



Bristol City Council Clean Air Plan  
Outline Business Case  
Transport Modelling Methodology Report (T3)

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Bristol City Council



## Bristol Clean Air Plan

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## Contents

|           |   |           |
|-----------|---|-----------|
| <b>1.</b> | <b>Introduction</b> .....                                   | <b>1</b>  |
| 1.1       | Background .....  | 1         |
| 1.2       | Purpose of this report .....                                | 1         |
| <b>2.</b> | <b>Data Collection and Use</b> .....                        | <b>2</b>  |
| 2.1       | Automatic Number Plate Recognition .....                    | 2         |
| 2.2       | Bus Fleet .....   | 3         |
| 2.3       | Stated Preference Surveys .....                             | 3         |
| <b>3.</b> | <b>Base Year Model</b> .....                                | <b>5</b>  |
| 3.1       | 2013 Model.....   | 5         |
| 3.1.1     | Highway Model.....  | 5         |
| 3.1.2     | Public Transport Model .....                                | 5         |
| 3.1.3     | Variable Demand Model.....                                  | 6         |
| 3.2       | 2015 Model.....   | 6         |
| 3.2.1     | Matrix Compliance / Fuel Splits.....                        | 6         |
| <b>4.</b> | <b>Baseline Model</b> .....                                 | <b>7</b>  |
| 4.1       | Compliance Year .....                                       | 7         |
| 4.2       | Uncertainty Log .....                                       | 7         |
| 4.3       | Model Constraints.....                                      | 7         |
| 4.4       | Matrix Compliance / Fuel Type Splits.....                   | 7         |
| <b>5.</b> | <b>Option Modelling</b> .....                               | <b>9</b>  |
| 5.1       | Options .....   | 9         |
| 5.2       | Primary Behavioural Responses .....                         | 9         |
| 5.3       | Secondary Behavioural Responses .....                       | 10        |
| 5.3.1     | Charging CAZ.....   | 10        |
| 5.3.2     | Car Diesel Ban .....  | 10        |
| 5.4       | CAZ Response Rates.....                                     | 10        |
| 5.4.1     | Upgrade Costs.....  | 10        |
| 5.4.2     | Proposed charge rates .....                                 | 11        |
| 5.4.3     | Calculated Response Rates for Option 1 .....                | 11        |
| 5.4.4     | Calculated Response Rates for Medium CAZ D + Option 1 ..... | 12        |
| 5.4.5     | Calculated Response Rates for Option 2.....                 | 12        |
| 5.4.6     | Calculated Response Rates for Hybrid Option .....           | 14        |
| 5.5       | Traffic Management Measures.....                            | 14        |
| 5.5.1     | M32 Park and Ride.....                                      | 14        |
| 5.5.2     | Cumberland Road .....                                       | 14        |
| 5.5.3     | Holding Back Traffic from City Centre .....                 | 14        |
| 5.5.4     | Link Bans.....  | 15        |
| 5.6       | Scrappage Scheme.....                                       | 15        |
| <b>6.</b> | <b>Interim Years</b> .....                                  | <b>17</b> |
| <b>7.</b> | <b>Assessment Year Plus Ten</b> .....                       | <b>18</b> |

|           |   |           |
|-----------|---|-----------|
| <b>8.</b> | <b>Links to Air Quality Model .....</b> | <b>19</b> |
| 8.1       | Base/Baseline Data Use .....            | 19        |
| 8.2       | Option Data Use .....                   | 19        |

**Appendix A. Uncertainty Log**

DRAFT

## Acronyms and Abbreviations

|                 |  |
|-----------------|--|
| AADT            | Annual average daily traffic                     |
| ANPR            | Automatic Number Plate Recognition               |
| ATC             | Automatic traffic count                          |
| AQMA            | Air Quality Management Area                      |
| BCC             | Bristol City Council                             |
| CAP             | Clean Air Plan                                   |
| CAZ             | Clean Air Zone                                   |
| CO <sub>2</sub> | Carbon Dioxide                                   |
| Defra           | Department for Environment, Food & Rural Affairs |
| DfT             | Department for Transport                         |
| EFT             | Emission Factor Toolkit                          |
| GBATS           | Greater Bristol Area Transport Study             |
| HGV             | Heavy Goods Vehicle                              |
| IMD             | Indices of Multiple Deprivation                  |
| JAQU            | Joint Air Quality Unit                           |
| LGV             | Light Goods Vehicle                              |
| NO <sub>2</sub> | Nitrogen Dioxide                                 |
| NTM             | National Transport Model                         |
| NTEM            | National Trip End Model                          |
| OBC             | Outline Business Case                            |
| PT              | Public Transport                                 |
| (Web)TAG        | Transport Analysis Guidance                      |
| VDM             | Variable Demand Model                            |
| VRN             | Vehicle Registration Number                      |

# 1. Introduction

## 1.1 Background

Poor air quality is the largest known environmental risk to public health in the UK<sup>1</sup>. Investing in cleaner air and doing more to tackle air pollution are priorities for the EU and UK governments, as well as for Bristol City Council (BCC). BCC has monitored and endeavoured to address air quality in Bristol. Despite this, Bristol has ongoing exceedances of the legal limits for Nitrogen Dioxide (NO<sub>2</sub>) and these are predicted to continue until around 2029 without intervention.

In 2017 the government published a UK Air Quality Plan for Nitrogen Dioxide<sup>2</sup> setting out how compliance with the EU Limit Value for annual mean NO<sub>2</sub> will be reached across the UK in the shortest possible time. Due to forecast air quality exceedances, BCC, along with 27 other Local Authorities, was directed by Minister Therese Coffey (Defra) and Minister Jesse Norman (DfT) in 2017 to produce a Clean Air Plan (CAP). The Plan must set out how BCC will achieve sufficient air quality improvements in the shortest possible time. In line with Government guidance BCC is considering implementation of a Clean Air Zone (CAZ), including both charging and non-charging measures, in order to achieve sufficient improvement in air quality and public health.

Jacobs has been commissioned by BCC to produce an Outline Business Case (OBC) for the delivery of the CAP; a package of measures which will bring about compliance with the Limit Value for annual mean NO<sub>2</sub> in the shortest time possible in Bristol. The OBC assesses the shortlist of options set out in the Strategic Outline Case, and proposes a preferred option including details of delivery. The OBC forms a bid to central government for funding to implement the CAP.

## 1.2 Purpose of this report

This report sets out the transport modelling methodology which outlines the approach taken to model the transport impacts, including base and forecast years, baseline assumptions and scheme effects. It also sets out how the Euro standards have been calculated and forecast, together with how the traffic modelling outputs will feed into the air quality modelling.

A draft version of this report was published in January 2019, which supported the draft economic case that was also published at this time. Since this report, further work has been undertaken to develop the scheme options, and this work is reported in the Option Assessment Report, appended to the OBC.

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<sup>1</sup> Public Health England (2014) Estimating local mortality burdens associated with particular air pollution.  
<https://www.gov.uk/government/publications/estimating-local-mortality-burdens-associated-with-particulate-air-pollution>  
<sup>2</sup> <https://www.gov.uk/government/publications/air-quality-plan-for-nitrogen-dioxide-no2-in-uk-2017>

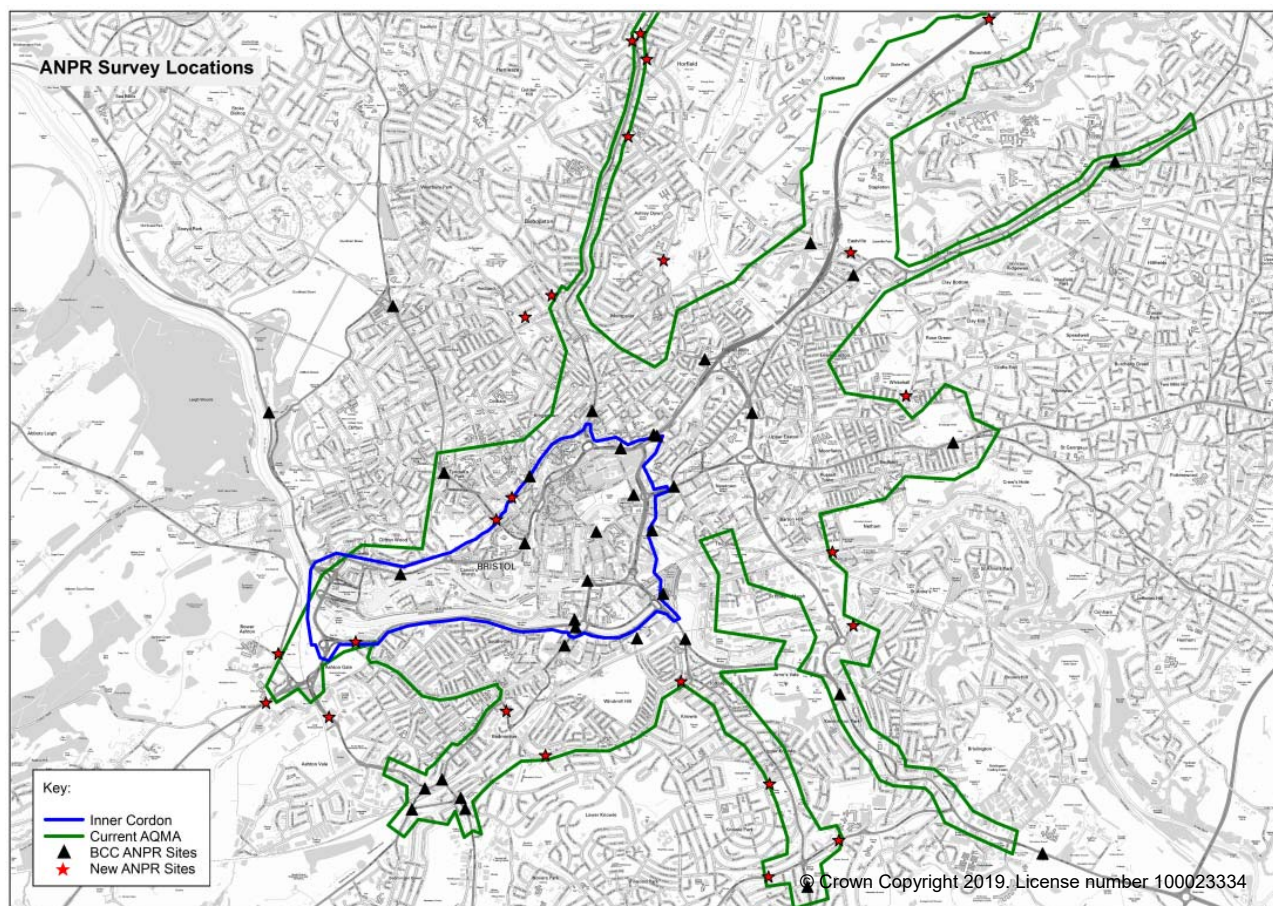
## 2. Data Collection and Use

### 2.1 Automatic Number Plate Recognition

Permanent Automatic Number Plate Recognition (ANPR) camera data is available in and around Bristol City Centre and has been obtained for 2015 and 2017. In addition to these sites, surveys of another 20 ANPR sites were commissioned in 2017 to enhance the data collected at the permanent sites. Figure 2-1 shows the location of both the permanent and commissioned ANPR sites.

The 2017 ANPR surveys were undertaken in July 2017 due to the programme timescales of the Feasibility Study at that time. Data from the permanent cameras has been obtained for June and July 2017 in order to assess whether there are any substantial differences in fleet composition between a neutral month (June) and a summer month (July). This comparison showed that there were no material differences in compliance rates by vehicle type between the June and July datasets at the BCC permanent camera locations. Hence the dataset subsequently used in the analysis was the full July 2017 data, including both the BCC permanent sites and the 20 additional ANPR locations since this gave the greatest geographical coverage.

Figure 2-1: ANPR Survey Locations



The data collected has been used to determine the compliance/non-compliance splits of the current fleet when compared to the CAZ framework criteria; namely that non-compliant vehicles are those that do not meet the required Euro standards for a CAZ (i.e. petrol must be at least Euro 4 and diesel must be at least Euro 6). The registration data from the ANPR surveys have been cross referenced with data purchased from Carweb to gain information on vehicle type, fuel type and Euro standard. Both the base year and baseline (future year) splits have been determined from the 2017 ANPR data, adjusted to the assessment year using the fleet projection tool in the Emission Factor Toolkit for compliance splits and WebTAG projections for changes in fuel type splits. Splits have been applied to the model matrices for each user class (Cars, Taxis, LGVs, Coaches and HGVs).

The GBATS transport model does not have a separate taxi or coach user classes. Therefore, the ANPR data has been used to split the taxi fleet from the car matrices and the coaches from the HGV matrices, by applying global factors for each time period.

The data collected has also been used to determine the fuel type splits and Euro standard fleet mix for the base year and assessment year models. Therefore, in addition to splitting each user class by compliance within the transport model, this data has been used to add more detail to the modelled outputs via post processing to yield emissions standards inputs into the Air Quality Model.

Compliance segmentation of highway model trip matrices has been considered on a geographical basis, based on a review of compliance by area and trip pattern e.g. trips through or to the city centre. Hence the combined 2017 ANPR data has also been used to identify the relationship between fleet composition and movements through the city, by matching registration number plates between cameras and identifying the vehicle details.

Further details are provided in OBC-24 ANPR Analysis and Application technical note in Appendix E of the OBC.

## **2.2 Bus Fleet**

Jacobs and BCC have held conversations with First bus, the main local operator, about the fleet composition by service for the base year, baseline and options to be assessed.

The bus fleet composition is handled outside the transport model via post processing of model outputs. This has enabled vehicle details for particular routes to be accounted for in both the current and future fleet.

## **2.3 Stated Preference Surveys**

Stated preference surveys have been undertaken to determine local behavioural responses to the implementation of a CAZ. This provides Bristol based proportions for the responses to a CAZ by petrol and diesel non-compliant cars.

The main part of the survey are two stated preference exercises, the first asks the respondent to consider their most recent trip through the zone and how they would have responded from the following choices:

- Paid the charge and travelled as before;
- Made the same journey but changed mode;
- Not have made the journey at all;
- Made the same journey purpose but changed the destination;
- Made the same journey but changed route to avoid the zone; or,
- Made the same journey but switched to another compliant vehicle in their household (this option will only be shown if the respondent has indicated in an earlier question that such a vehicle exists).

Each respondent was asked to make this choice for one of two subgroups of 4 different charge levels.

The second exercise asks respondents the longer-term choice of whether they would continue to pay the charge to travel in the zone or would pay upgrade the vehicle to a compliant one for a given hypothetical cost.

When completed, the survey data has undergone a cleaning process to identify and discard nonsensical questionnaires.

Statistical models have been fitted to the data and then combined in order to allow predictions to be made on behavioural changes to feed into the highway transport model. Specifically, of the non-compliant car user class that travels in the zone it has allowed the proportions to be established as follows:



- Travel as is (and pay the charge);
- Still travel as a non-compliant vehicle but reroute or change destination (to avoid the charge);
- Be moved to the compliant car user class (due to replacing their non-compliant vehicle with a compliant one); and,
- Be removed from the highway matrix entirely (due to no longer making the car journey).

The above responses have also been established for diesel cars in relation to a diesel car ban, with the exclusion of the first response of paying a charge which would not be an option under this scenario. Strictly speaking, Euro 6 diesels were not covered by the stated preference survey however analysis of the survey results suggested the response rates between diesel cars of different age were close enough to support using the data to cover all diesel cars. Table 2.1 summarises the analysis in terms of the response rates for three age categories. It should be noted that the response rates shown are in relation to an assumed charge and vehicle replacement cost, which was then adjusted further to represent a diesel car ban. Further, by the time a car diesel exclusion is implemented, Euro 6 diesel cars will be older than they were at the time of survey, in 2017, therefore lower in value. Hence the response rates are assumed to apply to Euro 6 as well for the purposes of the diesel ban test.

**Table 2-1: Diesel Car Responses by age band**

| Vehicle Age   | Replace vehicle | Pay charge | Cancel Trip / Change Mode | Avoid Zone |
|---------------|-----------------|------------|---------------------------|------------|
| up to 5 years | 58%             | 6%         | 18%                       | 19%        |
| 6-9 years     | 53%             | 4%         | 22%                       | 20%        |
| 10 or older   | 49%             | 3%         | 28%                       | 21%        |

The survey also asks questions about respondents' existing vehicle replacement plans to inform both the likely average upgrade cost and the base change in vehicle fleet compliance rate regardless of the introduction of a Charging Zone.

The structure, implementation and outcomes of the survey are provided fully in OBC-28 Stated Preference Survey Report, in Appendix F of the OBC.

### 3. Base Year Model

#### 3.1 2013 Model

In 2013, BCC commissioned CH2M (now Jacobs) to update the existing GBATS model, primarily to assess the MetroWest scheme. The updated model is called the GBATS4 Metro Model (GBATS4M). The GBATS4M model consists of:

- A Highway Assignment Model representing vehicle based movements across the Greater Bristol area for a 2013 autumn weekday morning peak hour (08:00-09:00), an average inter-peak hour (10:00-16:00) and an evening peak hour (17:00-18:00);
- A Public Transport (PT) Assignment Model representing bus and rail based movements across the same area and time periods; and
- A five-stage multi-modal incremental Variable Demand Model (VDM) that forecasts changes in trip frequency and choice of main mode, time period of travel, destination, and sub-mode choice, in response to changes in generalised costs across the 12-hour period (07:00 – 19:00).

##### 3.1.1 Highway Model

The GBATS4M highway model included an update of the trips to/from the city centre with roadside interview data. The model has been validated using the guidance, measures and criteria recommended in TAG M3.1. The following comparisons between modelled and observed data have been reported in the METROWEST Highway Model Local Model Validation Report:

- Total flows for cordons and screenlines, for light and all vehicles;
- Traffic Flows on individual links, for light and all vehicles; and
- Journey times (both cruise and net) for a range of key routes.

The analysis shows that the three models meet the acceptability guidelines:

- Regarding matrix estimation changes;
- For traffic flows on links across the total cordon and screenlines and at the individual calibration, and independent validation sites; and
- For journey times.

All three models (AM, inter-peak and PM) achieve acceptable levels of convergence and are stable based on delay/cost. Full details of the highway model update are detailed in the METROWEST Highway Model Local Model Validation Report.

The light and heavy goods vehicles had not previously been validated in short screenlines, using grouped counts. This has been checked as part of this study and reported in OBC-25 LGV and HGV Validation Technical Note in Appendix E of the OBC.

##### 3.1.2 Public Transport Model

The GBATS4M PT model is closely integrated with the GBATS4M Highway model. The two models use different software packages (EMME and SATURN, respectively) but are identical in terms of road network structure, and zone system. The bus routes and frequencies in the PT model are used in the Highway model. The validation process has been carried out in-line with current guidelines as set-out in the TAG M3.2. This states that validation should involve checks of:

- Validation of the trip matrix;
- Network and service validation; and
- Assignment validation.

Count data from a variety of sources has been compared to modelled flows in all represented time-periods. This has demonstrated that in the majority of cases the resulting validation has been good. Full details can be found in the METROWEST Public Transport Model Local Model Validation Report.

### 3.1.3 Variable Demand Model

The GBATS4M variable demand model is a five-stage multi-modal incremental model that calculates trip frequency, main mode choice, time period choice, destination choice and sub mode choice with regards to changes in generalised cost for both the highway and PT models. The variable demand model follows the current TAG guidance with respect to the structure of model, parameters used and realism tests, which demonstrate that it is fit for purpose to test the impact of proposed future year schemes. Full details of the demand model design methodology and calibration are outlined in the METROWEST Demand Model Report.

## 3.2 2015 Model

The air quality model base year is 2015 since the 2017 data was not available at the time the model was developed, and in 2016 there was a significant amount of disruption from roadworks in the city (related to the Metrobus scheme) which prevented some monitoring data from being collected and altered the typical travel patterns across the city.

As the transport model has a base year of 2013, a 2015 traffic model has been developed to support this by interpolating from the 2013 and 2021 models. It was therefore pragmatic to undertake disaggregation of the traffic model by vehicle compliance / fuel type in the 2015 model rather than 2013. The validation of the 2015 fleet composition will be reported within the T4 Transport Modelling Forecast Report appended to the OBC.

### 3.2.1 Matrix Compliance / Fuel Splits

The base year highway model has 6 user classes: Car Non-business (Low Income), Car Non-business (Medium Income), Car Non-business (High Income), Car Business, LGV and HGV. These have been split into 16 user classes using the following methodology:

- Split the Car user classes into Car and Taxi user classes;
- Split the HGV user class into HGV and Coach user classes;
- Split Taxi, LGV, HGV and Coach matrices into compliant and non-compliant using the time period splits; and
- Further split the car user classes in two different ways, to test a charging CAZ scheme and a diesel car ban scheme respectively, as follows:
  - split into compliant / non-compliant cars; and
  - split into non-diesel / diesel cars.

Before the compliance / fuel splits were applied to the matrices, the car and HGV user classes were split to produce Taxi and Coach user classes respectively. Compliance splits have been calculated from the 2017 ANPR data worked back to 2015 using the 2015 vs 2017 relative differences in the EFT national Euro standard splits and applied to the 2015 matrices for each time period. Car fuel splits have been calculated from ANPR data, adjusted by WebTAG changes between 2015 and 2017.

For further details and splits used please refer to OBC-24 ANPR Analysis and Application technical note in Appendix E of the OBC.

## 4. Baseline Model

### 4.1 Compliance Year

Technical work undertaken for the Strategic Outline Case<sup>3</sup> indicated compliance was likely to be achieved at most locations in the year of opening. This analysis was based on the response rates provided by Defra in Table 4.4 of the National Air Quality Plan Technical Report which forecast a large proportion of drivers will replace their vehicles. The analysis undertaken assumed this response would be achieved in the same year as implementation, but in reality, it is unlikely to be an immediate response. The long-term nature of this key response, and the assessment of the potential to achieve compliance in the opening year indicated the need to assess the impact of the CAZ in 2021 rather than 2020.

### 4.2 Uncertainty Log

Appendix A shows the uncertainty log for the 2021/2036 forecast traffic models currently held. The uncertainty log was developed in 2015 therefore details for an up-to-date uncertainty log have been collated. This will cover both development and scheme assumptions. The baseline model (2021) has the most recent scheme assumptions for the assessment year modelled within it based on the Near Certain and More than Likely entries in the Uncertainty Log.

### 4.3 Model Constraints

A growth model has been developed within the Demand Model which creates highway and public transport future year Reference demand matrices using the production and attraction trip end totals for the new development, a gravity model to distribute these new developments using base year travel costs and then converting to origin and destination format. These new trips are then added to the base year matrices. Three-dimensional matrix balancing to build full Reference case matrices is undertaken, retaining the base year trip length distribution and control to the National Trip End model (NTEM, Temprow 7.2) OD growth for West of England and external zones.

These Reference case matrices are then run through the variable demand model until convergence is achieved within the limits specified by the DfT. Demand responses considered in the model are:

- Trip frequency
- Main model choice (car vs PT)
- Time period choice
- Destination choice
- Sub-mode choice (bus vs rail and car vs P&R).

Hence there is no land use – transport interaction (LUTI) component of the model.

Light and heavy goods vehicle growth is based on forecasts produced by the National Transport Model (NTM) as advised by WebTAG. Goods vehicles are not subject to change via the demand model.

### 4.4 Matrix Compliance / Fuel Type Splits

The outturn baseline highway model from the variable demand model has 6 user classes: Car Non-business (Low Income), Car Non-business (Medium Income), Car Non-business (High Income), Car Business, LGV and HGV. These have been split into 16 user classes using the following methodology, as per the base year model:

<sup>3</sup> <https://www.cleanairforbristol.org/bristols-clean-air-plan/>

- Split the Car user classes into Car and Taxi user classes;
- Split the HGV user class into HGV and Coach user classes;
- Split Taxi, LGV, HGV and Coach matrices into compliant and non-compliant using the time period splits; and
- Further split the car user classes in two different ways, to test a charging CAZ scheme and a diesel car ban scheme respectively, as follows:
  - split into compliant / non-compliant
  - split into non-diesel / diesel cars.

The fleet projection tool within the EFT version 8 has been used to project the euro standard splits, and associated compliance splits, from the 2017 ANPR data to the Baseline year of 2021. WebTAG values have been used to adjust the 2017 fuel splits from the ANPR data to 2021 values.

After the work was commenced newer versions of the EFT have been released. The EFT v9.1 is a 'non-standard' EFT update which has been produced for local authorities (LAs) developing NO<sub>2</sub> plans only. This version of EFT contains fleet figures which have resulted from a recent Department for Transport (DfT) project to develop new passenger car fleet projections in light of emerging evidence regarding changes in consumer purchasing behaviour. JAQU's assessment is that the fleet projections in EFT v9.1 represent the best evidence currently available at a national level regarding the future of the fleet. For this reason JAQU recommends that, v9.1 is used by NO<sub>2</sub> plan LAs.

A sensitivity testing has been undertaken using the fuel splits directly from EFT 9.1 as advised by JAQU, which will be reported on in a sensitivity test report.

For further details and splits used please refer to OBC-24 ANPR Analysis and Application technical note in Appendix E of the OBC.

## 5. Option Modelling

### 5.1 Options

Four options are reported here as follows:

- **Option 1:**
  - Medium Area Class C (charging non-compliant buses, coaches, taxis, HGVs and LGVs);
  - Diesel car scrappage scheme;
  - HGV exclusion on links within the city centre with exceedances;
  - Closure of Cumberland Road inbound to general traffic;
  - M32 Park and Ride (P&R) with bus lane inbound;
  - Holding back traffic to the city centre through the use of existing signals; and
  - 8-hour car diesel exclusion on Park Row/Upper Maudlin Street and Marlborough Street.
- **Medium CAZ D + Option 1 components:** As Option 1 but includes charging non-compliant cars.
- **Option 2:** 8-hour Small Area diesel car exclusion (7am – 3pm).
- **Hybrid Option:** Option 1 + Option 2.

This section of the report outlines the methodology in determining the charge applied, the response rates calculations and the way in which the options have been modelled.

### 5.2 Primary Behavioural Responses

Figure 5-1 shows Behavioural responses to charging Clean Air Zones' from the JAQU Evidence Package. The results from the stated preference surveys will determine the local proportions for each of the four primary responses for non-compliant cars to the implementation of the CAZ, which will replace the percentages shown for cars in Figure 5-1. For non-compliant light goods vehicle, responses for 'vans' from the stated preference surveys were used. For coaches and HGVs, the proportions will be used from 'Table 2 – Behavioural responses to charging Clean Air Zones' within the JAQU Evidence package. Bus and Taxi responses will be based on talks with Bristol City Council and the service providers.

Figure 5-1: 'Table 2 – Behavioural responses to charging Clean Air Zones' from JAQU Evidence Package

| Proportions of non-compliant vehicle trips which react to the zone |             |             |             |             |       |       |       |         |
|--|-------------|-------------|-------------|-------------|-------|-------|-------|---------|
|  | Petrol Cars | Diesel Cars | Petrol LGVs | Diesel LGVs | RHGVs | AHGVs | Buses | Coaches |
| <b>Pay charge – Continue into zone</b>                             | 7.1%        | 7.1%        | 20.3%       | 20.3%       | 8.7%  | 8.7%  | 0.0%  | 15.6%   |
| <b>Avoid Zone – Trips removed, modelled elsewhere</b>              | 21.4%       | 21.4%       | 10.0%       | 10.0%       | 4.3%  | 4.3%  | 0.0%  | 0.0%    |
| <b>Cancel journey – trips removed completely</b>                   | 7.1%        | 7.1%        | 6.0%        | 6.0%        | 4.3%  | 4.3%  | 6.4%  | 12.5%   |
| <b>Upgrade Vehicle – trips replaced with compliant trips</b>       | 64.3%       | 64.3%       | 63.8%       | 63.8%       | 82.6% | 82.6% | 93.6% | 71.9%   |

Note: RHGVs = Rigid HGVs; and AHGVs = Articulated HGVs

For a charging CAZ and a diesel car ban CAZ the primary responses will be modelled using the GBATS4M SATURN highway model with the following methodology:

- Pay Charge – no change to the highway model;
- Avoid Zone – a charge is applied to each inbound link to replicate the percentage change of non-compliant cars, LGVs and HGV's within the CAZ;
- Cancel journey / change mode – modelled by reducing the number of trips made by non-compliant vehicles to/from and within the CAZ area, to replicate the required percentage change from the baseline case; and
- Replace Vehicle – an adjustment to the link flows by extracting select cordon link flows for the non-compliant trips and switching the required proportion of replace vehicles from the non-compliant matrices to the compliant link flows.

Further detail of the calculation of the behavioural responses is provided in OBC-26 Bristol Clean Air Plan: Primary Behavioural Response Calculation Methodology in Appendix E of the OBC.

## 5.3 Secondary Behavioural Responses

### 5.3.1 Charging CAZ

In addition to the primary behavioural responses, JAQU have made some further assumptions on secondary responses for a charging CAZ for cars which we will adopt in our analysis. JAQU's assumptions from paragraph 3.3 of the Evidence Package are as follows:

- The 'upgrade vehicle' response will result in 75% replacing their non-compliant vehicle to a second-hand compliant vehicle;
- 25% will scrap their vehicle and buy a new compliant one of the same fuel type; and
- For those replacing with a second-hand vehicle, 75% will switch from diesel and petrol while the remainder will keep the same fuel type.

### 5.3.2 Car Diesel Ban

For the diesel ban scenario, secondary responses are used as follows:

- 75% of the upgrade vehicle response will be replacing their diesel car with a second-hand petrol one; and
- 25% of the upgrade vehicle response will be replacing their diesel car with a new petrol one.

## 5.4 CAZ Response Rates

### 5.4.1 Upgrade Costs

In order to determine the primary response rates over a range of CAZ charges from the stated preference surveys, an upgrade cost is required for cars. The methodology for determining LGV response rates also requires an estimation of an upgrade cost. The upgrade costs of other vehicle types (HGVs, Taxi, Bus and Coaches) were not used to calculate the primary response rates; rather, the primary response rates for these vehicle types were determined by other information collated. The methodology for calculating the upgrade costs for all vehicle type is discussed fully in OBC-26 Bristol Clean Air Plan: Primary Behavioural Response Calculation Methodology in Appendix E of the OBC and is summarised as follows:

- Cars – The cost of a new car was calculated by determining the most popular car models. A national list was obtained from the SMMT website, which is comparable with the most popular car models identified from the ANPR data. New car prices for Petrol and Diesel models of the list of popular cars were extracted from the Parkers database;
- LGVs and HGVs – The cost of a new LGV, rigid HGV and artic HGV have been calculated from the Publication by Road Haulage Association on the LGV and HGV operating costs, 2018;

- Depreciation Rates – A non-compliant vehicle will not always be replaced with a new compliant vehicle; therefore, depreciation rates were used to calculate the value of vehicles by age. Depreciation rates from the National data inputs for Local Economic Models, provided by JAQU for this project have been used, since no locally derived depreciation values were available; and
- Average upgrade cost by vehicle type – Upgrade costs for each vehicle type and Euro Standard (and fuel type for cars) were calculated using the depreciated vehicle values. To derive an average upgrade cost by vehicle type, the upgrade costs by vehicle type and Euro Standard were weighted by trip frequency. The trip frequency of each vehicle type was calculated from the ANPR survey data for Bristol, split by Euro standard. It was necessary to also account for ‘secondary’ behavioural responses within these calculations, as discussed above.

#### 5.4.2 Proposed charge rates

The methodology for determining the proposed charge rates for all vehicle types is discussed fully in OBC-26 Bristol Clean Air Plan: Primary Behavioural Response Calculation Methodology in Appendix E of the OBC and Table 5-2 shows the final proposed charges. The charges were initially set for Cars, taxis and LGVs so that the responses of avoid zone, change mode / cancel journey and replace vehicle combined roughly equated to the combined JAQU CAZ responses. These charges were found to be insufficient to bring about compliance and so testing with higher charges was undertaken. Above a certain level there are diminishing returns to further increases and so the final proposed charges arrived at were at this point. These are shown in Table 5-2 for the Medium sized charging zone.

**Table 5-2: Bristol CAZ Proposed Charges**

| Charge Class | Daily Charge |
|--------------|--------------|
| Cars         | £9.00        |
| Taxis        | £9.00        |
| LGVs         | £9.00        |
| HGVs         | £100.00      |
| Buses        | £100.00      |
| Coaches      | £100.00      |

#### 5.4.3 Calculated Response Rates for Option 1

The methodology for calculating the primary response rates for Option 1 is discussed fully in OBC-26 Bristol Clean Air Plan: Primary Behavioural Response Calculation Methodology in Appendix E of the OBC and is summarised as follows (with cars not being charged in this option, there is no response required):

- LGVs – The primary response rates are calculated from the stated preference survey responses which were identified as a ‘van’. Again, the upgrade cost is used to determine a range of primary responses for different charge rates from the Medium zone area;
- HGVs – The primary behavioural responses rates for HGVs were taken from ‘Table 2 – Behavioural responses to charging Clean Air Zones’ in the Evidence Package, provided by JAQU.;
- Taxis – The taxi response rate is based on Bristol enforcing compliance for Taxis through their licensing agreements with taxi operators;
- Coaches – The initial response rates for coaches were taken from ‘Table 2 – Behavioural responses to charging Clean Air Zones’ in the Evidence Package, provided by JAQU; and
- Buses – The response rates for buses were determined through discussions between Bristol and bus operators.

Table 5-4 shows the final primary behavioural response rates by vehicle type produced using the methodology set out above and the charge rates in Table 5-2.



**Table 5-3: Calculated Response Rates for Option 1**

| Response                     | Cars Low Income | Cars Medium Income | Cars High Income | Cars Employers Business | Taxis | LGVs  | HGVs  | Buses | Coaches |
|------------------------------|-----------------|--------------------|------------------|-------------------------|-------|-------|-------|-------|---------|
| Pay Charge                   | 0.0%            | 0.0%               | 0.0%             | 0.0%                    | 4.1%  | 15.9% | 8.8%  | 0.0%  | 17.8%   |
| Avoid Zone                   | 0.0%            | 0.0%               | 0.0%             | 0.0%                    | 0.0%  | 19.2% | 4.3%  | 0.0%  | 0.0%    |
| Cancel Journey / Change Mode | 0.0%            | 0.0%               | 0.0%             | 0.0%                    | 0.0%  | 2.6%  | 4.3%  | 6.4%  | 11.4%   |
| Replace Vehicle              | 0.0%            | 0.0%               | 0.0%             | 0.0%                    | 95.9% | 62.2% | 82.6% | 93.6% | 70.8%   |

#### 5.4.4 Calculated Response Rates for Medium CAZ D + Option 1

The methodology for calculating the primary response rates for Medium CAZ D + Option 1 is discussed fully in OBC-26 Bristol Clean Air Plan: Primary Behavioural Response Calculation Methodology in Appendix E of the OBC and is summarised as follows:

- Cars – The upgrade cost has been used to determine a range of primary responses for different charge rates using the stated preference survey responses for diesel cars from the Medium zone area;
- Other vehicle types are as per Option 1.

An adjustment for foreign vehicles has been applied to the responses rates calculated from the methodology set out above, as foreign vehicles cannot be reliably charged (their details are not captured in the Driver and Vehicle Licensing Agency (DVLA) database in order to determine if the vehicle is compliant and so enforcement can only occur through a manual process with limited powers). The final response rates will assume a 'worst case', i.e. that these vehicles continue to drive within the zone but do not pay the charge. In reality it is unlikely that this will be the case for all foreign vehicles.

Table 5-4 shows the final primary behavioural response rates by vehicle type produced using the methodology set out above and the charge rates in Table 5-2.

**Table 5-4: Final Primary Behavioural Response Rates for Medium CAZ D + Option 1**

| Response                     | Cars Low Income | Cars Medium Income | Cars High Income | Cars Employers Business | Taxis | LGVs  | HGVs  | Buses | Coaches |
|------------------------------|-----------------|--------------------|------------------|-------------------------|-------|-------|-------|-------|---------|
| Pay Charge                   | 4.4%            | 7.3%               | 5.2%             | 9.4%                    | 4.1%  | 15.9% | 8.8%  | 0.0%  | 17.8%   |
| Avoid Zone                   | 10.8%           | 14.1%              | 16.1%            | 18.0%                   | 0.0%  | 19.2% | 4.3%  | 0.0%  | 0.0%    |
| Cancel Journey / Change Mode | 39.9%           | 22.1%              | 14.2%            | 14.5%                   | 0.0%  | 2.6%  | 4.3%  | 6.4%  | 11.4%   |
| Replace Vehicle              | 44.9%           | 56.5%              | 64.5%            | 58.1%                   | 95.9% | 62.2% | 82.6% | 93.6% | 70.8%   |

#### 5.4.5 Calculated Response Rates for Option 2

The methodology for calculating the primary response rates for Option 2 is discussed fully in OBC-26 Bristol Clean Air Plan: Primary Behavioural Response Calculation Methodology in Appendix E of the OBC and is summarised as follows:

- Calculate 24-hour car diesel exclusion response rates for the Small Area: the pay charge response rate was set to zero, the avoid zone, cancel trip/change mode and replace vehicle rates have been determined by the stated preference surveys which have been normalised so that the total response rate sum to 100 per cent, as shown in Table 5-5;
- Calculate 8-hour (7am-3pm) car diesel ban based on the assumptions outlined in Table 5-6 to yield final response rates shown in Table 5-7. This methodology takes into account the estimated proportions of

trips to change time of day (TOD response) to avoid the exclusion period and the estimated extent to which trips are linked between different time periods by trip purpose. The TOD response was based on a review of count data covered a similar cordon to the Small CAZ area and judgement regarding the extent to which trips would be likely to make a TOD choice change. Linked trips were calculated by applying Production and Attraction (PA) values used with the VDM to the 8-hour time period response rates.

Alternative assumptions to the ban hours are considered in OBC-31 Sensitivity Testing Report.

**Table 5-5: 24-hour Primary Behavioural Response Rates for Diesel Cars**

| Response                     | Cars Low Income | Cars Medium Income | Cars High Income | Cars Employers Business |
|------------------------------|-----------------|--------------------|------------------|-------------------------|
| Pay Charge                   | 0.0%            | 0.0%               | 0.0%             | 0.0%                    |
| Avoid Zone                   | 17.5%           | 17.5%              | 17.5%            | 17.5%                   |
| Cancel Journey / Change Mode | 23.8%           | 23.8%              | 23.8%            | 23.8%                   |
| Replace Vehicle              | 58.7%           | 58.7%              | 58.7%            | 58.7%                   |

It should be noted that the diesel car responses are the same for all income/purposes due to the reduced sample rate when disaggregating the diesel car responses by income/purpose from stated preference survey. Therefore all diesel cars were analysed together.

**Table 5-6: 8-hour (7am-3pm) Diesel Car Exclusion Methodology**

| Time Period      | Commute  | Education  | Other  | Business  |
|------------------|--|--|--|---|
| <b>AM (7-10)</b> | TOD - shift to pre 7am, based on calculated % that travel in 30 mins post 7am compared to 7am-10am<br>CTCM - from SP<br>AZ - from SP<br>RV - from SP<br>SV - from SP<br>Percentages above proportioned so total equal 100% | TOD - 0%<br>CTCM - from SP<br>AZ - from SP<br>RV - from SP<br>SV - from SP<br>Percentages above proportioned so total equal 100%   | TOD - shift to post 3pm (as per SP RV)<br>CTCM - from SP<br>AZ - from SP<br>RV - 0%<br>SV - from SP<br>Percentages above proportioned so total equal 100%  | TOD - 0%<br>CTCM - from SP<br>AZ - from SP<br>RV - from SP<br>SV - from SP<br>Percentages above proportioned so total equal 100%  |
| <b>IP (10-3)</b> | TOD - 0%<br>CTCM - from SP<br>AZ - from SP<br>RV - from SP<br>SV - from SP<br>Percentages above proportioned so total equal 100%   | TOD - 0%<br>CTCM - from SP<br>AZ - from SP<br>RV - from SP<br>SV - from SP<br>Percentages above proportioned so total equal 100%   | TOD - shift to post 3pm (as per SP RV)<br>CTCM - from SP<br>AZ - from SP<br>RV - 0%<br>SV - from SP<br>Percentages above proportioned so total equal 100%  | TOD - 0%<br>CTCM - from SP<br>AZ - from SP<br>RV - from SP<br>SV - from SP<br>Percentages above proportioned so total equal 100%  |
| <b>PM (3-7)</b>  | TOD - 0%<br>CTCM - some linked to earlier trips - PA/OD factors used from RSI surveys<br>AZ - 0%<br>RV/SV - some linked to earlier trips - PA/OD factors used from RSI surveys   | TOD - 0%<br>CTCM - some linked to earlier trips - PA/OD factors used from RSI surveys<br>AZ - 0%<br>RV/SV - some linked to earlier trips - PA/OD factors used from RSI surveys | TOD - shift from pre 3pm<br>CTCM - some linked to earlier trips - PA/OD factors used from RSI surveys<br>AZ - 0%<br>RV - 0%<br>SV - some linked to earlier trips - PA/OD factors used from RSI surveys | TOD - 0%<br>CTCM - some linked to earlier trips - PA/OD factors used from RSI surveys<br>AZ - 0%<br>RV - some linked to earlier trips - PA/OD factors used from RSI surveys |

**Key:**

- SP – Stated Preference Surveys
- TOD – Time of Day Choice
- CTCM – Cancel Trip / Change Mode
- AZ – Avoid Zone
- RV – Replace Vehicle
- SV – Switch Vehicle

**Table 5-7: Final 8-hour (7am-3pm) Diesel Car Exclusion Primary Response Rates**

| Response Rate                | Cars Low-High Inc |        |        | Cars Emp Bus |        |        |
|------------------------------|-------------------|--------|--------|--------------|--------|--------|
|                              | AM                | IP     | PM     | AM           | IP     | PM     |
| Pay Charge                   | NA                | NA     | NA     | NA           | NA     | NA     |
| Avoid Zone                   | 15.44%            | 14.56% | 0.00%  | 17.47%       | 14.56% | 0.00%  |
| Cancel Journey / Change Mode | 21.03%            | 21.85% | 15.74% | 23.79%       | 23.52% | 22.18% |
| Replace Vehicle              | 43.04%            | 19.45% | 31.54% | 58.74%       | 58.07% | 54.75% |
| Time of Day Choice           | 20.49%            | 31.94% | 0.00%  | 0.00%        | 0.00%  | 0.00%  |

#### 5.4.6 Calculated Response Rates for Hybrid Option

The primary response rates for the Hybrid Option are as follows:

- Cars – as per Option 2, as shown in Table 5-7; and
- All other vehicle types – as per Option 1, as shown in Table 5-3.

### 5.5 Traffic Management Measures

The identified traffic management measures to improve air quality have been modelled where included within Option 1, Medium CAZ D + Option 1 components and the Hybrid Option. This section discusses the methodology used to model these measures.

#### 5.5.1 M32 Park and Ride

Traffic changes due to the M32 P&R and inbound M32 bus lane have been represented through highway matrix adjustments. Estimated P&R trips have been cross-checked against an offline P&R spreadsheet model which has been calibrated and used for P&R projects in the region, reflecting the improved journey times of the P&R bus relative to general traffic with the bus lane in place. The trips removed from the highway matrices are shown in Table 5-8. The exact location of the Park and Ride site is to be agreed, and hence the Park and Ride location has been modelled as indicative at this stage. The M32 inbound bus lane was also coded directly into the highway model network

**Table 5-8: M32 Park and Ride/Bus Lane Trips Removed**

| Time Period | Inbound | Outbound |
|-------------|---------|----------|
| AM          | 700     | 0        |
| IP          | 25      | 25       |
| PM          | 350     | 588      |

#### 5.5.2 Cumberland Road

The closure of Cumberland Road inbound to general traffic was modelled within the SATURN highway model and run through the VDM to allow the demand model to determine the traffic response to this physical measure of removing highway capacity.

#### 5.5.3 Holding Back Traffic from City Centre

The modelling of holding back traffic to the city centre was achieved through the use of adjusting existing signal timings to reduce the capacity to that of the baseline flows at each entry point. This restricted the re-routing of trips from Cumberland Road and the M32, therefore ensuring overall trips into the city centre remain the at the reduced level.

#### 5.5.4 Link Bans

The 8-hour car diesel exclusion on Park Row/Upper Maudlin Street and Marlborough Street was modelled within the network files for all time periods and then omitted for all time periods. Link flows for the air quality calculations were then combined from the two models using factors derived from city centre count data for the proportion of trips seen between 7am – 3pm over a 24-hour time period that.

The HGV exclusion on links within the city centre with exceedances was modelled as a 24-hour ban covering the following links:

- Park Row/Upper Maudlin St/Marlborough St;
- Rupert Street;
- Lewins Mead; and
- Baldwin Street.

It is noted that this scheme component may need to be refined after the OBC, as the consenting requirements may mean the HGV bans are limited to 8 hours a day.

#### 5.6 Scrappage Scheme

The abatement effects of the scrappage scheme were only modelled in Option 1 as there are no other measures that influence car driver behaviour within that scheme option. For the Medium CAZ D + Option 1 and the Hybrid Option the scrappage scheme effects have not been modelled as it is assumed a scrappage scheme would not bring about any 'replace vehicle' response over and above the response made by car drivers with a CAZ D or car diesel ban and is thus considered a mitigation measure.

The car diesel scrappage scheme was applied to the model outputs using a similar approach to that used for the replace vehicle, where an adjustment to the link flows is made for the car diesel trips with vehicles with a value less than the scrappage amount and switching the required proportion of replace vehicles from the non-compliant diesel link flows to the compliant petrol link flows.

The following assumptions and methodology used for calculating the number of trips were:

- Eligible households: households that own a diesel car and either live in Medium CAZ area or live in rest of WoE (NSC/SGC/BCC/B&NES) and work in Medium CAZ area
- Grant: £2000 per eligible household
- Assumed funding allocation based on the Birmingham Scrappage Scheme: £10.84m. Hence required households =  $\text{£}10.84\text{m} / 2000 = 5420$
- In-scope households: either households located within the Medium CAZ area or, households in WoE that have someone who drives to a workplace in the Medium CAZ area (regardless of car type)
  - Used Journey to Work data to identify number of households in BCC / SGC / NSC / B&NES that use car to drive to work in Medium CAZ from outside of it and added to the number households in Medium CAZ area
- Prospective households: in-scope households that have a diesel car at least 10 years old
  - Identified the percentage of cars in central Bristol that are diesel and at least 10 years old (i.e. estimated at £2000 value or less) from ANPR data – this is based on % of unique VRNs (vehicle registration numbers) observed since relates to individual vehicles, i.e. proportion of fleet \* In-scope households
- Required households: number of households needed to participate to spend the assumed funding allocation. The scrappage budget needed to pay for all prospective households (£2k / house) was calculated and compared to the assumed funding allocation

- Take-up %: % of prospective households that need to use the scheme to spend the assumed funding allocation. This was calculated from required households / prospective households (i.e. 5420 / prospective households)
- Replace %: proportion of diesel car trips that will be replaced with petrol trips due to the scrappage scheme. For this, the ANPR was used to calculate the proportion of total non-compliant cars that were diesels over 10 years old. This was based on the number of sightings rather than VRNs as this is calculated on a per trip basis. The replace % is then this proportion of trips \* take-up %
- Commute % of commute and other user classes: These purposes are combined in the highway model, the proportion of them that are commuting trips for each time period were taken from survey data used to develop the GBATS model
- Relevant non-compliant trips within the model, were identified using a select cordon analysis to output link-based flows for trips crossing the cordon – inbound, outbound and 2-way for each time period to calculate trips (excluding through trips) as follows:
  - Through trips: Inbound flows + Outbound flows - 2-way cordon flows
  - Inbound = Inbound flows - Through trips
  - Outbound = Outbound flows - Through trips
  - 2-way = 2-way cordon flows - Through Trips
  - Internal to Internal = Total flow - 2-way cordon flows for just internal links (zone 1)
- Model flows equating to commute from outside CAZ are then assumed to be AM inbound, PM outbound and IP 2-way \* 0.5 with each time period factored by the appropriate commute proportion
- Model flows equating to those living in CAZ (Commute and Other) and who cross cordon are then assumed to be AM outbound, PM inbound and IP 2-way \* 0.5
- Modelled flows equating to those living in CAZ and who travel within it are trips that are internal to internal for links within CAZ only. It is assumed that these trips are made by residents
- The replace % is then applied to the relevant link flows calculated above to obtain the reduction in non-compliant diesel cars and the corresponding increase in compliant petrol cars.

## 6. Interim Years

The Evidence Package guidance states that projection for all years between the base year and the compliance year should be included, via interpolation methods. This is to show a clear pathway to compliance in the shortest time possible. However, where infrastructure changes are expected to have a significant impact on air quality there may be a need to model additional interim years. In the case of Bristol, the opening of the South Bristol Link road in 2017 is an infrastructure scheme that would fall into this category since it has altered the routing of vehicles in south Bristol.

We have focussed our analysis on the earliest year of expected compliance (2021) as initial modelling demonstrated that compliance was unlikely to be achieved prior to this. The 2021 model includes the South Bristol Link Road and hence will include the effects of this scheme on both the traffic and air quality results. Additional modelling of interim years would provide a more detailed understanding of the air quality projections over the next few years but will not assist in identifying the scheme most likely to achieve compliance in the shortest timescales possible. We therefore have not assessed interim years between 2015 and 2021.

## 7. Assessment Year Plus Ten

JAQU have advised emissions of the baseline and each options assessment (NO<sub>2</sub>, particulate matter and CO<sub>2</sub>) should also be calculated for 10 years after the compliance year. This is needed to compare the long-term costs and benefits of options that are equally effective in terms of achieving compliance in the shortest time possible.

To produce traffic flows for the assessment year+10 (2031), a new demand model forecast year of 2031 was used to create baseline 2031 matrices and link flows, which were re-assigned before extracting data for the Air Quality Model. For modelling the differing CAZ options the same methodology applies to 2031 as described above for 2021.

## 8. Links to Air Quality Model

### 8.1 Base/Baseline Data Use

Link based data from the base and baseline highway assignment model has been output for Cars, Taxis, LGVs, Coaches and HGVs split by Euro standards compliance and / or fuel type as required into a spreadsheet. The highway model outputs also include buses (not split by compliance) and net speeds by link. Buses are split into compliant / non-compliant during post processing of highway model outputs before being input to the EFT.

The peak hourly flows (AM, IP and PM) have been converted into AADT using global factors derived from local ATC data. Percentages of cars (by fuel type), taxis, LGVs, HGVs (rigid and artic) and buses and coaches have been calculated from the flow data for each link from the highway model.

The disaggregation of the link-based data has been undertaken via post processing before input into the Air Quality model. This has been achieved using the following methodology:

- Buses split using information provided by First Bus, using Euro Standard of vehicle by service, which can then be applied to links;
- Cars and LGVs split by fuel type derived from the ANPR data;
- HGVs split by rigid and artic from the ANPR data;
- Motor cycles excluded due to limited information;
- Two separate EFT's used, split by compliance populated from the transport model; and
- Within each EFT, Euro Standard splits for the assessment year are overwritten with values derived from ANPR data projected to the modelled year.

The base and baseline year splits have been derived from the 2017 ANPR data, adjusted to the assessment years. For full details please refer to OBC-24 ANPR Analysis and Application technical note in Appendix E of the OBC.

### 8.2 Option Data Use

After the primary behavioural responses were modelled for each option in accordance with the methodology outlined in section 5.2 and the secondary behavioural responses of what type of car the replacement will be option in accordance with the methodology outlined in section 5.3, a similar approach to above for processing the options transport model data was used. There are separate EFT input tables split by compliance and/or banned vehicles containing the required link-based data. Some slight changes to the outputs were required for the different options, which were as follows:

- For Option 1 and Medium CAZ D +, separate spreadsheets for compliant and non-compliant vehicles were produced and run through separate EFT's so that varying proportions of compliant / non-compliant vehicles could be reflected spatially across the modelled area by link.
- For Option 2 and the Hybrid Option, separate spreadsheets were compiled for EFT inputs as above except that cars were split by diesel / non-diesel rather than CAZ compliance.



## Appendix A. Uncertainty Log

| UA    | Site Description   | Address  | Policy Area                | Ward           | Planning Status          | Development Status        | Certainty | Hectares | 2014 - 2036               |                 |                             |                   |                           |                 |                            |                      |                          |                |
|-------|--|--|----------------------------|----------------|--------------------------|---------------------------|-----------|----------|---------------------------|-----------------|-----------------------------|-------------------|---------------------------|-----------------|----------------------------|----------------------|--------------------------|----------------|
|       |  |  |                            |                |                          |                           |           |          | Office Floor space (sq m) | Office no. jobs | Industry Floor Space (sq m) | Industry no. jobs | Retail Floor space (sq m) | Retail no. jobs | Schools Floor space (sq m) | Schools no. students | Other Floor space (sq m) | Other no. jobs |
| B&NES |  | Manvers Street, Bath   | Bath                       | Abbey          | Future Allocation        | None                      | RF        |          | 9000                      | 750             | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| B&NES |  | Avon Street, Bath  | Bath                       | Abbey          | Future Allocation        | None                      | RF        |          | 18000                     | 1500            | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| B&NES |  | South Quays, Bath  | Bath                       | Widcombe       | Future Allocation        | None                      | RF        |          | 16000                     | 1333            | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| B&NES |  | South Quays II, Bath   | Bath                       | Widcombe       | Future Allocation        | None                      | RF        |          | 17500                     | 1458            | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| B&NES |  | Green Park, Bath   | Bath                       | Widcombe       | Future Allocation        | None                      | RF        |          | 15000                     | 1667            | 0                           | 0                 | 20000                     | 1000            | 0                          | 0                    | 0                        | 0              |
| B&NES |  | Bath City Centre   | Bath                       | Abbey          | Future Allocation        | None                      | H         |          | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| B&NES |  | Bath Press, Bath   | Bath                       | Westmoreland   | Future Allocation        | None                      | RF        |          | 3000                      | 250             | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| B&NES |  | Roseberry Place, Bath  | Bath                       | Westmoreland   | Planning Application     | None                      | RF        |          | 5000                      | 417             | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| B&NES |  | Former MoD Foxhill   | Bath                       | Odd Down       | Pre-Planning Application | None                      | ML        |          | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 200                  | 0                        | 0              |
| B&NES |  | Somerdale, Keynsham  | Keynsham                   | Keynsham North | Planning Status          | Partly under construction | ML        |          | 10000                     | 833             | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC   | Extensions to the existing regional Distribution Centre (Use Class B8)   | Accolade Park Kings Weston Lane Avonmouth Bristol BS11 9FG               | Avonmouth and Bristol Port | Avonmouth      | Permitted                | Not Started               | NC        | 15.00    | 0                         | 0               | 9092                        | 123               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC   |  | Accolade Park Kings Weston Lane Avonmouth Bristol BS11 9FG               | Avonmouth and Bristol Port | Avonmouth      | Permitted                | Not Started               | NC        | 15.00    | 0                         | 0               | -702                        | -10               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC   | New industrial buildings associated with outline planning application for redevelopment to provide new office campus, research, development and manufacturing building, new staff facilities | Airbus UK Golf Course Lane Bristol BS99 7AR                              | Northern Arc               | Southmead      | Permitted                | Not Started               | NC        | 10.66    | 0                         | 0               | 6388                        | 160               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC   | Redevelopment to provide new office campus, research, development and manufacturing building, new staff facilities revised parking and access to A38.  | Airbus UK Golf Course Lane Bristol BS99 7AR                              | Northern Arc               | Southmead      | Permitted                | Not Started               | NC        | 10.66    | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC   | Residential development of up to 80 dwellings, including the demolition of Lewis House and change of use of Phoenix House to 3 no. 2-bed and 3 no. 1-bed flats. (Major application)          | Anderson And Leese Building Brenry Hospital Brenry Lane Bristol BS10 6NB | Northern Arc               | Henbury        | Permitted                | Not Started               | NC        | 2.07     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | -900                     | -9             |
| BCC   | Ground floor and 1st floor classroom block extension to existing school,   | Ashley Down Primary School Arthur Milton Street Bristol BS7 9JT          | Rest of Bristol            | Bishopston     | Permitted                | Under Construction        | NC        | 1.08     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 2307                       | 210                  | 0                        | 0              |
| BCC   | Proposed change of use of the existing hangar from Use Class B2 (General Industrial) to Use Class B8 (Storage or Distribution),  | BAE Systems West Way Bristol BS99 7AR                                    | Northern Arc               | Southmead      | Permitted                | Not Started               | NC        | 3.36     | 0                         | 0               | 35585                       | 483               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC   |  | BAE Systems West Way Bristol BS99 7AR                                    | Northern Arc               | Southmead      | Permitted                | Not Started               | NC        | -3.36    | 0                         | 0               | -35585                      | -483              | 0                         | 0               | 0                          | 0                    | 0                        | 0              |



| UA  | Site Description  | Address   | Policy Area                | Ward          | Planning Status | Development Status | Certainty | Hectares | 2014 - 2036               |                 |                             |                   |                           |                 |                            |                      |                          |                |
|-----|---|---|----------------------------|---------------|-----------------|--------------------|-----------|----------|---------------------------|-----------------|-----------------------------|-------------------|---------------------------|-----------------|----------------------------|----------------------|--------------------------|----------------|
|     |   |   |                            |               |                 |                    |           |          | Office Floor space (sq m) | Office no. jobs | Industry Floor Space (sq m) | Industry no. jobs | Retail Floor space (sq m) | Retail no. jobs | Schools Floor space (sq m) | Schools no. students | Other Floor space (sq m) | Other no. jobs |
| BCC |   | Diamonite Industrial Park Goodneston Road Bristol BS16 3JX  | Rest of Bristol            | Hillfields    | Permitted       | Not Started        | NC        | -1.08    | -1800                     | -128            | -5900                       | -148              | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Outline planning application for a 10 year masterplan of the campus for the future development of the faculty buildings, amenities and environs.  | Faculty Of Art Media And Design University Of The West Of England Bristol Kennel Lodge Road Bristol BS3 2JT | South Bristol              | Southville    | Permitted       | Not Started        | NC        | 2.94     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 8453                     | 80             |
| BCC |   | Faculty Of Art Media And Design University Of The West Of England Bristol Kennel Lodge Road Bristol BS3 2JT | South Bristol              | Southville    | Permitted       | Not Started        | NC        | -2.94    | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | -6534                    | -62            |
| BCC | Reserved Matters for 5,601 sqm employment space   | Filwood Park Hengrove Way Bristol   | South Bristol              | Filwood       | Permitted       | Not Started        | NC        | 1.97     | 5601                      | 397             | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Mixed use development, including the creation of a new park, erection of up to 150 no. residential units, 8000 sqm of employment floorspace (Use Class B1/B2)   | Filwood Park Hengrove Way Bristol   | South Bristol              | Filwood       | Permitted       | Not Started        | NC        | 5.10     | 1200                      | 85              | 1200                        | 30                | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Re-development to provide a mixed use scheme comprising business (B1), 398 no. residential apartments (C3), retail units (A1), professional services (A2), food and drink uses (A3, A4 & A5), creche (D1), health and leisure club (D2) and a micro brewery (Sui Generis) | Finzel's Reach (former Bristol Brewery) Counterslip Bristol BS1 6BX   | Bristol City Centre        | Lawrence Hill | Permitted       | Not Started        | NC        | 1.79     | 25963                     | 1839            | 1587                        | 40                | 3750                      | 168             | 0                          | 0                    | 2760                     | 26             |
| BCC | Construction of a transit store of approximately 8500sq.m.  | Former BP Site Avonmouth Docks St Andrews Road Avonmouth Bristol BS11 9DQ                                   | Avonmouth and Bristol Port | Avonmouth     | Permitted       | Not Started        | NC        | 5.40     | 0                         | 0               | 8500                        | 101               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Construction of a transit store of approximately 10,130 sq.m.   | Former Coal Yard Royal Edward Dock Bristol BS11 9BT   | Avonmouth and Bristol Port | Avonmouth     | Permitted       | Not Started        | NC        | 1.74     | 0                         | 0               | 10130                       | 120               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Redevelopment of part of existing industrial site for a Bio-fuel, renewable energy plant  | Former Columbian Chemicals (Sevalco) Severn Road Avonmouth Bristol BS11 0YU                                 | Avonmouth and Bristol Port | Avonmouth     | Permitted       | Not Started        | NC        | 4.30     | 0                         | 0               | 2807                        | 70                | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Housing, Commercial, Other  | Former Diesel Depot / Arena site, Bath Road   | Bristol City Centre        | Windmill Hill | Allocated       | Not started        | RF        | 4.05     | 6100                      | 432             | 0                           | 0                 | 4000                      | 179             | 0                          | 0                    | 26400                    | 249            |

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|-----|---|---|----------------------------|---------------|-----------------|--------------------|-----------|----------|---------------------------|-----------------|-----------------------------|-------------------|---------------------------|-----------------|----------------------------|----------------------|--------------------------|----------------|
|     |   |   |                            |               |                 |                    |           |          | Office Floor space (sq m) | Office no. jobs | Industry Floor Space (sq m) | Industry no. jobs | Retail Floor space (sq m) | Retail no. jobs | Schools Floor space (sq m) | Schools no. students | Other Floor space (sq m) | Other no. jobs |
| BCC | Redevelopment of the site to provide a building comprising 2,650 sq m (gross) of employment floorspace (class B1/B2/B8) and/or class D1 floorspace with associated parking, 41 no. senior living units with ancillary accommodation (Class C2) with associated parking, a 45 bed care home with associated parking, 13 no. houses and 29 no. one and two bedroom flats        | Former Parnalls Works corner of Filwood Road and Goodneston Road Fishponds Bristol BS16 3JX | Rest of Bristol            | Hillfields    | Permitted       | Not Started        | NC        | 1.80     | 1325                      | 94              | 1325                        | 33                | 0                         | 0               | 0                          | 0                    | 380                      | 4              |
| BCC | mixed use development within two buildings (A and B) comprising ground floor commercial use (A1, A2, A3, A4, A5, B1, D1 or D2) with residential units (total 107) and office/studio space (B1) above.   | Former Post Office Sorting Depot Cattle Market Road Bristol BS1 1BX                         | Bristol City Centre        | Lawrence Hill | Permitted       | Not Started        | NC        | 1.12     | 12198                     | 864             | 0                           | 0                 | 1594                      | 71              | 0                          | 0                    | 797                      | 8              |
| BCC | The construction and operation of a Resource Recovery Centre, including a Material Recycling facility, an Energy-from-Waste and Bottom Ash facility, associated Office Visitor Centre   | Former Sevalco Site (North) Severn Road Avonmouth Bristol BS11 0YU                          | Avonmouth and Bristol Port | Avonmouth     | Permitted       | Not Started        | NC        | 8.54     | 0                         | 0               | 26383                       | 660               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | The modernisation of the County Cricket ground to include demolition of existing Mound & Jessop stands & associated toilet blocks, provision of 7500 permanent seats incorporating bar, toilet block facilities & 351 surface car parking spaces, a 147 dwelling apartment building incorporating 111 basement car parking spaces, a 217msq club shop, 150msq of office space | Gloucestershire County Cricket Club Nevil Road Bristol BS7 9EJ                              | Rest of Bristol            | Bishopston    | Permitted       | Under Construction | NC        | 4.73     | 150                       | 11              | 0                           | 0                 | 467                       | 21              | 0                          | 0                    | 2000                     | 19             |
| BCC | Removal of four temporary classrooms and replacement with four permanent classrooms and ancillary accommodation.  | Henleaze Junior School Park Grove Bristol BS9 4LG   | Rest of Bristol            | Henleaze      | Permitted       | Not Started        | NC        | 4.39     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 630                      | 6              |
| BCC |   | Henleaze Junior School Park Grove Bristol BS9 4LG   | Rest of Bristol            | Henleaze      | Permitted       | Not Started        | NC        | -4.39    | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | -272                     | -3             |
| BCC | New office development associated with: Demolition of existing factory buildings (use class B1 and B2) and erection of new office building (use class B1)   | Imperial Tobacco Ltd Winterstoke Road Bristol BS3 2LJ                                       | South Bristol              | Bedminster    | Permitted       | Under Construction | NC        | 1.93     | 9717                      | 688             | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC |   | Imperial Tobacco Ltd Winterstoke Road Bristol BS3 2LJ                                       | South Bristol              | Bedminster    | Permitted       | Under Construction | NC        | -1.93    | 0                         | 0               | -13670                      | -342              | 0                         | 0               | 0                          | 0                    | 0                        | 0              |



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|-----|--|--|---------------------|------------------|-----------------|--------------------|-----------|----------|---------------------------|-----------------|-----------------------------|-------------------|---------------------------|-----------------|----------------------------|----------------------|--------------------------|----------------|
|     |  |  |                     |                  |                 |                    |           |          | Office Floor space (sq m) | Office no. jobs | Industry Floor Space (sq m) | Industry no. jobs | Retail Floor space (sq m) | Retail no. jobs | Schools Floor space (sq m) | Schools no. students | Other Floor space (sq m) | Other no. jobs |
| BCC | Outline application for mixed use redevelopment of land to comprise a maximum of 32,442 sq m of floorspace; up to 21,892 sq m residential floorspace (a maximum of 250 separate units); up to 8,400sq m of commercial floorspace (B1 Class); up to 2,000sq m of commercial floorspace (A1, A2, A3, A4 or A5); a doctors surgery of up to 150 sq m (D1);  | Land Surrounding Dove Lane St Pauls Bristol                                | Bristol City Centre | Ashley           | Permitted       | Not Started        | NC        | 1.72     | 8400                      | 595             | 0                           | 0                 | 2000                      | 89              | 0                          | 0                    | 150                      | 1              |
| BCC | Community use (including school) and housing with business. The site should provide 2,000 to 3,000m² of business and / or community facilities.  | Marksbury Road College Site  | South Bristol       | Windmill Hill    | Allocated       | Not started        | RF        | 2.34     | 900                       | 64              | 0                           | 0                 | 150                       | 7               | 2900                       | 480                  | 1100                     | 10             |
| BCC | New build and classroom extension  | May Park Primary School Coombe Road Bristol BS5 6LE                        | Rest of Bristol     | Eastville        | Permitted       | Under Construction | NC        | 2.93     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 4288                       | 60                   | 0                        | 0              |
| BCC |  | May Park Primary School Coombe Road Bristol BS5 6LE                        | Rest of Bristol     | Eastville        | Permitted       | Under Construction | NC        | -2.93    | 0                         | 0               | 0                           | 0                 | 0                         | 0               | -400                       | 0                    | 0                        | 0              |
| BCC | Proposed extension and refurbishment   | Millpond Primary School Baptist Street Bristol BS5 0YR                     | Inner East          | Lawrence Hill    | Permitted       | Under Construction | NC        | 1.61     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 103                        | 0                    | 0                        | 0              |
| BCC | Extension to the western elevation of the store  | Morrisons 692-716 Fishponds Road Fishponds Bristol BS16 3UE                | Rest of Bristol     | Frome Vale       | Permitted       | Not Started        | NC        | 2.57     | 0                         | 0               | 0                           | 0                 | 728                       | 33              | 0                          | 0                    | 0                        | 0              |
| BCC | Refurbishment of wing of secondary school and new build extension to create primary school   | Orchard School Filton Road Bristol BS7 0XZ                                 | Northern Arc        | Horfield         | Permitted       | Under Construction | NC        | 10.98    | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 210                  | 240                      | 2              |
| BCC | Outline application for the retention of Endemol buildings, demolition of other existing buildings and erection of new buildings of 2-7 storeys built on top of new undercroft car park to provide employment floor space (B1); Retail floor space (A1, A3 & A4); up to 11 live/work units; and up to 210 residential units (C3); with revised vehicular access off Bath Road. (Major application) | Paintworks Phase III site, Bath Road                                       | South Bristol       | Brislington West | Permitted       | Not Started        | NC        | 2.40     | 11060                     | 783             | 0                           | 0                 | 1280                      | 57              | 0                          | 0                    | 6674                     | 63             |
| BCC |  | Paintworks Phase III site, Bath Road                                       | South Bristol       | Brislington West | Permitted       | Not Started        | NC        | -2.40    | 0                         | 0               | -10200                      | -255              | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Outline planning application - Erection of Public House.   | Plot 1 - Phase 6 Imperial Park South Side Of Main Access Wills Way Bristol | South Bristol       | Hartcliffe       | Permitted       | Not Started        | NC        | 1.08     | 0                         | 0               | 0                           | 0                 | 1200                      | 54              | 0                          | 0                    | 0                        | 0              |

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|-----|---|---|----------------------------|------------|-----------------|--------------------|-----------|----------|---------------------------|-----------------|-----------------------------|-------------------|---------------------------|-----------------|----------------------------|----------------------|--------------------------|----------------|
|     |   |   |                            |            |                 |                    |           |          | Office Floor space (sq m) | Office no. jobs | Industry Floor Space (sq m) | Industry no. jobs | Retail Floor space (sq m) | Retail no. jobs | Schools Floor space (sq m) | Schools no. students | Other Floor space (sq m) | Other no. jobs |
| BCC | Outline planning application - Erection of business units (Use Class B1)  | Plot 3 - Phase 6 Imperial Park South Side Wills Way Bristol                       | South Bristol              | Hartcliffe | Permitted       | Not Started        | NC        | 1.44     | 2400                      | 170             | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Proposed Bristol Resource Recovery Centre   | Plot M2 (Merebank) Kings Weston Lane Avonmouth Bristol BS11 8AQ                   | Avonmouth and Bristol Port | Avonmouth  | Permitted       | Under Construction | NC        | 7.32     | 0                         | 0               | 27524                       | 374               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Redevelopment of the former Rhodia chemical works to provide a chilled distribution unit (Use Class B8) and an ancillary service centre (Use Class B2)  | Portside (Former Rhodia Works) St Andrews Road Avonmouth Bristol BS11 9YF         | Avonmouth and Bristol Port | Avonmouth  | Permitted       | Under Construction | NC        | 17.15    | 0                         | 0               | 57195                       | 1430              | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Mixed use development comprising 4 hectares of residential development to be built at a minimum density of 30 dwellings per hectare and 0.3 hectares of employment land for class B1 (business) use.  | Riverwood International Packaging Ltd Filwood Road Bristol BS16 3SB               | Rest of Bristol            | Hillfields | Permitted       | Not Started        | NC        | 4.36     | 1500                      | 106             | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC |   | Riverwood International Packaging Ltd Filwood Road Bristol BS16 3SB               | Rest of Bristol            | Hillfields | Permitted       | Not Started        | NC        | -4.36    | 0                         | 0               | -26577                      | -361              | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | mixed use comprising around 145 residential units (Use Class C3), around 5000sqm of employment floorspace (Use Classes B1(b) (c), B8) and around 600 sqm of retail floorspace (Use Classes A1/A2/A3). | Sainsburys Winterstoke Road Bristol BS3 2NS                                       | South Bristol              | Bedminster | Permitted       | Not Started        | NC        | 4.05     | 2500                      | 177             | 2500                        | 48                | 8367                      | 374             | 0                          | 0                    | 0                        | 0              |
| BCC |   | Sainsburys Winterstoke Road Bristol BS3 2NS                                       | South Bristol              | Bedminster | Permitted       | Not Started        | NC        | -4.05    | 0                         | 0               | 0                           | 0                 | -8367                     | -374            | 0                          | 0                    | 0                        | 0              |
| BCC | Erection of a steel clad portal framed building.  | Sims Metal Royal Edward Dock Bristol BS11 9BT                                     | Avonmouth and Bristol Port | Avonmouth  | Permitted       | Not Started        | NC        | 1.30     | 0                         | 0               | 945                         | 13                | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Construct a single storey social centre.  | Southmead Community Sport Pen Park Sports Pavilion Jarratts Road Bristol BS10 6WF | Northern Arc               | Southmead  | Permitted       | Not Started        | NC        | 5.91     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 360                      | 3              |
| BCC | construct the new acute North Bristol and Community hospital  | Southmead Hospital Southmead Road Bristol BS10 5NB                                | Northern Arc               | Horfield   | Permitted       | Under Construction | NC        | 18.40    | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 145515                   | 1374           |
| BCC |   | Southmead Hospital Southmead Road Bristol BS10 5NB                                | Northern Arc               | Horfield   | Permitted       | Under Construction | NC        | -18.40   | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | -70452                   | -665           |
| BCC | Housing with mixed-uses   | St Matthias Campus, College Road, Fishponds.                                      | Rest of Bristol            | Frome Vale | Allocated       | Not started        | RF        | 5.62     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 927                      | 9              |
| BCC |   | St Matthias Campus, College Road, Fishponds.                                      | Rest of Bristol            | Frome Vale | Allocated       | Not started        | RF        | -5.62    | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | -5469                    | -52            |
| BCC | Proposed single storey extension.   | Stax Trade Centre Passage Road Henbury Bristol BS10 7JB                           | Northern Arc               | Henbury    | Permitted       | Not Started        | NC        | 1.38     | 0                         | 0               | 653                         | 16                | 0                         | 0               | 0                          | 0                    | 0                        | 0              |



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|-----|---|---|----------------------------|---------------|-----------------|--------------------|-----------|----------|---------------------------|-----------------|-----------------------------|-------------------|---------------------------|-----------------|----------------------------|----------------------|--------------------------|----------------|
|     |   |   |                            |               |                 |                    |           |          | Office Floor space (sq m) | Office no. jobs | Industry Floor Space (sq m) | Industry no. jobs | Retail Floor space (sq m) | Retail no. jobs | Schools Floor space (sq m) | Schools no. students | Other Floor space (sq m) | Other no. jobs |
| BCC | Provide a new 18,000 seated (18,500 Capacity) stadium and ancillary accommodation, hotel (84 rooms), 99 student flats (546 rooms), restaurant, convenience store, offices | The Memorial Stadium<br>Filton Avenue<br>Bristol<br>BS7 0AQ                       | Rest of Bristol            | Bishopston    | Permitted       | Not Started        | NC        | 3.90     | 1548                      | 110             | 0                           | 0                 | 370                       | 17              | 0                          | 0                    | 12633                    | 119            |
| BCC |   | The Memorial Stadium<br>Filton Avenue<br>Bristol<br>BS7 0AQ                       | Rest of Bristol            | Bishopston    | Permitted       | Not Started        | NC        | -3.90    | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | -3500                    | -33            |
| BCC | Redevelopment of land fronting St. Michaels Hill and Tyndalls Avenue to provide academic/educational facilities (Use Class D1)  | University Of Bristol Site St Michaels Hill & Tyndall Avenue<br>Bristol BS2 8BH   | Bristol City Centre        | Cabot         | Permitted       |                    | NC        | 1.26     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 21163                    | 200            |
| BCC |   | University Of Bristol Site St Michaels Hill & Tyndall Avenue<br>Bristol BS2 8BH   | Bristol City Centre        | Cabot         | Permitted       |                    | NC        | -1.26    | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | -9200                    | -87            |
| BCC | Employment & Other (hotel)  | Bristol and Exeter Yard (TCN) site  | Bristol City Centre        | Lawrence Hill | Allocated       | Not started        | RF        | 1.11     | 1000                      | 71              | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 3000                     | 71             |
| BCC | Potential Future Development site Avonmouth (Industrial)  | Former GKN Aerospace, Atlantic Road   | Avonmouth and Bristol Port | Avonmouth     | Allocated       | Not started        | RF        | 4.86     | 0                         | 0               | 29000                       | 394               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Potential Future Development site Avonmouth (Industrial)  | Former Texaco Oil Depot   | Avonmouth and Bristol Port | Avonmouth     | Allocated       | Not started        | RF        | 3.73     | 0                         | 0               | 22300                       | 303               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Housing with mixed-uses.  | Glenside Campus, Blackberry Hill, Fishponds                                       | Rest of Bristol            | Frome Vale    | Allocated       | Not started        | RF        | 6.83     | 0                         | 0               | 0                           | 0                 | 500                       | 22              | 0                          | 0                    | 0                        | 0              |
| BCC | Housing, offices and open space in the form of a large high quality park  | Hengrove Park   | South Bristol              | Hengrove      | Allocated       | Not started        | RF        | 49.84    | 30000                     | 2125            | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Community use, open space, business and housing.  | Knowle West Health Park, Downton Road   | South Bristol              | Filwood       | Allocated       | Not started        | RF        | 4.48     | 0                         | 0               | 5200                        | 130               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Housing, Offices  | Land and buildings south of Brunel Lock Road, including A-Bond Warehouse          | Bristol City Centre        | Cabot         | Allocated       | Not started        | RF        | 3.15     | 9600                      | 680             | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC |   | Land and buildings south of Brunel Lock Road, including A-Bond Warehouse          | Bristol City Centre        | Cabot         | Allocated       | Not started        | RF        | 3.15     | 0                         | 0               | -17100                      | -192              | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Housing and light industry  | Land at and adjacent to Malago House, Bedminster Road, Bedminster                 | South Bristol              | Bedminster    | Allocated       | Not started        | RF        | 2.84     | 0                         | 0               | 6000                        | 150               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Housing, business, community use and small-scale retail   | Land at former Elizabeth Shaw Factory, Greenbank Road, Easton                     | Inner East                 | Easton        | Allocated       | Not started        | RF        | 1.96     | 0                         | 0               | 0                           | 0                 | 800                       | 36              | 700                        | 0                    | 0                        | 0              |
| BCC | Housing and business  | Land at Novers Hill, adjacent to industrial units                                 | South Bristol              | Filwood       | Allocated       | Not started        | RF        | 2.18     | 7200                      | 510             | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Housing and light industry  | Morley / Ashley / Southey Street Works, St Werburgh's                             | Inner East                 | Ashley        | Allocated       | Not started        | RF        | 1.61     | 0                         | 0               | 4600                        | 115               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| BCC | Community use (school)  | Open Space to rear of Abingdon Road and Honiton Road, Mayfield Park, nr Fishponds | Rest of Bristol            | Hillfields    | Allocated       | Not started        | RF        | 1.59     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 2900                       | 450                  | 0                        | 0              |



| UA  | Site Description   | Address   | Policy Area | Ward  | Planning Status  | Development Status   | Certainty | Hectares | 2014 - 2036               |                 |                             |                   |                           |                 |                            |                      |                          |                |     |
|-----|--|---|-------------|---|------------------|--|-----------|----------|---------------------------|-----------------|-----------------------------|-------------------|---------------------------|-----------------|----------------------------|----------------------|--------------------------|----------------|-----|
|     |  |   |             |   |                  |  |           |          | Office Floor space (sq m) | Office no. jobs | Industry Floor Space (sq m) | Industry no. jobs | Retail Floor space (sq m) | Retail no. jobs | Schools Floor space (sq m) | Schools no. students | Other Floor space (sq m) | Other no. jobs |     |
| NSC | Reserved matters application pursuant to outline application 11/P/0672/O for erection of public house/restaurant   | Plot G, Weston Gateway Business Park, Somerset Avenue, Weston-super-Mare                | Town        | Weston-super-Mare South Worle                                       | Reserved Matters | Not Started  | NC        | 0.5      | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 796            | 40  |
| NSC | Erection of 13no. B1 (a) and B1(b) office buildings  | Land off Wolverhill Road, Summer Lane, West Wick, Weston super Mare                     | Town        | Weston-super-Mare South Worle, Banwell and Winscombe, Kewstoke      | Reserved Matters | Not Started  | NC        | 3.48     | 17,158                    | 1430            | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              | 0   |
| NSC | Application to extend time limit for implementation of planning permission 07/P/2156/F (Erection of two storey office (Class B1))  | Land off Scot Elm Drive, West Wick Business Park, Weston super Mare                     | Town        | Weston-super-Mare South Worle                                       | Full             | Not Started  | NC        | 0.5      | 676                       | 56              | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              | 0   |
| NSC | Proposed new office development, associated car parking and landscaping  | Land at Scot Elm Drive, West Wick, Weston-super-Mare                                    | Town        | Weston-super-Mare South Worle                                       | Full             | Not Started  | NC        | 2.17     | 10,951                    | 913             | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              | 0   |
| NSC | Change of use from boarding kennels and cattery to B1/B8 mixed use.  | Land at Chelvey Boarding Kennels, Brockley Lane, Brockley                               | Countryside | Backwell  | Full             | Not Started  | NC        | 2.2      | 100                       | 8               | 630                         | 8                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              | 0   |
| NSC | Outline application the formation of a Business Park and an Industrial Quarter.  | Weston Park, Weston Airfield, Winterstoke Road, Weston-super-Mare                       | Town        | Weston-super-Mare East, Hutton and Locking                          | Outline          | Two reserved matters application received and building work has commenced. | NC        | 29.5     | 49322                     | 4,110           | 27500                       | 578               | 0                         | 0               | 0                          | 0                    | 0                        | 9975           | 250 |
| NSC | Erection of an office building pursuant of Outline Permission 07/P/1950/O  | Plot A3, Weston Park, Weston Airfield, Winterstoke Road, Weston-super-Mare              | Town        | Hutton and Locking, Weston-super-Mare East, Weston-super-Mare South | Full             | Under Construction   | NC        | 0.58     | 2,180                     | 182             | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              | 0   |
| NSC | Reserved Matters for the erection of a public house/restaurant and hotel.  | Weston Park, Land at Former Weston Airfield, Off Locking Moor Road, Weston-super-Mare   | Town        | Weston-super-Mare East  | Reserved Matters | Not Started  | NC        | 0.7      | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 3532           | 72  |
| NSC | Outline application for the development of a business park comprising B1, B2 and B8  | Land to the west of Kenn Road, bound by former railway, the M5 and Colehouse Lane, Kenn | Countryside | Yatton  | Outline          | Not Started  | ML        | 9.48     | Unknown                   | Unknown         | Unknown                     | Unknown           | 0                         | 0               | 0                          | 0                    | 0                        | 0              | 0   |
| NSC | Variation of condition 50 of outline permission 05/P/1198/O to read: The new buils B1/Office space shall be limited to a total floorspace of 24,000sqm over a footprint area of 11,000sqm. | Barrow Hospital, Barrow Gurney, Somerset  | Countryside | Backwell  | Full             | Not Started  | H         | 38.3     | 24,000                    | 2000            | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              | 0   |
| NSC | Erection of foodstore, customer parking, service access and associated development   | Land off Serbert Way, Portishead  | Town        | Portishead East   | Full             | Under Construction   | NC        | 1.9      | 0                         | 0               | 0                           | 0                 | 4,568                     | 270             | 0                          | 0                    | 0                        | 0              | 0   |

| UA  | Site Description  | Address  | Policy Area           | Ward                      | Planning Status     | Development Status                 | Certainty | Hectares | 2014 - 2036               |                 |                             |                   |                           |                 |                            |                      |                          |                |
|-----|---|--|-----------------------|---------------------------|---------------------|------------------------------------|-----------|----------|---------------------------|-----------------|-----------------------------|-------------------|---------------------------|-----------------|----------------------------|----------------------|--------------------------|----------------|
|     |   |  |                       |                           |                     |                                    |           |          | Office Floor space (sq m) | Office no. jobs | Industry Floor Space (sq m) | Industry no. jobs | Retail Floor space (sq m) | Retail no. jobs | Schools Floor space (sq m) | Schools no. students | Other Floor space (sq m) | Other no. jobs |
| NSC | Part 1: Full application for the erection of a hotel (C1 hotel use) with restaurant (A3 restaurant and cafe use) and public house (A4 drinking establishment use) and erection of a multi-storey car park with 381 spaces; Part 2: Outline application with all matters except access reserved for subsequent approval for the demolition of existing buildings and replacement with a new multi-use retail and leisure complex comprising a multiplex cinema; a health and fitness suite and bowling centre (D2 assembly and leisure), restaurants (A3 Restaurant and cafe use) and retail units (A1 retail use) | Dolphin Square, Oxford Street, Weston-super-Mare                   | Town                  | Weston-super-Mare Central | Full                | Not Started                        | NC        |          | 0                         | 0               | 0                           | 0                 | 10191                     | 536             | 0                          | 0                    | 4444                     | 111            |
| SGC | Land at Barnhill Quarry   | Land at Barnhill Road, Chipping Sodbury                            | Yate/Chipping Sodbury | Chipping Sodbury          | Planning permission | Under construction                 | NC        | 3.99     | 0                         | 0               | 0                           | 0                 | 1960                      | 160             | 0                          | 0                    | 0                        | 0              |
| SGC | Land at North Yate  | Land north of Brimsham Park, Yate                                  | Yate/Chipping Sodbury | Yate North                | Site allocated      | Identified within development plan | RF        | 9        | 0                         | 0               | Not known                   | 2300              | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Hollywood Tower Estate  | Hollywood Tower Estate, Cribbs Causeway                            | Elsewhere             | Almondsbury               | Planning permission | Approved development proposals     | NC        | 54.68    | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 23694                    | 130            |
| SGC | Hortham Nursery   | Hortham Nursery, Hortham Lane, Almondsbury                         | Elsewhere             | Almondsbury               | Planning permission | Under construction                 | NC        | 2.76     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 1686                     | 0              |
| SGC | Almondsbury Garden Centre   | Almondsbury Garden Centre, Over Lane, Almondsbury                  | Elsewhere             | Almondsbury               | Planning permission | Approved development proposals     | NC        | -2.47    | 0                         | 0               | 0                           | 0                 | -3350                     | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Almondsbury Garden Centre   | Almondsbury Garden Centre, Over Lane, Almondsbury                  | Elsewhere             | Almondsbury               | Planning permission | Approved development proposals     | NC        | 2.47     | 0                         | 0               | 0                           | 0                 | 4150                      | 10              | 0                          | 0                    | 0                        | 0              |
| SGC | Whale Wharf Business Park   | Whale Wharf Business Park, Whale Wharf Lane, Littleton upon Severn | Elsewhere             | Severn                    | Planning permission | Approved development proposals     | NC        | -7.55    | 0                         | 0               | -3460                       | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Whale Wharf Business Park   | Whale Wharf Business Park, Whale Wharf Lane, Littleton upon Severn | Elsewhere             | Severn                    | Planning permission | Approved development proposals     | NC        | 7.55     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 3460                     | 10             |
| SGC | The Ridings Federation, Winterbourne  | The Ridings Federation, High Street, Winterbourne                  | Elsewhere             | Winterbourne              | Planning permission | Approved development proposals     | NC        | -5.3     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | Not Known                  | Not Known            | 0                        | 0              |
| SGC | The Ridings Federation, Winterbourne  | The Ridings Federation, High Street, Winterbourne                  | Elsewhere             | Winterbourne              | Planning permission | Under construction                 | NC        | 5.3      | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 11175                      | Not Known            | 0                        | 0              |
| SGC | Oaklands, Almondsbury   | Oaklands, Oaklands Lane, Almondsbury                               | Elsewhere             | Almondsbury               | Planning permission | Approved development proposals     | NC        | -4.05    | -1383                     | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Oaklands, Almondsbury   | Oaklands, Oaklands Lane, Almondsbury                               | Elsewhere             | Almondsbury               | Planning permission | Approved development proposals     | NC        | 4.05     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 1383                     | 20             |

| UA  | Site Description                                  | Address   | Policy Area             | Ward                    | Planning Status            | Development Status             | Certainty | Hectares | 2014 - 2036               |                 |                             |                   |                           |                 |                            |                      |                          |                |
|-----|---|---|-------------------------|-------------------------|----------------------------|--------------------------------|-----------|----------|---------------------------|-----------------|-----------------------------|-------------------|---------------------------|-----------------|----------------------------|----------------------|--------------------------|----------------|
|     |   |   |                         |                         |                            |                                |           |          | Office Floor space (sq m) | Office no. jobs | Industry Floor Space (sq m) | Industry no. jobs | Retail Floor space (sq m) | Retail no. jobs | Schools Floor space (sq m) | Schools no. students | Other Floor space (sq m) | Other no. jobs |
| SGC | Springfield Lake Nursery                          | Springfield Lake Nursery, Brewery Hill, Upton Cheyney | Elsewhere               | Bitton                  | Planning permission        | Approved development proposals | NC        | -6.16    | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | -26078                   | -20            |
| SGC | Springfield Lake Nursery                          | Springfield Lake Nursery, Brewery Hill, Upton Cheyney | Elsewhere               | Bitton                  | Planning permission        | Approved development proposals | NC        | 6.16     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 30290                    | 20             |
| SGC | Willow Farm                                       | Willow Farm, Severn Road, Severnside                  | Severnside              | Almondsbury             | Planning permission        | Under construction             | NC        | 4.29     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 2205                     | 3              |
| SGC | Portal West Distribution Park                     | Portal West Distribution Park, Piling                 | Severnside              | Piling and Severn Beach | Planning permission        | Approved development proposals | NC        | 25.52    | 0                         | 0               | 102080                      | 1276              | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Severnside  | Land at Severnside                                    | Severnside              | Piling and Severn Beach | Planning permission        | Approved development proposals | NC        | 139      | 0                         | 0               | Not known                   | 10000             | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Plot 8020. G Park                                 | Plot 8020, G Park, Western Approach, Severnside       | Severnside              | Piling and Severn Beach | Planning permission        | Approved development proposals | NC        | 6.21     | 0                         | 0               | 23372                       | 296               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Plots 6030 and 6040, Western Approach             | Plots 6030 and 6040, Western Approach, Severnside     | Severnside              | Piling and Severn Beach | Planning permission        | Approved development proposals | NC        | 2.64     | 0                         | 0               | 9228                        | 119               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Land at Ellinghurst Farm, Piling                  | Land at Ellinghurst Farm, Piling                      | Severnside              | Piling and Severn Beach | Planning permission        | Approved development proposals | NC        | 11.67    | 0                         | 0               | 36166                       | 478               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Land at Severnside Works                          | Land at Severnside Works, Severn Road, Hallen         | Severnside              | Piling and Severn Beach | Planning permission        | Approved development proposals | NC        | 11.8     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 15595                    | 55             |
| SGC | Avalon Works                                      | Avalon Works, Severn Road, Hallen                     | Severnside              | Piling and Severn Beach | Planning permission        | Approved development proposals | NC        | 31.96    | 0                         | 0               | 119660                      | 1500              | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Plots 900, 950 and 960 Western Sector, Aztec West | Plots 900, 950 and 960, Aztec West, Almondsbury       | North Fringe of Bristol | Patchway                | Planning permission        | Approved development proposals | NC        | 4.34     | 25443                     | 1339            | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Land off Catbrain Lane, Cribbs Causeway           | Land off Catbrain Lane, Cribbs Causeway               | North Fringe of Bristol | Patchway                | Lapsed planning permission | Not started                    | NC        | 1.14     | 6180                      | 350             | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | UWE   | University of the West of England, Stoke Gifford      | North Fringe of Bristol | Frenchay and Stoke Park | Planning permission        | Approved development proposals | NC        | 2.58     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | Not known                  | Not known            | 0                        | 0              |
| SGC | Vantage Park                                      | Vantage Park, Old Gloucester Road, Bradley Stoke      | North Fringe of Bristol | Bradley Stoke South     | Planning permission        | Approved development proposals | NC        | -1.67    | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | Not known                | -5             |
| SGC | Vantage Park                                      | Vantage Park, Old Gloucester Road, Bradley Stoke      | North Fringe of Bristol | Bradley Stoke South     | Planning permission        | Approved development proposals | NC        | 1.67     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | Not known                | 10             |
| SGC | Northern part of Filton Airfield                  | Northfield, Filton                                    | North Fringe of Bristol | Patchway                | Planning permission        | Approved development proposals | NC        | 12.95    | 0                         | 0               | 64622                       | 3300              | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Rodney Works, Filton                              | Rodney Works, Gloucester Road North, Filton           | North Fringe of Bristol | Filton                  | Planning permission        | Approved development proposals | NC        | 4.02     | 0                         | 0               | 20427                       | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | 1550 Park Avenue, Aztec West                      | 1551 Park Avenue, Aztec West, Almondsbury             | North Fringe of Bristol | Patchway                | Planning permission        | Approved development proposals | NC        | -1.32    | 0                         | 0               | -4834                       | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | 1550 Park Avenue, Aztec West                      | 1552 Park Avenue, Aztec West, Almondsbury             | North Fringe of Bristol | Patchway                | Planning permission        | Approved development proposals | NC        | 1.32     | 7636                      | 420             | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Carlton Lodge, Patchway                           | Carlton Lodge, Gloucester Road, Patchway              | North Fringe of Bristol | Patchway                | Planning permission        | Under construction             | NC        | 1.38     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 5970                     | 212            |
| SGC | Land to West of Merlin Road                       | Land to West of Merlin Road, Cribbs Causeway          | North Fringe of Bristol | Patchway                | Planning permission        | Approved development proposals | NC        | 5.17     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 3600                     | 258            |
| SGC | Rolls Royce East Works                            | Rolls Royce, Gloucester Road, Filton                  | North Fringe of Bristol | Filton                  | Planning permission        | Approved development proposals | NC        | 26.62    | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 90058                    | 2336           |

| UA  | Site Description   | Address  | Policy Area             | Ward                       | Planning Status  | Development Status                 | Certainty | Hectares | 2014 - 2036               |                 |                             |                   |                           |                 |                            |                      |                          |                |
|-----|--|--|-------------------------|----------------------------|--|------------------------------------|-----------|----------|---------------------------|-----------------|-----------------------------|-------------------|---------------------------|-----------------|----------------------------|----------------------|--------------------------|----------------|
|     |  |  |                         |                            |  |                                    |           |          | Office Floor space (sq m) | Office no. jobs | Industry Floor Space (sq m) | Industry no. jobs | Retail Floor space (sq m) | Retail no. jobs | Schools Floor space (sq m) | Schools no. students | Other Floor space (sq m) | Other no. jobs |
| SGC | Plot 1700 Aztec West   | Plot 1700 Aztec West, Almondsbury                                | North Fringe of Bristol | Patchway                   | Planning permission                                    | Approved development proposals     | NC        | -2.17    | 0                         | 0               | -6565                       | -200              | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Plot 1700 Aztec West   | Plot 1700 Aztec West, Almondsbury                                | North Fringe of Bristol | Patchway                   | Planning permission                                    | Approved development proposals     | NC        | 2.17     | 15060                     | 610             | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Former Mushroom Farm, Cribbs Causeway                            | Former Mushroom Farm, Cribbs Causeway, Almondsbury               | North Fringe of Bristol | Patchway                   | Planning permission                                    | Approved development proposals     | NC        | 1.85     | 0                         | 0               | 2714                        | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Filton Triangle  | Filton Triangle, Stoke Gifford                                   | North Fringe of Bristol | Stoke Gifford              | Planning permission                                    | Under construction                 | NC        | 17.48    | 0                         | 0               | 11216                       | 170               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Abbeywood Retail Park  | Abbeywood Retail Park, Station Road, Filton                      | North Fringe of Bristol | Frenchay and Stoke Park    | Planning permission                                    | Under construction                 | NC        | 3.63     | 0                         | 0               | 0                           | 0                 | 8209                      | 400             | 0                          | 0                    | 0                        | 0              |
| SGC | CPNN   | Cribbs Patchway New Neighbourhood, Filton                        | North Fringe of Bristol | Filton                     | Site allocated   | Identified within development plan | ML        | 50       | 0                         | 0               | Not known                   | 6500              | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Wallscourt Primary School  | Wallscourt Primary School, Longdown Avenue, Filton               | North Fringe of Bristol | Frenchay and Stoke Park    | Planning permission                                    | Under construction                 | NC        | 2.03     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 2755                       | 410                  | 0                        | 0              |
| SGC | BTE Academy  | BTE Academy, New Road, Stoke Gifford                             | North Fringe of Bristol | Frenchay and Stoke Park    | Planning permission                                    | Under construction                 | NC        | 1.11     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 4358                       | 440                  | 0                        | 0              |
| SGC | Land off Longdown Ave, Stoke Gifford                             | Land off Longdown Ave, Stoke Gifford                             | North Fringe of Bristol | Frenchay and Stoke Park    | Planning permission                                    | Approved development proposals     | NC        | 8.32     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 6347                     | 212            |
| SGC | Harlequin Office Park  | Harlequin Office Park, Folly Brook Road, Emersons Green          | East Fringe of Bristol  | Emersons Green             | Planning permission                                    | Approved development proposals     | NC        | 1.76     | 9150                      | 915             | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Emersons Green East, "SPark"                                     | Science Park, Emersons Green                                     | East Fringe of Bristol  | Emersons Green/Boyd Valley | Planning permission                                    | Approved development proposals     | NC        | 16.87    | 0                         | 0               | 38491                       | 2200              | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | National Composites Centre, Emersons Green                       | National Composites Centre, Feynman Way Central, Emersons Green  | East Fringe of Bristol  | Emersons Green             | Planning permission                                    | Approved development proposals     | NC        | 3.92     | 0                         | 0               | 9972                        | 100               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Emersons Green Development Area C                                | Emersons Green East, Emersons Green                              | East Fringe of Bristol  | Emersons Green/Boyd Valley | Site allocated   | Identified within development plan | RF        | 20       | 0                         | 0               | 85000                       | 2500              | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Emersons Green Safeguarded land                                  | Emersons Green East, Emersons Green                              | East Fringe of Bristol  | Emersons Green/Boyd Valley | Site allocated   | Identified within development plan | RF        | 5        | 0                         | 0               | 20400                       | 600               | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Bristol Water Depot, Soundwell                                   | Bristol Water Depot, Soundwell Road, Soundwell                   | East Fringe of Bristol  | Kings Chase                | Planning permission                                    | Approved development proposals     | NC        | -1.83    | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | Not known                | -40            |
| SGC | Land between Avon Ring Road and Folly Brook Road, Emersons Green | Land between Avon Ring Road and Folly Brook Road, Emersons Green | East Fringe of Bristol  | Emersons Green             | Planning permission                                    | Approved development proposals     | NC        | 2.34     | 0                         | 0               | 0                           | 0                 | 0                         | 0               | 0                          | 0                    | 8346                     | 130            |
| SGC | Ansteys Road   | Land at Ansteys Road, Hanham                                     | East Fringe of Bristol  | Hanham                     | Planning permission awaiting signing of S106 Agreement | Not started                        | NC        | -3.23    | 0                         | 0               | Not known                   | Not known         | 0                         | 0               | 0                          | 0                    | 0                        | 0              |
| SGC | Ansteys Road   | Land at Ansteys Road, Hanham                                     | East Fringe of Bristol  | Hanham                     | Planning permission awaiting signing of S106 Agreement | Not started                        | NC        | 3.23     | 0                         | 0               | 0                           | 0                 | 2918                      | 200             | 0                          | 0                    | 0                        | 0              |

| UA  | Area   | Policy Area     | Ward             | Planning Status | Dev't Status       | Certainty | Dwelling Totals 2013-2036 | Dwelling Totals 2013-2021 | Dwelling Totals 2022-2026 | Dwelling Totals 2027-2031 | Dwelling Totals 2032-2036 |
|-----|--|-----------------|------------------|-----------------|--------------------|-----------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| BCC | Former Courage Brewery Counterslip Redcliff Bristol  | City Centre     | Lawrence Hill    | Permitted       | Under Construction | NC        | 203                       | 203                       | 0                         | 0                         | 0                         |
| BCC | Hewlett Packard (Land Adjacent To Romney House) Romney Avenue Bristol BS7 9ST (6B)                         | Northern Arc    | Lockleaze        | Permitted       | Under Construction | NC        | 141                       | 141                       | 0                         | 0                         | 0                         |
| BCC | Former Imperial Tobacco Office Building Hengrove Way Bristol BS14 0HR                                      | South Bristol   | Hartcliffe       | Permitted       | Under Construction | NC        | 152                       | 152                       | 0                         | 0                         | 0                         |
| BCC | ND10 The Zone Anvil Street Bristol BS2 0LT   | City Centre     | Lawrence Hill    | Permitted       | Under construction | NC        | 109                       | 109                       | 0                         | 0                         | 0                         |
| BCC | Land Bounded By Redcliff Street, St Thomas Street And Three Queens Lane, Redcliffe Bristol                 | City Centre     | Lawrence Hill    | Permitted       | Not started        | NC        | 568                       | 568                       | 0                         | 0                         | 0                         |
| BCC | Globe House Eugene Street St Pauls Bristol BS5 0TN   | Inner East      | Lawrence Hill    | Permitted       | Not started        | NC        | 51                        | 51                        | 0                         | 0                         | 0                         |
| BCC | Pring & St Hill Ltd Malago Road Bristol BS3 4JH  | South Bristol   | Southville       | Permitted       | Not started        | NC        | 183                       | 183                       | 0                         | 0                         | 0                         |
| BCC | 80 Stokes Croft Bristol BS1 3QY  | City Centre     | Ashley           | Permitted       | Not started        | NC        | 79                        | 79                        | 0                         | 0                         | 0                         |
| BCC | Ashton Vale And Former Alderman Moore Allotments Off Ashton Road (B3128) Bristol                           | South Bristol   | Bedminster       | Permitted       | Not started        | NC        | 137                       | 137                       | 0                         | 0                         | 0                         |
| BCC | Paintworks Bristol BS4 3EH   | South Bristol   | Brislington West | Permitted       | Not started        | NC        | 221                       | 221                       | 0                         | 0                         | 0                         |
| BCC | Sainsburys Winterstoke Road Bristol BS3 2NS  | South Bristol   | Bedminster       | Permitted       | Not started        | NC        | 145                       | 145                       | 0                         | 0                         | 0                         |
| BCC | Former Parnalls Works Filwood Road Bristol BS16 3JX  | Rest of Bristol | Hillfields       | Permitted       | Not started        | NC        | 83                        | 83                        | 0                         | 0                         | 0                         |
| BCC | Former Post Office Sorting Depot Cattle Market Road Bristol BS1 1BX  | City Centre     | Lawrence Hill    | Permitted       | Not started        | NC        | 107                       | 107                       | 0                         | 0                         | 0                         |
| BCC | Plot ND9 Temple Quay 2 Avon Street Bristol   | City Centre     | Lawrence Hill    | Permitted       | Not started        | NC        | 173                       | 173                       | 0                         | 0                         | 0                         |
| BCC | Huller House/South Warehouse, Redcliff Backs.  | City Centre     | Lawrence Hill    | Permitted       | Not started        | NC        | 55                        | 55                        | 0                         | 0                         | 0                         |
| BCC | Warehouse Adjacent To Trewlawney House, Surrey Street And Including 31-32 Portland Square St Pauls Bristol | City Centre     | Ashley           | Permitted       | Not started        | NC        | 59                        | 59                        | 0                         | 0                         | 0                         |
| BCC | Plot ND6 Temple Quay North Temple Gate Bristol   | City Centre     | Lawrence Hill    | Permitted       | Not started        | NC        | 60                        | 60                        | 0                         | 0                         | 0                         |
| BCC | Graphic Packaging Ltd Filwood Road Bristol BS16 3SB  | Rest of Bristol | Hillfields       | Permitted       | Not started        | NC        | 208                       | 208                       | 0                         | 0                         | 0                         |
| BCC | Playing Field Brook Road Speedwell Bristol   | Rest of Bristol | Eastville        | Permitted       | Not started        | NC        | 80                        | 80                        | 0                         | 0                         | 0                         |
| BCC | Riverview House 171 - 178 Coronation Road Bristol BS3 1RF  | South Bristol   | Southville       | Permitted       | Not started        | NC        | 78                        | 78                        | 0                         | 0                         | 0                         |
| BCC | Land At Canons Marsh Anchor Road Bristol   | City Centre     | Cabot            | Permitted       | Under construction | NC        | 170                       | 170                       | 0                         | 0                         | 0                         |
| BCC | Land Surrounding Dove Lane St Pauls Bristol  | City Centre     | Ashley           | Permitted       | Not started        | NC        | 250                       | 250                       | 0                         | 0                         | 0                         |
| BCC | Anderson And Leese Building Brentry Hospital Brentry Lane Bristol BS10 6NB                                 | Northern Arc    | Henbury          | Permitted       | Not started        | NC        | 80                        | 80                        | 0                         | 0                         | 0                         |
| BCC | Gloucestershire County Cricket Club Nevil Road Bristol BS7 9EJ   | Rest of Bristol | Bishopston       | Permitted       | Under construction | NC        | 147                       | 147                       | 0                         | 0                         | 0                         |
| BCC | Wapping Wharf/Princes Wharf, City Docks. (Other Phases)  | City Centre     | Cabot            | Permitted       | Not started        | NC        | 431                       | 431                       | 0                         | 0                         | 0                         |
| BCC | Land At Wapping Wharf Wapping Road Bristol   | City Centre     | Cabot            | Permitted       | Not started        | NC        | 194                       | 194                       | 0                         | 0                         | 0                         |
| BCC | Filwood Park Hengrove Way Bristol  | South Bristol   | Filwood          | Permitted       | Not started        | NC        | 150                       | 150                       | 0                         | 0                         | 0                         |
| BCC | Diamonite Industrial Park Goodneston Road Bristol BS16 3JX   | Rest of Bristol | Hillfields       | Permitted       | Not started        | NC        | 50                        | 50                        | 0                         | 0                         | 0                         |
| BCC | Bristol General Hospital Guinea Street Bristol BS1 6SY   | City Centre     | Cabot            | Permitted       | Not started        | NC        | 190                       | 190                       | 0                         | 0                         | 0                         |
| BCC | The Memorial Stadium Filton Avenue Bristol   | Rest of Bristol | Bishopston       | Permitted       | Not Started        | NC        | 65                        | 65                        | 0                         | 0                         | 0                         |
| BCC | 8-10 Colston Avenue Bristol BS1 4ST  | City Centre     | Cabot            | Permitted       | Not Started        | NC        | 56                        | 56                        | 0                         | 0                         | 0                         |
| BCC | Former Bristol Magistrates' Court Nelson Street City Centre Bristol BS1 2PY                                | City Centre     | Cabot            | Permitted       | Not Started        | NC        | 81                        | 81                        | 0                         | 0                         | 0                         |
| BCC | St Stephens House Colston Avenue Bristol   | City Centre     | Cabot            | Permitted       | Under Construction | NC        | 52                        | 52                        | 0                         | 0                         | 0                         |
| BCC | 13-21 Baldwin Street Bristol BS1 1NA   | City Centre     | Cabot            | Permitted       | Not Started        | NC        | 87                        | 87                        | 0                         | 0                         | 0                         |
| BCC | 10 Anchor Road Bristol BS1 5TT   | City Centre     | Cabot            | Permitted       | Not Started        | NC        | 68                        | 68                        | 0                         | 0                         | 0                         |

| UA  | Area  | Policy Area     | Ward             | Planning Status | Dev't Status       | Certainty | Dwelling Totals 2013-2036 | Dwelling Totals 2013-2021 | Dwelling Totals 2022-2026 | Dwelling Totals 2027-2031 | Dwelling Totals 2032-2036 |
|-----|---|-----------------|------------------|-----------------|--------------------|-----------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| BCC | Pro-Cathedral Park Place Clifton Bristol BS8 1JR  | City Centre     | Clifton East     | Permitted       | Under Construction | NC        | 117                       | 117                       | 0                         | 0                         | 0                         |
| BCC | Bristol Entertainment Centre Frogmore Street Bristol BS1 5NA                            | City Centre     | Cabot            | Permitted       | Not Started        | NC        | 84                        | 84                        | 0                         | 0                         | 0                         |
| BCC | Henacre Open Space, Lawrence Weston   | Northern Arc    | Avonmouth        | Allocated       | Not started        | RF        | 150                       | 0                         | 150                       | 0                         | 0                         |
| BCC | Land at Lawrence Weston Campus of City of Bristol College, Lawrence Weston              | Northern Arc    | Kingsweston      | Allocated       | Not started        | RF        | 80                        | 80                        | 0                         | 0                         | 0                         |
| BCC | Former Dunmail Primary School, Southmead  | Northern Arc    | Southmead        | Allocated       | Not started        | RF        | 140                       | 140                       | 0                         | 0                         | 0                         |
| BCC | Bonnington Walk former allotments site, Lockleaze                                       | Northern Arc    | Lockleaze        | Allocated       | Not started        | RF        | 170                       | 170                       | 0                         | 0                         | 0                         |
| BCC | Romney House and Lockleaze School, Lockleaze  | Northern Arc    | Lockleaze        | Allocated       | Not started        | RF        | 250                       | 0                         | 250                       | 0                         | 0                         |
| BCC | BT Depot, Filton Road, Horfield   | Northern Arc    | Horfield         | Allocated       | Not started        | RF        | 60                        | 0                         | 60                        | 0                         | 0                         |
| BCC | Blackberry Hill Hospital, Manor Road, Fishponds   | Rest of Bristol | Frome Vale       | Allocated       | Not started        | RF        | 300                       | 300                       | 0                         | 0                         | 0                         |
| BCC | Glenside Campus, Blackberry Hill, Fishponds   | Rest of Bristol | Frome Vale       | Allocated       | Not started        | RF        | 300                       | 0                         | 300                       | 0                         | 0                         |
| BCC | St Matthias Campus, College Road, Fishponds   | Rest of Bristol | Frome Vale       | Allocated       | Not started        | RF        | 300                       | 300                       | 0                         | 0                         | 0                         |
| BCC | Morley / Ashley / Southey Street Works, St Werburgh's                                   | Inner East      | Ashley           | Allocated       | Not started        | RF        | 100                       | 0                         | 100                       | 0                         | 0                         |
| BCC | Former Elizabeth Shaw chocolate factory, Greenbank                                      | Inner East      | Easton           | Allocated       | Not started        | RF        | 236                       | 0                         | 236                       | 0                         | 0                         |
| BCC | Land at and adjacent to Malago House Bedminster Road, Bedminster                        | South Bristol   | Bedminster       | Allocated       | Not started        | RF        | 90                        | 0                         | 90                        | 0                         | 0                         |
| BCC | Land at Novers Hill, east of Hartcliffe Way and west of Novers Lane / Novers Hill       | South Bristol   | Filwood          | Allocated       | Not started        | RF        | 440                       | 0                         | 440                       | 0                         | 0                         |
| BCC | Land adjoining Hartcliffe Way and Hengrove Way, Inn's Court.                            | South Bristol   | Filwood          | Allocated       | Not started        | RF        | 430                       | 0                         | 430                       | 0                         | 0                         |
| BCC | Marksbury Road College Site   | South Bristol   | Windmill Hill    | Allocated       | Not started        | RF        | 85                        | 85                        | 0                         | 0                         | 0                         |
| BCC | Land adjoining Airport Road between Creswicke Road and to the east of Ilminster Avenue. | South Bristol   | Filwood          | Allocated       | Not started        | RF        | 100                       | 0                         | 100                       | 0                         | 0                         |
| BCC | Land at Novers Hill, adjacent to industrial units.                                      | South Bristol   | Filwood          | Allocated       | Not started        | RF        | 50                        | 0                         | 50                        | 0                         | 0                         |
| BCC | Former Florence Brown school, west of Leinster Avenue                                   | South Bristol   | Filwood          | Allocated       | Not started        | RF        | 85                        | 0                         | 85                        | 0                         | 0                         |
| BCC | Open spaces either side of Inns Court Drive   | South Bristol   | Filwood          | Allocated       | Not started        | RF        | 70                        | 0                         | 70                        | 0                         | 0                         |
| BCC | Land adjoining Airport Road between Creswicke Road and to the east of Ilminster Avenue. | South Bristol   | Knowle           | Allocated       | Not started        | RF        | 50                        | 0                         | 50                        | 0                         | 0                         |
| BCC | Broad Plain House and associated land, Broadbury Road                                   | South Bristol   | Filwood          | Allocated       | Not started        | RF        | 50                        | 0                         | 50                        | 0                         | 0                         |
| BCC | Kingswear and Torpoint  | South Bristol   | Windmill Hill    | Allocated       | Not started        | RF        | 119                       | 0                         | 119                       | 0                         | 0                         |
| BCC | Land at Broom Hill, Brislington   | South Bristol   | Brislington East | Allocated       | Not started        | RF        | 300                       | 300                       | 0                         | 0                         | 0                         |
| BCC | Government Offices, Flowers Hill, Brislington   | South Bristol   | Brislington West | Allocated       | Not started        | RF        | 100                       | 0                         | 100                       | 0                         | 0                         |
| BCC | 493-499 Bath Road, Kensington Park, nr Arno's Vale                                      | South Bristol   | Brislington West | Allocated       | Not started        | RF        | 85                        | 0                         | 85                        | 0                         | 0                         |
| BCC | Site of former City of Bristol College (Hartcliffe Campus), Hawkfield Road, Hartcliffe  | South Bristol   | Whitchurch Park  | Allocated       | Not started        | RF        | 300                       | 0                         | 300                       | 0                         | 0                         |
| BCC | Hengrove Park   | South Bristol   | Hengrove         | Allocated       | Not started        | RF        | 1000                      | 0                         | 1000                      | 0                         | 0                         |
| BCC | Former New Fosseway School, Hengrove  | South Bristol   | Hengrove         | Allocated       | Not started        | RF        | 175                       | 175                       | 0                         | 0                         | 0                         |
| BCC | Newfoundland Way  | City Centre     | Lawrence Hill    | Allocated       | Not started        | RF        | 100                       | 0                         | 100                       | 0                         | 0                         |
| BCC | Redcliffe Way   | City Centre     | Lawrence Hill    | Allocated       | Not started        | RF        | 140                       | 0                         | 140                       | 0                         | 0                         |
| BCC | Central Ambulance Station   | City Centre     | Cabot            | Allocated       | Not started        | RF        | 100                       | 100                       | 0                         | 0                         | 0                         |
| BCC | The Horsefair / Callowhill Court  | City Centre     | Cabot            | Allocated       | Not started        | RF        | 200                       | 200                       | 0                         | 0                         | 0                         |
| BCC | McArthur's Warehouse, Gasferry Road   | City Centre     | Cabot            | Allocated       | Not started        | RF        | 80                        | 0                         | 80                        | 0                         | 0                         |
| BCC | Purifier House West, Anchor Road  | City Centre     | Cabot            | Allocated       | Not started        | RF        | 50                        | 0                         | 50                        | 0                         | 0                         |
| BCC | Land and buildings south of Brunel Lock Road, including A-Bond Warehouse                | City Centre     | Cabot            | Allocated       | Not started        | RF        | 100                       | 0                         | 100                       | 0                         | 0                         |
| BCC | Fire Station, Temple Back   | City Centre     | Lawrence Hill    | Allocated       | Not started        | RF        | 140                       | 0                         | 140                       | 0                         | 0                         |
| BCC | Lakota Nightclub / Former Coroner's Court, Upper York Street / Backfields               | City Centre     | Ashley           | Allocated       | Not started        | RF        | 60                        | 0                         | 60                        | 0                         | 0                         |



| UA    | Area                                    | Policy Area | Ward           | Planning Status            | Dev't Status       | Certainty | Dwelling Totals 2013-2036 | Dwelling Totals 2021 | Dwelling Totals 2022-2026 | Dwelling Totals 2027-2031 | Dwelling Totals 2032-2036 |
|-------|---|-------------|----------------|----------------------------|--------------------|-----------|---------------------------|----------------------|---------------------------|---------------------------|---------------------------|
| BCC   | The Carriage Works & Westmoreland House | City Centre | Ashley         | Allocated                  | Not started        | RF        | 100                       | 0                    | 100                       | 0                         | 0                         |
| BCC   | Plot 3 Temple Quay                      | City Centre | Lawrence Hill  | Allocated                  | Not started        | RF        | 50                        | 50                   | 0                         | 0                         | 0                         |
| BCC   | Plot ND5 Temple Quay North              | City Centre | Lawrence Hill  | Allocated                  | Not started        | RF        | 147                       | 0                    | 147                       | 0                         | 0                         |
| BCC   | Temple Circus, Temple Street            | City Centre | Lawrence Hill  | Allocated                  | Not started        | RF        | 50                        | 0                    | 50                        | 0                         | 0                         |
| BCC   | Templegate Peugeot                      | City Centre | Lawrence Hill  | Allocated                  | Not started        | RF        | 60                        | 60                   | 0                         | 0                         | 0                         |
| BCC   | Plot 6 Temple Quay                      | City Centre | Lawrence Hill  | Allocated                  | Not started        | RF        | 80                        | 0                    | 80                        | 0                         | 0                         |
| BCC   | Former Diesel Depot Site                | City Centre | Windmill Hill  | Allocated                  | Not started        | RF        | 70                        | 70                   | 0                         | 0                         | 0                         |
| BCC   | Silverthorne Lane                       | City Centre | Lawrence Hill  | Allocated                  | Not started        | RF        | 1200                      | 0                    | 1200                      | 0                         | 0                         |
| B&NES | BWR: B3, B4, B10, B10a, B10b, B7, B8    | Bath        | Kingsmead      | Full Permission            | Under Construction | UC        | 93                        | 93                   |                           |                           |                           |
| B&NES | BWR: B17                                | Bath        | Westmoreland   | Full Permission            | Under Construction | NC        | 55                        | 55                   |                           |                           |                           |
| B&NES | BWR: B1 & B2                            | Bath        | Westmoreland   | Full Permission            | Under Construction | NC        | 26                        | 26                   |                           |                           |                           |
| B&NES | BWR: B6, B12                            | Bath        | Westmoreland   | Full Permission            | Under Construction | NC        | 38                        | 38                   |                           |                           |                           |
| B&NES | BWR: B11, B13, B15a, B15b               | Bath        | Westmoreland   | Full Permission            | Under Construction | NC        | 259                       | 259                  |                           |                           |                           |
| B&NES | BWR: B10c                               | Bath        | Westmoreland   | Full Permission            | Under Construction | NC        | 11                        | 11                   |                           |                           |                           |
| B&NES | BWR: B5                                 | Bath        | Westmoreland   | Outline Permission         | Not Started        | NC        | 45                        | 45                   |                           |                           |                           |
| B&NES | BWR: B16                                | Bath        | Westmoreland   | Outline Permission         | Not Started        | NC        | 53                        | 53                   |                           |                           |                           |
| B&NES | BWR: OPA.1 Unsecured Land               | Bath        | Westmoreland   | Outline Permission         | Not Started        | ML        | 1460                      | 492                  | 605                       | 363                       |                           |
| B&NES | BWR: North Bank                         | Bath        | Kingsmead      | Allocated Site             | Not Started        | RF        | 286                       |                      | 286                       |                           |                           |
| B&NES | BWR: East                               | Bath        | Kingsmead      | Allocated Site             | Not Started        | RF        | 300                       |                      | 300                       |                           |                           |
| B&NES | MoD Ensleigh 1                          | Bath        | Lansdown       | Full Permission            | Not Started        | NC        | 40                        |                      | 40                        |                           |                           |
| B&NES | MoD Ensleigh 2                          | Bath        | Lansdown       | Full Permission            | Not Started        | NC        | 240                       | 157                  | 83                        |                           |                           |
| B&NES | MoD Ensleigh 3                          | Bath        | Lansdown       | Allocated Site             | Not Started        | RF        | 120                       |                      | 120                       |                           |                           |
| B&NES | MoD Foxhill                             | Bath        | Combe Down     | Full Application Submitted | Not Started        | NC        | 700                       | 380                  | 320                       |                           |                           |
| B&NES | MoD Warminster Road                     | Bath        | Bathwick       | Full Application Submitted | Not Started        | NC        | 150                       | 150                  |                           |                           |                           |
| B&NES | Lambridge Harvester                     | Bath        | Lambridge      | Full Permission            | Not Started        | ML        | 50                        | 50                   |                           |                           |                           |
| B&NES | R/O 89-123 Englishcombe Lane            | Bath        | Odd Down       | Allocated Site             | Not Started        | NC        | 50                        | 50                   |                           |                           |                           |
| B&NES | Hope House                              | Bath        | Lansdown       | Full Application Submitted | Not Started        | NC        | 50                        | 50                   |                           |                           |                           |
| B&NES | Brougham Hayes                          | Bath        | Widcombe       | Full Permission            | Not Started        | NC        | 50                        | 50                   |                           |                           |                           |
| B&NES | Hartwells Garage                        | Bath        | Newbridge      | Application Imminent       | Not Started        | RF        | 80                        | 80                   |                           |                           |                           |
| B&NES | Roseberry Place                         | Bath        | Twerton        | Application Imminent       | Not Started        | NC        | 170                       | 170                  |                           |                           |                           |
| B&NES | Avon Street Car and Coach Park          | Bath        | Abbey          | None                       | Not Started        | RF        | 120                       |                      | 120                       |                           |                           |
| B&NES | Cattlemarket                            | Bath        | Abbey          | None                       | Not Started        | RF        | 50                        |                      | 50                        |                           |                           |
| B&NES | Manvers Street                          | Bath        | Abbey          | None                       | Not Started        | RF        | 100                       |                      | 100                       |                           |                           |
| B&NES | Royal United Hospital                   | Bath        | Newbridge      | None                       | Not Started        | RF        | 100                       |                      | 100                       |                           |                           |
| B&NES | Bath Press                              | Bath        | Westmoreland   | Application Imminent       | Not Started        | ML        | 200                       | 200                  |                           |                           |                           |
| B&NES | Twerton Park                            | Bath        | Twerton        | None                       | Not Started        | H         | 150                       |                      |                           | 150                       |                           |
| B&NES | Odd Down/Southstoke                     | Bath        | Bathavon South | Allocated Site             | Not Started        | NC        | 300                       | 300                  |                           |                           |                           |

| UA    | Area   | Policy Area             | Ward   | Planning Status                   | Dev't Status            | Certainty | Dwelling Totals 2013-2036 | Dwelling Totals 2013-2021 | Dwelling Totals 2022-2026 | Dwelling Totals 2027-2031 | Dwelling Totals 2032-2036 |
|-------|--|-------------------------|--|-----------------------------------|-------------------------|-----------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| B&NES | SW Keynsham 1                                | Keynsham                | Keynsham South                                     | Full Permission                   | Under Construction      | NC        | 285                       | 285                       |                           |                           |                           |
| B&NES | SW Keynsham 2                                | Keynsham                | Keynsham South                                     | Full Application Submitted        | Not Started             | NC        | 266                       | 266                       |                           |                           |                           |
| B&NES | Somerdale                                    | Keynsham                | Keynsham North                                     | Part Outline/Part Full Permission | Not Started             | NC        | 700                       | 350                       | 350                       |                           |                           |
| B&NES | Riverside                                    | Keynsham                | Keynsham South                                     | None                              | Not Started             | ML        | 90                        | 90                        |                           |                           |                           |
| B&NES | East of Keynsham                             | Keynsham                | Keynsham East                                      | Allocated Site                    | Not Started             | NC        | 250                       | 250                       |                           |                           |                           |
| B&NES | East of Keynsham (Safeguarded Green Belt)    | Keynsham                | Keynsham East                                      | Safeguarded Land                  | Not Started             | RF        | 250                       |                           | 250                       |                           |                           |
| B&NES | SW Keynsham 3                                | Keynsham                | Keynsham South                                     | Allocated Site                    | Not Started             | NC        | 150                       | 150                       |                           |                           |                           |
| B&NES | Cautletts Close                              | Somer Valley            | MSN Redfield                                       | Full Permission                   | Under Construction      | NC        | 109                       | 109                       |                           |                           |                           |
| B&NES | Alcan  | Somer Valley            | Westfield  | Full Permission                   | Under Construction      | NC        | 169                       | 169                       |                           |                           |                           |
| B&NES | Radstock Railway Land                        | Somer Valley            | Radstock   | Part Outline/Part Full Permission | Not Started             | NC        | 190                       | 190                       |                           |                           |                           |
| B&NES | Fosseway South                               | Somer Valley            | MSN Redfield                                       | Outline Permission                | Not Started             | NC        | 165                       | 165                       |                           |                           |                           |
| B&NES | Monger Lane                                  | Somer Valley            | MSN North  | Outline Permission                | Not Started             | NC        | 135                       | 135                       |                           |                           |                           |
| B&NES | Knobsury Lane                                | Somer Valley            | Radstock   | Outline Permission                | Not Started             | NC        | 53                        | 53                        |                           |                           |                           |
| B&NES | Paulton House                                | Somer Valley            | Paulton  | Prior Approval Change of Use      | Not Started             | NC        | 58                        | 58                        |                           |                           |                           |
| B&NES | R/O St Peters Factory                        | Somer Valley            | Westfield  | Pre app Submitted                 | Not Started             | NC        | 90                        | 90                        |                           |                           |                           |
| B&NES | Welton Bibby Baron                           | Somer Valley            | MSN North  | Allocated Site                    | Not Started             | RF        | 150                       | 150                       |                           |                           |                           |
| B&NES | Polestar                                     | Somer Valley            | Paulton  | Part Outline/Part Full Permission | Under Construction      | NC        | 528                       | 528                       |                           |                           |                           |
| B&NES | Wellow Lane                                  | Somer Valley            | Peasedown  | Full Permission                   | Complete                | NC        | 89                        | 89                        |                           |                           |                           |
| B&NES | Greenlands Road                              | Somer Valley            | Peasedown  | Outline Permission                | Not Started             | NC        | 89                        | 89                        |                           |                           |                           |
| B&NES | Temple Inn Lane                              | Rural                   | Temple Cloud                                       | Outline Application Submitted     | Not Started             | ML        | 70                        | 70                        |                           |                           |                           |
| SGC   | Charlton Hayes, Patchway                     | North Fringe of Bristol | Patchway   | Planning Permission               | Site under construction | NC        | 2067                      | 2067                      | 0                         | 0                         | 0                         |
| SGC   | Wallscourt Farm, Filton                      | North Fringe of Bristol | Frenchay and Stoke Park                            | Planning Permission               | Site under construction | NC        | 283                       | 283                       | 0                         | 0                         | 0                         |
| SGC   | Sea Stores, Kennedy Way, Yate                | Yate/Chipping Sodbury   | Yate Central                                       | Planning Permission               | Site under construction | NC        | 53                        | 53                        | 0                         | 0                         | 0                         |
| SGC   | Coopers Site, Westerleigh Road, Yate         | Yate/Chipping Sodbury   | Yate Central                                       | Planning Permission               | Site under construction | NC        | 53                        | 53                        | 0                         | 0                         | 0                         |
| SGC   | Land at Harry Stoke, Stoke Gifford           | North Fringe of Bristol | Frenchay and Stoke Park/Stoke Gifford/Winterbourne | Planning Permission               | Site under construction | NC        | 1200                      | 1116                      | 84                        | 0                         | 0                         |
| SGC   | Hanham Hall Hospital, Whittucks Road, Hanham | East Fringe of Bristol  | Hanham   | Planning Permission               | Site under construction | NC        | 158                       | 158                       | 0                         | 0                         | 0                         |

| UA  | Area   | Policy Area             | Ward   | Planning Status  | Dev't Status            | Certainty | Dwelling Totals 2013-2036 | Dwelling Totals 2013-2021 | Dwelling Totals 2022-2026 | Dwelling Totals 2027-2031 | Dwelling Totals 2032-2036 |
|-----|--|-------------------------|--|--|-------------------------|-----------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| SGC | Emersons Green                                   | East Fringe of Bristol  | Boyd Valley/Emersons Green                         | Planning Permission  | Site not started        | NC        | 2300                      | 2300                      | 0                         | 0                         | 0                         |
| SGC | Waterworks Site, Soundwell Road, Kingswood       | East Fringe of Bristol  | Kingschase   | Planning Permission  | Site not started        | NC        | 75                        | 50                        | 25                        | 0                         | 0                         |
| SGC | Kingswood Trading Estate, Elmtree Way, Kingswood | East Fringe of Bristol  | Kingschase   | Planning Permission  | Site not started        | NC        | 57                        | 57                        | 0                         | 0                         | 0                         |
| SGC | The Meads, Frampton Cotterell                    | Elsewhere               | Frampton Cotterell                                 | Planning Permission  | Site under construction | NC        | 27                        | 27                        | 0                         | 0                         | 0                         |
| SGC | Mount Pleasant Farm, Longwell Green              | East Fringe of Bristol  | Longwell Green                                     | Planning Permission  | Site not started        | NC        | 70                        | 70                        | 0                         | 0                         | 0                         |
| SGC | Land at Barnhill, Chipping Sodbury               | Yate/Chipping Sodbury   | Chipping Sodbury                                   | Planning Permission  | Site not started        | NC        | 170                       | 170                       | 0                         | 0                         | 0                         |
| SGC | Land north of Park Farm, Thornbury               | Thornbury               | Thornbury North                                    | Planning Permission  | Site not started        | NC        | 500                       | 500                       | 0                         | 0                         | 0                         |
| SGC | North Yate New Neighbourhood                     | Yate/Chipping Sodbury   | Yate North   | Planning Permission  | Site not started        | NC        | 3000                      | 1674                      | 1026                      | 300                       | 0                         |
| SGC | Former Coopers Works, Westerleigh Road, Yate     | Yate/Chipping Sodbury   | Yate Central                                       | Planning Permission  | Site under construction | NC        | 92                        | 92                        | 0                         | 0                         | 0                         |
| SGC | Morton Way North, Thornbury                      | Thornbury               | Thornbury North                                    | Planning application submitted   | Site not started        | NC        | 300                       | 300                       | 0                         | 0                         | 0                         |
| SGC | East of Coldharbour Lane, Stoke Gifford          | North Fringe of Bristol | Frenchay and Stoke Park                            | Site allocated in Local Plan and submission of planning application expected | Site not started        | NC        | 650                       | 650                       | 0                         | 0                         | 0                         |
| SGC | South of Douglas Road, Kingswood                 | East Fringe of Bristol  | Woodstock  | Planning Permission awaiting signing of S106 Agreement                       | Site not started        | NC        | 334                       | 334                       | 0                         | 0                         | 0                         |
| SGC | Emersons Green                                   | East Fringe of Bristol  | Boyd Valley  | Site Allocated in Local Plan   | Site not started        | RF        | 500                       | 450                       | 50                        | 0                         | 0                         |
| SGC | Cribbs Patchway New Neighbourhood                | North Fringe of Bristol | Patchway   | Site allocated in Core Strategy  | Site not started        | NC        | 5700                      | 2996                      | 2704                      | 0                         | 0                         |
| SGC | New Neighbourhood, Harry Stoke                   | North Fringe of Bristol | Winterbourne/Stoke Gifford/Frenchay and Stoke Park | Site allocated in Core Strategy  | Site not started        | NC        | 2000                      | 1020                      | 980                       | 0                         | 0                         |
| SGC | Frenchay Hospital, Park Road, Frenchay           | North Fringe of Bristol | Frenchay and Stoke Park                            | Planning application submitted   | Site not started        | NC        | 490                       | 490                       | 0                         | 0                         | 0                         |
| SGC | Former Intier Site, Bath Road, Bitton            | Elsewhere               | Bitton   | Submission of planning application imminent                                  | Site not started        | ML        | 140                       | 140                       | 0                         | 0                         | 0                         |
| SGC | Rodford Primary School, Yate                     | Yate/Chipping Sodbury   | Dodington  | Submission of planning application imminent                                  | Site not started        | ML        | 63                        | 63                        | 0                         | 0                         | 0                         |

| UA  | Area  | Policy Area             | Ward                                   | Planning Status                             | Dev't Status       | Certainty | Dwelling Totals 2013-2036 | Dwelling Totals 2013-2021 | Dwelling Totals 2022-2026 | Dwelling Totals 2027-2031 | Dwelling Totals 2032-2036 |
|-----|---|-------------------------|--|---|--------------------|-----------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| SGC | The Heath/Newton House, Cadbury Heath   | Elsewhere               | Parkwall                               | Submission of planning application imminent | Site not started   | ML        | 60                        | 60                        | 0                         | 0                         | 0                         |
| NSC | Oxford Plasma Technology, North End Road, yatton  | Other (Remaining) areas | Yatton                                 | Full Planning consent                       | Not started        | ML        | 66                        | 66                        |                           |                           |                           |
| NSC | Barrow Hospital   | Other (Remaining) areas | Backwell                               | Outline planning subject to legal           | Not started        | ML        | 215                       | 215                       |                           |                           |                           |
| NSC | Block Q, Newfoundland Way, East Quay, Portishead  | Portishead              | Portishead Central                     | Full Planning consent                       | Not started        | NC        | 94                        | 94                        |                           |                           |                           |
| NSC | Block D, Dockside, Portishead   | Portishead              | Portishead Central                     | Full Planning consent                       | Under construction | NC        | 124                       | 124                       |                           |                           |                           |
| NSC | Block G Dockside  | Portishead              | Portishead Central                     | Full Planning consent                       | Under construction | NC        | 110                       | 110                       |                           |                           |                           |
| NSC | East Dock, Dockside   | Portishead              | Portishead Central                     | Full Planning consent                       | Not started        | NC        | 13                        | 13                        |                           |                           |                           |
| NSC | Land at 176 High Street, Portishead   | Portishead              | Portishead South & North Weston        | Full Planning consent                       | Under construction | NC        | 58                        | 58                        |                           |                           |                           |
| NSC | Severn Paper Mill, Portishead   | Portishead              | Portishead East                        | Outline planning consent                    | Not started        | NC        | 135                       | 135                       |                           |                           |                           |
| NSC | Weston Gateway Caravan Park, WSM  | Weston-super-Mare       | Weston-super-Mare South Worle          | Full Planning consent                       | Under construction | NC        | 193                       | 193                       |                           |                           |                           |
| NSC | Bridge Farm, Bristol Road, WSM  | Weston-super-Mare       | Weston-super-Mare South Worle          | No planning consent - allocated site        | Not started        | RF        | 50                        | 50                        |                           |                           |                           |
| NSC | Summer Lane, Locking Castle, WSM  | Weston-super-Mare       | Weston-super-Mare South Worle          | No planning consent - allocated site        | Not started        | ML        | 100                       | 100                       |                           |                           |                           |
| NSC | West Wick, Weston-super-Mare  | Weston-super-Mare       | Weston-super-Mare South Worle          | No planning consent - allocated site        | Not started        | ML        | 100                       | 100                       |                           |                           |                           |
| NSC | Parts of phases 1&2, areas 1,2,3,4,6,7,8 & 9 Summer Lane Wolvershill Road, West Wick, Locking Castle, Weston super Mare, Somerset | Weston-super-Mare       | Weston-super-Mare South Worle          | Full Planning consent                       | Under construction | NC        | 62                        | 62                        |                           |                           |                           |
| NSC | The Old Sorting Office, Langford Road, Weston-super-Mare  | Weston-super-Mare       | Weston-super-Mare South                | Full Planning consent                       | Under construction | NC        | 51                        | 51                        |                           |                           |                           |
| NSC | Former Quadron Depot, Mendip Road, Weston-super-Mare  | Weston-super-Mare       | Weston-super-Mare East                 | Full Planning consent                       | Not started        | NC        | 65                        | 65                        |                           |                           |                           |
| NSC | Parklands Village   | Weston-super-Mare       | Hutton & Locking / Banwell & Winscombe | Consent for part of site                    | Under construction | NC        | 3650                      | 1945                      | 1540                      | <b>165</b>                |                           |
| NSC | Winterstoke Village   | Weston-super-Mare       | Weston-super-Mare East                 | Consent for part of site                    | Not started        | NC        | 2550                      | 1150                      | 1200                      | 200                       |                           |

Future Year Infrastructure and Service Changes

| Scheme ID  | UA(s)            | Scheme name  | Scheme description  | Scheme type          | nc/mt/rf/hy - see classification | Opening date   |
|------------|------------------|--|---|----------------------|----------------------------------|----------------|
| RC-01      | BCC              | 20mph speed limits   | Roll out of 20mph speed limits across Bristol   | Traffic management   | nc                               | Mar-15         |
| RC-02      | SG               | CPNN Off-site Works Package  | Capacity and safety improvements on Gipsy Patch Lane.   | Junction improvement | nc                               | 2015           |
| RC-03      | SG               | CPNN Off-site Works Package  | A38 Filton roundabout. Capacity and safety improvements on 3-arms.  | Junction improvement | nc                               | 2015           |
| RC-04      | SG               | CPNN Off-site Works Package  | Widening of M5 J16 motorway off-slips, A38 North and circulatory carriageway.   | Junction improvement | nc                               | 2015           |
| RC-05      | SG               | CPNN Off-site Works Package  | SCHEME CHANGE. Signing & lining changes on M5 J17 southbound off-slip. Widening of Merlin Road exit from roundabout and Highwood Lane entry to Merlin Road junction.  | Junction improvement | nc                               | 2015           |
| RC-06      | SG               | CPNN Off-site Works Package  | Widening of southbound approach at A38 Aztec West Rbt   | Junction improvement | mt                               | 2015           |
| RC-07      | BCC              | CPNN Off-site Works Package  | A4018 Bus Corridor. Crow Lane, Charlton Road, Greystoke Avenue junction improvements  | Junction improvement | mt                               | 2015           |
| RC-08      | SG               | CPNN Off-site Works Package  | Local bus service enhancements  | Public Transport     | mt                               | 2016           |
| RC-09      | SG               | Cribbs Patchway (Filton Airfield) New Neighbourhood On-site Highways | Network of highway schemes on development site and access junctions onto A4018, A38, Merlin Road, Charlton Rd (bus only).   | Highways             | mt                               | Phased 2016-26 |
| RC-10_AVTM | BCC              | MetroBus: Ashton Vale to Temple Meads                                | Rapid transit from Ashton Vale to Temple Meads via Bristol city centre  | Major scheme         | nc                               | Jul-15         |
| RC-10_NFTH | BCC/SG           | MetroBus: North Fringe to Hengrove Package                           | North Fringe to Hengrove Package  | Major scheme         | nc                               | 2017           |
| RC-12      | BCC/NSC          | MetroBus: South Bristol Link   | New highway link and bus route between A370 and Hengrove Park   | Major scheme         | nc                               | 2016/17        |
| RC-13      | BCC              | Residents parking  | Roll out of residents parking permit scheme across central Bristol  |                      | nc                               | various        |
| RC-14      | BCC              | Temple Circus Project  | Redesign of Temple Circus roundabout  |                      | nc                               |                |
| RC-14      | BCC              | Temple Circus Project  | Related changes to the end of Victoria Street, The Friary, Temple Way, Temple Gate, connection with Redcliffe Way, Bath Bridge Roundabout   |                      | nc                               |                |
| RC-16      | BCC              | Feeder Road Cycle Route  | Creation of a shared use footway and alterations to three junctions: Avon Street (minor) Marsh Lane (minor) Feeder Road (more significant)  | Walk & cycle         | mt                               |                |
| RC-18      | BCC              | New Junction at Cattle Market Road/Feeder Road:                      | Part of the works to construct a bridge into the Diesel Depot (Arena Site)  | Junction improvement | nc                               |                |
| RC-19      | Highways England | Managed Motorway   | Sections of M4 (between junctions 19 and 20), and M5 (between junctions 15 and 17) converted to Smart motorway. Smart motorways help relieve congestion Hard shoulder used as a running lane to create additional capacity. | Major scheme         | nc                               | Jan-14         |
| RC-20      | SGC              | PT for new developments  | Addition of additional bus routes serving CPNN.   | Public Transport     | mt                               |                |
| RC-21      | BCC              | PT for new developments  |   | Public Transport     | mt                               |                |
| RC-22      | BCC              | St James Barton rbt  | Improvement works on roundabout   |                      | nc                               |                |
| RC-23      | NSC              | M5 J21   | Outbound scheme and SB off (Weston Package)   |                      | nc                               |                |
| RC-24      | SGC              | Hambrook Jn scheme   | Improvement scheme at junction;   |                      | nc                               |                |
| RC-25      | SG               | Cribbs Patchway Metrobus Extension                                   | Extending the NFHP Metrobus route from The Mall back to Parkway; selective bus priority along route   | Major scheme         | mt                               |                |
| RC-26      | Highways England | M5 Junction 19   | Replacement of left turn off the south bound exit slip, with a two lanes  |                      | nc                               |                |
| RC-27      | Network Rail     | London Paddington – South Wales Rail Electrification                 | Extra services between Bristol Temple Meads and London Paddington via Bristol Parkway included  | Major scheme         | nc                               |                |
| RC-28      | BCC              | Portway P&R Rail Station   | Opening of rail station at Portway Park and Ride Site   | Public Transport     | mt                               |                |