1. Introduction

This note sets out the results of the Access to the Transport System assessment as set in WebTAG guidance for the implementation of the Ashton Vale RT scheme.

The Ashton Vale RT scheme will provide a reduction in PT journey times for users of the scheme and for users of bus services along this route. Therefore, in order to show the impact of these journey time reductions on access to key destinations within the Greater Bristol area a further accessibility assessment has been undertaken to identify improvements to journey time catchment areas using PT.

The accessibility assessment has been carried out using the Accession software which calculates the journey time by public transport between pre-defined origins and destinations using actual timetable data.

2. Access to the Transport System

2.1 Introduction

An assessment has been undertaken in order to define the impacts of the proposed Ashton Vale RT on the access to the transport system index. The assessment considers the number of households with and without a car who have access to an hourly public transport service within a 250m walk. The assessment aims to demonstrate the change in access levels to the transport system as a result of the proposed Ashton Vale RT scheme.

For the purpose of this assessment, the proportion of households and non-car households (Census 2001) within 250m of a public transport stop has been calculated for 2006 (as a representation of current day service patterns) and for a future scenario based on the introduction of the Ashton Vale RT scheme.

2.2 Results

Within Bristol the majority of public transport services already operate at least an hourly frequency; therefore consideration has also been given to changes in the proportion of households with access to a 30 minute, 15 minute and 10 minute frequency service. The results are presented in Tables 2.1 and 2.2 below.

The lack of change in population with access to an hourly service reflects the strength of the existing public transport network across the sub-region and the limited area which the new service covers.

Table 2.1 Households within 250m of a public transport stop

Frequency of Service	Before (Baseline)	After
10 mins	12%	12%
15 mins	44%	44%
30 mins	74%	74%
Hourly	80%	80%

**Percentages are shown as a proportion of total households.*

Table 2.2 Non-car Households within 250m of a public transport stop

Frequency of Service	Before (Baseline)	After
10 min	14%	14%
15 min	46%	46%
30 min	76%	76%
Hourly	82%	82%

**Percentages are shown as a proportion of total households.*

Error! Reference source not found. and Table 2.2 illustrate that there is no change in access levels when assessing access to the public transport system in terms of the proportion of households within a 250m walk.

Households without a car already have slightly better access to public transport services than those with a car, and the implementation of the Ashton Vale RT scheme maintains this level.

Table 2.3 shows the proportionate changes in the access index in accordance with TAG guidance from the 2006 baseline to the scenario with the RT scheme. This is shown for access to the public transport system as well as access to the transport system (including car).

Table 2.3 Proportionate change in access index 2006 – 2011

Frequency	Public Transport System	Transport System
10mins	0%	0%
15 mins	0%	0%
30 mins	0%	0%
Hourly	0%	0%

2.2 Access to the Transport System Assessment

As a result of the Ashton Vale RT scheme there is a negligible improvement in the access index to the transport system for City of Bristol residents. 'Access to the Transport System' has therefore been assessed as neutral for the future scenario.

While the RT scheme offers a reduction in journey time between Long Ashton P&R and Bristol centre it does not offer additional bus routes or bus stops. As such, the number of households within 250m of an hourly bus service will remain unchanged following the introduction of the scheme.

It should be noted that the number of households has been based on 2001 Census data and does not allow for growth. Taking growth into account, there may be a greater proportion of the population benefiting from improved access to the transport system and those people living on new housing developments in the study area (i.e. Ashton Park) will have access to more frequent public transport services.

3. Assessing Accessibility to Key Destinations

3.1 Introduction

Accessibility to major employment areas has been assessed for the weekday morning peak period (0700-0900). The proposed RT scheme provides a reduction in journey times between Long Ashton P&R and Bristol City Centre. It also provides a 10 minute reduction in journey time for the bus services X1, X7 and 354 between Bristol centre and the towns/villages to the south-west by providing these services with a segregated route between Long Ashton P&R and the city centre.

Accession has been used to assess the accessibility by public transport to Bristol City Centre and to some of the major employment areas in the Greater Bristol area:

- Bath City Centre
- Almondsbury Business Park, Bradley Stoke
- Harry Stoke (UWE, Hewlett Packard, AXA etc.)
- Aztec West
- Filton (Airbus, Rolls Royce, MoD)

Assessments have been undertaken for the baseline 2006 scenario and for the proposed 2016 scenario (with the proposed RT scheme and with alterations to services X1, X7 and 354).

3.2 Results

Figure 3.1 and Figure 3.2 show the accessibility within the West of England Partnership area to Bristol City Centre in 2006 and 2016 respectively. The colours represent the journey time in minutes from that origin point to Bristol centre, using public transport. The lighter greens and yellows represent shorter journey times (up to 60 minutes), the darker reds and blues show longer journey times (60 to 120 minutes), while dark grey indicates areas that cannot access Bristol centre by public transport.

Figure 3.3 and Figure 3.4 show the accessibility within the West of England Partnership area to the major employment areas in 2006 and 2016 respectively. The colours represent the journey time in minutes from that origin point to the nearest of the employment areas, using public transport.

An improvement in accessibility would be indicated by a geographical area becoming lighter in colour in 2016 than it was in 2006. With the introduction of the RT scheme it is anticipated that the areas to the south-west of the Bristol urban area would have improved accessibility (decreased journey time to Bristol centre and the employment areas), and therefore become more yellow/light green on the 2016 map.

Figure 3.1 Journey time by public transport on weekdays between 0700 and 0900 to Bristol City Centre, with the proposed RT scheme in 2006

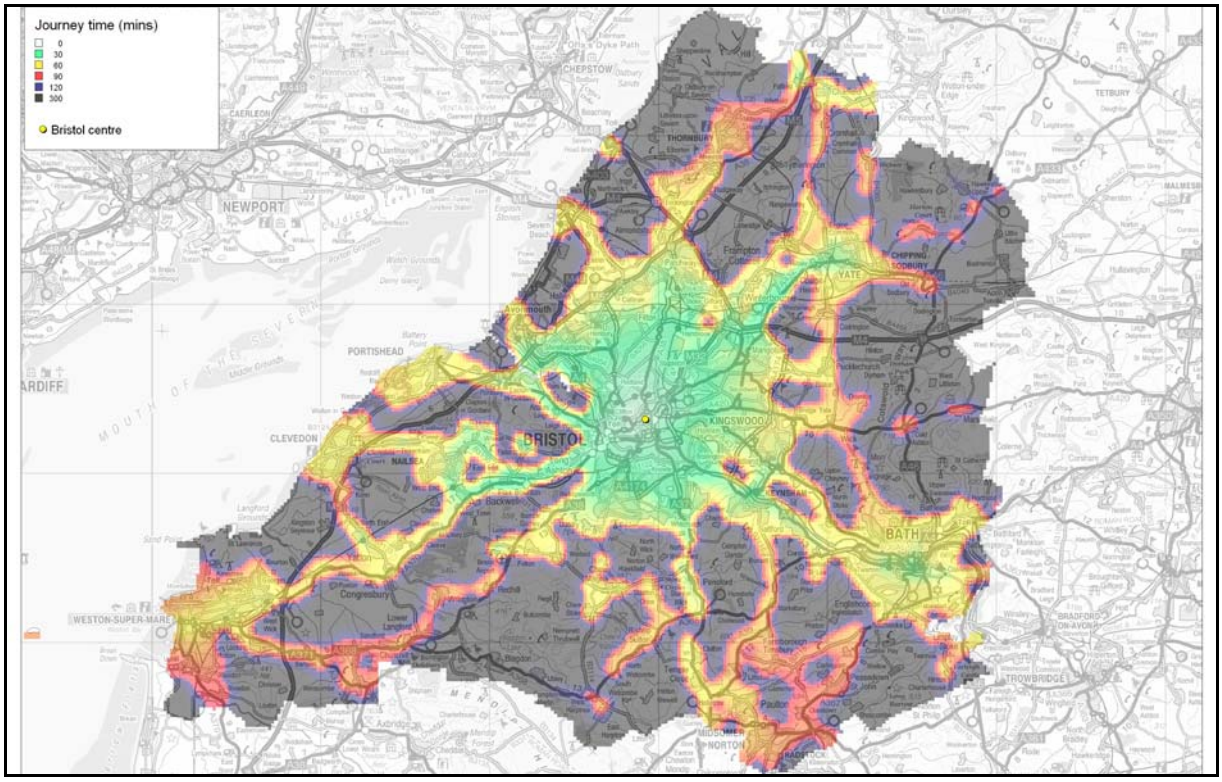


Figure 3.2 Journey time by public transport on weekdays between 0700 and 0900 to Bristol City Centre, with the proposed RT scheme in 2016.

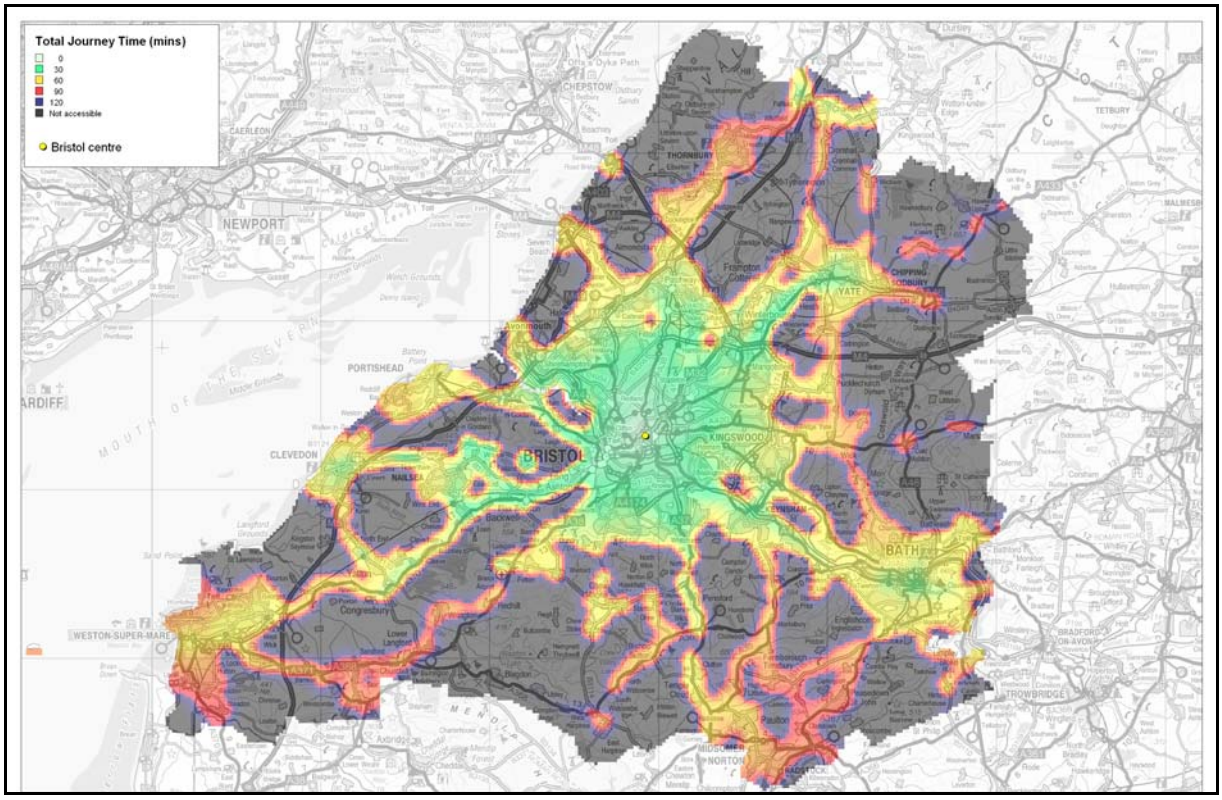


Figure 3.3 Journey time by public transport on weekdays between 0700 and 0900 to the nearest major employment area, with the proposed RT scheme in 2006

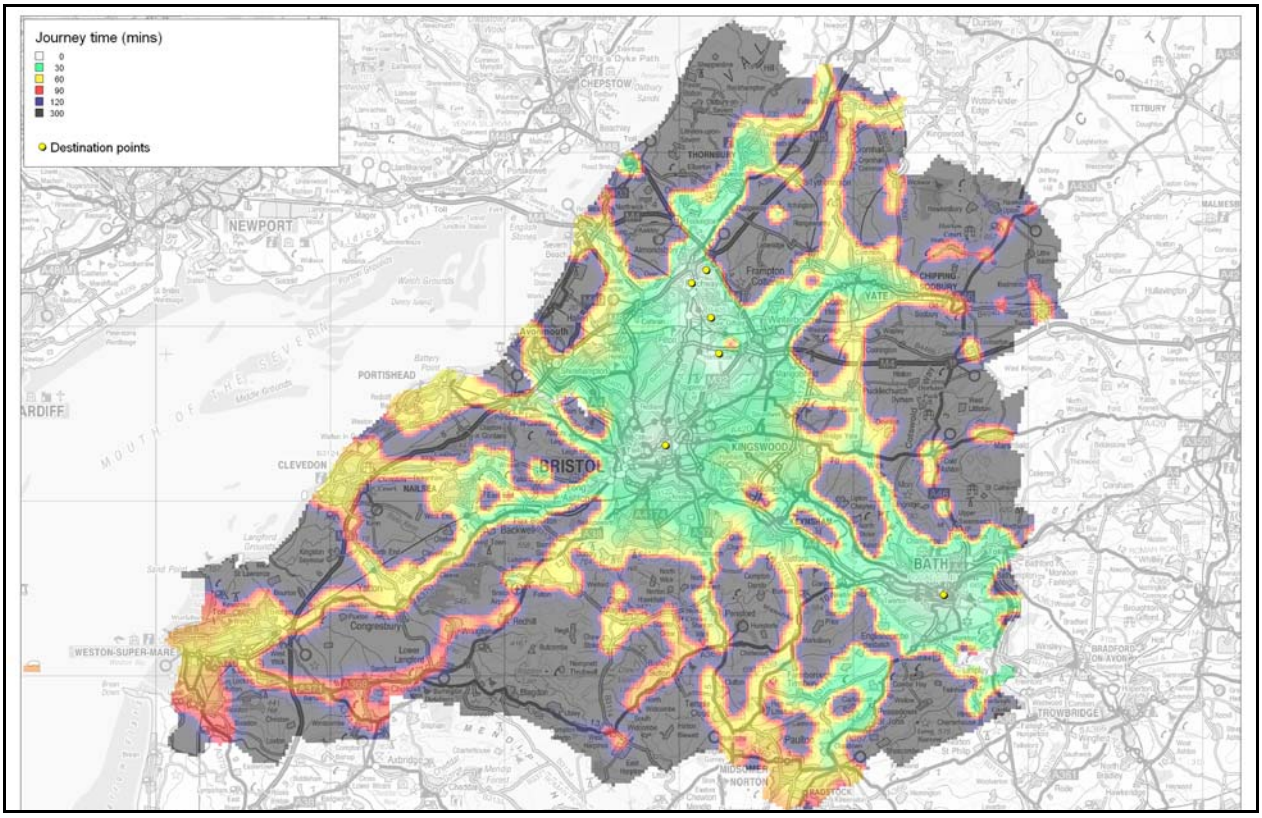
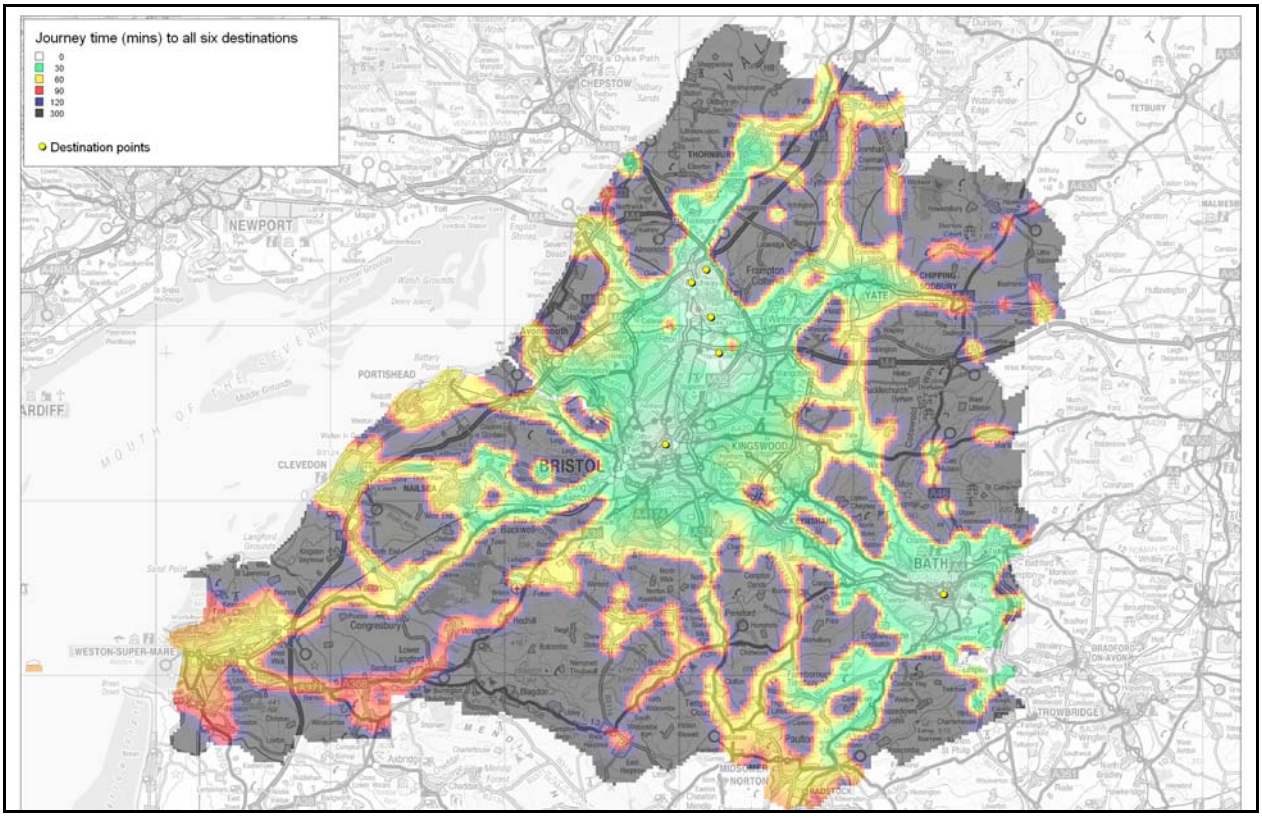


Figure 3.4 Journey time by public transport on weekdays between 0700 and 0900 to the nearest major employment area, with the proposed RT scheme in 2016



While the maps show clearly how accessibility varies over the study area, it is not clear to see exactly how much change there has been with the introduction of the RT scheme. There is evidently little change between the two scenarios, however close inspection of the maps does reveal that the areas of Nailsea, Yatton, Clevedon, and Weston-super-Mare receive a slight decrease in journey time to the Bristol urban area; at best a 10 minute reduction.

A better comparison between the two years can made by looking at the actual data behind the mapping.

Table 3.1 and Table 3.2 show the percentage of the West of England Partnership area that is within certain ranges of journey times from Bristol City Centre and the major employment areas respectively.

Table 3.1 – Percentage of the West of England Partnership area within various ranges of journey time from Bristol City Centre

Journey time to Bristol centre	2006	2016	Percentage change
0-15 mins	0.65%	0.65%	0%
15-30 mins	4.70%	4.98%	6%
30-60 mins	28.63%	28.76%	0%
60-90 mins	21.01%	20.85%	-1%
90-120 mins	1.12%	1.06%	-5%
120-180 mins	0.00%	0.00%	0%
Not accessible	43.90%	43.70%	0%

Table 3.2 – Percentage of the West of England Partnership area within various ranges of journey time from the major employment areas

Journey time to employment areas	2006	2016	Percentage change
0-15 mins	2.99%	3.03%	1%
15-30 mins	13.23%	13.45%	2%
30-60 mins	29.96%	30.19%	1%
60-90 mins	11.35%	11.06%	-2%
90-120 mins	0.90%	0.89%	-1%
120-180 mins	0.00%	0.00%	0%
Not accessible	41.58%	41.37%	0%

While the change in the percentage of the study area within each journey time range is small between the two years, for both destination sets, the significance lies in what has actually changed.

The percentage of the study area which in 2006 was 60-90 minutes away from Bristol City Centre has decreased in 2016 by 1%, while that between 90 and 120 minutes from Bristol centre has decreased by 5%. Notably there has been an increase by 6% in 2016 of the percentage of the study area which is 15-30 minutes from Bristol centre.

Similarly with journey times to the major employment sites, in 2016 there has been a decrease of 3% from the longer journey times (60-120 minutes) and an increase of 4% to the shorter journey times (0-60 minutes).

Given that the RT scheme serves the south west area of Bristol, this net reduction in journey times to Bristol centre and the major employment areas will only affect a small part of the overall study area. In other words, while only 6% of the whole sub-region sees a reduction of journey time to Bristol centre, this benefit is concentrated in the south-west area of the sub-region; the area directly served by the RT scheme and the associated bus services.

3.3 Accessibility to Key Destinations summary

The introduction of the Ashton Vale to City Centre RT scheme and the associated journey time reductions to the X1, X7 and 354 bus services has the effect of increasing the proportion of the West of England Partnership area that is within 60 minutes of Bristol centre and the major employment areas. As a consequence of this, the proportion of the study area that is further than 60 minutes away has been reduced.

The impact of the RT scheme is small when measured across the whole sub-region, but is more significant when viewed locally within the areas directly served by the scheme.