factor is the potential for the proposed BRT service to run more journeys to and from the City Centre for a given number of vehicles due to increased reliability of service and savings in travel time. This is a significant element in the equation and should substantially reduce operating costs even though the savings would be offset to an extent by track access charges and an increase in costs associated with meeting the requirements for operating on the route.

⁴¹⁴ OA/135

7.3.47 Notwithstanding the above considerations, the estimates for the increase in revenue in relation to increases in operating costs do seem optimistic [6.2.37, 6.4.39].⁴¹⁵ The forecast net surplus of approximately £40m does though apply to all service providers who might use any section of the proposed route including the City Centre loop. Also, it is calculated over 60 years and therefore relatively modest annual surpluses would build up over such an extended period even allowing for discounting.

7.3.48 I recognise that the proposed tendering of the service, rather than an exclusive arrangement with one operator, would expose the Councils to the revenue risk. However, it would have significant advantages for the Councils as well as the successful tenderer.⁴¹⁶ The size of the investment required in new vehicles, and the need to ensure their availability once the infrastructure was in place, would be of particular importance. It would also enable the Council to set maximum fares and determine vehicle specifications, supported by a Quality Partnership Scheme (QPS).

7.3.49 I am not persuaded that the 'non-cash convertible' benefits and potential increase in revenue attributable to North Somerset feeder services should be disregarded [6.2.26]. Such a distinction would not comply with DfT guidance on scheme appraisal and would be inconsistent with the approach on other items in the benefit stream including, for example, time savings.

7.3.50 Taking into consideration all the evidence I heard on this matter, the forecasts of revenue and the potential for subsidy of the core BRT service are areas of particular uncertainty. A major element of this uncertainty would remain until the contract was let for the service and passenger usage established. The extent of competition in the tendering process would be a crucial factor. Although I heard that First Group operate a large proportion of local bus services, the Promoters consider that the market place is buoyant. Mr Willcock's experience and confidence in this regard is persuasive.⁴¹⁷ If the need for continuing subsidy arose, the local authorities would need to weigh the cost against the public benefits of the service.

7.3.51 **Quality of service** – The quality of the proposed public transport service is a factor which the Promoters claim would play a significant part in its success. Some Objectors questioned whether this would be so and in particular raised concerns about the comfort of the ride given the nature of the track and guidance system. My experience on the Cambridge scheme was that both double and single decker vehicles gave a very comfortable ride at much higher speeds than is proposed in Bristol with little noticeable effect on comfort on entering and leaving the guided sections. I appreciate that there are significant differences between the Cambridge scheme and the AVTM proposals, the latter having much shorter lengths of guideway with more frequent curved sections. Even so, I have no reason to believe that the much lower vehicle speeds envisaged for the AVTM scheme would not provide a similar level of comfort.

7.3.52 The quality of the overall service would of course also depend on the vehicle specification. For the BRT core service I appreciate this has yet to be finalised but the Promoters have confirmed that the vehicles would be of high

⁴¹⁵ OA/154

⁴¹⁶ OA/13 [5.4]

⁴¹⁷ OA/13 [5.1-5.5]

quality and likely to be single decker and articulated.⁴¹⁸ The specifications would be incorporated within the proposed QPS. These would also include minimum frequency levels, maximum fares, emission standards, bus punctuality/reliability targets and customer care standards.⁴¹⁹

7.3.53 The proposed standards for commercial operators wishing to divert their services onto the route, including the three North Somerset services already identified, might be less stringent.⁴²⁰ This is a cause for concern. However, it would not be appropriate to impose a planning condition restricting the type of buses that could be used on the route [6.10.60 (e)]. Such a condition would be difficult to enforce and unreasonable given the variety of vehicle types and specifications which will change with time. Minimum vehicle standards would be a matter for the two Councils to determine in due course if the scheme proceeds. A high quality threshold would not only encourage increased usage of the services but also minimise the adverse effects of the scheme considered elsewhere in these conclusions.

7.3.54 I note the concerns regarding potential mechanical problems with the guided wheel technology, the physical limitations imposed by existing infrastructure and the width of the evacuation strips [6.3.5-6]. However, I heard no persuasive evidence to suggest that such issues would cause difficulties. A 'swept path' analysis had been undertaken at PSB which confirmed that buses would be able to negotiate it safely without damage to the structure.⁴²¹ Clearly, some further work would be needed during the detailed design of the scheme to address concerns regarding potential increased construction and maintenance costs of the section of the route shared with the BHR [6.6.2].

7.3.55 The design and quality of the fixed infrastructure along the route, in particular at stops including off-board ticketing, CCTV and real time passenger information are all vital elements of the premium service promised by the Promoters and on which the success of the scheme would depend. Some aspects of the preparedness of the Promoters to deliver on some of these matters were challenged [6.4.44 – 6.4.46]. However, I heard no convincing reason why there should be any impediments in this regard. There ought to be sufficient time between scheme approval and implementation for any outstanding issues on these matters to be resolved.

7.3.56 Based on the above considerations and the evidence submitted to the Inquiry, there would appear to be every prospect that a high quality of design and operational standards could be achieved. Approval of the final details of the scheme's infrastructure would be controlled by planning condition [Appendix C (2)].

7.3.57 **Other modelling issues** – The application of the Mode Constant within the transport model proved to be a particularly contentious issue at the Inquiry. The value of the Mode Constant is intended to reflect the perceived benefit to travellers of the quality of the BRT service. The Promoters accept that an error had initially been made in its value [4.4.19-20]. I appreciate that this error was corrected before the initial funding decision by the DfT in October 2009 so did not affect that

⁴¹⁸ Willcock E in C

⁴¹⁹ OA/13 [6.24]

⁴²⁰ OA/13 [6.17]

⁴²¹ OA/186

process. It seems however that the modified results were not included in public documents [6.4.8-9]. This was unhelpful and lacked transparency although I note that the error was pointed out to Objectors well before the Inquiry [6.4.9]. Subsequent work tested the sensitivity of changes to the Mode Constant and this indicates that the scheme would still represent good value even if the Mode Constant was not applied.⁴²²

7.3.58 Significant changes have been made to the transport model during the development of the scheme [6.4.5 - 6.4.7]. The Promoters had already set out the nature of the changes in their initial evidence to the Inquiry.⁴²³ This was further clarified during the course of the Inquiry.⁴²⁴ In addition, a detailed breakdown was given of the principal elements of the estimated costs and benefits of the scheme at each of the four stages of the transport model between March 2009 and March 2012.⁴²⁵

7.3.59 The outputs for each stage of the model development show significant variations in the benefit streams and in the cost of the scheme over the three year period. This is explained by the Promoters in terms of the changes in guidance on scheme appraisal as well as new population and employment forecasts. There were also amendments in scheme design and other revisions to the cost of the project, partly as a result of a 'Value Engineering' review.⁴²⁶ I have no reason to doubt the veracity of the explanations given.

7.3.60 The reduction in 'highway time disbenefits', due to signal optimisation in the City Centre, and the impact on the Benefit to Cost Ratio (BCR) is highlighted by TfGBA [6.4.6]. TfGBA point to the effect it would have had if applied to the 2009 Model results. However, it is not a useful comparison in my view without including the effects of the other changes.

7.3.61 There was no significant challenge to the need to make the various changes to the model parameters and I am satisfied that they were necessary to ensure that the model was appropriately updated. The value for money of the project, as measured by the BCR, remained high in each of the four assessment stages. This supports the robustness of the scheme in economic terms.

7.3.62 A substantial amount of Inquiry time was spent on examining the assumptions made within the transport model and the detailed outputs. I have considerable sympathy with the position of Objectors in this regard in terms of obtaining access to the required information and the delays in receiving it in some instances [6.1.8, 6.4.19 (e)]. I am grateful though to all parties for their cooperation in ensuring that the Inquiry programme was sufficiently flexible to overcome much of the difficulty.

7.3.63 A separate peer review of the modelling process would not be justified in my view given the scrutiny already undertaken as part of the Inquiry itself and as part of the funding application regime [6.1.8]. The suggestion that guidance

⁴²² OA/6 [4.45-4.47]

⁴²³ OA/6/2 [Appendix 1 para 7.5, Appendix 2 paras 3.1-3.2]

⁴²⁴ TfGBA/1/17

⁴²⁵ OA/264 [Table 1]

⁴²⁶ CD/B2b Appendix B

should be issued on the information to be made available prior to an Inquiry of this nature, in terms of modelling, forecasting and appraisal appears at first sight to have some merit in terms of reducing potential delay at similar inquiries in the future [6.4.19 (e)]. However, it would be difficult to be prescriptive as the relevant information would very much depend on the nature of the particular project and the issues arising. Existing procedures for TWA applications already allow for pre-Inquiry meetings and the sharing of information well in advance of the Inquiry itself, as happened to an extent in this case. In addition, significant projects are likely to have a published ES with accompanying Transport Assessment which should provide a good starting point for third parties to seek further information if required. For these reasons, it seems to me that a set requirement for specific information to be made available in future cases would not be particularly helpful.

7.3.64 Summary transportation benefits - The scheme would provide significant savings in overall journey times for existing and future public transport passengers from the Long Ashton P & R site to the City Centre. The reliability, frequency and quality of the service would be substantially improved and give rise to a significant increase in passenger numbers. The scheme would extend the choice of transport modes and have the potential to serve a much wider community in North Somerset by the transfer of existing and possibly new bus services from this area onto the route. These benefits would accord with the primary objectives of the scheme [4.19.4 (a), (b)].

7.3.65 The scope for integration with rail services would be significantly enhanced with a future modification of the scheme at Temple Meads and an interchange with a reopened Portishead line passenger service. Completion of the BRT network would increase the opportunity for integration with other public transport services more generally in the City. The improvements proposed to bus priority on the City Centre loop road are an essential part of the overall project and would benefit users of many other public transport services. The effect of the scheme on the balance between private car and public transport use would be modest in terms of journeys to and from the City Centre. Significant progress on this objective relies on the implementation of the wider transport strategy for the sub-region.

Regeneration Benefits

7.3.66 The Promoters do not claim any significant benefits for the scheme in terms of regeneration and it is not one of the declared objectives of the proposal. Nevertheless, the scheme would improve accessibility to the City Centre by public transport and this would be supportive of economic growth [4.19.7 (c)]. Access to the recently announced Temple Quarter EZ would also be improved from south west Bristol and North Somerset. The benefits in this regard would be further enhanced if the potential modifications to the scheme in this area were to be pursued [4.3.9-10, 7.3.42].

Environmental Benefits

7.3.67 The environmental impact of the scheme is considered elsewhere in these conclusions under other Matters. It is likely that there would be environmental benefits arising from a reduction in greenhouse gases [7.7.8 – 7.7.10] and the refurbishment of heritage features along the route at Ashton Avenue Bridge (AAB) [7.36], Prince Street Bridge (PSB) [7.34] and the metal railings alongside the Bristol Harbour Railway (BHR) [7.37.2 - 7.37.10]. The successful implementation of the overall transport strategy, of which this scheme forms part, would result in

major environmental benefits by increasing the use of more sustainable forms of transport including that provided by the BRT network.

Socio-economic Benefits

7.3.68 The ES assessed the impact of the proposal in terms of these benefits.⁴²⁷ The construction and subsequent operation of the scheme would create a small number of short and long term employment opportunities in the area. Accessibility to employment, education, shopping and leisure opportunities in the City Centre would be improved with the provision of a more reliable and higher quality public transport service. This would be of particular benefit to those without access to a car and mobility impaired residents and is supportive of one of the primary objectives of the scheme [4.19.4(c)].

7.3.69 A stated secondary objective of the scheme is to improve access to public transport for areas that currently have poor provision [4.19.5 (a)]. At Ashton Vale, those living close to the proposed stop would certainly benefit in this regard although it was generally accepted that services from this area as a whole to the City Centre are already good. The proposed route along the Cumberland Road corridor would provide greater access to public transport services for residents and businesses in the immediate area and possibly for some residents to the south of the New Cut via Vauxhall Bridge. The potential benefits for this area, and for residents at Ashton Vale, would include improved access to North Somerset using the outbound feeder bus services, assuming of course that they do transfer to the route [7.3.26 – 7.3.27].

7.3.70 Accessibility by public transport to the Harbourside area including the proposed Wapping Wharf development would be improved, particularly for journeys to and from North Somerset and to a lesser extent from the City Centre and mainline railway station.

7.3.71 There would be a modest benefit in terms of improved road safety as a result of the transfer of some trips from the private car to public transport [4.19.7 (g)]. This would be in accord with a secondary objective of the scheme [4.19.5 (c)].

7.3.72 Taking into account the above considerations, I consider that the effect of the scheme overall would be positive in terms of the likely socio-economic impact.

7.4 The main alternative options considered by the Promoter (including alternative modes to the bus) and the reasons for choosing the proposals comprised in the scheme (Matter 3)

7.4.1 I have set out in the following paragraphs a brief résumé of the development of the present scheme with particular reference to the options considered.

7.4.2 The first Local Transport Plan (LTP1) for Bristol was published in July 2000. It proposed a Light Rapid Transit network which became known as Supertram. It also supported the idea of a lightweight tram and a demonstration vehicle was run along the Harbourside between the M Shed and the SS Great

⁴²⁷ CD/A12 [Chapter 14]

Britain in 1999/2000. In 2004, BCC decided that it would no longer support the promotion of the Supertram but retained the rapid transit routes identified in the local plan in 1997 for future public transport use pending further study. The current scheme utilises one of these corridors between the Portbury railway line and PSB via the Harbourside. Its proposed use as a public transport corridor is not therefore unexpected.

7.4.3 The transport strategy for the West of England sub-region is largely based on the work carried out for the Greater Bristol Strategic Transport Strategy (GBSTS) which reported in 2006.⁴²⁸ It included an examination of a wide range of potential improvements to the public transport system including major enhancement of local bus services and expansion of the rail network.

7.4.4 The emerging recommendations from the GBSTS were incorporated in the Joint Local Transport Plan for the West of England area published in March 2006. These included a proposal for a network of rapid transit lines with the clear intention that they would have a significant level of segregated operation. Although it was recommended that further work would be needed to identify the type of vehicle to be used, the GBSTS suggested that a bus-based system was likely to be the most appropriate due to its flexibility and cost effectiveness.⁴²⁹ The Ashton Vale to Emerson's Green route, which includes the current scheme, was one of the routes recommended by the GBSTS to form part of the wider network within an overall transport package.

7.4.5 The assessment of options for the Rapid Transit Network continued up to 2009 when the Major Scheme Business Case (MSBC) for the current scheme was submitted to the DfT. This work is usefully summarised in an appendix to the submission and also in evidence submitted to the Inquiry.⁴³⁰ It involved further assessment of corridors and route alignments during 2006/07 as well as consideration of a wide range of technology options including various forms of bus-based guidance technologies. The work culminated in the confirmation that a bus-based rapid transit system was the appropriate solution.

7.4.6 During 2008 a broad range of technology options were re-examined and then more specifically further examination of Bus, Tram, Tram Train and Ultra Light Rail (ULR). A criteria based assessment was used to compare the performance of the different options. This work concluded that for the Tram Train and ULR options there would need to be significant development work before a major scheme could be put forward including a better understanding of costs and risks. Also, there was concern that both technologies were unproven in terms of meeting the local requirements. The work also again confirmed that Bus Rapid Transit was the preferred option as it best met the scheme objectives, would be cost effective and flexible and could be delivered within the current programme and available funding. Although the Inquiry did not hear directly from the consultants who undertook this work, it did not prevent the questioning of the Promoters' witnesses upon it [6.5.1]. I have no reason to believe therefore that the interests of Objectors were prejudiced in this respect.

7.4.7 It is evident from the above, that the choice of technology has been

⁴²⁸ CD/C4

⁴²⁹ OA/3 [4.9]

⁴³⁰ CD/B1b Appendix 2B and OA/3 (Section 4)

subject to considerable study over an extended period. Some of this work is now a little dated and inevitably circumstances change with time [6.4.25]. However, I heard no persuasive argument to justify reconsideration of the various options at this stage. It seems to me that a clear and logical pathway has been followed which has led to the pursuit of the current bus based technology. The choice has been subject to the checks and balances of local and accountable decision making as well as external scrutiny by the DfT. This background provides strong support in my view for the proposals.

7.4.8 Several Objectors contend that, at the time of the decision, central Government favoured bus based technology. They argue that the Promoters were heavily influenced by this and that the situation in this respect has now changed [6.5.8, 6.6.1, 6.25.11]. However, I heard no convincing evidence to suggest that the decision was made on this basis or that the consultants involved at the time did not act objectively [6.25.13]. On the contrary, the extensive work referred to above in examining and comparing a wide range of technologies and their suitability in the local context suggests otherwise.

7.4.9 Sustraco, who are promoting the ULR alternative, feel that they were not adequately consulted during the technology review and this is regrettable [6.5.1]. This does appear though to conflict with the evidence submitted by the Promoters on the extent of their involvement.⁴³¹ The Company submitted an alternative ULR proposal in November 2010 which was proposed to run between Ashton Gate and Temple Meads Station. This was reviewed by the Promoters and compared with the Order scheme. The outcome was reported as part of the BAFFB and showed that a comparable scheme would be more expensive than the AVTM proposals and the value for money considerably weaker.⁴³² The main issues in dispute with regard to this review appear to be the methodology used to assess the ULR scheme, its estimated cost and the options for its funding [6.5.1 – 6.5.14].

7.4.10 It seems to me that there were inherent difficulties in making a meaningful comparison between the two technology options in the above review. In respect of the ULR scheme there were a number of technical and design issues that needed much further examination. Based on the route and connections proposed, it appears to have been aimed at a quite different passenger market even though an attempt was made by the Promoters to reconcile the two options in this regard.⁴³³ The ULR scheme as proposed would certainly provide a much better connection to the main railway station at Temple Meads than the proposed scheme but would be much less flexible in terms of trips to the City Centre and connections into North Somerset.

7.4.11 Understandably, the ULR scheme was assessed using the same DfT recommended methodology as the Order scheme to ensure consistency of approach. The model parameters have changed since the assessment was made and it is possible that the benefits of the ULR option might increase based on the updated model used for the proposed scheme [6.4.12]. However, I think a significant change in the comparative position of the Order scheme and ULR would be unlikely given the nature of the model adjustments and the extent of the

⁴³¹ OA/206

⁴³² CD/B2b Appendix C

⁴³³ ULR scheme was modelled with an extension to the Long Ashton P & R site and a City Centre shuttle bus service

difference in their economic performance. I appreciate that the estimated cost of the ULR option used in the comparison was significantly higher than Sustraco's estimate and this was a major point of contention at the Inquiry. However, a detailed breakdown of the Promoters' cost estimate was given and I heard no convincing evidence which cast significant doubt on its reliability.⁴³⁴

7.4.12 In any event, it is clear that the technical merits of the ULR scheme were not the only factor which ruled it out as an option worth pursuing. Legal and procurement issues as well as the stage reached in securing DfT funding together with the implications of delay were also significant and arguably more dominant considerations. Taking into account all the evidence submitted on this issue, I consider that the decision taken in June 2011 to pursue the current scheme rather than undertake further work on the ULR option was a reasonable one in all the circumstances.

7.4.13 In addition to the ULR option, alternative technology solutions advocated at the Inquiry included a tram or trolley bus based system and the 'tram train' option. As already noted, these options were thoroughly examined during development of the scheme and discounted. They might well offer some advantages in terms of user perception and a potential lower impact on the environment during operation, dependent on the specific technology adopted. However, they would be less flexible than the bus in meeting changing passenger demands and in particular the ability to link effectively with services to North Somerset. In my view, both of these factors are of fundamental importance to the success of a new public transport facility in this corridor.

7.4.14 The suggested alternative of improving the local bus network in conjunction with development of the Bristol Metro proposals is already part of the transport strategy for the area and would be complementary to the scheme proposals [6.6.4]. Rail services do provide much better connections to Temple Meads station from the North Somerset area and would undoubtedly be the choice of many [6.26.14]. The idea of a mono-rail or vactrain system located in a submerged tunnel in the Floating Harbour is an interesting concept enthusiastically promoted at the Inquiry by Mr Layland. Such a project would certainly raise Bristol's profile and be a challenge worthy of Brunel's engineering ambition [6.21]. It would though be a risky, high cost venture. Regrettably therefore in many ways, it is not one I could recommend as a potential alternative to the proposed scheme which would in any event meet a largely different demand.

7.4.15 I heard that the former railway tunnel under St Mary Redcliffe Church was still available for use [6.23]. However, developments which have taken place in more recent times at either end of the tunnel would appear to rule it out as part of a viable public transport corridor.

7.4.16 A more general criticism made at the Inquiry was that the pursuit of funding for the scheme has affected plans for other more worthwhile transport projects in the City [6.25.1, 6.25.5, 6.25.11]. The priorities for transport investment are clearly matters for the local authorities to determine and not part of the remit of this Inquiry. It is clear from all that I heard that the proposals are very much part of an approved strategy which incorporates major improvements to other elements of the transport infrastructure [4.3.1]. It is also clear that the

⁴³⁴ CD/B2 Appendix C Item 4b

funding from central Government provisionally allocated for this project could not simply be transferred to another scheme in Bristol [4.1.3].⁴³⁵

7.4.17 I turn now to the consideration of different route options. Evidence submitted to the Inquiry demonstrates that alternative routes had been considered at various stages during the development of the scheme [4.4.24]. The basis of this work and the routes considered is challenged by Objectors. It emerged at the Inquiry that significant changes had been made to the transport model since the 'low cost alternative' along Hotwell Road/Anchor Road route was evaluated.⁴³⁶ This is not unexpected given the 2½ years which elapsed between submission of the MSBC and the Best and Final Funding Bid (BAFFB) due largely to Government spending reviews. The reasons for the changes to the model were explained and I am satisfied that they were justified to ensure that it was kept up to date. They would also have been scrutinised by the DfT at the BAFFB stage and it did not require that the earlier work on the 'low cost alternative' be re-examined [4.4.21].

7.4.18 Notwithstanding the above considerations, the cost/benefit of the 'low cost alternative' would in all probability have been affected by the changed parameters in the transport model. The significance of this on subsequent decision making is uncertain. Nevertheless, I consider it unlikely that it would have affected the overall judgement on the preferred scheme. This relied not only on a far superior cost benefit but also on a qualitative assessment of a range of criteria including the undoubted benefits of a more segregated alignment [4.4.20].

7.4.19 A potentially more significant criticism made by Objectors is that the 'low cost alternative' was not assessed together with the enhanced bus priority measures in the City Centre and did not include inbound bus lanes [6.4.11]. In this regard, I note that the MSBC bid documents explain that the alternative routes were compared between Ashton Vale and the start of the City Centre anti-clockwise loop. Options within the City Centre were not considered due to the "paucity of viable alternative routes".⁴³⁷ This work was largely undertaken to identify the 'low cost alternative' as is required by DfT for funding applications. The exclusion of the City Centre improvements as part of this comparative assessment is not therefore of great significance.

7.4.20 I recognise that comparisons between the overall cost benefit of the proposed scheme, which includes the City Centre improvements, and the 'low cost alternative' using Hotwell Road which does not, are however inappropriate [4.4.20]. Again, I do not believe that this would have affected decision making on the scheme as the appraisal criteria was much wider than economic considerations.⁴³⁸ Nevertheless, the addition of the benefits from City Centre improvements to the Hotwell Road option would significantly improve its economic return and is the preferred option of several Objectors.

7.4.21 In following the existing highway corridor, the Hotwell Road option would avoid many of the adverse impacts of the proposed scheme and would be capable of attracting some of its benefits by way of improvements in vehicles and infrastructure. Its major failing though would be its continued reliance on the

⁴³⁵ OA/132

⁴³⁶ Changes described in OA/217

⁴³⁷ CD/B1b Appendix 2B(v) para 1.9

⁴³⁸ CD/B1a Section 3.9 'Assessment of Lower Cost Alternative'

capacity available within the existing corridor. As I witnessed myself on the 903 P & R service, there is already congestion along the route at peak times, particularly on Brunel Way and the immediate approach to the City Centre. It is a major route into Bristol and likely to see further increases in traffic in the future subject to the effectiveness of demand management measures which are still uncertain. For these reasons, it would be unlikely to fulfil the scheme objective of providing a high quality and sustainable public transport link capable of maintaining the claimed passenger satisfaction with the existing service [6.10.3].

7.4.22 With regard to the scope for inbound bus lanes on the Hotwell Road route, it is difficult to form a judgement as there was a lack of detail available to the Inquiry on what might be achievable [4.4.24 (a), 6.4.11, 6.25.12]. An Objector, who had been involved in considering this option while working for BCC, suggested it was viable.⁴³⁹ Based on my own observations on site there does appear to be sufficient available width along most of the route used by the existing 903 service to accommodate some enhanced priority for inbound buses. However, this would be at the expense of kerbside parking in some areas and a significant loss of highway capacity for other vehicles on this busy route. The proposed scheme would avoid these disadvantages.

7.4.23 Objectors also put forward two alternative routes for the scheme on the approach to the City Centre. The first suggested by the Ramblers would use Cumberland Road (two way) and Redcliffe Hill [6.10.7]. This option had been assessed by the Promoters as a variation of one of the low cost alternatives. It would have the advantage of avoiding any significant impact on the BHR and would not affect the Harbourside. However, it would have the considerable disadvantages of potential delays due to on-street running and poor connections with passenger destinations in the City Centre. The width of the carriageway along the Cumberland Road section would rule out provision of separate bus lanes without major expenditure and impact. In my view these disadvantages are sufficient to discount this option.

7.4.24 The Civic Society objects to the works proposed between Ashton Avenue and Wapping Road. The alternative it suggests would use the existing highway corridor along Cumberland Road and Wapping Road for this part of the scheme, rejoining the proposed route at PSB. It would have the equivalent advantages of the Cumberland Road/Redcliffe Hill route in terms of the lack of impact on the BHR and the Harbourside. Other than being a little less convenient for serving Harbourside destinations, the route would provide the same accessibility for City Centre bound passengers as the proposed scheme.

7.4.25 The Promoters undertook an assessment of the Cumberland Road/Wapping Road alternative during the course of the Inquiry.⁴⁴⁰ Two options were examined. The first, involved major works to the east of the Cumberland Road Bridge to provide segregated bus lanes in both directions along the existing highway corridor. This would be more expensive than the proposed scheme and have major impacts in a number of respects.⁴⁴¹ It did not attract any support.

7.4.26 The other approach for the above alternative was to restrict improvements

⁴³⁹ Gavin Smith see GS/3 (para 14)

⁴⁴⁰ OA/216

⁴⁴¹ OA/186

to that which could be accommodated within existing highway limits on Cumberland Road. This would significantly reduce the cost [6.2.22] but also the benefits. The assessment shows that it would still represent good value for money [4.4.24 (b)]. Its main disadvantage would be the introduction of a significant length of on-street running in comparison with the proposed scheme. To the west of Cumberland Road Bridge, the width of the existing carriageway would allow bus lanes to be provided in both directions. However, to the east this would not be possible and the BRT services would need to share the route with significant volumes of other traffic. The resulting conflict and delay would be particularly pronounced at the junction of Cumberland Road and Wapping Road. The physical limitations here would appear to restrict the scope for effective junction improvements.

7.4.27 I think it unlikely that current volumes of through traffic using the Cumberland Road route would be significantly reduced by the proposed signal junctions at either end of the route intended to give priority to BRT vehicles [6.2.18]. Delays to general traffic using the route are likely to be modest in this respect given the relatively low frequency of BRT vehicles and the demand responsive nature of the proposed signal system.

7.4.28 A far more comprehensive set of traffic management proposals would be required if levels of through traffic on Cumberland Road were to be reduced sufficiently to overcome the inherent disadvantages of on-street running of BRT and other bus services. It was suggested by one Objector that the road could be restricted to 'buses/taxis and access only' [6.8.2]. However, such a proposal would in all probability have its own limitations and impacts. These are likely to be significant given the role played by Cumberland Road in the local road network, the volume of traffic using the route and the already congested nature of the surrounding road network at peak times. In the absence of any such measures, my conclusion on this alternative is that it would not provide the necessary degree of segregation to ensure the quality and reliability of public transport for the future which has been sought throughout the development of the BRT project as one of its primary objectives [4.19.4].

7.4.29 Based on the above considerations, I conclude that there is no obviously preferable alternative to the proposed scheme in the draft Order. I find that the decision to reject solutions based on alternative technologies was soundly based for the reasons given. The option of making greater use of the Cumberland Road/Wapping Road route has much to commend it. It would avoid the impact of the Order proposals on the BHR and Harbourside as well as the need for shuttle working under the Cumberland Road Bridge. However, as considered above, it would not offer comparable benefits to the Order scheme or meet the aspirations of the proposed BRT system in terms of the quality and reliability of the public transport service.

7.5 **The extent to which the scheme would be consistent with national and local planning, transport and environmental policies** (Matter 4)

National Policy

7.5.1 At national level there is considerable policy support for sustainable modes of transport. The National Planning Policy Framework ("the Framework") emphasises that the transport system needs to be balanced in favour of such modes to give people a real choice about how they travel and to encourage

solutions which support reductions in greenhouse gas emissions and reduce congestion.⁴⁴² Based on my assessment of the benefits of the scheme covered in other sections of this report, I am satisfied that the AVTM proposal, as part of the wider transport strategy, would offer such benefits.

7.5.2 The Framework also highlights the importance of neighbouring authorities working together to develop strategies for the provision of viable infrastructure necessary to support sustainable development.⁴⁴³ In this case, the proposals form part of the approved strategy for the sub-region, developed and supported by the four constituent authorities in the West of England Partnership.

7.5.3 Objectors challenge the conformity of the scheme with national and local policies in respect of specific impacts on other transport users including cyclists and walkers and in terms of the scheme's environmental impacts [6.10.12 -6.10.15]. I have considered these issues in the appropriate sections of the report under the relevant Matter. My overall conclusions address the necessary balance which needs to be struck between the benefits of the scheme and its likely adverse effects.

7.5.4 I have considered the impact on Green Belt policy under Matter 5(e).

7.5.5 Subject to the considerations under 7.5.3 above, I am satisfied that the scheme is consistent with Government transport objectives in the Framework.

Local Policy

7.5.6 The scheme lies within two local authority areas and both Councils support the proposals. Indeed, they are the Promoters of the scheme. Their support is reflected in both Councils' planning and transportation policies. The scheme is a clear objective of recently adopted Core Strategies for Bristol and for North Somerset [4.22.3]. It is part of the transport strategy for the sub-region as identified in the Joint Local Transport Plan covering the period up to 2026 [4.22.2]. These policies and strategies build upon the recommendations of the Greater Bristol Strategic Transport Study and the subsequent and more specific BRT studies [4.22.2]. The route of the scheme from the Portishead Railway line through to PSB has been safeguarded for a rapid transit route in the Local Plan since 1997 [4.22.8].

7.5.7 The consistency of the scheme with local policies was challenged on the basis that little regard had been paid by the Promoters to earlier documents which form the foundation of current policies [6.26.3]. It seems to me that there is little justification for this view. The evidence clearly demonstrates that the development of the scheme has followed a sound and logical progression from strategic assessment to more detailed studies and subsequent policy adoption.

7.5.8 For the above reasons, I am satisfied that the scheme is strongly supported by local transport policies.

⁴⁴² CD/D27 [29-30]

⁴⁴³ CD/D27 [31]

The likely impact on local residents, businesses and the environment of constructing and operating the scheme on the following: (Matter 5)

7.6 (a) Noise and vibration

7.6.1 The implications of the scheme in respect of noise and vibration were initially set out in the Environmental Statement (ES).⁴⁴⁴ This work was updated for the purposes of the Inquiry.⁴⁴⁵ There are two principal areas to consider; firstly, the effects during the construction phase and secondly, the impact during the operation of the scheme.

7.6.2 There would inevitably be disturbance during the construction of the scheme. The evidence shows there would be impacts due to noise and vibration at the closest sensitive locations including residential dwellings and businesses. However, noise levels would be below the threshold level of 75dB(A) $L_{eq,8hr}$ for the majority of the works taking into account the mitigating effects of measures that would be adopted through the Code of Construction Practice (CoCP). There would also be the potential for further mitigation through conditions placed on the construction contract.

7.6.3 Construction noise levels above 75dB(A) $L_{eq,8hr}$ are predicted at the Meridian residential development as a result of groundworks. The proximity and height of the development would make it difficult to mitigate this impact. Noise levels above this value would also occur at Merrick Court during blast cleaning and riveting works at PSB. More detailed consideration of working methods and equipment would be expected to mitigate the impact in this area. Vibration during construction would be caused in the main by earthworks compaction and piling. The Promoters indicate that for works within 7m of property, appropriate working methods and equipment may need to be employed. It seems likely that this would be an essential requirement in most cases.

7.6.4 Specific concerns were raised regarding the effects of vibration during construction on property at Cumberland Road adjacent to the bridge [6.16.2]. The Promoters clarified that the current design now requires only a minor lowering of ground levels under the bridge. On this basis, there would appear to be little risk to the stability of the existing formation.⁴⁴⁶

7.6.5 The CoCP would include the requirement for a noise monitoring programme to ensure that noise levels during construction did not exceed agreed limits. An updated version of the CoCP was submitted to the Inquiry and commencement of the scheme's construction would be made subject to final approval of the detailed document as a condition of deemed planning permission.⁴⁴⁷ An overview of construction activities was also provided to the Inquiry.⁴⁴⁸ This was helpful in identifying the expected duration of individual items of work along the route.

7.6.6 I turn now to the noise and vibration effects during operation of the

⁴⁴⁴ CD/A12 Chapter 11

⁴⁴⁵ OA/11

⁴⁴⁶ OA/161

⁴⁴⁷ OA/174A

⁴⁴⁸ OA/4/2 Appendix 6

scheme. The main sources of noise would be from bus engines and tyres. The predictions for 2016 and 2031 show that the greatest potential for changes in noise level would, not surprisingly, be at locations close to the route where there are low levels of existing noise. These locations are at Ashton Vale and at Wapping Wharf.

7.6.7 Both route options at Ashton Vale would run close to existing housing in the Silbury Road area where the increase in noise has the potential to be greater than 5dB(A) and therefore have significant impact. The proposed 2m noise barrier along this section of the route would ensure that the change in noise levels at properties in this area would be less than 3dB(A) at all but two properties where changes would lie between 3dB(A) and 5dB(A), still a noticeable increase. The noise barrier would though reduce the noise from buses in this area to below 50dB(A) $L_{eq,16hr}$ which is the lower guideline figure for outdoor noise.⁴⁴⁹ This would also mitigate the noise impact on the outdoor sports area on Silbury Road and the Children's Club [6.31 (g)].

7.6.8 At Wapping Wharf, noise changes during operation of the scheme would be significant. However absolute noise levels would still be low with only two buildings predicted to exceed 55dB(A) $L_{eq,16hr}$.⁴⁵⁰ These would be the dwellings at Landmark Court and the rear façade of 77 Cumberland Road. Although the levels would be only a little above the WHO guideline values for daytime noise levels, the increases would cause some disturbance for residents at these two locations. The noise generated by buses passing in close proximity to these dwellings would be particularly disturbing during the late evening although bus frequencies at this time would be significantly reduced. The increase in noise levels for Landmark Court residents would be the most significant with a predicted change of some 4.7dB(A) $L_{10,18hr}$ which would be noticeable. It would not be practical to protect these dwellings with a noise barrier due to the proximity and height of the apartment block.

7.6.9 The operational noise effects would potentially be aggravated for the Landmark Court residents due to the nearby traffic signals to control the shuttle working under Cumberland Road Bridge. The proposed frequency of buses and on-board transponders to trigger the signals would mean that most vehicles would not have to stop. However, this would still be likely to happen on occasions and the resulting acceleration around the bend under the bridge would increase the noise impact in this area. The Promoters point out that the Landmark Court development was approved and constructed in full knowledge of the protected route for a rapid transit service. While this is acknowledged, it does not alter the extent of the likely impact on residents [6.13.2].

7.6.10 Residents on Cumberland Road are concerned that the predicted noise effects on the southern façade of their dwellings facing Cumberland Road have been underestimated [6.15, 6.16, 6.17]. I note that the predictions take into account the proposed bus movements and forecast reductions in traffic on Cumberland Road as a result of the scheme. Based on this, the evidence shows that the net change in noise level would be less than 1dB(A). In view of some uncertainty on the total volume of bus movements, the Promoters undertook a

⁴⁴⁹ This is the lower guideline daytime value recommended by the World Health Organisation (WHO) in 'Guidelines for Community Noise' (D32)

⁴⁵⁰ This is the higher guideline daytime value recommended by WHO

sensitivity test. This revealed that increasing bus movements by 25% would increase the predicted noise levels by only 1dB(A) for these properties. On this basis, it is unlikely that the impact in practice would be significant.

7.6.11 The Cumberland Road residents also have understandable concerns regarding the potential for a significant increase in the number of buses outside their properties due to the re-routing of the Airport Flyer service [6.13.3]. However, the diversion of this service onto the route is not part of the current proposals. It would require the construction of new infrastructure which I understand is not committed or approved at the present time and would therefore need to be justified on its own account.

7.6.12 In respect of the effect of operational noise more generally on the surrounding environment, there are significant concerns regarding the impact on users of the Chocolate Path and visitors to the Harbourside area [6.10.16, 6.15.1, 6.16.1, 6.17, 6.19.4]. The evidence suggests that noise levels would not alter significantly on the Chocolate Path as although buses would be closer to it than Cumberland Road traffic, the total of inbound vehicle movements along the guideway would be quite low. The impact could also be reduced due to a modest reduction in flows forecast on Cumberland Road, the potential for which seems to arise largely from the proposed closure of PSB to general traffic. Notwithstanding the forecasts, it seems to me that the proximity of buses to walkers and cyclists on this popular path would be likely to give rise to a noticeable increase in disturbance to these users.

7.6.13 In the Harbourside, the evidence suggests that noise levels would increase but would not rise above the upper noise guideline value at locations more than 7m from the guideway.⁴⁵¹ The noise levels for the seating area adjacent to Brunel's Buttery, a popular location for visitors, and at other locations along the Harbourside are not expected to rise above the lower guideline value.⁴⁵² I note also that based on recent measurements of existing levels, the forecast change in noise levels in this area would be less than 3d(B).⁴⁵³ Changes of this magnitude should not have a significant impact on the enjoyment of this area by visitors.

7.6.14 The Harbourside area in front of the Framing Factory sheds, including the outdoor seating for the Olive Shed, would be protected from increased noise as the route would run to the rear of the existing buildings. Further east on the harbour frontage, the noise impacts would similarly be reduced as this area would, to an extent, be protected by the M Shed building.

7.6.15 At Princes Square to the west of the M Shed there would be no such protection and the impact more apparent on users of the Square. Any increase in noise levels due to buses in this area would be offset to an extent by the presence of other traffic using the proposed shared space on Museum Street to access the Wapping Wharf development and for servicing and access to parking areas along the Harbourside. The proposed maximum 12mph speed of buses would also limit the noise impact. The impact of the proposals in this sensitive area is also considered elsewhere in these conclusions in relation to the effect on the City Docks Conservation Area [7.11.17 – 7.11.21].

⁴⁵¹ Guidelines for Community Noise, World Health Organisation (D32)

⁴⁵² OA/11 paras 6.5-6.9

⁴⁵³ OA/272 Appendix para 21

7.6.16 Walkers and cyclists in other areas would be affected by increased noise, notably close to the route at Ashton Fields and at Sylvia Crowe Park. With regard to the latter, my experience during site visits was that the area is already subject to significant noise levels from the nearby major road network. Buses would though be passing much closer to users of the area and would give rise to additional disturbance.

7.6.17 In terms of vibration effects, the evidence indicates that there would be no perceptible vibration from the operation of vehicles at a distance of 4 metres and further from the busway.⁴⁵⁴ The Promoters claim that no dwellings or other sensitive receptors are located within this distance. Residents of the Point development dispute this assertion [6.13.2]. The scheme drawings show that the route would commence its deviation from the existing northern-most rail line a little to the west of the Point development at Landmark Court with the result that a gap of at least 4m should be possible. In any event, research has indicated that there is no evidence to support the assertion that traffic vibrations can cause significant damage to buildings.⁴⁵⁵

7.6.18 In summary, there would be some adverse noise and vibration impacts during construction which would result in disturbance to nearby residents. The impact would though be temporary and, in the main, capable of mitigation through adherence to the CoCP and use of appropriate working methods and equipment in sensitive locations. During operation of the scheme, there would be no perceptible increase in vibration at residential properties or businesses along the route. Although the impact of operational noise for the scheme as a whole would be low, the increases would cause noticeable disturbance for residents at Landmark Court and to the rear of 77 Cumberland Road. There would also be increases in noise levels for visitors to the Harbourside area but these would be largely within guideline values for outdoor space beyond 7m from the route. At Princes Square, the low speed of buses and the presence of other vehicles on Museum Street would limit the impact. The noise from passing buses would cause a noticeable increase in disturbance to users of the Chocolate Path, Ashton Fields and Sylvia Crowe Park.

7.6.19 The adverse effects which would remain, after allowing for mitigation works, are considered again in my overall conclusions on the scheme [7.38].

7.7 **(b) Air quality**

7.7.1 The implications of the scheme with respect to air quality were initially set out in the ES.⁴⁵⁶ These were updated for the purposes of the Inquiry. Again, there are two principal areas to consider; firstly, relating to the effects during the construction phase and secondly the impact during operation of the scheme.

7.7.2 The likely impacts during construction are clearly set out in the evidence.⁴⁵⁷ The Promoters acknowledge that some 400 residential and commercial properties might experience occasional dust soiling and 12 properties increased particulate concentrations. In many locations this would be for relatively brief periods and would be dependent on weather conditions. Standard dust

⁴⁵⁴ OA/11 para 5.56

⁴⁵⁵ TRRL Report 246 (CD/D46)

⁴⁵⁶ CD/A12 Chapter 7

⁴⁵⁷ OA/12 [6.1 - 6.6]

control measures would need to be in place such as wheel cleaning and water suppression. This would be controlled through the CoCP.

7.7.3 In respect of effects during operation of the scheme, a critical factor would be the standard of buses using the route. The Promoters confirmed that the new vehicles for the core BRT service would conform to Euro 6 emission standards while North Somerset feeder buses would be a minimum of Euro 3.⁴⁵⁸ The air quality forecasts have been made on this basis.⁴⁵⁹ I have no reason to believe that these are unrealistic assumptions, contrary to criticisms made in this regard [6.10.18, 6.11.3, 6.13.3]. All new buses after 1 January 2014 will in any event need to conform to Euro 6 levels which should ensure a very high standard in relation to the level of emissions. The Inquiry heard that current bus services operating in the Bristol area largely conform to Euro 3 or 4 standard including those on the services from North Somerset.⁴⁶⁰ Looking to the future, there is no reason why the route could not be used by vehicles powered by alternative fuel sources including electric or hybrid systems to minimise the impact due to both noise and emissions.

7.7.4 The Promoters stressed their intention to ensure that bus services using the route would be of high quality. If the scheme proceeds, this would be of the utmost importance not only to minimise noise and vehicle emissions but also to ensure the scheme's success in terms of patronage. The Promoters would need to give very careful consideration particularly to the minimum standard for North Somerset feeder services before they were allowed to use the route.

7.7.5 Given the above standards and proposed frequency of service, the effect on particulate emissions is forecast to be negligible overall and I heard no reason to doubt this assessment. The main impact would occur from nitrogen dioxide concentrations. The evidence demonstrates that along the corridor section of the route, the effects in these terms would vary between slightly beneficial to slightly adverse. The beneficial effects would arise largely from reductions in traffic on existing roads, explaining, for example, the forecast reduction in emissions along some sections of Cumberland Road and on the Chocolate Path. Adverse effects would occur mostly where the new route would run closer to housing but the impacts in this regard would be slight.⁴⁶¹

7.7.6 I recognise that there are a number of factors which would influence the impact on air quality for users of the Chocolate Path and the residents of housing on the north side of Cumberland Road. The Promoters indicated that their forecasts take into account the creation of an outbound bus lane on Cumberland Road which would move two way traffic away from the Chocolate Path but nearer to the housing on the north side of the road. While Objectors remain concerned that the actual impact would be greater than forecast, I heard no convincing evidence to support this view or doubt the forecasts.

7.7.7 The greatest improvements in air quality are expected to arise on Hotwell Road. In the City Centre, there would be some adverse impacts due largely to

⁴⁵⁸ OA/166 Q1 European law would require Euro 6 standard for new vehicles at the time of scheme opening.

⁴⁵⁹ The 2008 based impacts assume that feeder buses conformed with that of the average national bus fleet

⁴⁶⁰ Willcock in xx

⁴⁶¹ OA/12 [6.8 – 6.18]

changes in the road network. While the forecast show that there would be some net increases in oxides of nitrogen and hydrocarbons in the early years, this would be significantly offset by reductions during the lifetime of the scheme.⁴⁶² The evidence does not therefore support the contrary view [6.10.18].

7.7.8 Based on the forecasts of total emissions over the design life of the scheme, there would be significant reductions in greenhouse gases which would support Government targets.⁴⁶³ I note that there was some contradiction in the forecasts in this regard [6.1.9]. This was explained by the assumptions inherent in the transport economic appraisal using prescribed software (TUBA) and the different methodology employed in the air quality forecasts.⁴⁶⁴ I accept that the latter was agreed with the Air Environment Coordinator for BCC and used standard methodology developed by the Institute of Air Quality Management. It would therefore appear to be more reliable and gives support to the findings of the air quality assessment.⁴⁶⁵

7.7.9 The Promoters accept that increased carbon emissions due to construction have not been allowed for in the calculations. There appears to be no requirement for this in the scheme approval procedures nor a defined methodology [6.1.9, 6.20.6]. Clearly, any increase in emissions in this regard would offset the forecast operational savings in greenhouse gases.

7.7.10 I am persuaded on the evidence that the scheme would help to improve air quality within Bristol and that during its operating life would reduce greenhouse gas emissions both on its own account and as part of the wider transport strategy. It would therefore be consistent with these objectives in the Framework and Policies BCS23 and CS3 respectively in the Core Strategies for Bristol and North Somerset.⁴⁶⁶

7.8 ***(c) Impacts on water resources, including flood risk and the potential for contamination***

7.8.1 The proposed route would pass through high flood areas notably those adjacent to the River Avon New Cut. It is therefore necessary to satisfy the requirements of the Framework tests in this regard.⁴⁶⁷ Taking into account my overall findings on the scheme, I am satisfied that the proposals represent "essential infrastructure" for the purposes of the Framework guidance.⁴⁶⁸ The evidence also clearly demonstrates that the scheme would meet the requirements of the "Exception Test".⁴⁶⁹

7.8.2 The scheme has been designed to provide a good standard of protection

⁴⁶² OA/12/2 Tables 6 and 7

⁴⁶³ OA/12/2 Table 7

⁴⁶⁴ See OA/166 Response to Q10

⁴⁶⁵ OA/12 para 4.9

⁴⁶⁶ OA/12 Section 3 Policy Framework

⁴⁶⁷ CD/D27 [100]

⁴⁶⁸ Technical Guidance to the Framework [Table 2]

⁴⁶⁹ OA/7 paras 3.25-3.27

from floods.⁴⁷⁰ It would enhance the existing protection between Avon Crescent and the Cumberland Road Bridge where flooding is a relatively frequent occurrence. This would benefit not only the route itself but also nearby development, an important consideration given that flood risks will increase in the future as a result of climate change and rises in sea levels. The design of the flood wall along this length of the scheme also allows for the protection level to be enhanced when required. This would be of significant benefit and addresses concerns which have been raised [6.20.1-6.20.3]. The proposed Flood Management Plan would include emergency arrangements in the event that the route was in danger of flooding [6.20.4]. Given the level of protection proposed this is likely to be a relatively rare event and the effects short term.

7.8.3 At Ashton Avenue Bridge (AAB), I am satisfied that appropriate measures would be put in place to ensure the temporary suspension of the service in the event of flood levels reaching the soffit of the bridge.⁴⁷¹

7.8.4 The route would cross a low lying area at Ashton Fields which has a high probability of flooding. Hydraulic modelling has been undertaken for this area for each of the route options giving confidence in the design of the scheme in this regard. Compensatory flood storage areas are proposed as part of the works.

7.8.5 I note that a Flood Management Plan would be developed in conjunction with BCC, North Somerset Council (NSC), the Environment Agency (EA) and the Operator of the service before it commenced and that this would include the alternative routes that would be used in the event of flooding.⁴⁷² The EA has removed its holding objection to the scheme subject to the imposition of appropriate planning conditions on any consent. These form part of the recommended conditions [7.29.4, Appendix C]. The Lead Local Flood Authority is supportive of the approach taken in the design of the route and is content with these conditions.⁴⁷³ I do not therefore share the concerns which have been expressed in this regard [6.1.2].

7.8.6 I am also satisfied that the possibility of the failure of the Barrow Reservoirs has been considered [6.1.2].⁴⁷⁴ The reservoir flood map for these reservoirs shows that significant areas of Bristol, including parts of the proposed route, would be inundated in the unlikely event of total failure. This is a matter more appropriately considered as part of emergency planning for the Bristol area as a whole.

7.8.7 In terms of local policies, the Level 2 Strategic Flood Risk Assessment forms part of the supporting evidence for the BCC Core Strategy. I note that the overall approach to flood defence for Bristol and the funding of the works has yet to be resolved.⁴⁷⁵ Based on the evidence, I am satisfied that the approach adopted for this scheme is consistent with Policy BCS16 in the Core Strategy which

⁴⁷⁰ At least 1 in 100 years at the end of the design life of the scheme. This allows for expected impacts of climate change and sea level rises.

⁴⁷¹ OA/7 paras 4.61 – 4.62

⁴⁷² OA/7 para 4.31 and E in C Philip

⁴⁷³ OA/102 and OA/190

⁴⁷⁴ OA/272 Appendix para 18 and CD/A12 Appx 13 paras 3.1.4.3

⁴⁷⁵ CD/B21

advocates the sequential approach to flood risk management and the importance of appropriate design including mitigation measures.

7.8.8 The proposed surface water drainage would maintain and enhance re-infiltration to the ground and incorporate water quality mitigation measures and attenuation storage where necessary.⁴⁷⁶ This would minimise the contamination risk to watercourses from surface water run off during operation of the scheme. These details are still subject to the final design and would be secured by planning condition [Appendix C]. This would ensure conformity with the requirements of Policy BCS16 in BCC's Core Strategy which seeks to minimise the risks due to flooding. Contamination risks during construction would be addressed through the CoCP and the CEMP.⁴⁷⁷

7.8.9 Taking into account the above considerations and all the evidence submitted to the Inquiry on this issue, I am satisfied that the scheme would be acceptable in terms of flood risk, the likely effect on water resources and the potential for contamination.

7.9 ***(d) Impacts on navigable waterways and their users***

7.9.1 The scheme would cross two waterways, the River Avon New Cut and the Floating Harbour. The works proposed to the AAB across the New Cut essentially relate to its refurbishment. I heard no evidence to suggest that these works or the proposed reconstruction of the retaining wall to the east of the bridge would have any significant impact on navigation on the waterway. This was confirmed by the Crown Estate.⁴⁷⁸ Refurbishment and strengthening works at Prince Street Bridge (PSB) are expected to take approximately six months and during that time a temporary higher level bridge would be provided.⁴⁷⁹ The existing bridge would be kept swung open to harbour traffic during the works.

7.9.2 Article 16 of the draft Order includes quite extensive powers for the temporary closure to navigation of both waterways in connection with certain construction works associated with the scheme. The Promoters gave no indication that such closures would be necessary although I appreciate that scheme design and methods of working are still to be finalised. I have no reason to believe that the powers would be exercised, if needed, in other than a judicious manner in consultation with the relevant authorities. There is though no apparent reference in the draft CoCP to the potential impact on navigable waterways and the procedures to be followed if temporary closures or restrictions are necessary. I recommend that the document be updated to reflect the appropriate requirements [Appendix H (1)].

7.9.3 The draft TWA Order (Article 61) includes restrictions on the opening of PSB during operation of the scheme in peak hours.⁴⁸⁰ These would extend the existing peak hour restrictions on bridge swings. Outside the peak hours, openings of the bridge to harbour traffic are normally limited to no more than one per hour and this would remain unchanged by the Order. Overall therefore, the scheme

⁴⁷⁶ OA/7 paras 5.6-5.10

⁴⁷⁷ OA/7 paras 5.11 – 5.15

⁴⁷⁸ OA/181

⁴⁷⁹ OA/4/2 Appx 6 and 7

⁴⁸⁰ References to the draft TWA Order are to the "filled up draft Order" at OA/238A

would give rise to a potential increase in delay to harbour users [6.3.8, 6.24.3]. However, given the modest nature of the changes proposed, the likely effects would appear to be quite limited. I am satisfied therefore that the proposed restrictions on bridge swings are reasonable and necessary to avoid delay to peak hour bus services. I note that the Harbour Master has been consulted and regards the proposed changes as acceptable.⁴⁸¹

7.10 (e) Impacts on landscape and visual amenity, including the extent to which the proposed development is consistent with Government policy on Green Belts

7.10.1 The assessment of landscape impact and visual amenity is set out in the ES.⁴⁸² As a result of design changes to the scheme since the ES was produced, the proposed mitigation measures have been updated. Visual Identity Guidelines (VIG) have also been produced by BCC's City Design Group which, based on comments from a number of parties to the Inquiry, is well respected for the quality of its work.⁴⁸³ The guidelines are intended to aid the detailed development of the scheme to ensure that its design would be appropriate within the local context.

7.10.2 There was very little criticism during the course of the Inquiry of the principles contained in the VIG. I am satisfied that adherence to them would produce a high quality of design which would enhance visual amenity along the route as well as the experience for passengers. The detailed appearance of the final scheme would be the subject of an appropriate planning condition [Appendix C(2)].

7.10.3 The majority of Objectors' comments on the visual impact of the scheme relate to that part of the route within the City Docks Conservation Area. These aspects are dealt with in consideration of Matter 5(f) below.

7.10.4 There are concerns regarding the loss of open countryside arising from the possible future expansion of the Long Ashton P & R site to accommodate increased usage as a result of the scheme [6.10.19]. However, the scheme does not include such provision and the Promoters' forecasts indicate that in the design year the likely usage could be accommodated on the existing site.⁴⁸⁴ Future expansion, if needed, would need to be justified in its own right [4.18.12].

7.10.5 At Ashton Fields, the alternative routes encompassed by Works 1A and 1B in the draft TWA Order are on land which is designated as Green Belt. Taking into account my overall findings on the scheme and the alternatives, I am satisfied that the proposals constitute "local transport infrastructure" which require a Green Belt location.

7.10.6 The Work 1A route would skirt around the proposed football stadium which would also be located on Green Belt land. Any additional impact of the scheme on the openness of the Green Belt would therefore be minimal given the effect of this major development.

⁴⁸¹ OA/162

⁴⁸² CD/A12 Chapter 9

⁴⁸³ CD/A14

⁴⁸⁴ OA/6 [4.31]

7.10.7 With no stadium development, as proposed for Work 1B, the scheme would potentially have greater impact on openness at Ashton Fields. However, I am satisfied that the nature of the route in this area, comprising a ground level track with more limited need for embankments than required for the Work 1A route, would largely preserve openness. The movement of vehicles along the route would not impinge upon it to a significant degree as these would not be permanent intrusions and would be intermittent in nature.

7.10.8 In view of the above, either route option for the scheme through Ashton Fields would not constitute inappropriate development in the Green Belt and would conform to Government policy in this regard.⁴⁸⁵ Any impact on visual amenity could be largely mitigated by the use of appropriate landscaping as is proposed.⁴⁸⁶ Approval of the final landscaping scheme would be governed by planning condition [Appendix C(3)].

7.10.9 Between Ashton Vale and Winterstoke Road the character of the area will change in any event with the proposed development of the former allotment site. Proposed planting around the new Colliters Brook Bridge and embankment would provide screening of the route and help integrate the new bridge into the local landscape. It would also partially screen the proposed acoustic barrier which would otherwise appear as a dominant feature on the edge of the residential area. The proposed landscaping scheme would also extend and enhance the existing scrub between Colliters Brook and the proposed route. Over time the proposed planting would mitigate much of the impact caused by the scheme in this area.

7.10.10 The route runs parallel to the railway line to the rear of the industrial units along Winterstoke Road, initially adjacent to a large car park which forms part of the industrial estate to the west. Given the confined nature of the corridor on this section and the screening afforded by existing buildings, there would be little impact on visual amenity.

7.10.11 The proposed skew bridge across the railway line would be far more visually dominant. However, the impact on the landscape would be low given the proximity of the heavily trafficked four lane highway and the nature of the immediately surrounding area which includes large scale industrial and retail units. Tree and shrub planting is proposed between the proposed bridge and Winterstoke Road which would help to soften the impact of the new structure in due course. Based on the current design, I agree it is unlikely that the bridge would win any awards [6.28.5]. However, its form and nature is very much dictated by the constraints imposed by existing development and the location of the nearby level crossing access into the industrial estate. The Promoters intend that the detailed design would reflect features of existing highway structures nearby. I agree that this would help to integrate the new bridge within its local setting.

7.10.12 The route continues north along the former railway corridor passing close to the newly built apartment blocks which comprise the Meridian development. There is some existing planting between the nearest apartment blocks and the route which when mature would partially screen the view from the lower flats. However, given the proximity of the development to the proposed guideway and the potential future Ashton Gate stop located directly opposite, there would be little

⁴⁸⁵ D27 [9]

⁴⁸⁶ OA/9 [5.9-5.18]

room for additional landscaping works. The proposed planting to the west of the guideway would set the scheme against a softer background. However, a significant impact would remain on the visual amenity of residents of these flats due both to the proposed works and the movement of buses. Although the rapid transit corridor was reserved well before permission was granted for the residential development, the impact would be no less real and a factor to be weighed in the balance in my overall conclusions [7.38].

7.10.13 The route then passes under Brunel Way and enters the Conservation Area. The impact here is addressed in the following section.

7.11 (f) The impacts of the scheme on archaeology, and on the setting of listed buildings and the character and appearance of the Conservation Areas

Archaeology

7.11.1 The potential implications of the scheme for the archaeological heritage are set out in the ES⁴⁸⁷ and its accompanying Desk-Based Assessment,⁴⁸⁸ which also includes the City Centre section of the route. Consultation has taken place with the Bristol City Council archaeologist.⁴⁸⁹

7.11.2 The evidence suggests that the risk of harm to the significance of below-ground archaeology could be satisfactorily mitigated by adequate recording prior to and during construction work. A scheme of archaeological work comprising programmed recording and, where necessary, a watching brief could be secured by a condition on the deemed planning permission [Appendix C(10)]. This would include the scope for investigation of potential buried pottery and glass waste under the proposed route, which was raised at the Inquiry.⁴⁹⁰

Setting of listed buildings and character and appearance of Conservation Areas

7.11.3 The most significant known archaeological features encompassed by the scheme are the two scheduled monuments: the Underfall Yard at the west end of Spike Island and the Fairbairn steam crane at Wapping Wharf. The effect on the setting of these monuments, which are also listed buildings, and on the industrial archaeology of the BHR is considered in this section together with the effect on the setting of other listed buildings and the character of the conservation areas.

7.11.4 Proposed works that require Listed Building Consent and Conservation Area Consent are considered later in this report [7.34, 7.36]. Because of the relative location of the different heritage assets, those works would also have an effect on the setting of nearby listed buildings and on the character and appearance of the City Docks Conservation Area, within which almost all of the listed structures are located. For example, the proposed alterations to the AAB would also affect the southern setting of the A Bond and B Bond warehouses.

⁴⁸⁷ CD/A12 Chapter 8

⁴⁸⁸ CD/A12 Appendix 8.1

⁴⁸⁹ Mr Griffin Proof OA/8/2 Appendix 5

⁴⁹⁰ OA/188

City and Queen Square Conservation Area

7.11.5 At the City Centre end, a very small section of the Order land, to the north of PSB, lies within the City and Queen Square Conservation Area, which has been designated since 1972.⁴⁹¹ Works in this area would be confined to alterations to paving and some rationalisation of signs and street furniture to respond to the proposed new division of traffic across the bridge. The anticipated improvement to the setting of the bridge that this might cause⁴⁹² is supported by limited evidence.⁴⁹³ However, careful control of details, including the quality of traditional paving and of locally distinctive features such as the cast iron kerb edges, should prevent harmful effect on the character of the Conservation Area and on the setting of the listed structures, which include the adjoining dock walls and the Mud Dock hand crane as well as the bridge itself. The necessary control can be secured by a condition on the deemed planning permission [Appendix C(3)].

7.11.6 The proposed works to the bridge would not adversely affect the setting of these structures or the more remote Arnolfini building. The proposed layout of the wide expanse of Prince Street to the side of the Arnolfini, with bus shelters in the middle of the space, has been criticised by Objectors⁴⁹⁴, but does not come within the ambit of the Order and is not therefore a matter specifically for this report. Nevertheless, a stop at this location appears to be an essential element of the overall scheme. The design studies carried out by the City Council for the Visual Identity Guidelines⁴⁹⁵ give some confidence that the stop could be successfully located without harm to the character of the area or the setting of the listed buildings.

City Docks Conservation Area

7.11.7 Detailed control of paving and street furniture would also be required to the south of the bridge and along Wapping Road, where the route enters the City Docks Conservation Area. This Conservation Area was first designated in 1979⁴⁹⁶ and more recently extended to include land to the south of the New Cut.⁴⁹⁷ Bristol City Council's *Character Appraisal and Management Proposals*⁴⁹⁸ for the Conservation Area ('the Appraisal') was adopted in November 2011 following wide consultation. Substantial weight can therefore be given to the Appraisal's assessment of the significance of the different parts of the widely drawn Conservation Area.

7.11.8 The character of the Harbourside, as outlined in the Appraisal, relies on its retention of "a distinct dockyard ambience, with working boatyards, warehouses, a working steam railway, together with a fully operational dock infrastructure and many small-scale dockland features. Traditional and creative industries, water-based leisure, heritage and cultural attractions all sit together within (an) original

⁴⁹¹ OA/149

⁴⁹² Mr Linfoot Proof OA/9 paragraphs 5.90-5.92

⁴⁹³ Mr Linfoot Proof OA/9/2 Appendix 9; REB/26 Plan ref DH0245-09-256

⁴⁹⁴ MS/2; RAM/1

⁴⁹⁵ CD/A14 pp13, 25, 39-41

⁴⁹⁶ CD/C38

⁴⁹⁷ Mr Linfoot Proof OA/9 paragraph 5.46

⁴⁹⁸ CD/C38

docklands landscape.”⁴⁹⁹ The current balance between the original functional character, new uses and limited new development has been nicely summed up as “...a unique and engaging combination of modernity and ‘grittiness’...”.⁵⁰⁰

7.11.9 This balance is very well reflected in the stretch of the Floating Harbour from Wapping Road to the Point development, which is the area affected by the Scheme. The dockyard ambience is strongly presented by the tall cranes, quayside features and moored traditional craft to the front of the M Shed, whose conversion has skilfully retained much of its functional character. Further west, the Framing Factory sheds continue to present a largely utilitarian image despite some new uses and the Fairbairn steam crane provides a powerful engineering landmark. The BHR tracks set into the concrete throughout and the wagons parked on the sidings emphasise the working dockyard character. The new housing at The Point has been sensitively inserted, adding the dimension of change and modernity.

7.11.10 The area’s balance between functional use and amenity is also reflected in the successful co-existence of vehicular, pedestrian and cycle traffic. The limited vehicular access along the waterfront, allowing “leisurely pedestrian and cycle flow”, is identified by the Appraisal as a Strength of this part of the Harbourside.⁵⁰¹ Vehicular traffic to business uses and the restricted parking is low enough to allow pedestrians and cyclists a high degree of comfort in their use of public space, much of which appears to be successfully shared with vehicles in a relatively informal way. The more occasional shared use with steam trains adds a unique dimension to the area. Outside business hours, the area assumes an even more pedestrian-friendly ambience, and the relationship with the open water provides a memorable sense of place.

7.11.11 The protection and enhancement of pedestrian routes through the Harbourside is consistent with the emerging policies of the Bristol Central Area Action Plan,⁵⁰² to which the Promoters say weight should be attached,⁵⁰³ and the accompanying Public Realm and Movement Framework,⁵⁰⁴ although both documents also support BRT on the currently proposed route. The Area Action Plan consultation draft’s overall policy approach for the Harbourside emphasises its role as an informal leisure destination.⁵⁰⁵

7.11.12 In assessing the effect on the character of the area, the Promoters’ evidence has largely focussed on the physical works.⁵⁰⁶ However, as pointed out by Objectors⁵⁰⁷ it is the introduction of frequent bus traffic that is likely to have most impact. The Promoters acknowledge that the effect of the introduction of

⁴⁹⁹ CD/C38 paragraph 7.1.6b

⁵⁰⁰ CD/C24 Central Area Action Plan Options Consultation February 2012

⁵⁰¹ CD/C38 p32

⁵⁰² CD/C24 Draft Policies MP8, MP9

⁵⁰³ Mr Chapman/Ms O’Driscoll Proof OA/16 paragraph 2.25

⁵⁰⁴ OA/192

⁵⁰⁵ CD/C24 paragraph 7.1.14

⁵⁰⁶ OA/8; OA/9

⁵⁰⁷ Including BCS/1 and 3; RAM/1, 2 and 3; DM/4; MR/1 and 2; DG/1

moving bus traffic cannot be mitigated against, but see this as part of the longstanding pattern of use of the area by moving vehicles.⁵⁰⁸

Museum Street

7.11.13 The route would turn off Wapping Road onto the proposed Museum Street, involving the demolition of the three-storey Jubilee House, which is considered in detail later in this report [7.37.11 - 7.37.21].

7.11.14 By taking the long-identified route to the rear of the M Shed, the Scheme would preserve the very important stretch of quayside to the front of the building. The highway space to the rear of the building currently has a rather ad-hoc quality owing to its lack of formal definition and to the temporary hoarding around the development site. Its character will change significantly with the final completion of the Wapping Wharf development, for which outline planning permission has been granted, and a set of masterplan principles established.⁵⁰⁹

7.11.15 The development, whose eventual implementation is not questioned by any party, will fundamentally alter this part of the conservation area. Its site, which is currently seen as neglected backland forming an impenetrable backdrop to the waterfront buildings, will be occupied by new buildings of significant scale introducing a range of active uses.

7.11.16 The development will provide a large-scale designed frontage to Museum Street. Use of the wide street space to carry buses as well as vehicular and cycle traffic associated with the new development and existing Harbourside activities would not be inconsistent with this new character of the area. The Promoters' latest plan⁵¹⁰ suggests that a tree-lined layout could be achieved, very similar to that envisaged by the Wapping Wharf masterplan. The 'shared space' concept⁵¹¹ would entail minimal alteration to the existing paved surface, allowing the rail tracks to be retained.

Princes Square

7.11.17 With the success of the Museum as a visitor attraction, the space between the west of the M Shed and the Framing Factory sheds already provides a focus for activity on the waterfront, and is particularly animated by the emergence from the museum building of one of the BHR engines. The character of the space is otherwise utilitarian, with vehicles crossing to the water's edge and parking along the side.

7.11.18 Assessment of the effect of the scheme on this space must again be heavily influenced by the transformation likely to be brought about by the Wapping Wharf development. Reserved matters approval for public realm implementation includes the commitment to lay out the space as 'Princes Square'. Reserved matters approval has also been sought for Blocks A and C at the western end of the Wapping Wharf site, flanking the key new pedestrian/cycle route from Gaol Ferry

⁵⁰⁸ OA/9 paragraph 5.80

⁵⁰⁹ OA/208

⁵¹⁰ Plan ref GAV TMR-0400-011

⁵¹¹ OA/226; OA/252

Bridge to Princes Square, to be known as 'Gaol Ferry Steps'.⁵¹² This and other new routes through the site will transform the permeability of the area, making the waterfront much less of an isolated enclave.

7.11.19 The formation of Princes Square clearly has the potential to be a significant enhancement of public space in the area, and would respond to the increased visitor numbers at the Museum. The Scheme would contribute positively to the potential of the space by allowing existing traffic to be removed and re-routed to the rear of the Framing Factory sheds.

7.11.20 However the success of the space will also be heavily dependent on good interaction with the ground floor uses of the new buildings, which will form the back wall of the square, and on easy passage through to the new route for the expected significant flow of pedestrians and cyclists. The early diagrammatic plans for the square,⁵¹³ which were prepared at a time when the BRT route was not being shown as a firm proposal, suggest that this could be achieved by restricting vehicular traffic across the southern edge to a narrowed route on a raised table. A solution of this sort should help to achieve a satisfactory balance between pedestrian and vehicular traffic, including the extra movements generated by the new development itself, which involve access to a basement car park for residents.

7.11.21 The Promoters' most recent plan, submitted at the Inquiry,⁵¹⁴ shows the need for the two-lane width of Museum Street to carry on past two bus stops behind the Museum, one of which would project awkwardly into the space of the square. The increased road space could potentially create more of a barrier to pedestrian flow across the space. But even with the addition of bus traffic, a final detailed design on 'shared space' principles should allow for safe passage by pedestrians, cyclists and BHR staff. However, it would be essential for buses to be restricted to very slow speeds, as intended by the Promoters. Very slow speeds would also mitigate any effects of noise and disturbance in the square, which would be also helped by the rigorous specification of buses using the route.

West of Princes Square

7.11.22 The waterfront to the west of the square retains a strong historic "dockyard ambience", largely owing to the functional character of buildings and paving, the extent of the BHR sidings, with their parked wagons, and the prominence of the steam crane. The Harbourside forms a relatively narrow enclave along this stretch, contained by the steep bank supporting the Cumberland Road buildings.

7.11.23 The scheme would remove vehicular through traffic from the front of the Framing Factory sheds, thereby enhancing the experience of pedestrians and cyclists and those using the buildings. However, the new road alignment, with a junction directly in front of the steam crane, would have a slight adverse effect on the setting of the monument.

⁵¹² OA/208 Appendix pp18-24

⁵¹³ OA/208 Appendix p12

⁵¹⁴ Plan ref GAV TMR-0400-011

7.11.24 Beyond the sheds, the busway would pass very close to the main wharfside route and to the Brunel Buttery café although physically segregated from it by twin track railway lines. The regular passage of buses would introduce a discordant note into the otherwise relatively calm and lightly trafficked environment. As illustrated in the Promoters' photomontage,⁵¹⁵ the loss of one of the BHR sidings and its replacement with what would effectively be a new road would erode the dockland character. The BHR wagons, which might not always be parked on the remaining sidings, would at best provide only partial screening of passing buses, particularly if double-deckers were in use. The sound of the buses, including those needing, on occasions, to move away from the stop line at the single carriageway section of the route, would be perceptible enough to draw attention to their presence, even if recommended noise limits were not exceeded.⁵¹⁶ There would be some harmful effect on the character of the area and on the experience of the Floating Harbour by pedestrians and cyclists.

New Cut

7.11.25 As a working steam railway, the BHR makes a very important contribution to the heritage significance of the conservation area. In addition to the aesthetic value of seeing the original technology in action, the railway also allows a clearer understanding of the former working of the docks. Were the Scheme to pose a threat to the continued operation of the line, as feared by an Objector,⁵¹⁷ owing to reduced opportunities for running and a falling off in volunteer support, the harm to the character of the area would be substantial. However, assurances have been provided of the City Council's continuing commitment to the operation of the BHR and to the replacement of facilities to be taken over by the Scheme.⁵¹⁸ The suggested planning condition to enforce this requirement is therefore unnecessary [6.14.10(b)].

7.11.26 Even when not running, the BHR contributes to the character of the conservation area through the traditional nature of its infrastructure. The close views of tracks, sleepers, buffers and points, and the parked wagons, all add interest to the scene. For that reason, the net loss of a siding referred to above would be detrimental, and would not be equivalent to the current occasional re-arrangement carried out by the BHR team.

7.11.27 The areas where the tracks are set in the pavement provide a particularly good illustration of the shared environment of dockyard working. The provision of new areas of paving, for example for the new road crossing, would be consistent with the surrounding treatment. On the other hand, the line to the Create Centre is of a different nature. Therefore, the proposal to replace the existing track with rails set into the concrete bus guideway would not be comparable with the existing dockside areas. It would comprise an erosion of the railway's historic character, well illustrated in the Promoters' photomontage⁵¹⁹ with a consequent adverse effect on the character of the conservation area and on the setting of the listed Vauxhall Bridge.

⁵¹⁵ OA/9/2 Appendix 8

⁵¹⁶ OA/175A

⁵¹⁷ DM/1

⁵¹⁸ REB/9

⁵¹⁹ OA/9/2 Appendix 7

7.11.28 However, this must be weighed against the support that major investment in new track and formation would give to the continued operation of the BHR. The excitement of seeing a steam train pass along the New Cut would still be experienced. There would also be positive benefits in the proposed repair and reuse of the existing railings adjoining the Chocolate Path on a raised plinth wall of similar design to the existing one, and the reuse/replacement of the higher level railings adjoining Cumberland Road, which would address an acknowledged weakness of the area⁵²⁰ and which is considered in more detail below [7.37.2 – 7.37.10].

7.11.29 The Chocolate Path derives its unique character from its position squeezed between the BHR and the channel of the New Cut. Appreciation of the New Cut from the path is noted in the Appraisal as a strength.⁵²¹ Because of the change of level to Cumberland Road, the path and railway belong squarely within the space of the excavated waterway. Despite some exposure to the noise of traffic on the road, the path is seen as a protected space, closely related to the natural environment of the channel and its muddy banks.

7.11.30 Whilst the proposal to repave the path in the existing or matching materials would help to preserve character and appearance, the experience of using the path would be compromised by the closeness of passing bus traffic, which would bring traffic movement down from road level into the space of the New Cut. The nature and volume of bus traffic would be very different from the periodic use by the BHR. There would be some adverse effect on the character of this part of the conservation area.

A Bond Warehouse

7.11.31 As with the loss of a siding at the Floating Harbour end of the route, the loss of the curved section of track around the A Bond warehouse would reduce the BHR's contribution to the historic character of the conservation area. Loss of the rail alignment would also diminish understanding of the original role of the Ashton Avenue Bridge and of the working of the rail network in the Harbourside area. That erosion of historic context would represent a minor adverse effect on the setting of the listed warehouse. The yet to be determined arrangement for a new terminus near the A Bond building would mitigate the harm caused by the loss of the original section of track, but would be unlikely clearly to outweigh it.

7.11.32 It was suggested by an Objector that the relocated terminus might be best positioned on the north side of the A Bond warehouse [6.14.10(c)]. It is likely though that this would require the removal of the pedestrian/cycle route which is proposed to skirt around the building. However, it may be that the need for this link can be reconsidered given the revised arrangements put forward at the Inquiry for the pedestrian/cycle network in this area and I so recommend [Appendix H (2)].⁵²²

⁵²⁰ CD/C38 p35

⁵²¹ CD/C38 p35

⁵²² OA/224

7.11.33 The analysis contained in the Visual Identity Guidelines⁵²³ suggests that, subject to detailed design, the proposed new section of busway and the adjacent stops would not in themselves be harmful to the setting of the listed warehouse.

7.11.34 The introduction of traffic signals would have a slight adverse effect on the setting of the AAB. However, the works to the bridge itself, which are considered in more detail below [7.36], would significantly enhance the setting of the A Bond building and the appearance of the conservation area.

South of the River

7.11.35 To the south of the bridge, the busway route would carry on along the line of the former railway, before leaving the conservation area by passing under the elevated Brunel Way. The open space surrounding the dominant road system retains much of the original landscape design intention of the late Dame Sylvia Crowe,⁵²⁴ which is identified by the Appraisal as a strength of the area.⁵²⁵

7.11.36 The widening of the former rail alignment and the minor re-grading of earth banks, including the provision of a short length of retaining wall, would not seriously affect the quality of the landscape, which would continue to provide screening of the transport route. Suitable replanting and future maintenance could be secured by a condition attached to the deemed planning permission, as could the quality of hard landscaping under the elevated roads [Appendix C(3)]. The amendment of the original scheme proposals to retain the metal footbridge across the line of the route⁵²⁶ would allow continued enjoyment of a key viewpoint. Outward views from the open space are among those identified by the Appraisal as an outstanding feature of the conservation area, and would not be interrupted by the scheme.

7.11.37 The scheme would thus cause little or no harm to the heritage value of this part of the route. In fact, re-use of the former track for public transport, even allowing for the difference between trains and buses, could be seen as a reinforcement of its heritage significance.

7.11.38 The evidence suggests that the open space is well used⁵²⁷ by walkers and families. The introduction of a bus route through the space would have some disruptive effect on its current pattern of use. However, because of the relatively short length and confined nature of the route, potential conflict with pedestrian traffic would be very localised. The additional noise and disturbance of bus movements would be seen against the dominant backdrop of traffic noise from the elevated road. Neither of these factors would have a significant adverse effect on the character or appearance of the conservation area.

Conclusion on archaeology, setting of listed buildings and character and appearance of conservation areas

⁵²³ CD/A14 pp12, 22, 37-38

⁵²⁴ OA/9/2 Appendix 5

⁵²⁵ CD/C38 p27

⁵²⁶ OA/241

⁵²⁷ CD/C38 paragraph 7.1.4d; SW/1; RAM/1

7.11.39 In summary, I conclude that any unacceptable harm to the archaeology of the route could be prevented by the imposition of conditions.

7.11.40 Suitable conditions would also prevent harm to the character and appearance of the City and Queen Square Conservation Area and to the setting of Listed Buildings including Prince Street Bridge and neighbouring structures.

7.11.41 There would be minor harm to the setting of the Fairbairn steam crane and of the Vauxhall Bridge. The slight harm to the setting of the A Bond warehouse owing to the loss of part of the BHR would be outweighed by the enhancement to its setting from the refurbishment of the AAB.

7.11.42 The works to the bridge would also enhance the appearance of the City Docks Conservation Area, as would the reinstatement of the railings along the Chocolate Path and Cumberland Road. However, the loss of traditional rail fabric from the BHR, notwithstanding the contribution of the investment in new tracks to the future operation of the railway, would not preserve or enhance the character and appearance of the New Cut and Floating Harbour sections of the route. The quality of these areas, as experienced by pedestrians and cyclists, would also be adversely affected by the close proximity of bus traffic.

7.11.43 Other works to the Harbourside area must be seen in the context of the significant changes arising from the Wapping Wharf development. The proposal would contribute to the creation of Princes Square, but its impact on the final usage of the Square would rely on careful implementation of 'shared space' principles and of bus operation.

7.11.44 Taken overall, the impact of the addition of the route would be sufficient to conclude that the character and appearance of the City Docks Conservation Area would not be preserved or enhanced. However, the harm to the significance of the heritage asset would be less than substantial. In accordance with the guidance of the Framework, this harm must be weighed against the public benefits of the proposal.

7.12 *(g) Impacts on leisure/tourist interests, including Bristol Harbour Railway, the Museum of Bristol (M Shed) and the historic waterfront*

7.12.1 The effect on these interests has largely been considered already in terms of the scheme's impact on the City Docks Conservation Area [7.11.7 – 7.11.34] and the effect on rail services is considered below [7.21.2]. The harm caused to the character of the conservation area would undoubtedly have an effect on the visitor experience and might well deter some users of the area, particularly during the construction period. However, I do not share the view that the impact would be extremely damaging [6.3.1, 6.10.29 – 6.10.33]. In terms of visitor numbers, it is possible that increased accessibility to the area by public transport would help to sustain interest and perhaps enhance the attraction of visitor destinations including SS Great Britain and the M Shed Museum.

7.13 *(h) Impacts on land use, including effects on commercial property and the viability of businesses, the relationship of the scheme to other proposed developments with planning approval, and effects on rights of access*

7.13.1 The scheme would require the permanent and temporary acquisition of land for its construction and operation. Land would also be acquired in exchange

for open space land that would be lost.

7.13.2 The scheme would require the demolition of Jubilee House which is currently occupied by a taxi firm. The objection relating to this property was withdrawn during the course of the Inquiry.⁵²⁸

7.13.3 There is an outstanding objection from a major landowner⁵²⁹ at Ashton Fields with regard to the route of the scheme as defined by Works 1B and 4B in the draft Order [6.32 (a)]. This option for the route would cut across land for which planning permission has been granted for a new stadium for Bristol City Football Club and would therefore effectively prevent its implementation. The alternative route in this area (Works 1A and 4A) has been designed to be compatible with the stadium development [4.17.1-4.17.2].

7.13.4 I have considered the landowners' assessment of the route options and agree that there would be advantages if both the stadium development and the scheme on the route 1A alignment were to proceed.⁵³⁰ In particular, the potential patronage arising from the development for the BRT scheme would be more than likely to offset the estimated additional cost of the route 1A alignment. However, if it became clear that the stadium development was not going ahead, then the route 1B alignment would be the better option. Its advantages include improved operational effectiveness due to a shorter length and lower curvature, a lower land take in the Green Belt and a much reduced impact on the floodplain.

7.13.5 The landowner at Ashton Fields also argues that the route 1B alignment would prejudice development of the land for other purposes if the stadium development did not proceed. However, as the Promoter points out, the land would retain its Green Belt status and it cannot be assumed that the special circumstances of the Stadium development would apply in any other case.⁵³¹ In any event, future development of the land would not be prevented by the route 1B alignment. Although it might restrict some options, the potential public transport accessibility offered by the route would arguably be of significant benefit to a wide range of development types.

7.13.6 If the TWA Order is confirmed as drafted, the two Councils as Promoters would be given the powers to pursue either route alignment. The Promoters have set out the circumstances that would determine the choice.⁵³² It seems to me that the two local Councils are in a good position to judge what is in the public interest at the time the decision would need to be taken. Although it is unusual to have alternatives alignments in a TWA Order, I am satisfied for the above reasons that in the particular circumstances of this case it is justified and accords with guidance.⁵³³

7.13.4 During the course of the Inquiry it was apparent that discussions were ongoing with the developers of the major development site at Wapping Wharf.

⁵²⁸ OA/271 (OBJ 1)

⁵²⁹ OBJ 118

⁵³⁰ OBJ 118 Statement of Case

⁵³¹ OA/191 [13.3-13.4]

⁵³² OA/191 page 4

⁵³³ CD/D63 [1.11]

Agreement was reached in terms of the relationship between the scheme and this adjacent development and the objection withdrawn.⁵³⁴

7.13.5 There were no outstanding landowner issues pursued at the Inquiry. However, there are still a small number of objections from landowners which had not been withdrawn prior to the close of the Inquiry.⁵³⁵ The majority relate to provisions within the draft Order for safeguarding of buildings during the works. At the close of the Inquiry, responses were still awaited from four landowners to assurances given by the Promoters in this respect.⁵³⁶ I have no reason to believe that the issues involved cannot be satisfactorily resolved.

7.13.6 During construction, provisions within the CoCP should ensure that temporary means of access are provided for routes which are disrupted during the works.⁵³⁷ The CoCP would also include a requirement for the contractor to maintain access to all property and public areas affected by the works.

7.13.7 In conclusion, I am satisfied that adherence to the CoCP would ensure that adequate access arrangements are put in place during the construction phase. In terms of the operation of the scheme, I am not aware of any adverse effects upon access to property nor were any pursued at the Inquiry.

7.14 ***(i) Impacts on utility companies and their networks***

There has been liaison with all the statutory undertakers. The only outstanding objection is from Bristol Water plc. The Promoters have submitted their draft protective provisions to the company and a response was still awaited at the close of the Inquiry [4.23.13].⁵³⁸ I have no reason to believe that this matter could not be satisfactorily resolved.

7.15 ***(j) Impacts on the statutory interests of Network Rail (NR) and British Railways Board (Residuary) Limited (BRBRL)***

7.15.1 The impact on NR relates largely to the construction of the Portbury Rail Bridge. It is clear from the evidence that significant discussions have already taken place on the design of the bridge with NR with the objective of ensuring containment of vehicles in the proximity of the railway, allowing the future potential dualling of the railway line and electrification of the route. I have no reason to believe that these objectives cannot be met based on the provisional design of the bridge submitted to the Inquiry. With respect to protective provisions for the railway line, these have been agreed and formal confirmation is awaited [4.23.14].⁵³⁹

7.15.2 Agreement has also been reached with the BRBRL on all matters except that relating to its liability for future maintenance of the AAB. However, it has been agreed that this is an issue to be decided outside the Inquiry process [4.23.14, 6.30-6.31].

⁵³⁴ OA/271 (OBJ 175)

⁵³⁵ OA/272

⁵³⁶ OBJ 163, OBJ 164, OBJ 165

⁵³⁷ OA/174A

⁵³⁸ Protective provisions in the 'filled' Order at Article 59 and Schedule 10

⁵³⁹ Protective provisions in the 'filled' Order at Article 60 and Schedule 11

7.16 (k) The effects of the scheme on open space and the Promoters' proposals for providing replacement open space having regard to the National Planning Policy Framework

Area C in replacement for area A or B

7.16.1 There is no dispute that land currently used as open space would be lost at Ashton Vale as a result of construction of the scheme. The extent would depend on which of the two route options were to be pursued through the Ashton Fields area. The Promoters have made an application for a certificate under s19 of the Acquisition of Land Act 1981 in relation to this land.⁵⁴⁰ An area, approximately 3 ha in size, to the west of Long Ashton P & R site is proposed as exchange land (area C). This is similar to the maximum area of open space land which would be lost at Ashton Fields (area A or B).

7.16.2 The exchange land is further from the main centre of population at Ashton Vale than the land it would replace. However, it would be readily accessible from there as I observed on my site visit. It is also reassuring that the exchange land would be vested in public ownership (North Somerset Council). This would provide the potential for better management of public use and accessibility than is the case for the private land it would replace or the alternative of vesting the exchange land in private ownership. A scheme of management for the exchange land is proposed, the details of which would be governed by planning condition [Appendix C(14)]. This would include the arrangements for securing the permissive access which would be on land being purchased for the scheme.⁵⁴¹ My observations on site support the view that the exchange land, being open and reasonably level, would have similar qualities to the land it would replace.

7.16.3 The land needed for flood mitigation under Works 1A is not being acquired by the Promoters and I agree that there is no need for its replacement as it would still be available for use [6.1.1]. Any proposals for the future expansion of the adjacent P & R site into the exchange land area or the effect of proposals for the South Bristol Link would need to be considered on their own merits [4.18.12 (h), 6.1.4].

7.16.4 The Promoters claim that because the exchange land would have equivalent rights to the land which it would replace, the status of the latter as TVG or otherwise is of no relevance [4.18.12 (b)]. They also argue that consent under section 38 of the Commons Act would not be required as this relates to 'common land' not TVG. In any event it is claimed that provisions within the Order provide the necessary powers [4.17.9, 6.1.1]. I heard no convincing reason to disagree with these views. They are though matters of law on which I am not qualified to comment. The Secretaries of State will, if appropriate, need to be separately advised.

7.16.5 Based on the above considerations, I am satisfied that the exchange land (area C) would be of no less an area than the open space land at Ashton Fields which it would replace (A or B). While not having the same advantage in terms of proximity to Ashton Vale, it would, due to the potential for improved management, be equally advantageous to the public. It would therefore satisfy the requirements

⁵⁴⁰ CD/A18

⁵⁴¹ OA/213A

of Circular 6/2004 in this regard.⁵⁴² I do not therefore share the contrary views expressed [6.1.3, 6.1.4, 6.10.34, 6.10.35, 6.12.4]. I am of the opinion therefore that if the TWA Order is confirmed, then the necessary approval should be given for the provision of exchange land at area C.

Area E in replacement for area D

7.16.6 The main issue raised at the Inquiry with regard to this proposed replacement was whether the land at Bower Ashton (area D), required for construction of the scheme, was open space in accordance with the definition in Circular 6/2004. The Promoters' contend that it does not meet these requirements despite having submitted the application for its replacement [4.18.2 -4.18.8].

7.16.7 I recognise that the evidence submitted to the Inquiry in support of the contention that the land is open space and has been used for 'public recreation' is weak [4.18.5 – 4.18.7]. This is though an unfair test of its status in my view. The Promoters had, rightly or wrongly, initially accepted it as open space which would need replacing. The Secretary of State would have conducted appropriate investigations of both the land that would be lost and the proposed exchange land and has indicated the intention to issue the requisite certificate under the Acquisition of Land Act 1981. This intention was publicised inviting objections and representations.⁵⁴³ Against this background, it seems to me that interested parties, who were content with the proposed exchange, would not necessarily feel they needed to submit evidence of public use of area D to support a principle which appeared to have already been accepted.

7.16.8 There is no outstanding objection by the landowner of area D to its designation as open space nor is there any objection from the current owner of the exchange land, area E.⁵⁴⁴ I am satisfied that it would meet the requirements of being no less an area and equally advantageous to the public for the reasons set out [4.18.10-4.18.11]. Indeed, it would be of significant benefit in my view by connecting local footpaths [4.18.10 (b)]. It did not appear to be badly drained when I visited the site and I do not share the view that it would be unsuitable [6.28.10]. It would therefore meet the requirements set out in Circular 6/2004.

7.16.9 Taking into account all the above considerations, it is my view that if the TWA Order is confirmed, then the necessary approval should be given for the provision of exchange land at area E. If the Secretary of State does not agree that this aspect of the exchange land provisions should proceed then the required modifications to the TWA Order and Exchange Land Certificate are set out at paras 4.36 to 4.42 of OA/237A.

7.16.10 For the above reasons, I am satisfied that the proposals meet the requirements of paragraph 74 of the Framework which seek to ensure that any loss of open space due to development is suitably replaced.

⁵⁴² CD/D7

⁵⁴³ OA/270 Tab 7

⁵⁴⁴ Ashton Park Ltd has indicated it has an interest in approximately 5 acres of land at Area C and E and has objected to the issue of the s19 Certificate

7.17 (I) The implications for the scheme of the application for certain land at Ashton Vale to be registered as a town or village green, including the outcome (if known) of the judicial review of Bristol City Council's determination of that application

7.17.1 At the time of the TWA Order application on 10 June 2010 an application for Town or Village Green (TVG) status for land at Ashton Fields was awaiting determination following a public inquiry which concluded on 3 June 2010.⁵⁴⁵ The Promoters consider that irrespective of the outcome of that inquiry, the land at Ashton Fields required for the scheme would in all probability constitute open space within the meaning of the Acquisition of Land Act 1981. The s19 certificate application was therefore made on this basis with the exchange land "subject to like rights, trusts and incidents as attach to the land purchased".

7.17.2 The Inspector at the TVG inquiry in 2010 subsequently recommended that BCC should grant the application and register all of the land applied for as TVG. However, BCC considered that only the southern part of the land met the relevant criteria and this area is now registered as TVG. An application was lodged for a judicial review of BCC's decision not to register part of the land. On 4 May 2012, BCC decided not to contest this legal challenge and on 13 June 2012 the High Court formally quashed the BCC decision not to register the land.⁵⁴⁶ The matter is now awaiting the Council's reconsideration of whether the land should be registered as TVG. In the first instance it will be referred back to an Inspector and is likely to take several months for the matter to be resolved. Irrespective of the outcome and subsequent status of the land purchased for the construction of the AVTM scheme for either route option, I have no reason to believe that its replacement under the exchange land proposals would be unacceptable for the reasons already given above [7.16.1-7.16.5].

7.17.3 If all of the land is subsequently designated as TVG then, in the absence of the stadium development, it would be divided by the route of the guided busway. In these circumstances, the Promoters would need to re-assess the provision of suitable pedestrian crossing points [6.12.4].

The likely impacts of the scheme during construction, and during operation on the following: (Matter 6)

7.18 (a) Pedestrians and (b) Cyclists

7.18.1 The effect of the scheme on both these users is a major area of concern for Objectors. As the interests of cyclists and pedestrians overlap to a significant extent I have considered them together below. I have separated out the principal points of contention and consider each in turn.

Impacts during construction

7.18.2 There would inevitably be disruption to the footpath and cycleway network during construction. The effects would in general be short term with diversionary routes made available. Nevertheless, there would be some significant impacts. The closure of PSB during the works would extend for some 5 months and

⁵⁴⁵ OA/167

⁵⁴⁶ OA/260

therefore potentially cause major disruption to this extensively used crossing of the Harbour by both pedestrians and cyclists. A temporary bridge is proposed which would maintain the connection although it would not be as convenient given the ramped accesses, width limitations and the need for cyclists to dismount.

7.18.3 The proposed width of the temporary bridge at 1.8m would cause congestion and some delay at peak times even allowing for tidal flow. I appreciate that this width might be the maximum commonly available for temporary structures of this type. However, I recommend that this be reconsidered during the detailed design of the works with a view to providing more capacity [Appendix H(3)].

7.18.4 Closure of the Chocolate Path during various stages of the works would require diversion of users onto the adjacent Cumberland Road. While acceptable as a temporary diversion route, it would certainly be less commodious and higher risk for cyclists in particular.

7.18.5 At Ashton Avenue Bridge, the proposed temporary structure to be attached to the west side of the bridge would maintain this key link in the footpath/cycleway network during construction.

Rights of Way Network

7.18.6 The impacts in terms of proposed stoppings up and diversions of the public rights of way network during operation of the scheme are discussed elsewhere [7.25]. The amendments now proposed to the draft Order would ensure that the integrity of the network would be maintained.

Maintenance Track

7.18.7 The parallel maintenance track would be available for use by pedestrians and cyclists. It was originally proposed to be 4m in width. This has been reduced to 3m as part of a value engineering exercise undertaken on the scheme. I appreciate that the original proposal would have allowed better separation between pedestrians and cyclists. However, I am not persuaded that the likely usage would justify provision above the minimum 3m for shared facilities as recommended in guidance [6.10.36]. There would be little conflict with maintenance vehicles using the track given their likely low frequency and width.

7.18.8 I understand that an earlier scheme included a greater length of parallel maintenance track. It is now proposed that it would be terminated at the crossing of the Portbury railway line and link with an improved footway/cycleway facility alongside Winterstoke Road/Ashton Gate Underpass. It would then rejoin the route to the south of Brunel Way where the maintenance track would resume. While this would be an inferior facility compared with the original plan, it would maintain continuity of the route for these users. The currently proposed plans for the crossing of the railway by pedestrians and cyclists do however leave a lot to be desired and I share the concerns of the Objectors in this regard.

7.18.9 The detailed scheme for crossing the Portbury railway would depend on proposals associated with the football stadium development. If this goes ahead, pedestrians and cyclists would be able to use the footbridge included in that scheme to cross the railway. It would however mean the use of an exceedingly long, narrow and enclosed ramped facility, a most unattractive proposition [6.9.4]. If the stadium development does not go ahead then pedestrians and cyclists would

have to negotiate the existing at-grade crossing of the railway. I appreciate that this is the current position for users of the local footpath network [4.11.15]. However, given that the new route offered by the maintenance track would be likely to attract significantly greater numbers of both pedestrians and cyclists, it would be an undesirable and potentially unsafe feature in my view.

7.18.10 An alternative was suggested by Objectors which would involve continuation of the maintenance track to the west of the railway line as far as the level crossing access into the Trading Estate at Ashton Vale Road [6.9.4-6.9.5]. This would seem to require the acquisition of a narrow piece of private land from a parking area associated with the adjacent estate. While my observations on site suggest that this would have little impact on use of the car park, the land lies outside that included in the CPO associated with the draft Order. It would therefore be a matter for the Promoters to consider outwith the Order provisions and I so recommend [Appendix H(4)].

7.18.11 Alternatively, the current design of the scheme in this area could be reviewed to see whether, despite the constraints, it would be possible to accommodate the amendment suggested above within the limits of deviation. Another option, referred to in the notes of a meeting with Sustrans, would be to revisit the design of the footbridge in discussion with the stadium developers.⁵⁴⁷ This option though would only be useful if that development were to proceed. Given the constraints on the design of the bridge it is also unlikely to be as attractive an option as continuing the maintenance track to the west of the railway line. Indeed, extension of the track in this manner might avoid the need for the ramped accesses on the footbridge altogether [6.9.5].

7.18.12 I turn to the proposed 'permissive use' status of the maintenance track [4.11.4, 6.9.18, 6.10.37 - 6.10.38]. The preference of user groups for the track to become a Public Right of Way (PROW) is understandable and I agree with the Ramblers that its use for maintenance would not necessarily be incompatible with this status [6.10.37]. I also appreciate the Promoters' view that, as a new facility, it is difficult to argue that this should be a requirement of the Order [4.11.4]. A planning condition to this effect would therefore be unreasonable [6.9.18]. It seems to me that the legal status of the maintenance track would make little difference in practical terms. It would after all be a Council owned facility. Its future use would therefore be governed by the local community through its elected representatives. The concerns expressed regarding the potential risks associated with private sector developments should not therefore arise [6.9.6]. Nevertheless, if the Order is confirmed, the two Councils may wish to consider the benefit of adding the maintenance track route to the statutory network and I so recommend [Appendix H(5)]. At the very least, it could help to promote the wider credentials of the scheme and counter the perception of many Objectors that their interests had not been given due weight [6.9.7].

Prince Street Bridge (PSB)

7.18.13 The scheme would retain the western side of the bridge for exclusive use by pedestrians and cyclists. As I observed on my site visits, this is a very well used facility. The current layout is unsatisfactory with a narrow footway raised above the adjoining carriageway. At peak times in particular, there is insufficient space

⁵⁴⁷ OA/215a

for pedestrians on the footway and conflict does arise on occasions between the different types of user. It would operate far better in my view if it were to be a shared and level facility as envisaged in the scheme proposals.

7.18.14 I appreciate that there would be increased pedestrian and cycle flows on the western side of the bridge as current users on the eastern side would, in the main, transfer.⁵⁴⁸ This would result in a more congested use of the western side of the bridge than occurs at present despite the benefits from the improved level surface. The width constraint imposed by the bridge's dimensions is though over a very limited length and would not therefore be unduly constraining. There would also be a reduction in conflict with motorised traffic on the approaches to the bridge as a result of the scheme proposals. I recognise that the closure of the bridge to general traffic could be implemented as a stand alone scheme [6.10.48]. Nevertheless, it forms part of the Order proposals and the benefits for non-motorised users would be no less real.

7.18.15 Taking into account the above considerations, including my own observations at peak times on a number of occasions, I consider that the proposed arrangements for cyclists and pedestrians at PSB are acceptable. A condition requiring the provision of a separate footbridge as a permanent facility would not therefore be justified in my view [6.10.49]. This would not of course preclude this option being considered by the Council at some future stage.

7.18.16 The definition of the approach routes to the bridge for pedestrians and cyclists would need careful consideration at the detailed design stage and as part of the proposed safety audit for non-motorised users. This would include details of the stop on the north side of the bridge which would be in the centre of the carriageway with buses on the right rather than left side of the road on the approach. With careful attention to the detailed design and taking into account the proposed removal of other motorised traffic, I can see no reason why this arrangement would not be acceptable. It would have the significant benefit of avoiding the crossover of inbound and outbound buses at the junction of Prince Street and The Grove.

7.18.17 On a further point of detail, the Promoters suggested during the site visit that enhanced provision for these users should be possible on the approach to Museum Street from the bridge using a small part of the Council owned car park adjacent to the M Shed. I recommend that this option be pursued [Appendix H(6)]. This is again consistent with one of the outcomes of the meeting with Sustrans.⁵⁴⁹

Harbourside

7.18.18 The effects of the scheme on cyclists and pedestrians in this area have largely been considered in other sections of these conclusions in respect of impacts on the Conservation Area, noise and air quality. The shared space layout proposed for Museum Street would be appropriate in my view based on the levels of use anticipated. Given the proposed frequency of BRT and other bus services and their low maximum speed, I accept that they would not dominate the pedestrian environment and the layout should reinforce this [4.3.4].⁵⁵⁰ The arrangement

⁵⁴⁸ The Promoters confirmed that there would be no legal or physical restriction on use of the eastern side of the bridge by pedestrians and cyclists – see OA/227

would also have ample capacity to accommodate pedestrian and vehicular traffic associated with the Wapping Wharf development and would be consistent with guidance [4.15.6 (o)].

7.18.19 The proposed pedestrian and cycle route from Gaol Ferry Bridge through to the Harbourside is likely to be a well used facility and would involve crossing over the route of the AVTM scheme. The design in this area would be crucial in terms of both safety and appearance. It should though prove possible to come up with an acceptable layout given the volumes of vehicular traffic envisaged and the good visibility which would be available along the route. Provisional plans for this area appear to offer a potential solution [7.11.20].

7.18.20 The Ramblers drew attention to a number of emerging plans and guidance relating to walking.⁵⁵¹ In particular, reference was made to the objective of achieving a continuous walkway along the Quayside. The scheme would not undermine this objective as it would not physically impact on the main pedestrian route along the Harbourside. The effects of the scheme on users' enjoyment of this route in terms of noise, air quality and, more generally, the impact on the character of the Conservation Area are considered in the relevant sections of these conclusions.

The Chocolate Path

7.18.21 The impact on users of the path in terms of their proximity to the new bus services have been considered elsewhere [7.6.12, 7.7.6]. There would be a benefit to pedestrians and cyclists as a result of the proposed refurbishment of the path. I could see from my site visits that it is in need of repair in a number of places. There would be other benefits including the widening of the link between the Chocolate Path and the Harbourside and perhaps more significantly, the proposed signalised crossing of the Cumberland/Avon Crescent junction. The latter would give pedestrians and cyclists much safer access to the Chocolate Path.

Ashton Avenue Bridge (AAB)

7.18.22 The refurbishment of the bridge and the provision of a wider and improved surface for pedestrians and cyclists would be of significant benefit in my view given its poor condition currently. The detailed arrangements for crossing the route to the south of the bridge by users of connecting footways/cycleways were amended during the course of the Inquiry [4.11.10 (e)]. While there would clearly be a new potential hazard for these users from buses passing along the route, the crossing arrangements seem acceptable and appear to address existing visibility issues. This would be a matter to be examined in greater detail as part of the safety audit.

7.18.23 A major benefit of the scheme in this area would be the opening up of the link for pedestrians and cyclists to Avon Crescent. This would provide a much more convenient and safe access between the Cumberland Basin area and the Create Centre as well as the extensive footpath cycleway network to the south via the AAB. The details of the proposals were amended during the course of the Inquiry to avoid the previous 'dog leg' arrangement around the A Bond warehouse and

⁵⁴⁹ OA/215a

⁵⁵⁰ 12 mph maximum proposed

⁵⁵¹ RAM/2 [5,6]

were generally welcomed. The changes would be within the limits of deviation of the scheme and would not therefore require any amendments to the draft Order.⁵⁵² I have commented earlier on the need to consider whether the original route around the A Bond warehouse should be retained [7.11.32].

Other linkages

7.18.24 It is recognised by some Objectors that the Promoters made a number of beneficial changes to the scheme during the course of the Inquiry [6.9.4, 6.9.14]. However, in addition to outstanding concerns on the route itself, it was also felt by some that the Promoters had missed the opportunity to provide improved linkages to the existing footpath/cycleway network as part of the scheme [6.9.2].

7.18.25 I have already expressed my views on the need for an improved connection across the Portbury line for these users [7.18.10 – 7.18.11]. In addition, there would be a major benefit at the western end of the scheme in connecting the new route afforded by the maintenance track to the CONNECT 2 cycleway, part of which is under construction. The CONNECT 2 scheme will link Long Ashton to the Festival Way route into the City. As I saw on my site visit by bicycle, a connection with the maintenance track at the western end of the AVTM proposals would appear to be an entirely feasible proposition. Such a link would provide an alternative safe route into the City and create significant new connections with other networks in the suburbs to the south of the centre. This would greatly enhance the usefulness of the new route offered by the maintenance track and maximise the benefits from the investment. I accept that the link to the CONNECT 2 cycleway is not a fundamental requirement of the BRT scheme and that the draft Order does not include the land or rights that would be required [4.11.16]. It is therefore a matter for North Somerset Council to consider as part Promoters of the scheme and I so recommend [Appendix H(7)].

7.18.26 It was also suggested that a new and more direct access be provided for pedestrians and cyclists to connect the Chocolate Path with Spike Island and the route through to the SS Great Britain. Apparently, this was included as a possibility in an earlier version of the scheme.⁵⁵³ Such a link would not seemingly require any changes to the draft Order and might encourage greater use of the Chocolate Path route as a safer alternative for gaining access to Spike Island particularly by bicycle.⁵⁵⁴ I recommend that it be considered [Appendix H(8)].

City Centre Works

7.18.27 As already noted, these works are an essential part of the overall scheme. However, they would be provided using BCC's existing powers as local highway authority. The detailed provisions for pedestrians and cyclists, while important, do not therefore directly affect my recommendations on the draft Order.

7.18.28 There are concerns regarding existing provision for pedestrians and cyclists in the City Centre and a fear that conditions for this vulnerable group of highway users would worsen with the scheme [6.9.9-13, 6.10.53-54]. It is the case that the scheme would reduce pavement widths in some places in order to

⁵⁵² OA/224

⁵⁵³ JG/1 [13]

⁵⁵⁴ Pedestrians can currently use the footbridge over Cumberland Road

accommodate enhanced priority for buses. As I saw on my site visit this would, for the most part, be in locations where existing widths are such that the reductions proposed would have little impact on pedestrian or cycle facilities. Particular care would though need to be exercised in the design of the new bus stops where the effect in this regard could be more significant.

7.18.29 The new bus lanes would be wider than many of the existing lanes in the City Centre and therefore potentially a little safer for cyclists. Separate provision should be the aim but this is difficult to achieve given the constraints in the City Centre. I note that many improvements in cycle facilities have been successfully introduced in Bristol in recent years and more are planned. I also note that major changes are proposed for the central area which should significantly improve the environment for pedestrians, cyclists and public transport users as well as discouraging other traffic.⁵⁵⁵

7.18.30 Based on all that I saw and heard, I am satisfied that the proposed works in the City Centre are capable of achieving an acceptable balance between enhanced priority for public transport and the interests of other highway users. I recommend that the detailed concerns raised by Objectors regarding the current draft proposals be considered during development of the final design and that this be subject to further consultation [Appendix H(9)].

Policies

7.18.31 It was not disputed by any party to the Inquiry that local and national policies strongly support walking and cycling as sustainable forms of transport which should be encouraged and supported. I acknowledge though that the primary purpose of this scheme is to improve public transport provision.

7.18.32 The key development plan policy in this regard is Policy BCS10 of the BCC Core Strategy.⁵⁵⁶ It is of particular relevance as the main impact with respect to these user groups would be in the City Council's area. The development principles in support of the Policy BCS10 require that schemes are designed to reflect the transport user priorities which set pedestrians and cyclists at the top. I note though that these principles make it clear that the priorities are without prejudice to the delivery of the major transport schemes listed in the policy. These include the AVTM scheme.

7.18.33 Similarly, BCC's Walking Strategy emphasises that it is not a stand-alone strategy but part of the overall approach set out in the Joint Local Transport Plan.⁵⁵⁷ Projects of the scale proposed in this case, particularly those set within an urban context, are always likely to have an impact on existing transport networks including those for pedestrians and cyclists. It would be surprising if were not so. The Framework also reflects this realism indicating that "developments should be located and designed where practical to give priority to pedestrian and cycle movements and have access to high quality public transport facilities".⁵⁵⁸

7.18.34 Notwithstanding the above considerations, I do not share the view that the

⁵⁵⁵ SW/5

⁵⁵⁶ CD/C8

⁵⁵⁷ CD/C37

⁵⁵⁸ CD/D27 [35]

interests of pedestrians and cyclists have not been treated seriously [6.9.2]. Existing links would be retained and some significant enhancements are included in the proposals. More generally, the scheme is part of a wider strategy which includes improvements to the walking and cycling network and demand management to control the use of the private car. Concerns about poor detailing of some aspects of cycling and walking provision [6.9.6] could be addressed through a planning condition requiring the submission of such details for approval and this is recommended [Appendix C(2f)].

7.18.35 In summary, the scheme would have an adverse impact on the enjoyment of some existing routes used by pedestrian and cyclists particularly on the Harbourside and along the Chocolate Path. There would undoubtedly be improvements for pedestrians and cyclists in other areas and some further opportunities which should be explored as highlighted above. On balance, and seen in the context of the overall strategy for the wider area, I consider that the proposals would not conflict with the objectives of the Framework and local policies which seek to support and encourage walking and cycling. Where there are adverse impacts on these interests, I have weighed them against the scheme benefits in my overall conclusions [7.38].

7.19 ***(c) Private and commercial motorised road users (including residential parking provision)***

7.19.1 During construction of the scheme there would inevitably be some delays to existing highway users. I heard that access would be maintained to all residential properties and business premises with appropriate diversions as required. The transportation of construction materials to the site, including a large number of pre-cast concrete beams for the guideway, would result in a significant number of additional HGVs on the local road network. This would add to noise and air pollution. The impact would though be minimised by the proposed shipping of the beams to Cumberland Basin which is close to one of the proposed construction access points to the route. It is also intended to use the scheme corridor as a haul route subject to the availability of bridge crossings which would again reduce the impact on the local road network.⁵⁵⁹

7.19.2 There would be a temporary closure of PSB during the works with traffic diverted via Bedminster Bridge. This would be the permanent arrangement for general traffic resulting in additional journey time for some highway users. The Promoters' assessment shows that this would not have a noticeable impact on operating conditions along the alternative route and I heard no persuasive evidence to suggest otherwise.⁵⁶⁰

7.19.3 A major advantage of the scheme during the operating phase is that the corridor section of the route would be largely segregated from the highway network. This would avoid significant conflict with existing highway users arising from road crossings. Within the City Centre there would be the potential for a greater impact as the scheme would take up some existing highway capacity. To assess the impact in more detail, the Promoters undertook an appraisal of all the major junctions on the highway network which would potentially be affected by the

⁵⁵⁹ OA/6 [5.5-5.11]

⁵⁶⁰ OA/6 [5.32-5.48]

scheme in the 2016 and 2031 forecast years.⁵⁶¹ In general terms, this shows that there would be little change in the operation of key junctions both within the City Centre and along the A370 corridor.

7.19.4 The Promoters acknowledge that while the scheme would attract significant numbers of passengers, any resulting spare capacity on the highway network would largely be taken up by other vehicles including new and re-routed journeys. The effect in the Cumberland Road/Wapping Road/Prince Street area would be an exception to this general rule where the proposed closure of PSB to existing traffic would result in more significant changes in flow on the local road network. The modest reduction in traffic flow forecast on Cumberland Road is though well within the margins of uncertainty of the modelling process [6.15.2].

7.19.5 The scheme proposals in the City Centre would be undertaken using existing highway powers. There would be some adverse impact on general traffic due to the proposed narrowing of the Haymarket dual carriageway and the conversion of some of Redcliffe Way, Temple Way, Prince Street and The Grove into bus lanes. These changes would be entirely consistent with the strategy of enhancing priority for public transport in the City Centre and there was no significant challenge to the proposals in respect of delays to other vehicles.

7.19.6 Local residents are particularly concerned about the impact the scheme would have along Cumberland Road where on-street parking used by residents and their visitors would be affected [6.15.8-9, 6.19.1-3, 6.24.3]. The issue is particularly critical for residents at 81-91 Cumberland Road as some of these properties do not have access to off-street parking. It is clear that a more detailed assessment needs to be undertaken to address the legitimate concerns of residents. This should include further consideration of retaining an element of on-street parking in the vicinity of the affected properties as part of a more comprehensive solution by way of a residents' parking scheme [4.16.8]. This approach would be consistent with the Council's existing policy on residential parking on the periphery of the City Centre and help to address the existing problems caused by commuter parking in the area [4.16.10].⁵⁶² I note that the Promoters have indicated that early action would be taken in this regard [4.16.12] and have included reference to it in my recommendations on the scheme [Appendix H(10)]. A planning condition requiring this to be undertaken is therefore unnecessary in my view [6.19.3].

7.19.7 East of Cumberland Road Bridge there are no specific powers in the draft TWA Order to restrict on-street parking. The Promoters suggest that this could be pursued using existing highway powers [4.16.7]. To that extent therefore it is outside my remit. However, I share the view expressed by a local resident that a permanent restriction of parking to the east of the bridge would seem unreasonable given that it would only have benefit during the limited occasions when the BHR was operating [6.16.5]. For the most part, this would be at times when flows are likely to be low on Cumberland Road and undue delay to bus services thereby avoided.

7.19.8 In summary, there would inevitably be some delays to existing highway users during construction of the scheme as a result of temporary road closures and

⁵⁶¹ OA/6 paras 5.23 – 5.48

⁵⁶² OA 103

diversions. The proposed methods of working would help to lessen the overall impact in this regard. The effect of the scheme on key junctions in the City would be very limited. The closure of PSB to general traffic would give rise to more significant changes in traffic flows in the locality but these effects would be acceptable. Indeed, as noted elsewhere in these conclusions, there would be benefits for non-motorised users of the bridge [7.18.14]. Concerns regarding the impact on residential on-street parking would need to be addressed as part of further work on the scheme.

7.20 **(d) Bus and coach services (including provision of coach parking)**

7.20.1 Existing bus and coach services would not be significantly affected during construction.⁵⁶³ Once the scheme is operating, passengers on bus services with access to the busway⁵⁶⁴ would enjoy significant benefits from journey time, ride quality and reliability improvements.⁵⁶⁵ Some passengers on the existing 903 service from the P & R site who currently alight on Hotwell Road would incur longer overall journey times [7.3.20]. Many other bus and coach services would benefit from the improved priority measures within the City Centre.

7.20.2 It is argued that investment in this scheme would delay or obstruct further bus priority measures along the Hotwell Road corridor [6.25.1]. While I can understand this concern, my conclusions are based on the merits of the proposed investment in the AVTM scheme. I have considered the case elsewhere in these conclusions for an alternative investment in the Hotwell Road route [7.4.21]. In the event the scheme proceeds, there would still be a significant number of bus services along Hotwell Road which might well justify further investment if the demand management strategy envisaged in the local transport plan is to be fully realised.

7.20.3 The scheme would displace existing coach parking on Cumberland Road to accommodate the outbound bus lane. No specific alternative provision is proposed at present. I heard that BCC is considering this issue with the aim of meeting the overall requirements on a City wide basis [4.24.4]. If problems due to inappropriate parking of such vehicles are to be avoided, it would be important to identify replacement facilities well in advance of the commencement of construction.

7.20.4 Considered overall, the scheme would have a major beneficial impact on bus services in the corridor and other services in the City Centre.

7.21 **(e) Rail services, including whether the scheme would affect any prospect of reopening the Portishead to Bristol line to passenger traffic**

7.21.1 Services on the existing freight line to Portbury would be unaffected by the scheme as the route would bridge over the line. During construction, any necessary possessions would be agreed with the relevant authorities. The proposed bridge over the Portbury line would allow for the future dualling of the track and the reinstatement of passenger services including the extension to Portishead. The provision of a rail station at Ashton Gate, if it were to be included

⁵⁶³ OA/6 at [5.10]. Note that issues of procurement of bus services are considered in OA/13

⁵⁶⁴ E.g. services X1, 354, 361

⁵⁶⁵ OA/6 at [5.50]

as part of such proposals, would not be prejudiced by the scheme.

7.21.2 The impact on the BHR has been largely covered elsewhere in these conclusions [7.11.24 – 7.11.28, 7.11.31]. Inbound bus services would run along Cumberland Road on summer Sundays to allow the BHR to continue to operate at these times with the potential for additional use to be negotiated. This seems a preferable arrangement to the imposition of a requirement for Saturday and Bank Holiday operation of the BHR to be permitted as suggested by an Objector [6.14.10 (a)]. While some flexibility would clearly be lost in terms of the current operation, the frequency of service would, to a great extent, be retained.

7.21.3 The scheme would prejudice any future re-instatement of rail services from Ashton Gate to Temple Meads, including the ULR option, as it would use the former rail corridor [6.4.23, 6.8.3]. However, such a proposal does not form part of the plans of any of the relevant transport authorities. To the extent that such a scheme would be an alternative to that now proposed, it is considered under Matter 3 above [7.4].

7.22 **The likely impacts of the scheme on ecological interests** (Matter 7)

7.22.1 The assessment of the likely impacts on ecological interests both during construction and operation of the scheme are set out in the ES.⁵⁶⁶ It is based on site surveys using well established methodology. I note that the scope of the work was discussed with consultees including Natural England and, where practical, the work subsequently adapted in line with recommendations made.⁵⁶⁷

7.22.2 Some of the surveys would require updating prior to construction of the scheme as they are now somewhat dated. This would be important to ensure that mitigation measures were based on the latest information.

7.22.3 The northern section of the route beyond the Cumberland Road Bridge is urban in nature and would have little impact on ecological interests. Some concern was expressed though by a local resident regarding the effect of the scheme on vegetation and wildlife along the north facing 'green bank' to the rear of 69 to 78 Cumberland Road [6.17]. The Promoters explained during the site visit that the works to accommodate the relocated footpath/cycleway would be further to the east and there would be little if any impact on the 'green bank' area.

7.22.4 Further south, the guided busway would run along the railway corridor from Cumberland Road Bridge to the AAB adjacent to the River Avon New Cut. This is the principal area of concern raised in objections with regards to ecological impact. The corridor alongside the New Cut is designated as a SNCI for its tidal conditions and related saltmarsh habitats which provide a wildlife corridor through the urban area. Comprehensive evidence was submitted by FrANC to show that there were over 120 species of wildflowers growing along it and over 30 species of birds observed in the last five years [6.11.5].

7.22.5 The direct impact of the scheme along the New Cut would be most significant to the west of the Underfall Sluice. The scheme would involve the reconstruction of an arched retaining wall and a minor realignment of the Chocolate

⁵⁶⁶ CD/A12 Chapter 10

⁵⁶⁷ OA/10 Section 3

Path. This would result in some permanent loss of saltmarsh habitat. However, the area affected would be small in comparison to the extent of the SNCI. It would be unlikely therefore to have any significant impact on its nature conservation value or its function as a wildlife corridor. The impact of the work during construction, in particular from pollution, would need to be strictly controlled through the proposed CEMP the details of which would be governed by planning condition [Appendix C(9)].

7.22.6 Construction of the guided busway along the railway alignment alongside the New Cut would cause disturbance to its use as a wildlife corridor and affect wild flowers growing besides the track. However, these would be largely short term effects and in any event, given the location and nature of the rail corridor, of limited significance in relation to the habitat for which the SNCI was designated. With the exception of the area to the west of the Underfall Sluice, the saltmarsh habitat between the Chocolate Path and the New Cut would be largely unaffected during construction.

7.22.7 Operation of bus services along the route, even at the relatively low frequencies proposed, would certainly be more intrusive to wildlife than the existing infrequent use of the line by the BHR. However, I heard no convincing evidence to suggest that the forecast noise and air quality impacts of bus operation would have a significant effect in these terms.

7.22.8 The plan, which had inappropriately shown Butterfly Junction as part of a contractor's compound, has been withdrawn. The Promoters also gave assurances that measures would be taken to protect this important area during construction. This would be reinforced by the terms of a specific planning condition [Appendix C(8)].

7.22.9 I note that The Friends of the Avon New Cut (FrANC) are pleased that specific mitigation measures would be included for Butterfly Junction during the construction phase but still remain concerned [6.11.6]. I agree that some permanent protection would be warranted to avoid damage to this sensitive area during operation of the scheme particularly as one of the stops would be located in close proximity. The Promoters gave an assurance that such protection would be considered.⁵⁶⁸ The detailed scheme would need to be drawn up in full consultation with FrANC and I so recommend [Appendix H(11)].

7.22.10 At AAB, the route could potentially affect a pipistrelle bat roost. This species is protected under the Conservation of Habitats and Species Regulations 2010. The Promoters have indicated that appropriate steps would be taken to mitigate the impact.⁵⁶⁹ These would include the timing of the works and provision of compensatory bat roosts. In view of this, I can see no reason why the necessary licence would not be granted. I heard no evidence to suggest that there would be any other significant impact on breeding sites or resting places of species protected under these regulations.

7.22.11 South of the River Avon the route continues along the former railway corridor at Bower Ashton part of which is designated as a SNCI. Further south alongside the Portbury Line, the corridor is also part of a locally designated Wildlife

⁵⁶⁸ OA/182

⁵⁶⁹ OA/10/1 [4.22], CD/A12 [10.6.20]

Network Site. Although there would be some loss of habitat along this section of the route, the proposed planting of native trees, shrubs and species-rich grassland should help to maintain the wildlife corridor. Further planting would also be provided through the disused allotment area near to Colliters Brook which would itself be improved to maximise its conservation value.

7.22.12 At Ashton Fields, the southern route option would inevitably result in some loss of habitat across Ashton Vale SNCI. I accept that this would be compensated for by enhancement of the exchange land to the south of the P & R site. It is also intended that this area would be used for the relocation of reptiles if this were to be required. The further survey work proposed should provide the necessary information on this aspect.⁵⁷⁰

7.22.13 In conclusion, there would be no significant impact on any regionally, nationally or internationally designated sites. There would be some loss of habitat at locally designated SNCIs along the route and at Wildlife Network Sites which would cause some disturbance to wildlife. The effects would largely be confined to a narrow corridor and the impact substantially mitigated in due course by the proposed mitigation works. The greatest disturbance to ecological interests would occur during construction of the scheme. It would be important that the contractor complied at all times with the requirements of the CoCP and the CEMP to minimise the impact. Importantly, an Ecological Management Plan is also proposed.⁵⁷¹ This would detail and give effect to the measures proposed in the ES to mitigate the ecological impact of the scheme and would be controlled by planning condition [Appendix C(9)].

7.22.14 Given the strength of the mitigation works proposed and controls that would be exercised through planning conditions, I conclude that the impact on ecological interests would be acceptable. Based on all the evidence I saw and heard, I am satisfied that the scheme would not conflict with the thrust of local and national policy objectives which seek to protect these interests.⁵⁷²

The measures proposed by the Promoter for mitigating any adverse impacts of the scheme (Matter 8)

7.23 (a) *The proposed Code of Construction Practice (CoCP)*

7.23.1 An updated draft CoCP was submitted to the Inquiry.⁵⁷³ It sets minimum standards of construction practice insofar as they would affect the environment, amenity and safety of local residents, businesses and the general public. It would also offer protection to the physical surroundings including the natural and cultural heritage in the vicinity of the works. It would apply throughout the period of construction.

7.23.2 The views of Bristol City Council and statutory environmental bodies have been incorporated into the document. The contractor would have an obligation to comply with its requirements. I am satisfied that the current draft forms the basis

⁵⁷⁰ OA/10/1 [4.23]

⁵⁷¹ This is referred to as the 'ecological management and monitoring scheme' in the planning conditions

⁵⁷² OA/10 Sections 3 and 4

⁵⁷³ OA/174A

for a comprehensive document aimed at limiting the construction impacts of the project. Approval of the final CoCP would be subject to planning condition [Appendix C(9)].

7.24 (b) The proposed Construction Environmental Management Plan (CEMP)

7.24.1 The successful contractor would also have to comply with the CEMP. The terms of reference for this have been prepared and seem comprehensive.⁵⁷⁴ It would require the development and implementation of mitigation measures to avoid, reduce, remedy and compensate for the environmental and social impacts of the works. Approval of the final version of the CEMP would again be subject to planning condition [Appendix C(9)].

7.25 (c) The proposed diversions for rights of way stopped up under the draft TWA Order, including whether they would satisfy the requirements of section 5(6) of the TWA, that a public right of way should not be extinguished unless either an alternative right of way has been or will be provided, or the provision of an alternative is not required

7.25.1 There was concern expressed at the Inquiry in relation to some of the diverted rights of way being on a permissive rather than a statutory basis [6.1.5-6.1.6]. I agree that such an arrangement would not meet the statutory requirements of section 5(6) of the TWA. As a result, the Promoters amended their proposals. This involves changes to two of the footpath diversions.⁵⁷⁵ Although the changed alignment for the Works 1A route would involve crossing the guided busway, I have no reason to believe that an uncontrolled crossing would be unsafe given the likely frequency of vehicles [6.1.5]. In addition, an adjustment is proposed to the new footpath from Ashton Avenue Bridge.⁵⁷⁶ Amended Rights of Way Plans incorporating these changes were submitted.⁵⁷⁷ The details of the works required to ensure the satisfactory diversion of public rights of way, including crossing points [6.1.6], would be the subject of an appropriate planning condition [Appendix C(13)].

7.25.2 The proposed amendments would be unlikely to have an impact on third party interests and would ensure that the requirements of section 5(6) of the TWA were met.

7.26 (d) Any measures to avoid, reduce or remedy any major or significant adverse environmental impacts of the scheme

7.26.1 The measures proposed in this regard have been referred to at various points in these conclusions in relation to other matters. The main items include the noise barrier to protect housing at Ashton Vale; a flood wall at Cumberland Road to give added protection from flooding; landscaping works to mitigate the effects of the route on the surrounding environment and Visual Identity Guidelines to enhance the quality of scheme infrastructure in the final design. In addition, the CoCP, CEMP, Flood Management Plan, Ecological Management Plan and the

⁵⁷⁴ OA/174A Appendix 1

⁵⁷⁵ Explained in OA/237A [4.18 – 4.22]

⁵⁷⁶ Explained in OA/237A [4.23]

⁵⁷⁷ OA/239C

recommended planning conditions would help to mitigate the adverse environmental effects.

7.27 (e) Whether, and if so, to what extent, any adverse environmental impacts would still remain after the proposed mitigation

7.27.1 The adverse effects which would remain are described elsewhere in these conclusions under other Matters.

7.28 The adequacy of the Environmental Statement submitted with the application for the TWA Order, having regard to the requirements of the Transport and Works (Applications and Objections Procedure) (England and Wales) Rules 2006, and whether the statutory procedural requirements have been complied with (Matter 9)

7.28.1 The Environmental Assessment was based on a Scoping Report to identify the environmental issues associated with the proposals and the methods needed to assess the impacts. The Scoping Report was the subject of consultation with planning authorities and other environmental bodies. The results are included in the Consultation Summary Report which identifies the issues raised by consultees which were then taken into account as part of the subsequent work on the Environmental Assessment.⁵⁷⁸

7.28.2 I am satisfied that the Environmental Statement submitted with the TWA application is comprehensive and in my view meets the TWA requirements in terms of its coverage including compliance with Annex 6 of the DfT Guide to TWA Procedures.⁵⁷⁹ Its adequacy was tested during the course of the 21 days of the Inquiry and my conclusions on the issues in contention are set out in this report.

7.28.3 The Promoters submitted documentation to confirm that all statutory requirements have been complied with including those relating to consultation and notification of the scheme [4.16.1].⁵⁸⁰ There was a challenge to this in relation to consultation with the Coal Authority which the Promoters accepted had not been undertaken [4.5.3, 6.20.5]. I accept that the geotechnical desk study does not indicate that there would be any significant issues arising from historical mine workings.⁵⁷⁸ However, the Coal Authority is the responsible statutory authority on the matter and the Secretaries of State will need to be informed by it. The Promoters have set out their view on how this outstanding matter should be dealt with including their intention to submit the draft Order and Order Plans to the Coal Authority with the response directed to the Secretaries of State.⁵⁸¹ I agree this is the correct approach now that the Inquiry has closed. I return to this matter in my overall conclusions [7.38.15].

7.28.4 Several Objectors criticised the extent and nature of the public consultation including some who live quite close to the proposed route at Cumberland Road and Landmark Court [6.13.1, 6.15.5, 6.16.6, 6.18, 6.28.7]. It seems to me that the Consultation Report does demonstrate that a wide ranging

⁵⁷⁸ CD/A5 [5.13-5.14]

⁵⁷⁹ CD/D63 and Section 4.5 of the ES (CD/A12)

⁵⁸⁰ OA/270

⁵⁸¹ OA/266

and comprehensive process was followed.⁵⁸² It is regrettable that despite this some local residents were unaware of the proposals until recently. However, the Inquiry did provide a further opportunity over an extended period for objections to be heard and the Promoters' case to be examined prior to any final decisions being taken on the scheme. I am satisfied therefore that no interests have been significantly prejudiced in this respect.

7.29 The conditions proposed to be attached to deemed planning permission for the scheme, if given, and in particular whether those conditions meet the tests of DOE Circular 11/95 of being necessary, relevant, enforceable, precise and reasonable (Matter 10)

7.29.1 The 'Request for a Direction under Section 90(2A) of the Town and Country Planning Act',⁵⁸³ which accompanied the Order application, included a Schedule of 10 draft conditions to be attached to the deemed planning permission. The Schedule was amended by the Promoters during the course of the Inquiry and expanded by the addition of 4 further conditions.⁵⁸⁴ The revised Schedule was broadly supported when discussed at the Inquiry at an open forum in which representatives of the two local planning authorities and third parties also took part.

7.29.2 I agree that, subject to some further amendment in the interests of precision and enforceability, and to the addition of one further condition, the conditions proposed would be reasonable and necessary.

7.29.3 A commencement time of 5 years would be appropriate to the scale of the project and the number of detailed matters still to be resolved. The comprehensive list of these matters requires amendment to include specific reference to details of the Cumberland Road railings and ramp and to define the extent of details of the highway adjacent to the Wapping Wharf development. The plans submitted in support of the scheme are indicative at this stage but they give sufficient confidence of the solution that could be achieved. Notwithstanding the sensitivity of some parts of the location, it is not necessary to link approval of details to the plans already provided.

7.29.4 Comprehensive conditions are proposed on flood prevention and management, identification and remediation of contamination, construction and waste management and ecological management and monitoring. A separate condition would specifically protect the ecological value of the Butterfly Junction area.

7.29.5 The other main amendments to the draft conditions include:

- a) definition of the details of the proposed lighting scheme to include its hours of operation, and a positive requirement for the lighting to be implemented and operated thereafter in accordance with the approved details;

⁵⁸² CD/A5

⁵⁸³ CD/A10

⁵⁸⁴ OA/251

- b) definition of the process of securing access to the Exchange Land to negative form.

7.29.6 The additional condition required would ensure the removal of any temporary structures, particularly the proposed temporary pedestrian/cycle bridge at Prince Street, which would have an adverse effect on the setting of several listed buildings. A timescale of 1 year from opening of the rapid transit system would be reasonable.

7.29.7 An Objector has proposed a specific condition to require reinstatement of the site in the event that construction of the busway was commenced but not completed [6.26.17]. Such a condition would not be reasonable as there is insufficient evidence to show a serious risk of this eventuality and the need to reserve funds for reinstatement would in itself impose a financial burden. Furthermore, even if unforeseen problems did prevent full completion of the intended scheme, there would be possible options involving use of part of the route, with increased on-road running, that might be more beneficial than removal of work already carried out.

7.29.8 The Promoters have acknowledged the need to address the issue of parking on Cumberland Road and the potential for defined provision for residents [4.16.7 – 4.16.12, 7.19.6]. This would best be addressed through relevant legal and procedural channels rather than through a condition attached to the deemed permission. The specific condition proposed by Objectors to require consultation with residents would not be effective in resolving the matter and it would not therefore be reasonable to impose [6.19.3]. Nevertheless, I have included reference to the issue in my recommendations on matters for the Councils to consider [Appendix H (10)].

7.29.9 I have set out in Appendix C to this report the full list of conditions which I consider should be attached to deemed planning permission for the scheme, if given. I am satisfied that the conditions I recommend meet the tests of DoE Circular 11/95 of being necessary, relevant, enforceable, precise and reasonable. The conditions would be enforced by the relevant local planning authority. The extent of the authorities' earlier involvement in considering the impacts of the scheme would not affect their statutory duty to enforce these conditions in a proper manner [6.26.8].

7.30 **The Promoters' proposals for funding the scheme** (Matter 11)

7.30.1 The current estimated capital cost of the project is £49.6m of which DfT funding would contribute £34.5m subject to final approval. There is a developer contribution of £1.8m leaving £13.3m to be funded by the two Councils promoting the scheme. A cost sharing agreement has been agreed on the basis that 20% of the remaining cost would be met by NSC and 80% by BCC. NSC has identified and committed its contribution of £1.8m from its capital programme leaving £11.5m to be funded by BCC [4.8].

7.30.2 BCC has considered its contribution on the basis of the overall BRT network which includes two other major projects. The AVTM scheme is the most advanced in terms of the statutory procedure and the expected start of construction. The £15m identified by the Council from its Local Transport Plan or Community Infrastructure Levy and "The Investing in Bristol's Future Package" funding would more than cover the required sum for this scheme [4.8]. There is a Council resolution to raise the balance required for the overall BRT network from a

Work Place Parking Levy or Supplementary Business Rate.⁵⁸⁵ Investigations are at an early stage on these potential sources of income and the outcome is far from certain. However, the commitment of the Council to fund its share of the cost of this scheme is very clear and there are already sufficient funds identified for it to do so. The timing of these funds and the payment in arrears of DfT funding should not give rise to undue cash flow difficulties given the loan facilities likely to be available to the Councils if needed [6.2.13].

7.30.3 The total cost of the works is challenged by many Objectors largely on the basis of the uncertainty associated with some of the major cost items and the recent changes made to the scheme. The guided busway scheme at Cambridge is also cited as having exceeded its estimated cost by a substantial margin. There is understandable concern that any costs overruns would have to be met by the local taxpayer [6.1.11, 6.2.3, 6.2.16, 6.6.2, 6.11.7, 6.19.5, 6.26.9, 6.27.3, 6.28.4].

7.30.4 I agree that there is a significant element of uncertainty in the outturn costs of the scheme. It seems to me that there are three main reasons for this. Firstly, the current estimates have been arrived at without the benefit of any significant groundwork investigations; secondly, the final design and satisfaction of detailed planning conditions could give rise to unforeseen costs and finally; the award of the contract would be based on competitive tendering, the outcome of which is influenced by a range of factors which can be difficult to predict. With regard to the last point, there is every prospect that tenders would be competitive given the current climate in the construction industry.

7.30.5 Notwithstanding the above uncertainties, I make no criticism of the Promoters' approach to the estimate of costs at this stage in the scheme. There is clearly a balance to be struck between the extent of design and investigatory work needed at each stage in scheme development and the risk of incurring abortive costs if the project does not proceed for any reason. I note that significant allowances have been made in the estimates of scheme costs for risk and that these have been reviewed as more information has become available. A report issued during the course of the Inquiry by an independent firm of consultants reviewed the construction cost of the scheme and confirms that it has been "evolved correctly and is in line with expectations of projects of this type and size".⁵⁸⁶ On a point of detail, ground investigations would undoubtedly be needed to inform the design of the reconstructed arched retaining wall near the Underfall Sluice, an area subject to an earlier landslip. Such investigations would form part of the normal design process and a condition requiring an appropriate solution to be achieved would therefore be inappropriate and unnecessary [6.20.5].

7.30.6 The above review questions whether sufficient allowance has been made for the costs of management and procurement of the works, a point echoed in comments made by the DfT [6.4.47]. I have no reason to believe that any additional costs in this regard would be so significant as to undermine the economics of the scheme or its proposed funding arrangements. However, it is an important area for the Promoters to address and I have included a reference to it in my recommendations [Appendix H(12)].

⁵⁸⁵ OA/184

⁵⁸⁶ Report by Sweett 26 June 2012 (OA/258)

7.30.7 With respect to the outturn costs of the Cambridge scheme referred to by Objectors, these are still unclear.⁵⁸⁷ In any event, although a guided busway project, it is substantially different in nature and extent to that proposed in this case which I have assessed on its own merits.

7.30.8 Based on the above considerations and evidence available to the Inquiry I am satisfied that there is a reasonable prospect of funding being available for the scheme's construction.

7.30.9 The Promoters consider that once operating, the scheme would be revenue neutral [4.7.3]. This is discussed elsewhere in these conclusions [7.3.45 – 7.3.50].

7.31 Whether there is a compelling case in the public interest for conferring on the Promoters powers compulsorily to acquire and use land for the purposes of the scheme, having regard to the guidance on the making of compulsory purchase orders in ODPM Circular 06/2004, paragraphs 16 to 23; and whether the land and rights in land for which compulsory acquisition powers are sought are required by the Promoter in order to secure satisfactory implementation of the scheme (Matter 12)

7.31.1 I have studied the schedules and plans setting out the Limits of Deviation and the Land to be Acquired or Used, as modified. I can find no evidence of any proposal to purchase land or rights other than those necessary to implement the scheme. I am satisfied that the provisions within the draft Order in relation to pursuing either Works 1A or Works 1B are appropriate in the circumstances and satisfy the guidance in this respect [4.17.2, 7.13.6].⁵⁸⁸ There was no direct challenge pursued at the Inquiry to this approach.

7.31.2 Based on the evidence available to the Inquiry, I am satisfied that the Promoters have a clear idea how they intend to use the land and that there is a reasonable prospect of funding being available for the scheme's construction [7.30.8]. Subject to the outstanding consultation being undertaken with the Coal Authority, the scheme is unlikely to be blocked by any impediment to implementation. The necessary approvals for Listed Building and Conservation Area Consents, Deemed Planning Permission and a section 19 Certificate in relation to Open Space land form part of my recommendations.

7.31.3 I consider there is a compelling case for the scheme as one element of the approved transport strategy for the sub-region. In particular, its implementation would accord with the objective of providing a high quality and sustainable public transport system for the area, improving accessibility and supporting economic growth [4.1.1].

7.31.4 For the above reasons, and having regard to the guidance in ODPM Circular 06/2004, I am persuaded that there is a compelling case in the public interest for the compulsory purchase of the necessary land which justifies interfering with the human rights of those with an interest in the land. Loss of any interest could be met by compensation.

⁵⁸⁷ OA/100

⁵⁸⁸ CD/D63 TWA Guide to Procedures [1.11]

7.32 Whether there is a reasonable prospect that the Promoter will secure the consent of the Crown Estate to the acquisition of the land at the River Avon (New Cut) needed for the proposed works at Ashton Avenue Bridge (AAB) (Matter 13)

7.32.1 Agreement has been reached with the Crown Estate which would ensure that access would be available to carry out the necessary work to the AAB. The Crown Estate has also confirmed that it would grant a lease to the Promoters for construction works along the New Cut [4.31.1].

7.33 The purpose and effect of any substantive changes proposed by the Promoter to the draft TWA Order and whether anyone whose interests are likely to be affected by such changes has been notified (Matter 14)

7.33.1 A commentary is given on the Promoters' proposed changes to the draft Order at OA/237A. The final version of the "Filled up Order" to which this commentary relates is given at OA/238A. Amendments, deletions and additions to the draft Order submitted on 10 June 2010 are highlighted in red. Paragraph 1.1 of OA/237A also lists the changes to the Works and Land Plans by sheet number. The amended sheets are given at OA/239B. The amended Rights of Way plans are given at OA/239C and have been considered above [7.25].

7.33.2 As can be seen from paragraph 2.1 of OA/237A, the proposed modifications have been divided into two categories by the Promoters. The "purely drafting changes" appear to be just that and seem unlikely to have any significant impact on the effect of the provisions concerned. No doubt they will be scrutinised by the TWA Unit in the DfT and the Secretaries of State advised accordingly. The second category of modifications is more substantive and would effect a change to the provision concerned.

7.33.3 The explanations for the substantive changes to the Articles in the draft Order is given in Section 4 of OA/237A and for the Schedules in Section 5. A specific Inquiry session was held at which these changes were fully described and explained by the Promoters. There were no objections raised by third parties to any of the proposed modifications. A number of the changes are required to reflect model clauses, some to remove works no longer proposed and others to give added protection to railway interests and those of statutory undertakers. Again, I am in no doubt that the TWA Unit will examine these changes, some of which apparently arise from its suggestions, and liaise accordingly with the Promoters before advising the Secretaries of State. For my part, I have no reason to believe that the modifications to the draft Order would affect third party interests sufficiently to warrant further notification.

7.33.4 The potential changes suggested in OA/237A to Article 34 would only be required if the Secretary of State for Communities and Local Government were to decide, contrary to my recommendation, that the land at Bower Ashton was not "Open Space Land" and did not therefore require the provision of exchange land.

7.34 The effect on the heritage asset (Prince Street Bridge) of the proposed works (Matter 15)

7.34.1 Prince Street Bridge and its associated engine house and accumulator tower are listed Grade II. The bridge forms an important gateway between the City Docks and City and Queen Square Conservation Areas. The adjoining quay walls and the nearby hand crane are also listed Grade II.

7.34.2 The application for Listed Building Consent (11/02491/LA)⁵⁸⁹ seeks approval of works to strengthen the bridge deck to accommodate use by buses and to alter the deck profile to accord with the proposed shared use of the western side of the bridge for pedestrian and cycle traffic with bus traffic on the eastern side. No works are proposed to the engine house or accumulator tower, but it is intended that the existing mechanism should continue to operate the bridge's swing action.

7.34.3 The history and design of the bridge are set out in the joint Heritage, Design and Access Statement (HDAS)⁵⁹⁰ that accompanies the applications for heritage consent. The bridge's significance as a heritage asset is assessed in sufficient depth to comply with the guidance of the Framework.⁵⁹¹ From this, it is clear that the bridge's historic interest lies in its illustration of a nineteenth century design solution to a key crossing of the Floating Harbour, that survives largely in its original form and operating under its original mechanism. Its architectural interest is based on the simplicity of its robust design and detailing, with its asymmetrical proportions giving a clear expression of the structural logic.

7.34.4 Condition surveys⁵⁹² suggest that the bridge is in generally sound condition but have revealed the need for strengthening in three main respects.⁵⁹³ The four transverse girders near the swing bearing are steel members dating from the 1980s. The proposed addition of carbon fibre plates to these beams or, as now seen as more likely,⁵⁹⁴ their replacement, would have a minimal effect on the integrity of the bridge's design. Similarly, the replacement of the longitudinal timbers that form the deck structure with higher grade members would be in keeping with the character of the structure.

7.34.5 The addition of further external stiffening plates to the main girders did not form part of the original application, but was fully set out in evidence to the Inquiry.⁵⁹⁵ I am satisfied that no interests would be prejudiced by substitution of the later plan (Ref GAV TMR-1700-4960-01). The proposed solution would be in keeping with the original design, but would need detailed assessment of the relationship with the pattern of the existing stiffeners.

7.34.6 The proposed pattern of usage would require alterations to the profile of the bridge deck, by the removal of the raised footway on the western span and the centralisation of the bus track on the eastern span between raised evacuation strips. The changes would affect the existing symmetry of the bridge's layout and would require adjustment of the paving at each end to respond to the altered profile. However, the strength of the bridge's design could absorb these relatively minor and reversible adjustments, and no evidence has been put forward to suggest that the existing configuration is of essential historic interest. Concerns raised about the safety of joint pedestrian and cycle use and on the prevention of pedestrian use of the eastern span are not critical to the judgement of the effect of the proposed works on heritage significance.

⁵⁸⁹ CD/A20

⁵⁹⁰ CD/A19

⁵⁹¹ CD/D27 paragraph 128

⁵⁹² OA/5/2 Appendices 8, 9, 10, 11

⁵⁹³ OA/5 paragraph 5.33

⁵⁹⁴ OA/248

⁵⁹⁵ OA/5/2 Appendix 7

7.34.7 The most important area of concern, as raised by English Heritage and others, would be to ensure that the bridge's existing mechanism would continue to operate successfully and its swinging action would not be affected. Detailed study of this issue and of the other details of the proposed alterations could be secured by a condition. The same condition should cover the important issue of the required re-balancing of the bridge to accommodate the heavier rolling loads of bus traffic. A broader condition on assessment of the existing structure, proposed in the Promoters' schedule of draft conditions,⁵⁹⁶ would not be justified as the need for strengthening and the scope of the works have already been established. A separate condition on materials would not be necessary as specification of materials would form part of the proposed details. The only other conditions required would be those controlling commencement time, within 5 years to harmonise with the Order application, and to identify the approved plans. A list of the conditions that I recommend to be applied to the listed building consent, if granted, is set out in Appendix D to this report.

7.34.8 Subject to satisfactory discharge of those conditions, I consider that there would be only a very minor degree of harm to the significance of the listed building. The repair or replacement of the corroded steel beams might well be beneficial irrespective of any proposed increased loadings, but the other works would appear not to be necessary were it not for the Scheme. Should it be concluded that the Order should be made, in accordance with my recommendation, the potential public benefits of the Scheme would outweigh any harm to the significance of the heritage asset. The proposal would comply with the guidance in the Framework in support of the conservation of heritage assets⁵⁹⁷ and with Policy BCS22 of the Bristol Development Framework Core Strategy,⁵⁹⁸ which seeks to safeguard such assets. Were the Scheme not to proceed, the alterations would not be justified. Therefore, only should the Order be made, I recommend that listed building consent should be granted subject to conditions.

7.35 The effect on the heritage asset (Vauxhall Bridge) of the proposed works (Matter 16)

7.35.1 Following the review of the design of the Scheme in late 2011, it was decided to omit the works previously proposed to Vauxhall Bridge. Listed building consent application 11/02492/LA⁵⁹⁹ was withdrawn on 28 March 2012⁶⁰⁰ and the works omitted from the draft Order.⁶⁰¹ The Promoters confirmed at the Inquiry⁶⁰² that no other works to the bridge were currently proposed.

7.36 The effect on the heritage asset, Ashton Avenue Bridge, of the proposed works (Matter 17)

7.36.1 The Ashton Avenue Bridge is listed Grade II and is an important structure within the City Docks Conservation Area.

⁵⁹⁶ OA/240

⁵⁹⁷ CD/D27 paragraph 132

⁵⁹⁸ CD/C8

⁵⁹⁹ CD/A20

⁶⁰⁰ OA/248

⁶⁰¹ OA/258

⁶⁰² Oral evidence of Mr Slattery

7.36.2 At the time of submission of listed building consent application 11/02494/LA,⁶⁰³ the proposal for the bridge involved two-way running of buses across the existing structure, and the addition of a cantilevered pedestrian/cycle bridge to one side, as illustrated in the submission drawings Ref CTR ADU-1700-3050-01 RevA and CTR ADU-1700-3050-02.

7.36.3 Following design review, it was decided to operate under shuttle traffic signal control, with a single guided track for buses on the west side of the bridge and use of the maintenance track on the east side by cyclists and pedestrians. The application was amended⁶⁰⁴ by substitution of plan Ref CTR AER-1700-3050-01, as a result of which English Heritage withdrew its objection.⁶⁰⁵ The proposal has been updated in the written evidence⁶⁰⁶ submitted to the Inquiry and subsequently at the Inquiry.⁶⁰⁷ As the changes made are relatively minor in nature, chiefly relating to the detail of the deck and the addition of longitudinal girders and stiffening below the busway, I am satisfied that no party's interests would be prejudiced by acceptance of the latest plan (Ref GAV TMR-0400-103).

7.36.4 The history and design of the bridge, and the changes that it has undergone over its life, are set out in the joint HDAS⁶⁰⁸ and its appendices.⁶⁰⁹ The assessment of the bridge's significance as a heritage asset complies with the guidance of the Framework.⁶¹⁰ The bridge's design significance lies in the powerful expression and scale of its truss structure, reflecting the particular requirements of its swinging operation and of its double-deck construction. Its historic interest derives from its illustration of the evolution of transport engineering solutions and their importance in serving the busy docks and the wider city.

7.36.5 The current poor condition of the structure is also well documented in the HDAS and appendices and in evidence to the Inquiry.⁶¹¹ It is identified on the City Council's register of Buildings at Risk.⁶¹² The majority of the works now proposed would consist of repairs to steelwork and repainting, together with removal of previous relatively *ad hoc* alterations, such as guardrails and metal mesh fencing. The effect of these works in allowing the original structure to be expressed and its life prolonged would be greatly beneficial to the significance of the heritage asset.

7.36.6 The alterations to the deck to allow for the busway would be in keeping with the original design and would have a robust treatment appropriate to the character of the listed structure. The additional strengthening girders, which would be seen only from below, would be similar to the original. These works would not harm the heritage significance of the bridge. Indeed, by allowing the bridge to resume its function as a carrier of transport more appropriate to its scale than its

⁶⁰³ CD/A20

⁶⁰⁴ OA/145

⁶⁰⁵ OA/146, OA/248 Appendix 5

⁶⁰⁶ OA/5/2 Appendix 5

⁶⁰⁷ OA/140

⁶⁰⁸ CD/A19

⁶⁰⁹ CD/A19

⁶¹⁰ CD/D27 paragraph 128

⁶¹¹ OA/5/2 Appendices 3-6

⁶¹² OA/8/2 Appendix 3

current use by pedestrians and cycles only, the Scheme could actually enhance its significance.

7.36.7 The chief cause of written objection to the application, including that of English Heritage, was the proposed addition of the separate pedestrian/cycle bridge. The subsequent amendment to omit this feature, and to retain the important upper deck brackets, has therefore addressed most of these concerns.

7.36.8 Several objections refer to the relative merits of the potential use of the bridge for rail rather than buses, including by the BHR. This clearly goes to the heart of the Order application and is considered elsewhere in this report [7.4]. The fact that reinstatement of rail operation would be likely to have a positive effect on the significance of the heritage asset does not in itself provide a powerful reason to reject the current application, whose effects would also be largely beneficial.

7.36.9 Similarly, some Objectors have claimed that repair of the bridge could be funded by other means, such as a lottery grant, but without offering any firm evidence that this would be a realistic possibility. Even if it were, it does not alter the beneficial effect offered by the works for which consent is currently sought.

7.36.10 Approval of the current proposals would accord with the statutory requirement to have special regard to the desirability of preserving the listed building⁶¹³ and with the guidance of the Framework in support of the conservation of heritage assets.⁶¹⁴ It would also comply with Policy BCS22 of the Bristol Development Framework Core Strategy,⁶¹⁵ among whose targets is the reduction in the number of listed buildings at risk.

7.36.11 The Promoters' schedule of draft conditions⁶¹⁶ was discussed at the Inquiry. I agree with the conclusion of that discussion that similar conditions to those proposed for Prince Street Bridge would be justified, for similar reasons. There was no dissent expressed to this approach from those present at the Inquiry. A commencement time of five years would accord with the potential start time for the deemed permission. Approval of final details and a method statement would be necessary as the proposals are not yet fully specified. As in the case of Prince Street, the proposed condition requiring further study of the condition of the structure would not be necessary as sufficient evidence to support the need for the proposed works has already been provided.

7.36.12 Should the Order application be rejected, contrary to my recommendation, the proposed works would no longer be justified and there would be no reason to approve the listed building consent application. However, should the Order be made, in accordance with my recommendation, I recommend that listed building consent also should be granted subject to the conditions set out in Appendix E to this report.

⁶¹³ CD/D66 Planning (Listed Buildings and Conservation Areas) Act 1990, section 16

⁶¹⁴ CD/D27 paragraph 132

⁶¹⁵ CD/C8

⁶¹⁶ OA/240

7.37 The effect on the City Docks Conservation Area of the following proposals: Demolition of the Green Shed East of A Bond Warehouse; Removal of 875 m length of railings along the south side of Cumberland Road; Demolition of Jubilee House (Matter 18)

Green Shed

7.37.1 The Green Shed is a single-storey building of utilitarian character located to the east of the A Bond Warehouse. Following review of the Scheme design, it was decided that the building did not need to be removed. Conservation area Consent application Ref 11/02495/LC⁶¹⁷ was withdrawn before the Inquiry.

Cumberland Road railings

7.37.2 The south side of Cumberland Road, from the railway bridge to Avon Crescent, is supported by a retaining wall, at the foot of which runs the BHR. The wall is topped by metal railings, made up of panels of some 2.75m in length and, for the most part, some 2.14m in height. The original design of each panel comprises square section vertical bars at approximately 135mm centres, with alternating spear and spike finials.

7.37.3 Conservation area consent for removal of the railings (application Ref 11/02493/LC)⁶¹⁸ is needed to allow construction of the new ramp up to Cumberland Road and to add a rising wall on top of the retaining wall as a vehicle restraint safety measure. The new wall would be faced in stone to match the existing, with the re-use of existing coping stones, and would be topped by railings to match the overall height of the existing.⁶¹⁹

7.37.4 The contribution made by the railings to the character and appearance of the City Docks Conservation Area is set out in the HDAS⁶²⁰ in sufficient depth to comply with the guidance in the Framework.⁶²¹ The significance of the railings lies in their historic interest as part of the construction of the BHR and their reflection of the industrial dimension added by the railway to the Cumberland Road area. The railings appear to be relatively mass-produced and of limited craft interest. Their overall appearance is harmed by their neglected condition, by the number of damaged panels and by the number of panels that have been replaced with non-matching utilitarian substitutes. This is identified as a Weakness in the Council's Character Appraisal⁶²² SWOT analysis of this part of the Conservation Area.

7.37.5 The current condition of the railings and the potential for re-use of some panels is set out in the application. Written submissions before the Inquiry gave conflicting views on the intentions for re-use. The conclusion of the HDAS that re-use would not be feasible and that the preferred option would be new railings to match the existing design is repeated in written evidence.⁶²³ Other written

⁶¹⁷ CD/A21

⁶¹⁸ CD/A21

⁶¹⁹ CD/A21 Figs 1 and 2

⁶²⁰ CD/A19

⁶²¹ CD/D27 paragraph 128

⁶²² CD/C38

⁶²³ OA/9 paragraph 5.62

evidence⁶²⁴ refers to the need to refurbish/supplement/replace the existing railings. However, it was confirmed at the Inquiry⁶²⁵ that re-use, cutting the panels down to the proposed reduced height, was the preferred option wherever feasible, with matching new panels to be provided where necessary.

7.37.6 The proposal would thus retain much of the railings' contribution to the significance of the conservation area, despite the loss of some original fabric. The proportions of the proposed boundary treatment would slightly alter the spatial relationship between Cumberland Road and the New Cut, but not sufficiently to cause an adverse effect on the setting of the listed buildings along the road or to block views of the river corridor. Overall, the harm due to loss of fabric would be outweighed by the enhancement of the appearance of the Conservation Area by the provision of a new consistently designed boundary in sympathetic materials. The historic relationship with the lower level railing adjoining the Chocolate Path, which would be refurbished on a raised plinth wall, would be maintained.

7.37.7 English Heritage raise no objection to the removal of the railings, subject to some points of detail on the proposed replacement, which could be secured by a condition to the deemed planning permission. Other objections have pointed out that the character and appearance of the conservation area would be better preserved and enhanced by the restoration of the railings without the alteration necessary for the proposed vehicle safety wall. This may well be correct, but there is no suggestion that the existing configuration of the railings is essential to the heritage significance of the area.

7.37.8 I am satisfied that, subject to the appropriate detailing of the replacement boundary, the proposal would comply with the guidance of the Framework in support of the conservation of heritage assets⁶²⁶ and with Policy BCS22 of the Bristol Development Framework Core Strategy⁶²⁷ which seeks to safeguard such assets.

7.37.9 Potential conditions to be attached to any consent were discussed at the Inquiry and I agree that they are reasonable and necessary. A commencement time of 5 years would be in line with the recommendation for the Order and other consents. Identification of approved plans would define the extent of the authorised demolition. A further condition would prevent removal of the railings until full details of the replacement structure, including the amount of re-use of existing fabric, had been approved under the deemed permission and, reflecting the guidance in the Framework,⁶²⁸ until a contract had been let for the work to be carried out.

7.37.10 Should the Order application be rejected, contrary to my recommendation, the new wall and ramp would not proceed, so that the proposed demolition would no longer be justified and there would be insufficient reason to approve the CAC application. However, should the Order be made in accordance with my recommendation, I recommend that consent should also be granted subject to conditions set out in Appendix F to this report.

⁶²⁴ OA/4 paragraph 4.47

⁶²⁵ Oral evidence of Mr Slattery, Mr Griffin

⁶²⁶ CD/D27 paragraph 132

⁶²⁷ CD/C8

⁶²⁸ CD/D27 paragraph 136

Jubilee House

7.37.11 Jubilee House is a three-storey brick building, erected in the early or mid-1960s and currently in use as offices for a taxi operator. CAC (application ref 11/02496/LC⁶²⁹) is sought for the demolition of the building in order to allow additional space at the junction of the proposed Museum Street with Wapping Road.

7.37.12 The HDAS⁶³⁰ provides limited information on the history of the building, with no confirmation of its original role or of its appearance prior to the installation of the current modern windows. The document considers that the building contributes in only a limited way to the significance of the Conservation Area, owing to its perceived lack of architectural merit and later alteration, and to low historic interest due to its relatively recent date. The building's non-inclusion in any statutory or local list and its lack of identification as a landmark or 'building of merit' in the Conservation Area Character Appraisal are seen by the Promoters as confirmation of its lack of interest.^{631 632}

7.37.13 In my view this is a rather exacting assessment. The building is clearly not a prominent landmark, but is not identified by the Appraisal as a negative factor, or even as neutral. It is not without architectural interest, due mainly to its distinctive tall and slender proportions and to the details of its bowed front, elaborate entrance and stripped-down projecting cornice and window surrounds. Future restoration of a more sympathetic pattern of fenestration would greatly enhance its aesthetic value.

7.37.14 The building also has some historic interest as an illustration of the post-war development of the dock area, apparently as the head office of a local shipping company. It thus provides a further chapter to the development of the L and M sheds and, were it to be retained, it would provide an interesting counterpoint to the projected Wapping Wharf development.

7.37.15 The quality of the area, as summarised in the Character Appraisal, relies on "the retention and balance of domestic, commercial or industrial accommodation that has given the Conservation Area its interesting character".⁶³³ In my view, Jubilee House does make a positive, if modest, contribution to that character, which is formed by buildings and infrastructure of all periods. In accordance with the guidance of the Framework,⁶³⁴ its loss must be assessed in terms of the harm to significance of the heritage asset.

7.37.16 Removal of the building would allow unhindered two-way movement of buses of all sizes around the corner with Wapping Road. The site of the building would be absorbed into the 18m wide corridor of the proposed Museum Street,

⁶²⁹ CD/A21

⁶³⁰ CD/A19

⁶³¹ OA/8 and oral evidence Mr Griffin

⁶³² CD/C38 Map 6

⁶³³ CD/C38 paragraph 4.5

⁶³⁴ CD/D27 paragraph 138

which is intended to be treated as a 'shared space' environment,⁶³⁵ including arrangements for coach drop-off and servicing for the museum.⁶³⁶

7.37.17 The proposed junction would provide optimal performance for bus services. It would also allow for a consistent design along the full length of Museum Street, in association with the final design of the Wapping Wharf site. Historic character would be reinforced by the retention of the existing embedded rail tracks.

7.37.18 Supplementary evidence to the Inquiry⁶³⁷ expands on the HDAS's brief discussion of alternatives to demolition, while a plan⁶³⁸ illustrates the constraints on two-way operation with Jubilee House retained. Limited information has been provided on the alternative of one-way working, but it is clear that the nature of the junction and the shared use with other traffic could cause greater delay than at the other points on the route where shuttle working has been required to fit with existing structures. No plan has been provided to show a single-track carriageway in operation, but reduced footway space adjacent to buildings on each side would be a negative aspect.

7.37.19 The building forms a very minor component of an extensively drawn Conservation Area. It stands in a location where major change has already been approved in principle and will radically alter the appearance of this part of the area. The building's modest contribution to significance means that its loss could only be classed as less than substantial harm. In weighing this against the public benefits of the proposal, in accordance with the advice in the Framework,⁶³⁹ the harm would be outweighed by the benefits outlined earlier in this report, notwithstanding any reservations about the weight of evidence to show the need for the building's removal. The overall character of the Conservation Area would be preserved, and its appearance expected to be enhanced by the development of the adjacent site and the treatment of Museum Street.

7.37.20 Therefore, I consider that this aspect of the proposal would not conflict with the Framework's support for the conservation of heritage assets⁶⁴⁰ or with Policy BCS22 of the Bristol Development Framework Core Strategy.⁶⁴¹ I recommend that, should the Order be confirmed, conservation area consent should also be granted for the demolition of Jubilee House.

7.37.21 A list of conditions that could be attached to a Conservation Area Consent is attached at Appendix G to this report. These conditions which are similar to those recommended above [7.37.9] for the Cumberland Road railings, for similar reasons, were broadly supported in discussion at the Inquiry. I agree that they are reasonable and necessary. An additional condition would require the full recording of the building, to at least Level 3 as defined by English Heritage, and

⁶³⁵ OA/252 Department for Transport Local Transport Note 1/11

⁶³⁶ OA/4 paragraphs 4.54-4.57 and OA/4/2 Appendix 10 plan ref GAV TMR-0300-015; Response to Question H1-26, plan ref GAV TMR-0400-011

⁶³⁷ OA/186

⁶³⁸ OA/186, plan ref GAV TMR-0400-017

⁶³⁹ CD/D27 paragraph 134

⁶⁴⁰ CD/D27 paragraph 132

⁶⁴¹ CD/C8

arrangements for preserving the record, in order to ensure preservation by record of the building's interest.

7.38 Overall Conclusions

7.38.1 The AVTM scheme would be the first phase of a wider bus-based rapid transit system for the area. Its attraction to potential passengers would not rely on high speed but on the frequency, reliability and quality of service offered. These benefits would derive from the construction of a route which would be largely segregated from general traffic. The proposed levels of service and the quality of vehicles and infrastructure are critical factors in determining whether it would be successful. I have no reason to believe that the high standards of service envisaged for the core BRT service would not be realised in practice [7.3.52]. Vehicle standards for other services which might use the route would need to be carefully controlled [7.3.53].

7.38.2 The scheme would be one element of a much wider strategy to address traffic congestion in the City which is a significant threat to its economic growth and air quality [7.2.1]. This strategy has been developed over a number of years through joint working between the four local authorities within the sub-region. The scheme is included in the Joint Local Transport Plan for the area and is a clear objective of the Core Strategies of both Bristol City Council and North Somerset Council [7.5.6]. It is in full accord with the National policy objective to promote sustainable public transport [7.5.1].

7.38.3 The core BRT service would provide a major uplift in public transport service levels from the Long Ashton P & R site to the City Centre. Based on the evidence, there is every prospect that this would result in a significant increase in the number of passengers using the service. The scheme would create the potential for much wider public benefit from use of the new route by bus services directly to and from North Somerset. This would be dependent on commercial bus operators deciding there was a business case to transfer some of their existing services onto the route. Given the operational advantages, I consider there is every likelihood that they would do so [7.3.27].

7.38.4 I have found the forecasts of passenger usage to be a sufficiently robust basis on which to assess the scheme [7.3.40]. They are likely to be conservative as they do not take into account the effects of proposed demand management of private car trips to the City Centre. This is an important component of the approved strategy [7.3.32 - 7.3.37]. Improvements in public transport services are also a necessary prerequisite of the demand management strategy to ensure that attractive alternatives to the private car are readily available. The AVTM scheme is part of the package of measures aimed at ensuring this outcome. Complementary measures planned for the period up to 2026 include major improvements to rail and bus services and the encouragement of car sharing, cycling and walking through a range of initiatives and projects.

7.38.5 I have found that the scheme would generally accord with its objectives although the likely effect on modal shift between private car and public transport in terms of trips to the City Centre would be small [7.3.30]. Significant progress in this respect will depend on successful implementation of the wider strategy.

7.38.6 Integration with main line rail services is a weakness of the scheme [7.3.41]. Development of the new Enterprise Zone adjacent to Temple Meads station would provide the opportunity to address this deficiency [7.3.42].

Completion of the proposed BRT network as a whole would significantly increase the scope for integration with other public transport services and enhance the return on the AVTM scheme as the first phase [7.3.44]. Other bus services would benefit greatly from the enhanced bus priority measures in the City Centre which form part of this proposal [7.3.15].

7.38.7 The forecasts of revenue and the need for subsidy of the core BRT services are areas of particular uncertainty. Much would depend on the extent of competition during the tendering process and on patronage [7.3.50]. The economic assessment shows that the benefits of the overall scheme would substantially outweigh its costs [7.3.5].

7.38.8 The environmental benefits of the scheme would include a reduction in greenhouse gases and the refurbishment of a number of heritage features along the route [7.3.67]. There would also be positive socio-economic benefits as a result of improved accessibility to the City Centre and North Somerset. This would be of particular benefit to those without access to a car and mobility impaired residents [7.3.68 – 7.3.72].

7.38.9 I have found that there is no obviously preferable alternative to the scheme in the draft Order both in terms of technologies and route [7.4.29].

7.38.10 The proposal has given rise to a considerable amount of opposition from a number of local groups and individuals. Their views are strongly and sincerely held. It is clear from the evidence and my own observations on site that the scheme would have a number of adverse effects. These have been described in my report. The most contentious area of impact would be on the Harbourside. The introduction of bus traffic to this area would be likely to be far more significant than the effect of the scheme infrastructure. Overall, whilst there would be an adverse effect on the character and appearance of the City Docks Conservation Area, the harm caused to the significance of the heritage assets would be less than substantial [7.11.44].

7.38.11 I have set out in my report the effects of the scheme on local residents. Although there would be a direct impact on very few properties, those closest to the route at the Meridian development and Landmark Court, in particular, would be adversely affected due to the disturbance caused by passing buses [7.10.12, 7.6.8]. Some residents in Cumberland Road would lose their on-street parking facilities although this impact is one of the areas the Promoters have promised to address [7.19.6]. An appropriate solution would need to be in place prior to the commencement of works on Cumberland Road. The effect of the AVTM scheme on the landscape and visual amenity would be largely offset by the mitigation works proposed as would the effect on ecological interests [7.10, 7.22].

7.38.12 The enjoyment of some existing routes used by pedestrians and cyclists would be adversely affected particularly on the Harbourside and along the Chocolate Path. The scheme would also give rise to some benefits to these users with further opportunities for improvement. I have recommended that these be considered [7.18, Appendix H].

7.38.13 The promotion of alternative routes within the draft Order is unusual but I have found that this is justified given the particular circumstances [7.31.1].

7.38.14 In my opinion, the transportation and socio-economic benefits of the scheme clearly outweigh the harm that would be caused to heritage assets and the

impacts which some residents and other users of the area would suffer. Accordingly I conclude that the case for making the Order is compelling and in the public interest. I likewise conclude that it would be in the public interest to grant the application for deemed planning permission and the associated Conservation Area and Listed Building Consents as well as the s19 Certificate in respect of Open Space land.

7.38.15 I have had regard to all of the other matters raised in the evidence but they do not alter the conclusions I have reached. Subject to the outcome of the outstanding consultation with the Coal Authority [7.28.3] I propose to recommend that Bristol City Council and North Somerset Council be granted the powers necessary for the Ashton Vale to Temple Meads scheme to proceed.

8 Recommendations

- 8.1 In the light of my conclusions above and subject to the outcome of the outstanding consultation with the Coal Authority, I recommend that:
- (i) The Ashton Vale to Temple Meads and Bristol City Centre Rapid Transit Order dated 10 June 2010 be modified as set out in Documents OA/237A, OA/238A, OA/239B and OA/239C and that the Order so modified be made;
 - (ii) Deemed planning permission be granted for the development proposed in the Order, subject to the conditions set out in Appendix C of this report;
 - (iii) Listed Building Consent be granted for the proposed works at Prince Street Bridge and Ashton Avenue Bridge subject to the conditions set out at Appendices D and E respectively;
 - (iv) Conservation Area Consent be granted for the works to the railings along Cumberland Road and for the demolition of Jubilee House subject to the conditions set out at Appendices F and G respectively;
 - (v) A section 19 Certificate be granted with respect to the application dated 23 July 2010 for the replacement of open space land which would be lost as a result of the development;
 - (vi) Bristol City Council and North Somerset Council be asked to give due consideration to the recommendations set out in Appendix H of this report.

Christopher Millns
INSPECTOR

APPENDICES

APPENDIX A

APPEARANCES⁶⁴²

FOR THE PROMOTERS (Bristol City Council and North Somerset Council)

<i>Represented by:</i>	<i>Instructed by:</i>
Robin Purchas QC <i>Assisted by:</i> Annabel Graham Paul of Counsel	Bircham Dyson Bell LLP 50 Broadway Westminster London SW1H 0BL
Peter Mann BA (Hons)	Service Director for Transport Bristol City Council
Bill Davies BA (Hons) MSC	Rapid Transit Network Co-ordinator West of England Office
Bob Fowler BA MSc	Service Manager Major Projects and Head of Major Projects team Bristol City Council
Bruce Slattery IEng FIHE DM	Associate Director Head of Highway Network Management and Operations Halcrow Group Limited
Nick Dobinson MEng (Hons) CEng MICE	Senior Engineer Halcrow Group Limited
Rob Thompson BSc MCLT	Business Manager Highways and Transportation Atkins
John Philip CEng MICE MCIWEM	Senior Engineer Arup
Simon Griffin MSc BA (Hons) MIFA	Principal Archaeologist Archaeology and Heritage Team Leader Halcrow Group Limited
Andrew Linfoot BA PGDipUD MPhil CMLI	Associate Director Halcrow Group Limited
David Whitehorne BSc (Hons) CEnv MIEEM	Principal Ecologist Ecology Team Leader Halcrow Group Limited

⁶⁴² The list of appearances includes those who gave evidence orally at the Inquiry and were available for cross examination. In addition, a number of Objectors submitted written evidence to the Inquiry and/or asked questions of the Promoters' witnesses but these persons are not included in the list of appearances. Witnesses' qualifications are shown where these were made available.

Sam Williams BEng (Hons)	Acoustics Sector Director, Halcrow Group Limited
Dr Ben Marner Bsc (Hons) PhD CSci, MIAQM MIES	Technical Director, Air Quality Consultants Limited
James Willcock BSC (Hons)	Strategic Transport Policy & Development Team Manager, North Somerset Council
Peter Robinson MPA CPFA	Service Director, Finance and Section 151 Officer, Bristol City Council
Simon Mole MRICS	Associate Director, Ardent Management Limited
Sarah O'Driscoll BA (Hons) MPhil	Service Manager, Strategic Planning Bristol City Council

FOR THE OBJECTORS

For Long Ashton Parish Council

Mr Rod Sterland

For Bristol Civic Society

Mr James Smith MRICS

Mr John Frenkel

For the Bristol Industrial Archaeological Society

Ms Maggie Shapland

For Transport for Greater Bristol Alliance

Mr Ian Crawford

Mr Keith Buchan MSc CIHT

Mr Keith Hallett

Mr Martin Garrett

Mr Colin Jefferson

Mr Richard Pearson

For Sustraco

Mr Bob Chard BA (Hons) MPhil MRTPI

Professor Lewis Lesley BSc AKC PhD CEng MICE
MTPS FCIT FRSA

Mr James Skinner

For Tramforward

Mr Brian Lomas

For Railfuture

Mr Nigel Bray

**For Southwest Transport Group and South
West Transport Network**

Mr David Redgewell

Mr Bernard Kennedy

For CTC

Mr Terry Miller

For Bristol Cycling Campaign

Mr Martin McDonnell

**For the Ramblers (Avon Area and Bristol
Group)**

Jeremy Phillips of Counsel called

Ms Susan Carter MA MSc MIMgt

For the Friends of the Avon New Cut

Mr John Purkiss CEng MICE⁶⁴³

Mrs Chris Hanmer

For SAVE and Ashton Vale Heritage Group

Alderman Peter Crispin

For The Point Residents

Mr Peter Clements

For British Railways Board (Residuary) Limited

Mr Keith Wallace

Mr Gilbert

Individual Objectors

Mr Mike Ginger Local resident

Mr John Grimshaw CBE Local resident

Mr David Martin Local resident

Mrs Chris Hanmer Local resident

Ms Margaret Heneghan Local resident

Mr Dominic Robinson Local resident

Mr Mark Robinson Local resident

⁶⁴³ FrANC's case is based on the proof of evidence (FrANC/1) of its former Chairman Mr John Purkiss who sadly died during the course of the Inquiry. A supplementary proof (FrANC/3) was submitted to the Inquiry by Mrs Hanmer based on notes prepared by Mr Purkiss.

Mr Derek Hughes and Ms Sara Worth	Local residents
Ms Susan Flint	Local resident
Mr Stephen Layland BSc (Hons) CEng MSc	Local resident
Mr Hugh Pratt	Local resident
Mr David Gott	Local resident
Mr Gavin Smith MA	Local resident
Mr Andrew Spearman BA (Hons) MRTPI	Local resident
Mrs Jane Miller	Local resident
Mr Stephen Wickham BSc	Local resident
Mrs Ann Wickham	Local resident

APPENDIX B

DOCUMENTS AND PLANS

CORE DOCUMENT LIST

Category A - Application Documents

- A1 Letter of Application
- A2 Draft Order
- A3 Explanatory Memorandum (explaining the purpose and effect of each article and schedule in the draft Order)
- A4 Concise statement of the aims of the proposals
- A5 Consultation Report, May 2010
- A6 Declaration as to status of applicant
- A7 List of all Consents, Permissions and Licenses required under other Enactments for the purposes of the powers sought in the application
- A8 Details of the applicants' proposals for funding the cost of implementing the Order
- A9 Estimate of the cost of carrying out the works provided for in the proposed Order
- A10 Request for a direction under section 90 (2A) of the Town and Country Planning Act 1990, including a statement of proposed planning conditions
- A11 Draft Code of Construction Practice
- A12 Environmental Statement, West of England Partnership, May 2010
- A13 Environmental Statement - Non-Technical Summary, West of England Partnership, May 2010
- A14 Visual Identity Guidelines, Bristol City Council, March 2010
- A15 Order Plans - consisting of Works & Land Plans and Sections and Rights of Way Plans
- A16 Book of Reference
- A17 Plans for Information
- A18 Section 19 Acquisition of Land Act 1981 - Letter of Application with Open Space Plan
- A19 Rapid Transit - The Ashton Vale to Temple Meads and Bristol City Centre Rapid Transit - Heritage, Design and Access Statement, West of England Partnership (Halcrow), November 2010
- A20 Applications for Listed Building Consent:
 - Vauxhall Bridge - Ref: 11/02492/LA
 - Ashton Vale Bridge - Ref: 11/02494/LA
 - Prince Street Bridge - Ref: 11/02491/LA
- A21 Applications for Conservation Area Consent:
 - Green Metal Shed East of a Bond Warehouse - Ref: 11/02495/LC
 - Railings along the south side of Cumberland Road - Ref: 11/02493/LC
 - Jubilee House - Ref: 11/02496/LC

Category B Documents - Supporting documents

- B1 Rapid transit: Ashton Vale to Temple Meads and Bristol City Centre - Programme Entry - Major Scheme Business Case, West of England Partnership, March 2009
- B1a Volume 1 Report
- B1b Volume 2 Appendices 1 and 2
- B1c Volume 3 Appendix 3 (A to E)
- B1d Volume 4 Appendices 3 (F to L), 4 to 6

- B2 Major Scheme Best and Final Funding Bids - Ashton Vale to Bristol City Centre Rapid Transit, West of England Partnership, 8 September 2011
- B2a Main Submission Document
- B2b Appendices A to H (Labelled 4A to 4H in folder)
- B2c Supplementary Documents A to H
- B3 Greater Bristol: Public Transport Corridor Options Final Report, West of England Partnership (Steer Davies Gleave), January 2007
- B4 West of England Partnership: Bus Rapid Transit - Corridor Options Short List Report, West of England Partnership (Steer Davies Gleave), May 2007
- B5 Greater Bristol Bus Rapid transit (BRT) - Technology Review of Systems, West of England Partnership (Halcrow), September 2007
- B6 West of England Bus Rapid Transit - Technology Review - Final Report, West of England Partnership (Steer Davies Gleave), September 2008
- B7 Ashton Vale Corridor Rapid Transit - Ultra Light Rail Transit Review - Summary of Bristol City Council Responses to Sustraco, Bristol City Council (Steer Davies Gleave), May 2011
- B8 West of England Major Scheme Business Case Development - DfT Engagement - 2a - Model Constant Assumption, West of England Partnership (Atkins), August 2011
- B9 Ashton Vale to Temple Meads Rapid Transit - Local Model Validation Report, West of England Partnership (Atkins), September 2011
- B10 Ashton Vale to Temple Meads Rapid Transit - Public Transport Assignment Model Development Report, West of England Partnership (Atkins), September 2011
- B11 Ashton Vale to Temple Meads Rapid Transit - Demand Model Development Report, West of England Partnership (Atkins), September 2011
- B12 Ashton Vale to Temple Meads Rapid Transit - Forecasting Report, West of England Partnership (Atkins), September 2011
- B13 Ashton Vale to Temple Meads - Social and Distributional Impacts - Full Appraisal, West of England Partnership (Atkins), 31 October 2011
- B14 Ashton Vale to Temple Meads Rapid Transit - Quantitative Risk Analysis, (Atkins) March 2009
- B15 Ashton Vale to Temple Meads via Bristol City Centre Rapid Transit Scheme – Identification of the Lower Cost Alternative, Atkins, 20 February 2009
- B16 Design Freeze A: Value Engineering Options - Ashton Vale to Temple Meads and City Centre BRT, Bristol City Council and North Somerset Council (Halcrow), 12 April 2011
- B17 Affordable Mass Transit Guidance, Commission for Integrated Transport
- B18 Great Bristol Bus Network Map, South Gloucester Council, 2010
- B19 Ashton Gateway Project - Flood Risk Assessment, Ashton Gate Ashton Vale Project and Vence LLP, June 2009
- B20 Strategic Flood Risk Assessment - Level 1 SFRA - Final Report, Bristol City Council (Halcrow), March 2009
- B21 Strategic Flood Risk Assessment - Level 2 SFRA - Main Report - Final, Bristol City Council (Halcrow), November 2009
- B22 Ashton Vale to Temple Meads (AVTM) Public Inquiry Documents - City Centre Loop - Design and Construction, Bristol Engineering Consultancy: Engineering Design Criteria and Design Decisions, Construction Methodology, Waste Management Plan and Drawings
- B23 Ashton Vale to Temple Meads Rapid Transit - Design Standards Report, West of England Partnership (Halcrow), 20 January 2012
- B24 Ashton Vale to Temple Meads Rapid Transit - Construction Methodology - Document 1 Version Draft, West of England Partnership (Halcrow), 24 January 2012

- B25 Ashton Vale to Temple Meads and Bristol City Centre Bus Rapid Transit Scheme - Quantitative Risk Analysis Report, Peter Wood Associates Ltd, September 2011
- B26 The Ashton Vale to Temple Meads and Bristol City Centre Rapid Transit Order - Statement Of Case Of The Applicants, Bristol City Council and North Somerset Council, 27 January 2012
- B27 Ashton Vale to Temple Meads Rapid Transit - Demand Model Development Report, West of England Partnership (Atkins), 31 March 2012, Final Report
- B28 Ashton Vale to Temple Meads Rapid Transit - Public Transport Assignment Model Development Report, West of England Partnership (Atkins), 31 March 2012, Final Report
- B29 Ashton Vale to Temple Meads Rapid Transit - Highway Assignment Model Development Report West of England Partnership (Atkins), 31 March 2012, Final Report
- B30 Ashton Vale to Temple Meads Rapid Transit - Forecasting Report, West of England Partnership (Atkins), April 2012
- B31 Greater Bristol Bus Rapid Transit System - Assessment of Flood Risk, Level 1 Scoping Report (Atkins), December 2007

Category C Documents – Strategy and Context

- C1 The Future of Transport - a network for 2030, Department for Transport, July 2004
- C2 Delivering a Sustainable Transport System: Main Report, Department for Transport, November 2008
- C3 Towards a Sustainable Transport System - Supporting Economic Growth in a Low Carbon World, Department for Transport, October 2007
- C4 Greater Bristol Strategic Transport Study - Final Report, West of England Partnership (Atkins), June 2006
- C5 Final Joint Local Transport Plan 2006/07 - 2010/11, West of England Partnership, March 2006
- C6 Joint Local Transport Plan 2006/07 - 2010/11 - Five Year Progress Review, West of England Partnership, November 2011
- C7 Joint Local Transport Plan 3 2011 - 2026, West of England Partnership, March 2011
- C8 Bristol Development Framework Core Strategy, Bristol City Council, Adopted June 2011
- C9 North Somerset Council Local Development Framework - Core Strategy - Publication Version, North Somerset Council, January 2011
- C10 Improving our Communities Together - North Somerset Sustainable Community Strategy 2008 - 2026, North Somerset Partnership
- C11 North Somerset Replacement Local Plan - Written Statement, North Somerset Council, Adopted March 2007
- C12 The Bristol 20:20 Plan - Bristol's Sustainable City Strategy, The Bristol Partnership
- C13 Congestion Delivery Plan, West of England Partnership, 2009 (update)
- C14 Table CGN0201 a & b, Congestion & Reliability Statistics, Department for Transport, November 2011
- C15 Bristol City Tidal Risk Strategy - Final Report, Environment Agency South West Region (Halcrow), January 2004
- C16 Bristol Frome Flood Management Study - Strategic review Report (including Environmental Overview) - Issue 2 Final, Environment Agency South West Region (Atkins), 28 June 2005
- C17 Extracts of Agreement under s106 of the Town and Country Planning Act

- 1990 between the City Council of Bristol and Ashton Vale Project LLP and Vence LLP relating to land at Ashton Vale Bristol, 5 April 2011
- C18 Funding decisions on local authority major transport schemes, Written Statement, Rt Hon Justine Greening MP, 14 December 2011
- C19 Written ministerial statement by Minister of State for Decentralisation, Mr. Greg Clark, on planning for growth, 23 March 2011
- C20 The Draft Regional Spatial Strategy for the South West 2006 - 2026, South West England, June 2006
- C21 Bristol Local Plan - Proposals Map, Bristol City Council, Adopted December 1997
- C22 Bristol Local Plan - Written Statement, Bristol City Council, Adopted December 1997
- C22b Bristol Development Framework - List of 1997 Adopted Local Plan Policies Saved, Bristol City Council, June 2011
- C23 Bristol Local Development Framework - Supplementary Planning Document 7 - Archaeology and Development, Bristol City Council, Adopted March 2006
- C24 Bristol Development Framework - Central Area Action Plan, Options Consultation, Bristol City Council, February 2012
- C25 Bristol's Parks and Green Space Strategy, Bristol City Council , Adopted February 2008
- C26 Bristol Development Framework - Site Allocations & Development Management Preferred Approach Document, Bristol City Council, March 2012
- C27 The Eddington Transport Study - The case for action, Sir Rod Eddington's advice to Government, Department for Transport, December 2006
- C28 Stern Review - The Economics of Climate Change, Sir Nicolas Stern, October 2006
- C29 Creating Growth, Cutting Carbon - Making Sustainable Local Transport Happen, Department for Transport, January 2011
- C30 The Green Book – Appraisal and Evaluation in Central Government, HM Treasury, 2011
- C31 Cities Outlook 2012, Centre For Cities, January 2012
- C32 The Air Quality Strategy for England, Scotland, Wales and Northern Ireland Volume 1, Department for Environment, Food and Rural Affairs, July 2007
- C33 Noise Policy Statement for England (NPSE), Department for Environment, Food and Rural Affairs, March 2012
- C34 Cambridge Cycling Campaign Newsletter 99, December 2011/January 2012
- C35 Ideas and Options Paper - Bedminster and Southville Area Green Space Plan - A spatial and investment plan for the next 20 years, Bristol City Council
- C36 Ideas and Options Paper - Cabot, Clifton & Clifton East Area Green Space Plan - A spatial and investment plan for the next 20 years, Bristol City Council
- C37 Walking Strategy for Bristol - Our vision for 2011-2021, Bristol City Council / Active Bristol, October 2011
- C38 Conservation Area 17- City Docks, Character Appraisal & Management Proposals, Bristol City Council, December 2011
- C39 Consultation Comments on Bristol City Council Green Space Plans, Neighbourhood Partnership 10 - Bedminster and Southville, Bristol City Council, 2010
- C40 Collective Leadership for a Low Carbon Economy, West of England Partnership/Forum for the Future, March 2011
- C41 Bristol Avon Catchment Flood Management Plan - Summary Report, Environment Agency, December 2009

- C42 Severn Estuary Shoreline Management Plan (SMP), Severn Estuary Coastal Group (SECG), 2000/2009
- C43 Severn Estuary Flood Risk Management Strategy Wessex, Environment Agency, December 2010
- C44 North Somerset Futures Local Development Framework - Core Strategy, North Somerset Council, Adopted April 2012
- C45 Draft Cycling Supplementary Document, Travel + Draft JLTP3 Supplementary Document March 2011
- C46 Greater Bristol Cycling City Stakeholder Advisory Panel, Greater Bristol Cycling Strategy 2011-2026, REV A, September 2010, Ove Arup & Partners Ltd

Category D Documents – Legislation and Guidance

- D1 Transport and Works Act 1992 - Section 1 (Orders as to railways, tramways etc.), Section 3 (Orders as to inland waterways etc.), Schedule 2 (Model Clauses for Tramways)
- D2 The Transport and Works (Inquiries Procedure) Rules 2004
- D3 The Transport and Works (Applications and Objections Procedure) (England and Wales) Rules 2006
- D4 Transport and Works (Listed Buildings, Conservation Areas and Ancient Monuments Procedure) Regulations 1992
- D5 Town and Country Planning Act 1990 - Section 90 (Development with government authorisation)
- D6 Acquisition of Land Act 1981 - section 19 (Commons, Open Spaces etc.), section 20 (Acquisition of rights over land by the creation of new rights), Schedule 3 (Acquisition of rights over land by the creation of new rights)
- D7 ODPM Circular 06/2004 - Compulsory Purchase and the Crichel Down Rules, 31 October 2004
- D8 Planning Policy Statement 25: Development and Flood Risk, Department for Communities and Local Government, March 2010 (Revised)
- D9 EA supplied (2010) flood level data for River Avon and Flood Zone Maps
- D10 Planning Policy Statement 1: Delivering Sustainable Development
- D11 Planning Policy Statement 4: Planning for Sustainable Economic Growth
- D12 Planning Policy Statement 5: Planning for the Historic Environment
- D13 Planning Policy Statement 25: Development and Flood Risk
- D14 Planning Policy Guidance 13: Transport
- D15 WebTAG guidance, Department for Transport
- D16 West of England.org
- D17 London to South West and South Wales Multi-Modal Study (SWARMMS), Government Office for the South West (Halcrow), May 2002
- D18 Planning Policy Statement: Planning and Climate Change, Supplement to Planning Policy Statement 1, Communities and Local Government, December 2007
- D19 Planning Policy Guidance 2: Green Belts, Department for Communities and Local Government, January 1995 (Amended March 2011)
- D20 Planning Policy Guidance 9: Nature Conservation, Department of Environment, March 1994
- D21 Planning Policy Statement 9: Biodiversity and Geological Conservation, Department for Communities and Local Government, August 2005
- D22 Planning Policy Guidance 17: Planning for Open Space, Sport and Recreation, Department for Communities and Local Government, July 2002
- D23 Assessing needs and opportunities: a companion guide to PPG17, Department for Communities and Local Government, September 2002

- D24 Planning Policy Statement 23: Planning and Pollution Control, Office of the Deputy Prime Minister, 2004
- D25 Planning Policy Statement 23: Planning and Pollution Control, Annex 1: Pollution Control, Air and Water Quality, Office of the Deputy Prime Minister, 2004
- D26 Planning Policy Guidance 24: Planning and Noise, Department of the Environment, September 1994
- D27 National Planning Policy Framework, Department for Communities and Local Government, March 2012
- D28 The European Commission Water Policy Framework Directive (2000/60/EC) of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, Official Journal of the European Communities (L327/1), December 2000
- D29 The European Commission Air Quality Directive (1999/30/EC) (first daughter directive) of 22 April 1999 relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air, Official Journal of the European Communities (L163/41), June 1999
- D30 Guidelines for Ecological Impact Assessment in the United Kingdom, Institute of Ecology and Environmental Management (IEEM), June 2006
- D31 Office of the Deputy Prime Minister (ODPM) Circular 11/1995 - Use of Conditions in Planning Permissions, 1995
- D32 Guidelines for Community Noise, World Health Organisation, April 1999
- D33 Office of the Deputy Prime Minister (ODPM) Circular 05/2005 - Planning Obligations, 18 July 2005
- D34 Regional Planning Guidance for the South West (RPG 10), Government Office for the South West, September 2001
- D35 International Standard: Acoustics - Attenuation of Sound During Propagation Outdoors Part 1, International Organisation for Standardization, First Edition, 1993 (ISO 9613-1)
- D36 International Standard: Acoustics - Attenuation of Sound During Propagation Outdoors Part 2, International Organisation for Standardization, First Edition, 1996 (ISO 9613-2)
- D37 British Standards: Code of Practice for Noise and Vibration Control on Construction and Open Sites Part 1: Noise, BSI, 2009 (BS 5228-1:2009)
- D38 British Standard: Code of Practice for Noise and Vibration Control on Construction and Open Sites Part 2: Vibration, BSI, 2009 (BS 5228-2:2009)
- D39 British Standard: Evaluation and Measurement for Vibration in Buildings Part 1, BSI, 1990 (BS 7385-1:1990)
- D40 British Standard: Evaluation and Measurement for Vibration in Buildings Part 2, BSI, 1993 (BS 7385-2:1993)
- D41 Statutory Instruments 428: Building and Buildings - The Noise Insulation (Railways and Other Guided Transport Systems) Regulations 1996
- D42 Statutory Instruments 928: Environmental Protection, England - The Air Quality (England) Regulations 2000
- D43 Statutory Instruments 1078: Road Traffic - The Road Vehicles (Construction and Use) Regulations 1986
- D44 Statutory Instruments 3043: Environmental Protection - The Air Quality (England) (Amendment) Regulations 2002
- D44b Statutory Instruments 3042: Environmental Protection - The Flood Risk Regulations 2009
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- D46 TRRL Research Report 246: Traffic Induced Vibrations in Buildings, G. R. Watts, Department for Transport, 1990
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- D49 Calculation of Road Traffic Noise, Department of Transport Welsh Office, HMSO, 1988
- D50 Health Effect Based Noise Assessment Methods: A Review and Feasibility Study, N D Porter, I H Flindell & B F Berry, National Physical Laboratory, September 1998
- D51 Design Manual for Roads and Bridges Volume 1 Section 3: Highway Structures - Approval Procedures and General Design, Part 11: The Design and Appearance of Bridges, February 1998 (HA 41/98)
- D52 Design Manual for Roads and Bridges Volume 11 Section 2: Environmental Impact Assessment, Part 1-6, August 2008 (HA201/08, HA202/08, HA47/08, HA204/08, HA205/08 & HA48/08)
- D53 Design Manual for Roads and Bridges Volume 11 Section 3: Environmental Assessment Techniques, Part 1: Air Quality, May 2007 (HA 207/07)
- D54 Design Manual for Roads and Bridges Volume 12 Section 2: Traffic Appraisal Advice, Part 1: Traffic Appraisals in Urban Areas, May 1996
- D55 Manual for Streets, Department for Transport, 2007
- D56 Statutory Instruments 445: Public Passenger Transport, England - The Quality Partnership Schemes (England) Regulations 2009
- D57 Traffic Management Act 2004, Chapter 18
- D58 The Flood and Water Management Act 2010, Chapter 29
- D59 Water Resources Act 1991, Chapter 57 (with annotations 2012)
- D60 Climate Change Act 2008, Chapter 27
- D61 Planning and Compulsory Purchase Act 2004, Chapter 5
- D62 Environment Act 1995, Part 4: Air Quality (with annotations 2012)
- D63 A Guide to TWA Procedures, Department for Transport, June 2006
- D64 Pollution Prevention Guidelines - Works and Maintenance In or Near Water: PPG 5, Environment Alliance, October 2007
- D65 Design Manual for Roads and Bridges Volume 11 Section 3 Part 3: Disruption due to Construction, June 1993
- D66 Planning (Listed Buildings and Conservation Areas) Act 1990, Chapter 9
- D67 Ancient Monuments and Archaeological Areas Act 1979 (revised June 1983), Chapter 46
- D68 Transport Act 2000, Chapter 38 Part 2: Local Transport
- D69 Local Transport Act 2008, Chapter 26 Part 3: Bus Services
- D70 Design Manual for Roads and Bridges Volume 11 Section 3: Environmental Assessment Techniques, Part 7 Revision 1: Noise and Vibration, November 2011 (HD213/11)
- D71 Design Manual for Roads and Bridges, Volume 11 Section 3: Environmental Assessment Techniques, Part 7: Noise and Vibration, August 2008 (HA213/08)
- D72 British Standard: Guide to evaluation of human exposure to vibration in buildings, part 1: Vibration sources other than blasting, BSI, 2008 (BS 6472-1:2008)
- D73 Local Transport Note 2/08, Cycle Infrastructure Design, Department for Transport, October 2008
- D74 Green light for light rail, Department for Transport, September 2011

- D75 Report on Adelaide O-Bahn, Items of Interest for Planning of Cambridgeshire's Guided Busway by Tom Wilson, Office of Public Transport, Department of Transport and Urban Planning, Adelaide, South Australia, August 2004
- D76 Rail Accident Report, Rail Accident Investigation Branch (RAIB), Fire on prototype tram 611 at Blackpool 24 January 2007, Department for Transport, Report 41/2007, November 2007

PROOFS OF EVIDENCE - ORDER APPLICANTS

- OA/1 Proof of Evidence – Mr Peter Mann
- OA/1/1 Summary of Proof of Evidence – Mr Peter Mann
- OA/1/2 Appendices – Mr Peter Mann
- OA/2 Proof of Evidence – Mr Bill Davies
- OA/2/1 Summary of Proof of Evidence – Mr Bill Davies
- OA/2/2 Appendices – Mr Bill Davies
- OA/3 Proof of Evidence – Mr Bob Fowler
- OA/3/1 Summary of Proof of Evidence – Mr Bob Fowler
- OA/3/2 Appendices – Mr Bob Fowler
- OA/4 Proof of Evidence - Mr Bruce Slattery
- OA/4/1 Summary of Proof of Evidence – Mr Bruce Slattery
- OA/4/2 Appendices - Mr Bruce Slattery
- OA/5 Proof of Evidence - Mr Nick Dobinson
- OA/5/1 Summary of Proof of Evidence – Mr Nick Dobinson
- OA/5/2 Appendices – Mr Nick Dobinson
- OA/6 Proof of Evidence - Mr Rob Thompson
- OA/6/1 Summary of Proof of Evidence – Mr Rob Thompson
- OA/6/2 Appendices – Mr Rob Thompson
- OA/7 Proof of Evidence - Mr John Philip
- OA/7/1 Summary of Proof of Evidence – Mr John Philip
- OA/7/2 Appendices – Mr John Philip
- OA/8 Proof of Evidence - Mr Simon Griffin
- OA/8/1 Summary of Proof of Evidence – Mr Simon Griffin
- OA/8/2 Appendices – Mr Simon Griffin
- OA/9 Proof of Evidence - Mr Andrew Linfoot
- OA/9/1 Summary of Proof of Evidence – Mr Andrew Linfoot
- OA/9/2 Appendices – Mr Andrew Linfoot
- OA/10 Proof of Evidence - Mr David Whitehorne
- OA/10/1 Summary of Proof of Evidence – Mr David Whitehorne
- OA/10/2 Appendices – Mr David Whitehorne
- OA/11 Proof of Evidence - Mr Sam Williams
- OA/11/1 Summary of Proof of Evidence – Mr Sam Williams
- OA/11/2 Appendices – Mr Sam Williams
- OA/12 Proof of Evidence - Mr Ben Marnar
- OA/12/1 Summary of Proof of Evidence – Mr Ben Marnar
- OA/12/2 Appendices – Mr Ben Marnar
- OA/13 Proof of Evidence - Mr James Willcock
- OA/13/1 Summary of Proof of Evidence – Mr James Willcock
- OA/13/2 Appendices – Mr James Willcock
- OA/14 Proof of Evidence - Mr Peter Robinson
- OA/14/1 Summary of Proof of Evidence – Mr Peter Robinson
- OA/14/2 Appendices – Mr Peter Robinson
- OA/15 Proof of Evidence - Mr Simon Mole
- OA/15/1 Summary of Proof of Evidence – Mr Simon Mole

OA/15/2 Appendices – Mr Simon Mole
OA/16 Proof of Evidence - Mr Colin Chapman
OA/16/1 Summary of Proof of Evidence – Mr Colin Chapman

ADDITIONAL MATERIAL SUBMITTED BY ORDER APPLICANT

AM/1 Fact Sheet 1: Revised Plans for Information
AM/2 Fact Sheet 2: Revised City Centre Design Plans for Information
AM/3 Fact Sheet 3: AVTM Transport Model Output

REBUTTAL EVIDENCE SUBMITTED BY ORDER APPLICANT

REB/01 Rebuttal Evidence to Babcock Integrated Technology Ltd (OBJ/05)
REB/02 Rebuttal Evidence to Ms Margaret Heneghan (OBJ/18)
REB/03 Rebuttal Evidence to Susan Flint (OBJ/21)
REB/04 Rebuttal Evidence to Sustraco (OBJ/33)
REB/05 Rebuttal Evidence to Mr Mike Ginger (OBJ/39)
REB/06 Rebuttal Evidence to Ms Chris Hanmer (OBJ/54)
REB/07 Rebuttal Evidence to Mr & Mrs Chamberlain (OBJ65 & OBJ/66)
REB/08 Rebuttal Evidence to Mr Andrew Spearman (OBJ/71)
REB/09 Rebuttal Evidence to Mr David Martin (OBJ/78)
REB/10 Rebuttal Evidence to Transport for Greater Bristol Alliance (OBJ/90)
REB/11 Rebuttal Evidence to Mr James Smith (OBJ/106)
REB/12 Rebuttal Evidence to Bristol Cycling Campaign (OBJ/123)
REB/13 Rebuttal Evidence to TramForward (OBJ/131)
REB/14 Rebuttal Evidence to The Ramblers Association (OBJ/146)
REB/15 Rebuttal Evidence to BRB (Residuary) Ltd (OBJ/156)
REB/16 Rebuttal Evidence to Mrs Ann Wickham (OBJ/157)
REB/17 Rebuttal Evidence to Mr Stephen Wickham (OBJ/158)
REB/18 Rebuttal Evidence to Mr Terry Miller (OBJ/167)
REB/19 Rebuttal Evidence to Wapping Wharf (Umberslade) Ltd and Umberslade Securities Ltd (OBJ/175 & OBJ176)
REB/20 Rebuttal Evidence to Mr Nigel Bray - Railfuture (OBJ/177)
REB/21 Rebuttal Evidence to SERA (South West Transport Group) (OBJ/183)
REB/22 Rebuttal Evidence to SWTN (South West Transport Network) (OBJ/177)
REB/23 Rebuttal Evidence to Derek Hughes and Sara Worth (OBJ/184)
REB/24 Rebuttal Evidence to Mr John Latham (OBJ/187)
REB/25 Rebuttal Evidence to Mr David Gott (OBJ/191)
REB/26 Rebuttal Evidence to Mr John Grimshaw CBE (OBJ/199)
REB/27 Rebuttal Evidence to Bristol Industrial Archaeological Society (OBJ/202)
REB/28 Rebuttal Evidence to Mr Peter Maggs and Mr John Allen (OBJ/1)
REB/29 Rebuttal Evidence to Sustraco (OBJ/33)
REB/30 Rebuttal Evidence to Friends of Suburban Bristol Railway (OBJ/148)
REB/31 Promoters' Response to Gavin Smith additions to Proof of Evidence of the 2nd June 2012 - OBJ/197
REB/32 Promoters' Response to Richard Walker (OBJ/128)
REB/33 Rebuttal Evidence Bristol Civic Society (OBJ/1)
REB/34 Promoters' Response to Mr Terry Miller's Supplementary Proof of Evidence of the 12 of June - OBJ/167
REB/35 Promoters' response to the supplementary evidence of Friends of New Avon Cut (FRANC) received on the 18 of June (OBJ /10)

QUESTIONS OF CLARIFICATION

- H/1 Clarifications sought by Inspector on Promoters' Evidence
H/2 Further Clarifications sought by Inspector on Promoters' Evidence

RESPONSES TO QUESTIONS OF CLARIFICATION

- I/1 Complete response by The Order Applicants to Questions of Clarification raised by Inspector – Doc H/1
I/2 Complete response by The Order Applicants to Questions of Clarification raised by Inspector – Doc H/2

DOCUMENTS SUBMITTED AT INQUIRY BY ORDER APPLICANTS

- OA/100 Letter from Cambridge County Council
OA/101 Errata
OA/102 Statement of Common Ground between Bristol City Council and the Promoters on Flood Risk Issues
OA/103 BCC Approach to Parking inc Cabinet Minutes and Diagram
OA/104 Mr Purchas Opening Submission
OA/105 List of BCC Witnesses
OA/106 Note on Bristol Temple Quarter Enterprise Zone
OA/107 Extract of DfT Memo – Investment in Local Major Transport Schemes
OA/108 Copy of withdrawal of Objection from Business West
OA/109 Diagrams showing City Centre Development & Enterprise Zone
OA/110 Cumberland Road Ariel Photograph Location Plan
OA/111 Cumberland Road Extent of General and Coach Parking Bays
OA/112 Emails regarding Bristol Neighbourhood Planning Network
OA/113 Briefing Note Change in Highway Delay and Mode Share in City Centre
OA/114 Response to email queries raised by Chris Hamner
OA/115 Note to Inspector - Objectives of the AVTM BRT Scheme
OA/116 Note on Congestion Monitoring
OA/117 Update on Quality Partnership Schemes for the Greater Bristol Bus Network

OA/118 Further response to points raised by Sustraco
OA/119 Plan showing Statutory and Non- Statutory Nature Conservation Sites
OA/119a Plan showing Statutory and Non- Statutory Nature Conservation Sites (with key)

OA/120 Note on TfGB contact with West of England Office
OA/121 Reservoir Breach Material from EA Website
OA/122 Routes running length Anchor/Hotwell Road
OA/123 Extract from GBBN update to December 2011 JTEC
OA/124 Response to Maggie Shapland on Vehicle Widths
OA/125 Funding Options
OA/126 Extract from 4.04.08 Full Council Meeting – Motion on Cyclepath.
OA/127 Swinging of Prince Street Bridge
OA/128 Addition to Errata Sheet
OA/129 Extract of "Jam Today Jam Tomorrow" - Colin Buchanan
OA/130 Cycling Note
OA/131 AVTM Cost Summary Table
OA/132 Email from DfT re "Clarification on use of failed major scheme bid money for rail"
OA/133 Addition to Errata Sheet (2)
OA/134 Correction to the Results from the Sensitivity Test Modelling

OA/135 AVTM Annual Revenue Forecast
OA/136 Letter from DfT dated 7 December 2011 re Funding Approval and Reconfirmation of Programme Entry
OA/137 Access to Temple Mead Station
OA/138 Plan for Information Spike Island Alternative Bus Stop Layout
OA/139 Discussion of the Scheme with HMRI/ORR
OA/140 Ashton Avenue Bridge Detailed Plan for information
OA/141 Extract from Manual for Streets 2
OA/142 Bus Station Accessibility Marlborough Street Bus Station
OA/143 Times v Distance Graph
OA/144 Regulation of Guided Busway and Bristol Harbour Railway
OA/145 Letter to DCLG amending LBC application
OA/146 English Heritage correspondence 2012
OA/147 English Heritage correspondence 2011
OA/148 Letter from DCLG 5 April 2012
OA/149 City and Queen Square Character Appraisal
OA/150 Community Infrastructure Note
OA/151 AVTM BRT Review of Accessible Train Station Design for Disabled People

OA/152 EQIA - Response to D Redgewell
OA/153 Proposed Ticketing Arrangements
OA/154 Disaggregation of Economic Efficiency Values
OA/155 NSC Bus Service Subsidies Note
OA/156 Bircham Dyson Bell's Response to S Wickham re: Section 19 objection
OA/157 Bircham Dyson Bell's Response to BRRBL re: Section 19 objection
OA/158 Bircham Dyson Bell's Response to LAPC re: Section 19 objection
OA/159 Bircham Dyson Bell's Response to Hogan Lovells International re: Section 19 objection

OA/160 Response to Questions from Mike Ginger (deferred from Rob Thompson in Cross Examination)

OA/161 Works to lower carriageway below Cumberland Road Bridge
OA/162 Consultation with Harbour Master
OA/163 Summary of Appraisal of the Lower Cost Alternative
OA/164 Passenger Demand for Temple Meads
OA/165 Introduction to Proof of Evidence of Sarah O'Driscoll
OA/166 Response to questions asked by Dr Ben Lane to Dr Ben Marner
OA/167 Open Space Land and Town or Village Green
OA/168 Draft TWA Filled Order – 11.06.12
OA/169 Response to Questions for Chris Hanmer from Rob Thompson, Ben Marner and Sam Williams

OA/170 Response to A Spearman questions to Sarah O'Driscoll
OA/171 Predicted Noise Levels at Cumberland Road
OA/172 Additions to Errata Sheet for Sam Williams, Simon Mole and Sarah O'Driscoll

OA/173 West of England Transport Programme – Overview – May 2012
OA/174 Draft Code of Construction Practice Draft 3a
OA/174A Draft Code of Construction Practice Draft 3b
OA/175A Wapping Wharf 2016DS Noise Level
OA/175Aa Wapping Wharf 2016DS Noise Level Change Based on Measured L10,18hr dB(A)
OA/175B Wapping Wharf 2016DS Noise Level Change Based on Measured L10, 18hr
OA/175Bb Wapping Wharf 2016DS Noise Level LEQ,16hr dB(A)
OA/176 Bristol City Council's Response to BRB re: Section 19 objection

OA/177 Bristol City Council's Response to LAPC re: Section 19 objection
OA/178 Bristol City Council's Response to Hogan Lovells International re:
Section 19 objection
OA/179 Bristol City Council's Response to S Wickham re: Section 19 objection
OA/180 Response to questions asked by T Miller to Mr Simon Mole
OA/181 Letter from Agent for the Crown Estate
OA/182 Response to Inspector on "measures to protect Butterfly Junction
during operation of scheme"
OA/183 City Centre Works and Traffic Regulation Orders
OA/184 Response to Inspector's Question – Mr Peter Robinson
OA/185 Width available for peds/cyclists on Prince Street Bridge
OA/186 Harbourside Area
OA/187 Response to Questions of Clarification from Derek Hughes for Bruce
Slattery
OA/188 Responses to Maggie Shapland from Simon Griffin and Andrew Linfoot
OA/189 Response to Margaret Fay (Heneghan)
OA/190 Response to Inspector on request for an "Update note on Environment
Agency position on scheme with respect to flooding"
OA/191 Response to Point 41 of Inspector's outstanding matters on alternative
routes
OA/192 Public Realm and Movement Framework
OA/193 Disaggregation of Present Value of Costs
OA/194 City Docks Mooring Policy 2008
OA/195 Response to Inspectors Outstanding Matter 39
OA/196 Response to questions from Brian Lomas for Mr Bruce Slattery and Mr
Bob Fowler
OA/197 Response to Inspectors Outstanding Matter 40
OA/198 Response to Inspectors Outstanding Matter 43
OA/199 Response to Inspectors Outstanding Matter 51
OA/200 Response to Inspectors Outstanding Matter 55
OA/201 Plan showing green metal bridge retained
OA/202 Clarification of response from Samuel Williams made during
questioning about tranquillity
OA/202a Clarification of response from Samuel Williams made during
questioning about tranquillity (Response to Inspector's Outstanding
Matter 49)
OA/203 Corrections to Proof of Evidence OA/6/2
OA/204 Response to Inspector's Outstanding Matter 30
OA/205 Noise levels to both facades of Number 70 and Number 77
Cumberland Road
OA/206 Summary of references to BAFFB CD/B2b
OA/207 Minutes of Meeting with Network Rail
OA/208 Wapping Wharf development and relationship with future public
transport through the site
OA/209 Planning approvals for Stadium related footpath
OA/209a Response to Inspector's Request for a Plan of the Portbury Freight Line
Bridge by the BCFC Stadium Developers (From BCFC Planning
Application)
OA/210 Response by Mr Mole and Mr Slattery regarding footpath connections
OA/211 Response to written cross examination questions from D Martin
OA/212 AVTM BRT Response to query regarding Land at Bower Ashton
OA/213 Draft Land Management Plan
OA/213A Draft Land Management Plan Update

- OA/214 Response to outstanding matter 23 – assumptions made on number of buses on scheme to noise and ecology assessment
- OA/215 Update on consultation with Sustrans
- OA/215a Minutes of Sustrans meeting 18 June
- OA/216 Alternative Cumberland Road/Wapping Road Scheme
- OA/217 Response to points made by Mr Buchan
- OA/218 Rebuttal to TfGBA Supplementary Proof
- OA/219 AVTM Bus Service Review
- OA/220 903 Interview Survey
- OA/221 Summary of TUBA Benefits at the Sector Level
- OA/222 Cross Party Working Group – Transport: 8 June 2011
- OA/223 Sustraco ULR Proposal Letter dates 7th June 2011 from Colin Medus to Bob Fowler
- OA/224 Response to Questions Raised by Cycling Groups Regarding Location of Create Stop
- OA/225 Response provided by Bob Fowler to D Redgewell’s request for information on Parking Policy in North Somerset
- OA/226 Note on Shared Space
- OA/227 Response to Outstanding Matter 60 - physical or regulatory restriction on the use of the east side of PSB
- OA/228 Response to Ms Susan Flint from Mr Bruce Slattery
- OA/229 Response to Inspector Brendan Lyon on finishes to the new wall retaining the Cumberland Road ramp
- OA/230 Landmark Court Notices and Consultation
- OA/231 Response to Andrew Spearman by James Willcock
- OA/232 Increase in P&R usage at other sites
- OA/233 AVTM – Simulation of Single Track Section
- OA/234 Extracts from The Post Weekend – 22.06.12 to 24.06.12
- OA/235 Note in relation to Sustraco’s statements on technology selection May-June 2011
- OA/236 Response to Outstanding Matter 66
- OA/237 Commentary on Filled Order
- OA/237A Commentary on Filled Up Order (Final) and on substituted plans
- OA/238 Filled Order
- OA/238A Filled Up Order (Final)
- OA/239 Amended Works and Land Plans and Sections and Rights of Way Plans
- OA/239A Works and Land Plans and Sections and Rights of Way Plans – Amended Sheet 12
- OA/239B Substituted amended Works and Land Plans and Sections
- OA/239C Substituted amended Rights of Way Plans
- OA/240 Draft Conditions to Listed Building Consents
- OA/241 Response to Outstanding Matter 57 – Museum Street Dimensions
- OA/242 Average Generalised Cost Components (in response to Sustraco)
- OA/243 Movements through the Central Area
- OA/244 NSC On-street parking consultation in Weston-super-Mare – requested by D Redgewell
- OA/244A NSC Executive Committee Report for Parking
- OA/245 Consultation on the proposed abolition of BRB (Residuary) Ltd (Company No: 04146505) and the transfer of its functions, properties, rights and liabilities (Requested by D Redgewell)
- OA/246 South East Hampshire Bus Rapid Transit Slides
- OA/247 Model Output Summaries for Additional Sensitivity Tests (in response to K Buchan)

- OA/248 Response to Inspectors Outstanding Matter 35: changes to detailed works which form part of LBC applications
- OA/249 Evolution of Rapid Transit Schemes in Transport Policy - Clarification
- OA/250 The Transport and Works (Model Clauses for Railways and Tramways) Order 2006
- OA/251 Draft Planning Conditions to be attached to deemed planning permission
- OA/252 DfT shared space – LTN 1/11 October 2011
- OA/253 Stage 1 Road Safety Audit – Designer’s Exception Report
- OA/254 Local Transport Note 1/98 – The Installation of Traffic Signals and Associated Equipment
- OA/255 Noise Emission Standards – responding to questions raised by the Inspector regarding vehicle noise emission standards
- OA/256 Promoters’ Response to Written Representations
- OA/257 Response to TfGBA time and distance graphs shown in OA143 by Bruce Slattery on behalf of the promoters on 25 June 2012
- OA/258 Sweet Group Capital Cost Audit
- OA/260 Update note on OA/167 (Open space and Town and Village Green)
- OA/261 Filled Up Order Update and Errata
- OA/262 Response to Questions from Ms C Hanmer (OBJ-54)
- OA/263 LBC/CAC Objector Update
- OA/264 Response to TfGBA Second Supplementary Proof
- OA/264A Replacement to p16 of document OA/264
- OA/265 Plan and Photographs of Area E
- OA/266 OA/266 - Response to Outstanding Matter 58 Coal Authority - Clarification in Relation to Location of Works and Zone Notifications
- OA/267 Temple Meads Trips – Boarding Passengers
- OA/268 AVTM – Further response to OA/113
- OA/269 OA/269 - Response to additional questions asked by Dr Ben Lane to Dr Ben Marner
- OA/270 Confirmation of Compliance with Statutory Procedures (response to Inspectors Outstanding Matter 1)
- OA/271 Objector statistics and withdrawal letters
- OA/272 Closing on behalf of the Promoters

PROOFS OF EVIDENCE AND ADDITIONAL DOCUMENTS SUBMITTED BY OBJECTORS

- JM/1 Written Submission by Mrs Miller (OBJ/3)
- JM/2 Closing Submission Mrs Miller
- HP/1 Letter of Objection (Mr Pratt)(OBJ/4)
- HP/2 Three extracts from Know your Place
- HP/3 Email of 26 June plus attachments
- FrANC/1 Proof of Evidence of John Purkiss on behalf of The Friends of Avon New Cut (FrANC) (OBJ/10)

FrANC/1/1	Appendix to Proof of Evidence – Extract of Bristol City Council’s Character Appraisal & Management Proposals for the City Docks Conservation Area
FrANC/2	Article ‘The Wildlife of the New Cut’ by Richard Bland
FrANC/3	Note; Supplementary Proof and Booklet
MH/1	Proof of Evidence – Margaret Heneghan (OBJ/18)
MH/2	Summary Proof - Margaret Heneghan
MH/3	Closing Submission Margaret Heneghan
SF/1	Evidence of Susan Flint (OBJ/ 21)
SF/2	Supplementary and Summary Evidence Susan Flint
SF/3	Closing Submission Susan Flint
STC/0	Opening Statement by Mr Chard on behalf of Sustraco (OBJ/33)
STC/1	Proof of Evidence Mr Robert Chard
STC/1/1	CV – Robert Chard
STC/1/2	Statement of Experience
STC/1/3	Comments on the BCC Report
STC/1/4	Proposed Evaluation
STC/1/5	A Short Guide to ULR
STC/1/6	Draft PPS
STC/1/7	Addendum to Statement of Case
STC/1/8	Necessary Interchange to Temple Meads Doc
STC/1/9	Clarification offered as additional info from Sustraco
STC/1/10	Table of User attraction advantages of trams
STC/1/11	Consideration of Technology & Route Options
STC/1/12	Clarifications and Additional Info from Sustraco
STC/1/13	Equitable Estimates of Costs
STC/1/14	Seeking Improvements to Air Quality
STC/1/15	Technical Paper – Toxic Emissions
STC/1/16	Professor Lewis Lesley Proof (see also LL/1)
STC/1/17	Response by Sustraco to BRT2 promoters’ rebuttals, REB/4
STC/1/18	Closing Submission
STC/1/19	Additional Material (<i>Bundle 1</i>)
STC/1/20	Additional Material (<i>Bundle 2</i>)
STC/1/21	Additional Material (<i>Bundle 3</i>)
STC/1/22	Additional Material (<i>Bundle 4</i>)
STC/1/23	Additional Material (<i>Bundle 5</i>)
STC/1/24	Additional Material (<i>Bundle 6</i>)
STC/1/25	Additional Material (<i>Bundle 7</i>)
LL/1	Professor Lewis Lesley Proof (see also STC/1/16)
LL/2	Summary Proof - Lewis Lesley
LL/3	Powerpoint Presentation
LL/4	Newspaper Article
JS/1	Note and two letters presented by James Skinner
JS/2	Closing Submission
MG/1	Proof of Evidence – Mr Mike Ginger (OBJ/39)
MG/1/1	Summary Proof – Mr Mike Ginger
MG/1/2	Figure 1 – Cycle Flows
MG/1/3	Figure 2 – Cycle/Walking Routes
MG/2	Copy of Press Cutting – Cycling
MG/3	Copy of photo showing Redcliffe Bridge section of BRT2 route
MG/4	Supplementary Proof of Evidence – Mr Mike Ginger
MG/5	A Map for Cyclists
MG/6	Cross examination Statement

MG/7	Joint Closing Submission Mike Ginger; John Grimshaw; Martin McDonnell and Terry Miller
CH/1	Proof of Evidence – Ms Chris Hanmer (OBJ/54)
CH/1/1	Appendices to Proof – Ms Chris Hanmer
CH/2	Cumberland Road Traffic Figures (taken from OA/169 and OA/11)
CH/3	Set of aerial photos
CH/4	Supplementary Proof of Evidence – Ms Chris Hanmer
CH/5	Closing Submission -Ms Chris Hanmer
MCC/1	Proof of Evidence – Mr & Mrs Chamberlain (OBJ/65 & OBJ/66)
MCC/2	Appendix to Proof
AS/1	Proof of Evidence – Mr Andrew Spearman (OBJ/71)
AS/2	Summary Proof
AS/3	Appendices to Proof
AS/4	Cross Examination Questions of Mr Chapman
AS/5	Cross Examination Questions of Mr Williams
AS/6	Note and Attachment – Technology Options Report
AS/7	Cross Examination Questions of Mr Willcock
AS/8	Closing Submission -Mr Andrew Spearman
DM/1	Proof of Evidence – David Martin (OBJ /78)
DM/2	Order Applicants response to additional points made by Mr Martin
DM/3	Written Cross Examination Questions
DM/4	Closing Submission David Martin
TY/1	Written Representation of Ms Trisha Young
TfGBA/1	Proof of Evidence – Transport for Greater Bristol Alliance (OBJ/90)
TfGBA/1/1	Evidence Reference 10 – Transit Bus Life Cycle Cost & 2007 Emissions Estimate
TfGBA/1/2	Evidence Reference 11 – Edinburgh Tram Network STAG 2 Appraisal
TfGBA/1/3	Evidence Reference 12 – Engineering Toolbox
TfGBA/1/4	Evidence Reference 13 & 14 – What Light Rail can do for Cities
TfGBA/1/5	Evidence Reference 24 – Transport Manifesto for Greater Bristol
TfGBA/1/6	Proof of Evidence – Mr Keith Buchan – on behalf of TfGBA
TfGBA/1/7	Appendix – Mr Keith Buchan – on behalf of TfGBA
TfGBA/1/8	Supplementary Proof of Evidence Mr Keith Buchan
TfGBA/1/9	Technical Annex to Supplementary Proof of Evidence Mr Buchan
TfGBA/1/10	Email dated 9 May
TfGBA/1/11	Extract of DfT publication dealing with ‘access - inclusive- mobility’
TfGBA/1/12	Photographs
TfGBA/1/13	Extract of DfT leaflet “Accessible Train Station Design for Disabled People: A Code of Practice Version 03 (Dated Nov 2011)
TfGBA/1/14	Extract of “Coach and Bus Week” dated 9 May 2012 re ‘Bristol CC Plan Quality Contracts’
TfGBA/1/15	Letter dated 13 May 2012 from Mr Pearson – plus set of plans
TfGBA/1/16	Bundle of emails about supply of information
TfGBA/1/17	Note on Changes to AVTM G-BATS 3 model
TfGBA/1/18	DfT Assessment of Scheme
TfGBA/1/19	TfGBA response to document OA-143, “Time distance graph”
TfGBA/1/20	Second Supplementary Proof
TfGBA/1/21	Technical Annex to Second Supplementary Proof
TfGBA/1/22	BRT2 Business Case -Submission by the TfGB A
TfGBA/1/23	Closing Submission TfGBA
LAPC/1	Proof of Evidence of Janet Turp Clerk to Long Ashton Parish Council (OBJ/104)
LAPC/1/1	Annex 1 – Objection from LAPC to Exchange Land

LAPC/1/1	Annex 2 – Status of Exchange Land
LAPC/1/1	Annex 3 – Calculations of the Journey Time for the BRT from Long Ashton Park and Ride to Temple Circus
LAPC/2	Summary of Proof of Evidence
LAPC/3	Supplementary Proof of Evidence presented by Rod Sterland
BCS/1	Proof of Evidence – Mr James Smith - Bristol Civic Society (OBJ/106)
BCS/1/1	Appendix 1- Photograph
BCS/1/2	Appendix 2 – Extracts from Planning Policy
BCS/2	Supplementary Proof of Evidence – Mr James Smith
BCS/3	Closing Submission- Bristol Civic Society
BCC/1	Proof of Evidence – Mr Martin McDonnell – on behalf of Bristol Cycling Campaign (OBJ/123)
BCC/2	Presentation of Case on behalf of Bristol Cycling Campaign
TF/1	Proof of Evidence of TramForward (Brian Lomas) (OBJ/131)
TF/2	Cross Examination Questions of Messrs Fowler and Slattery
TF/3	Supplementary Proof of Evidence of TramForward (Brian Lomas)
TF/4	Closing Submission TramForward (Brian Lomas)
BL/1	Dr Ben Lane’s Cross Examination Questions for Dr Marner (OBJ/134)
BL/2	Dr Ben Lane’s further questions follow receipt of Dr Marners response to his cross examination questions for Dr Marner
DR/1	Dean Robinson - Additional Written Representation (Email dated 13 June) (OBJ /145)
RAM/1	Proof of Evidence – Ms Susan Carter – on behalf of The Ramblers Association (OBJ/146)
RAM/2	Supplementary Proof of Evidence –Ms Susan Carter
RAM/3	Closing Submission on behalf of Ramblers Association
BRB/1	Proof of Evidence – K Wallace – on behalf of BRB(Residuary) (OBJ/156)
BRB/2	Proof of Evidence – Andrew Cook & John Hill – on behalf of BRB (Residuary)
BRB/3	Supplementary Witness Statement of Keith Wallace
BRB/4	Witness Statement of John Clarke
AW/1	Proof of Evidence – Mrs Ann Wickham (OBJ/157)
SW/1	Proof of Evidence – Mr Stephen Wickham (OBJ/158)
SW/3	Extract of Council Meeting Minutes 29 June 2010
SW/4	Extract of Council Meeting Minutes 21 July 2011
SW/5	Consultation Brochure: Zone 5: North Fringe to Hengrove Package
SW/6	Consultation Brochure: Zone 6: North Fringe to Hengrove Package
SW/7	Bristol Civic Society Newsletter Spring/Summer 2012
SW/8	Photograph – taken at Chainage 3750
SW/9	Photograph – taken at Chainage 3600
SW/10	Extract of Design Principles – Wapping Wharf
SW/11	Aerial photo from ‘Know Your Place’ website
SW/12	2nd Aerial photo from ‘Know Your Place’ website
SW/13	How the papers interpreted exchange land
SW/14	Closing Remarks (1)
SW/15	Statement regarding s19 Application
SW/16	Clarification and correlation note Festival of the Sea Train service 1996
SW/17	Note on Barons Close Footbridge
SW/18	Closing Submission Mr Stephen Wickham
SW/19	Photographs relating to s19 Application
TM/1	Proof of Evidence – Mr Terry Miller (OBJ/167)
TM/1/1	Appendices to Proof – Mr Terry Miller

TM/2	Supplementary Proof of Evidence – Mr Terry Miller
TM/3	Speaking Notes Mr Terry Miller
NB/1	Proof of Evidence – Mr Nigel Bray – Railfuture (OBJ/177)
SERA/1	Proof of Evidence – SERA (South West Transport Group) (OBJ/183)
SWTN/1	Proof of Evidence- SWTN (South West Transport Network)(OBJ/183)
SWTN/2	Note on Accessibility for Disabled
SWTN/3	Supplementary Evidence on behalf of SERA/SWTN
SWTN/4	Additional Questions for Mr Mann
SWTN/5	Supplementary Note
SWTN/6	Extract of Bus Magazine
SWTN/7	Note 'A Transport Company for the Greater Bristol Area
SWTN/8	Note from Cllr Kent
SWTN/9	Closing Submission SERA/SWTN
DH/1	Proof of Evidence – Derek Hughes and Sara Worth (OBJ/ 184)
DH/2	Supplementary Proof of Evidence – Derek Hughes and Sara Worth
DH/3	Closing Submission Derek Hughes and Sara Worth
JL/1	Proof of Evidence of John Latham (OBJ/ 187)
MR/1	Proof of Evidence of Mr Mark Robinson (OBJ/188)
MR/2	Supplementary and Oral Evidence
DG/1	Proof of Evidence – Mr David Gott (OBJ/191)
DG/2	Supplementary Proof of Evidence
DG/3	Additional Material
DG/4	Closing Submission Mr David Gott
GS/1	Proof of Evidence of Gavin Smith (OBJ/197)
GS/1/1	Appendix to Proof of Evidence – 'Map of Active and Mothballed Rail Infrastructure in Bristol'
GS/2	Additional Material – Mr Gavin Smith
GS/3	Closing Statement -Mr Gavin Smith
JG/1	Proof of Evidence of Mr John Grimshaw (OBJ/199)
JG/1/1	Plans
JG/2	Plan of Cycle Route – used in Cross Examination
BIAS/1	Proof of Evidence –Bristol Industrial Archaeological Society (OBJ/202)
MS/1	West of England Bus Patronage
MS/2	Additional Proof of Evidence
MS/3	Closing Remarks Maggie Shapland
PR/1	Letter dated 22 June from Point Residents (OBJ/205)
PR/2	Images to accompany letter dated 22 June from Point Residents
PR/3	Closing Submission Point Residents
SL/1	Statement of Stephen Layland
SL/2	Additional Evidence of Stephen Layland
MT/1	Statement of M R W Taylor
WM/1	Statement of Warren Marsh

OTHER DOCUMENTS

INQ/1	Letters of Objection (<i>inc. Statement of Cases</i>) Obj 1 – Obj 210
INQ/2	Letters of Objection to Listed Building and Conservation Area Consent
INQ/3	Letters of Objection to S19 Application
INQ/4	Statement of Matters
INQ/5	Representations (3) and letter of support (1)

APPENDIX C

ASHTON VALE TO TEMPLE MEADS AND BRISTOL CITY CENTRE RAPID TRANSIT ORDER 201[]

Deemed Planning Permission

Recommended conditions

Preamble

In these conditions:

"the busway" means the guided busway as defined in article 2(1) of the Order comprised in Work Nos. 1A, 1B, 2, 3, 5 and 7 and any adjoining emergency and maintenance track;

"compensatory flood storage works" means the flood mitigation works authorised by article 28 of, and Schedule 7 to, the Order on plots numbered 01A/10 and 02A/02 on the Order plans;

"the development" means the works authorised by the Order;

"the Environmental Statement" means the set of documents of that description submitted with the application for the Order on 10 June 2010;

"the Exchange Land" means the land in North Somerset described in article 34 of the Order

"the local planning authority" means Bristol City Council in relation to any part of the development within its administrative area and North Somerset Council in relation to any part of the development within its administrative area;

"the Order" means the Ashton Vale to Temple Meads Rapid Transit Order 201[];

"Order plans" means the plans referred in the Order and signed by the Secretary of State;

"the rapid transit system" has the same meaning given in the Order;

"Work No." means one of the different parcels of construction work described in Schedule 1 to the Order.

Time Limits

1 The development hereby permitted shall begin not later than five years from the date the Order comes into force.

Access, Layout, Scale and Appearance

2 The following items of development shall not be commenced until, in each case, details of their layout, scale and appearance and, where relevant, access to them, have been submitted to and approved in writing by the local planning authority:

(a) the busway;

(b) any rapid transit stop including associated street furniture and signage;

(c) any new or altered bridge or associated structure;

(d) the ramp to Cumberland Road and railings and boundary walls along Cumberland Road and the Chocolate Path, including the extent of re-use of existing railings;

(e) the formation, laying out or alteration of any means of access to or crossing of any highway used by vehicular traffic;

(f) the formation, laying out or alteration of any pedestrian or cycle route provided for by the development;

(g) permanent fencing or any acoustic fencing associated with the rapid transit system;

(h) culverts and drainage channels;

(i) any modification to Long Ashton Park & Ride site and its access;

(j) in Work Nos. 1A and 2 the busway, maintenance track and its supporting embankment and retaining structures adjacent to the site of the proposed Ashton Gate football stadium;

(k) in Work No. 6 any alterations to the carriageway and footways adjacent to the northern boundary of the Wapping Wharf development;

(l) any works that would materially affect the appearance of Ashton Avenue Bridge or Prince Street Bridge;

(m) any proposed restoration or reinstatement works following the demolition of any building within a Conservation Area; and

(n) any works that would materially affect the appearance of the Bristol Harbour Railway.

Such development shall be carried out in accordance with the approved details.

Landscaping Scheme and Protection of Trees and Hedges

3 No part of the development shall take place until there has been submitted to and approved in writing by the local planning authority for that part of the development a scheme of hard and soft landscaping, which shall include:

(a) indications of all existing trees and hedgerows, and details of any to be retained, together with measures for their protection, in the course of development;

(b) proposed works to trees and hedges to be retained;

(c) details of any ditches, drains and other water areas to be created or altered;

(d) proposals for the maintenance of landscaping; and

(e) details of pavings and street furniture.

The tree and hedge protection measures shall be implemented prior to the commencement of that part of the development and retained during the course of development. The approved hard landscaping shall be implemented in full prior to the opening of the rapid transit system for public use and the soft landscaping

scheme shall be implemented in full no later than the first available planting season following the opening of the rapid transit system for public use.

All planted materials shall be maintained for five years from planting and any trees or plants removed, dying, being damaged or becoming diseased within that period shall be replaced in the next planting season with others of similar size and species to those originally required to be planted unless the local planning authority gives written consent to any variation.

Drainage and Flood management

4 No part of Work No. 1A authorised by the Order shall be commenced until final details of the compensatory flood storage works have been submitted to and approved in writing by the local planning authority.

The compensatory flood storage works shall be implemented in the form that has been approved and completed prior to the opening of the rapid transit system for public use.

5 Upon completion of the compensatory flood storage works or before the opening of the rapid transit system for public use, whichever is earlier, the applicant shall submit to the local planning authority information of any alterations to ground levels within the limits of deviation for Work No. 1A shown on the Order plans and, if required following consultation with the Environment Agency, the applicant shall remap the flood plain in accordance with a methodology approved by the Environment Agency.

6 No part of the development other than the compensatory flood storage works shall be commenced until the implementation of arrangements for the drainage and disposal of foul and surface water and the management of flood risk during construction and operation (other than the compensatory flood storage works) has been secured in relation to that part in accordance with a scheme which has been submitted to and approved in writing by the local planning authority.

The development (other than the compensatory flood storage works) shall be carried out in accordance with the approved scheme and completed prior to the opening of the rapid transit system for public use and thereafter maintained in accordance with the approved scheme.

Ecology

7 The development shall not commence until an ecological management and monitoring scheme has been submitted to and approved in writing by the local planning authority. Such scheme shall accord with and give effect to the measures proposed in the Environmental Statement submitted with the application for the Order. The development shall be carried out in accordance with the approved ecological management and monitoring scheme.

8 The area known as Butterfly Junction and shown on plan Ref GAV TMR-0400-029 A shall not be used as a construction site during the construction of the development and shall be protected by hoarding or by other appropriate barrier in accordance with a scheme approved by the local planning authority prior to the commencement of Work No 3 authorised by Order.

Code of Construction Practice and Construction Environmental Management Plan

9 The development shall not commence until a Code of Construction Practice and a Construction Environmental Management Plan have been submitted to and approved in writing by the local planning authority, which documents shall include details of the following:

(a) How access for the Environment Agency Operations Delivery team can be provided to the watercourses on the route throughout the construction phases.

(b) How waste arisings will be minimised through the multiple construction phases through planning ahead and consideration of how the materials can be used efficiently.

(c) Site Security.

(d) Fuel oil storage, bunding, delivery and use. Any fuels being stored on site during construction must be bunded and kept at least 10 metres away from any watercourse.

(e) How spillages will be dealt with.

(f) Containment of silt/soil contaminated run off.

(g) Disposal of contaminated drainage, including water pumped from excavations.

(h) Site induction for workforce highlighting pollution prevention and awareness.

The Code of Construction Practice shall accord generally with and give effect to the revised draft Code (draft 3b) submitted to the Inquiry into the draft of the Order (Inquiry document OA/174A).

The development shall be carried out in accordance with the approved Code of Construction Practice and Construction Environmental Management Plan.

Archaeology

10 No part of the development shall be commenced until a written scheme of archaeological evaluation in relation to that part is approved by the local planning authority and, following a review of the results of the evaluation, a programme of archaeological work for that part of the development has been approved by the local planning authority. The development shall be carried out in accordance with that programme.

Lighting

11 The rapid transit system shall not be brought into public use until a scheme of lighting of all stops, off-highway sections of the rapid transit system route and new and replacement footpaths and cycleways has been implemented in accordance with details, including hours of operation, that have been submitted to and approved in writing by the local planning authority. The lighting shall thereafter be retained and operated in accordance with the approved details.

Contaminated Land

12 In relation to the remediation of contamination on the site:

(i) Development of any part of the site shall not begin until a detailed contamination remediation scheme, to bring that part of the site to a condition suitable for the intended use by removing unacceptable risks to human health, buildings and other property and the natural environment, including controlled waters, has been submitted to and approved in writing by the local planning authority unless otherwise agreed in writing by the local planning authority. The scheme must include a description of the contamination expected to be found on the site, all works to be undertaken, proposed remediation objectives and

remediation criteria, timetable of works, method statements relating to contamination and site management procedures; and in particular must include:

- a preliminary risk assessment which has identified all previous uses, potential contaminants associated with those uses, a conceptual model of the site indicating sources, pathways and receptors, potentially unacceptable risks arising from contamination at the site;
- a site investigation scheme, based on the risk assessment, to provide information for a detailed assessment of the risk to all receptors that may be affected, including those off site;
- an options appraisal and remediation strategy, based on the site investigation and risk assessment, giving full details of the remediation measures required and how they are to be undertaken;
- a verification plan providing details of the data that will be collected in order to demonstrate that the works set out in the remediation strategy are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action.

The scheme must ensure that the site will not qualify as contaminated land under Part IIA of the Environmental Protection Act 1990, in relation to the intended use of the land after remediation.

(ii) The local planning authority must be given 2 weeks written notification of commencement of the remediation scheme works and the remediation scheme approved under part (i) of this condition shall be carried out in accordance with its terms prior to the commencement of other development works on that part of the site, unless otherwise agreed in writing by the local planning authority.

(iii) Following completion of measures identified in the approved remediation scheme, that part of the development shall not be brought into public use until a verification report that demonstrates the effectiveness of the remediation undertaken has been submitted to and approved in writing by the local planning authority.

(iv) In the event that contamination is found at any time when carrying out the development that was not previously identified within the remediation scheme approved under part (i) of this condition, this must be reported in writing immediately to the local planning authority; remediation of the unexpected contamination shall only be carried out in accordance with a revised remediation scheme (supported by an investigation and risk assessment in accordance with Defra and the Environment Agency's *'Model Procedures for the Management of Land Contamination, CLR11'*) that has been submitted to and approved by the local planning authority; the revised remediation scheme shall then be implemented and verified respectively in accordance with parts (ii) and (iii) of this condition.

Diverted Public Footpaths

13 Prior to commencement of any part of the development details of the proposed diverted and retained public footpaths (including, where relevant, the width and materials for path surfacing, lighting, drainage, fencing, boundary details and associated works and including any works to connect these paths to the public highway) relating to that part of the development shall be submitted to and approved in writing by the local planning authority and the development shall be carried out in accordance with the approved details prior to the opening of the rapid transit scheme for public use.

Access to exchange land

14 The rapid transit system shall not be brought into public use until

(i) the provision of the Exchange Land as open space has been certified by North Somerset Council as implemented to its satisfaction in accordance with article 34 of the Order;

(ii) the land comprised in plot 01A/05 and 01B/05 on the Order plans has been made available for use by the public as permissive open space and thereby as a permissive access to that part of the Exchange Land comprising plots 01A/01, 01B/01, 02A/01 and 02B/01;

(iii) a scheme of management of the Exchange Land ("the Exchange Land Management Scheme"), has been submitted to and approved in writing by North Somerset Council.

The Exchange Land and the permissive access to it shall thereafter be retained as open space and managed in accordance with the approved Exchange Land Management Scheme.

Temporary structures

15. The temporary bridge to provide pedestrian and cycle access during the closure of the Prince Street bridge and any other temporary structures provided during the course of construction works shall be removed and their sites returned to their former condition not later than one year after the opening of the rapid transit system for public use.

APPENDIX D

ASHTON VALE TO TEMPLE MEADS AND BRISTOL CITY CENTRE RAPID TRANSIT ORDER 201[]

Listed Building Consent Ref 11/02491/LA: Prince Street Bridge

Recommended Conditions

Time Limit

1. The works hereby authorised shall begin not later than five years from the date of this consent.

Approved plans

2. The works hereby authorised shall be carried out in accordance with the following approved plans:

Location Plan ref CTRADU-0104-001

Bridge at Chainage 4960m ref GAV TMR-1700-4960-01

Approval of Details

3. The works hereby authorised shall not begin until detailed drawings at an appropriate scale accompanied by a detailed method statement of all works to Prince Street Bridge and details of all materials, including finishes, to be used in those works have been submitted to and approved in writing by the local planning authority.

The method statement shall include details to show that the existing bridge mechanism and its swing action will not be affected by the works.

The works shall be carried out in accordance with the approved details.

APPENDIX E

ASHTON VALE TO TEMPLE MEADS AND BRISTOL CITY CENTRE RAPID TRANSIT ORDER 201[]

Listed Building Consent Ref 11/02494/LA: Ashton Avenue Bridge

Recommended Conditions

Time Limit

1. The works hereby authorised shall begin not later than five years from the date of this consent.

Approved plans

2. The works hereby authorised shall be carried out in accordance with the following approved plans:

Location Plan ref CTRADU-0102-001

Detailed Plan for Information ref GAV TMR-0400-103

Approval of Details

3. The works hereby authorised shall not begin until detailed drawings accompanied by a detailed method statement of all works to the Ashton Avenue Bridge and details of all materials, including finishes, to be used in those works have been submitted to and approved in writing by the local planning authority. The works shall be carried out in accordance with the approved details.

APPENDIX F

ASHTON VALE TO TEMPLE MEADS AND BRISTOL CITY CENTRE RAPID TRANSIT ORDER 201[]

Conservation Area Consent Ref 11/02493/LC: Cumberland Road

Recommended Conditions

Time Limit

1 The demolition hereby authorised shall begin not later than five years from the date of this consent.

Approved plans

2. The demolition hereby authorised shall be carried out in accordance with the following approved plans:

Location Plans 1-4 ref CTR ADU-0106-001, -002, -003, -004

Existing Cross Sections ref CTR ADU-1700-4175-02

Existing & Proposed Cross Sections @ Ch.3550 ref CTR ADU-1700-4175-03

Approval of Details

3. No demolition shall take place until full details of the proposed replacement boundary wall and railings between Cumberland Road and the proposed busway and of the proposed ramp have been approved by the local planning authority following the grant of deemed planning permission and a contract has been let for the implementation of the approved details.

APPENDIX G

ASHTON VALE TO TEMPLE MEADS AND BRISTOL CITY CENTRE RAPID TRANSIT ORDER 201[]

Conservation Area Consent Ref 11/02496/LC: Jubilee House

Recommended Conditions

Time Limit

1 The demolition hereby authorised shall begin not later than five years from the date of this consent.

Approved plans

2. The demolition hereby authorised shall be carried out in accordance with the following approved plan:

Location Plan ref CTRADU-0107-001

Approval of Details

3. No demolition shall take place until full details of the proposed treatment of Museum Street between the Museum of Bristol and the approved development at Wapping Wharf, including the site of Jubilee House, have been approved by the local planning authority following the grant of deemed planning permission and a contract has been let for the implementation of the approved details.

Recording

4. No demolition shall take place until a scheme for the recording of the existing building to at least English Heritage Level 3 and the means for preserving the record have been submitted to and approved in writing by the local planning authority. Recording shall be carried out and the record preserved thereafter in accordance with the approved scheme.

APPENDIX H

MATTERS RECOMMENDED FOR CONSIDERATION BY BRISTOL CITY COUNCIL AND NORTH SOMERSET COUNCIL

References to the relevant section of the Conclusions are given in square brackets.

1. The Code of Construction Practice be updated to take into account the potential impact on navigable waterways and the procedures to be followed if temporary closures or restrictions are necessary [7.9.2].
2. The need for the proposed pedestrian/cycle link on the north side of the A Bond warehouse be reviewed as part of the assessment of the options for replacing the BHR terminus [7.11.32].
3. The proposed 1.8m width of the temporary Prince Street Bridge be reconsidered during the detailed design of the works with a view to providing more capacity [7.18.3].
4. The design of the scheme be reconsidered with a view to continuing the maintenance track to the west of the railway line to connect with the access to the Trading Estate at Ashton Vale Road. Alternatively, the design of the footbridge be reviewed with the stadium developers [7.18.10 – 7.18.11].
5. The proposed status of the maintenance track be reconsidered with a view to it being added to the statutory rights of way network [7.18.12].
6. The design of the pedestrian/cycle route between Prince Street Bridge and Museum Street be reviewed to utilise an area of Council owned car park adjacent to the M Shed [7.18.17].
7. The provision of a safe connecting link for cyclists between the CONNECT 2 cycleway and the proposed maintenance track at the western end of the scheme be considered [7.18.25].
8. The possibility of a more direct link for cyclists between the Chocolate Path near to Vauxhall Bridge and Spike Island be considered [7.18.26].
9. The detailed issues raised by Objectors at the Inquiry regarding the proposed City Centre loop and the effect on provision for pedestrians/cyclists be considered during development of the final design and that this be subject to further consultation [7.18.30].
10. A detailed assessment be undertaken of the parking needs of residents on Cumberland Road to include consideration of retaining an element of on-street parking in the vicinity of the affected properties as part of a more comprehensive residents' parking scheme. The work should be undertaken in consultation with local residents and businesses with the aim of implementing the scheme prior to commencement of construction of the proposed works on Cumberland Road [7.19.6].

11. In consultation with the Friends of the Avon New Cut, the design of the scheme at Butterfly Junction be reviewed to ensure, in addition to protection during construction, the permanent protection of this area during operation of the scheme [7.22.9].

12. The governance of the scheme including the procurement strategy be reviewed to ensure it is fit for purpose [7.30.6].