



**Transport for
Greater Bristol
Alliance**
Campaigning for
Integrated Transport

A TRAFFIC MANAGEMENT PLAN FOR BRISTOL

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EXECUTIVE SUMMARY

These proposals for a twenty-first century traffic management system for the Bristol area are not from a single-issue lobby group; TfGB offers a comprehensive package of transport and environment measures which builds on the emerging good practice found across the region such as **MetroWest**, the **City Bus Deal** in Bristol and the well-organised **bus-rail interchange** at Bath Spa.

As we emerge from the special circumstances of the Covid crisis the need for modern traffic and transport planning in view of the environmental challenges we all face will come to the forefront again. The task is not just environmental. It is one also of equality of opportunity, including that of non-car users. Dealing with the disfiguring impact of car traffic on our environment, along with modern public transport and active travel, promotes efficient use of resources, health, opportunity, inclusion and social justice. It is also good for business.

Public transport and active travel is again being discussed in the West of England but we are in danger of making poor decisions. TfGB's contribution brings together residents and campaigners who have acquired expertise through reflection on travel in Bristol and elsewhere over many years. It is citizen-created, reflecting the concerns and observations of TfGB supporters and others, for their community and their environment.

Our ***Traffic Management Plan*** is part of a holistic approach. It should be read in conjunction with the TfGB ***Rapid Transit Plan*** and the proposals for 'liveable neighbourhoods' led by Sustrans and others. The Plan is also supported by the TfGB ***Bus Plan***, the last iteration of which was published late in 2018. Modifications to that plan are implied in our ***Rapid Transit Plan***.

Our Plan is neither final nor complete. It cannot be. It is well considered and indicative, but needs to be developed and implemented by a team of professional planners supported by political commitment from decision makers.

The climate emergency demands reducing car traffic in urban areas. Our traffic management plan is part of this, while also promoting a healthier liveable city. It will be phased along with the introduction of positive alternatives in the form of clean buses and trams, and active travel. Reduced surface traffic also means that

there is no need for expensive underground options. The TfGB ***Traffic Management Plan*** dovetails with WECA's **MetroWest** local rail improvements, TfGB's (now WECA's) ***Bus Plan***, Bristol City Council's evolving cycling strategy, TfGB's ***Parking Plan***, and TfGB's ***Rapid Transit Plan*** which jointly can achieve reduced traffic loads on Bristol's roads and its newly pedestrianised areas.

The chief strategy adopted in this Traffic Management Plan may be summarised as 'protecting neighbourhoods and centres' – allowing them to be liveable. The street can then begin to return to the **public realm**. Bristol is full of pubs, cafes and booklets showing photographs of local streets taken *circa* 1900 – pictures often show street views far calmer, quieter and more sociable than experienced today. Places of vital random social interchange and mixing. This is a rosy picture, but worth aiming for in these supposedly more civilised times.

Map 1 shows our suggested Bristol road hierarchy, complete with proposed traffic management measures: **bus (and tram)–gates, road closures and pedestrianisation**. It should be read as a map of the middle–distance future, since the bus–gates proposed for some main radial routes may not be feasible until Bristol has tram services along said routes (see the TfGB ***Rapid Transit Plan***), and has radically reduced traffic levels as a result of the implementation of TfGB's ***Parking Plan***. In the interim, vehicles will be able to access the city centre via these main roads; thereafter, access routes will be largely restricted to the M32, A4 Bath Rd, A370 Brunel Way and A4 Portway.

An alternative to such treatment might however better be a '**green wave**' tram–priority traffic signals system (as operating in Brussels) on all on–street main road routes, catering for a limited amount of access and general traffic but achieving zero delays to trams with other traffic held behind the tram and disallowed from overtaking it. This could be appropriate for **Gloucester Rd, Stokes Croft, Church Rd Redfield, Stapleton Rd, Wells Rd, Bedminster Parade and Whiteladies Rd** (thereby minimising unnecessary through–traffic increase on sideroad alternatives including Ashley Down Rd, Cromwell Rd, Redcatch Rd, Queens Rd Clifton and Pembroke Rd). **Old Market** however could be more pedestrian prioritized with a full bus/tram gate, adjacent West St actually pedestrianised (with managed servicing access), trams diverted two–way around Lawfords Gate–Trinity Rd, and general through–traffic routed via Easton Way/St Philips Causeway. Similarly **Triangle East**, with general traffic sent two–way around the Triangle South and West.

The **M32** should be **de-motorwayed** with its grade-separated junctions replaced at surface level; while **Avon Ring Road**, **Easton Way/St Phillips Causeway** and **Bond St/Temple Way** should have their grade-separated and roundabout junctions replaced by surface-level signaled junctions.

Maps for each of the **city sectors** discussed in this Plan – the city centre, inner north-east Bristol, South Bristol, inner North Bristol, and inner East Bristol – are as yet only in sketch form. They will be produced later.

To the city's many committed car drivers we say: If places like Bristol are to have a future car dependency must come to an end. More car drivers should be on the buses, trams or their bikes. Our plans ultimately assume that Central Government must intervene to curb car dependency (except for the disabled and those who live in remote locations), even if cars are all electrified.

INTRODUCTION: RETURNING TO THE PUBLIC REALM

Bristol, like most cities, is often regarded by residents as being a cluster of local neighbourhoods or 'villages'. Some have their local shopping and social centres. Around the edge (but not always on the edge) is a scatter of more modern, more anonymous car-dependent retail and employment 'centres'. The strategy adopted in this Traffic Management Plan is to make neighbourhoods permeable by pedestrians, cyclists and public transport users, and accessible by car and commercial vehicle; but closed to through-traffic by private motor vehicle. The solution is seen as being able to agree a **map of walking and cycling routes**, and an **integrated public transport network**, and simultaneously to reform and specifically **manage the road hierarchy** open to private motor vehicles. To end, in other words, Bristol's transport chaos. The identification of appropriate 'neighbourhoods' and an associated appropriate 'road hierarchy' is to some extent an iterative process, heavily dependent upon local geography. **Neighbourhood communities** must be involved, and continue to be involved, since the Highway Authority's interim solutions may lead to the need for further protective action.

A second theme is the **environmental rescue of the city centre** (which is half there) and **local suburban centres**. Some (including the city centre) can be removed from the higher echelons of the road traffic hierarchy; some not. Those that can, can often be provided with a **bus-gate**, or become fully **pedestrianised** with premises vehicular access controlled by time, weight, and/or approach route. In some streets, cyclists may be required to dismount. In each case, ways need to be found so local traffic can continue to circulate and the outside world accessed. The best solution, after local consultation, might involve 'green wave' bus/tram priority traffic signals.

A parallel theme is to offer alternative cycle and public transport access options to hitherto car-dependent, American-style 'retail' and 'leisure' centres. Until now, these places tend to remain the province of those with access to a car. They often are almost inaccessible on foot, by bicycle or by bus from much of their supposed catchment area. This is neither fair, nor commercially optimum.

Modal movement networks

A second, interlocking main strategy – or method – adopted in this Traffic Management Plan is the design and creation of a **continuous, signposted, safe and**

attractive movement network throughout the city for each separate mode of travel, and to integrate these networks so that multi-modal trips become viable.

The only mode for which this generally has been attempted is the private car; with delivery vehicles a poor second. The more environmentally sustainable and more equitable modes of transport – walking, cycling, public transport – have not been offered continuous, economic, safe and certainly not attractive networks. Nor have such networks been fully signposted and made common knowledge. They need to be. All neighbourhoods should be linked to all other neighbourhoods by such networks.

What is unnecessary (and often undesirable) is for car drivers to be able to take a straight route from any place 'A' to any other place 'B': because often that would take them directly through another person's home neighbourhood. Instead, the driver should proceed to the nearest part of the **main road network** and then follow that round till they come to the edge of their destination neighbourhood. This may mean some drivers having to drive first in the opposite direction to their ultimate destination for a while; but at least the appropriate route once found, will be convenient and not anti-social to use.

Main road capacity

The final aim of this Plan is to increase, not decrease, the **efficiency of the principal through-traffic arteries**. Once a route has been agreed to remain part of the upper level of Bristol's road hierarchy – rather than for example a Bus Priority Route – it should be allowed to operate as such. **Highway capacity** is crucially affected by **junction capacity**. Long-standing local practice is to allow uncontrolled rat-runs to proliferate, and even to encourage them with signalled entry-points onto and off the main road network; yet this compromises junction capacity. A prime example would be the junctions of St Philips Causeway with Days Rd and Whitby Rd, both of which daily cause considerable peak-hour tail-backs. The severance of rat-runs will mean less main road delays through intersecting traffic; and probably, less traffic signals in total. The road system will operate more, not less efficiently. Similarly, a **lower speed limit** on main roads can actually increase highway capacity by allowing vehicles to be closer together.

SUMMARY: A PHASED CITY-WIDE PROGRAMME

Immediate

Actions that can be taken within six months, at low cost, and without extensive public consultation.

- For Covid-19 protection: protect **public transport staff**, require public transport passengers to wear **masks**, and end **on-vehicle tickets**.
- **'Pop-up' cycle-lanes** and **footway widening** in shopping centres, as currently proposed by the City Council.
- Present Neighbourhood Councils (or sets of ward councillors) **maps of road accidents and air quality** in their area; update every six months.
- Some experimental **rat-run closures**. These to be cycle-permeable, to greatly increase Bristol's safe cycle route network.
- Instigate **orbital bus services** (see TfGB *Bus Plan*).
- Interim continuous **bus-lanes** on all main radial bus-routes, usable in the short term by cyclists, and the removal of on-street parking throughout (except for disabled and loading bays).
- Publish a draft **road hierarchy** and **bus priority route map**.

Interim

Actions requiring a medium-sized budget and public consultation, but which can be achieved within 3 years.

- Agree a **road hierarchy** and **bus priority route map**.
- The **redesignation of highways**, and a **highway resigning** programme.
- Expand the **Bus Deal** bus priority measures to permanent continuous **bus-lanes** on all main bus radial routes, including some experimental **bus-gates**; remove **on-street parking** throughout (except for disabled and loading bays within widened footways in shopping centres). Where road width, minus widened footways, is insufficient (eg. in Fishponds) have no bus-lanes, but approach via **bus-triggered signals**. Cycling provision to be parallel **segregated cycleways** on-street; or else **parallel calmed cycle routes** on side streets. Note this applies equally to the Inner Ring Road, the revised bus circuit within the city centre (see TfGB *Bus Plan*), the M32 and Easton Way/St Philips Causeway, all of which will be bus or tram routes.
- Implementation of access-only in Bristol city centre: sign **city centre access loops** and associated **bus-gates**, remove most **on-street parking**.
- Complete a ring of **Park & Ride** sites.

- Experimental orbital and feeder bus services to **suburban hubs**.
- Implement the Bristol **cycleways** strategic plan, with several stretches of new segregated cycleways alongside main radial and orbital traffic routes.
- Revise the **development control parking standards**.
- Update and issue in satnav format the **Commercial Vehicle Drivers' Atlas**.
- Experiment with **local collection centres** and **consolidation centres**.
- After local consultation, further low-cost **temporary experimental traffic management** measures. Make permanent the temporary footway widening measures.
- Publish a map of Bristol's expanded **cycleways** and **safe cycle routes** network.
- Encourage and facilitate local low-cost **Home Zones**.
- **A Workplace Parking Levy**.
- Defend and complete the **20mph** programme for almost all in-city roads including A roads.
- Make some few major routes **30mph**: notably the de-motorwayed M32 (see below) and Avon Ring Road.
- The **M4, M5, M49** should be controlled near their junctions to 40mph.
- **De-motorway the M32**. Initiate an **M32 Park&Ride** bus service, if necessary operated from a temporary site; complete with a **bus-lane** the length of the M32, and **bus-stops** on the sliproads at junctions 2 (Eastgate) and 3 (Easton/St Paul's) with surface pedestrian crossings.
- Put bus-lanes throughout the **Avon Ring Road, Inner Ring Road** (where a bus route) and **Easton Way/St Philips Causeway**, with surface pedestrian crossings.
- Close to traffic **Clifton Suspension Bridge** and **Prince St Bridge** (the latter with a segregated cycleway).

Ultimate

Considerable expenditure, requiring consultation, but achievable within 10 years.

- Demolish the grade-separated junctions of the (former) **M32** and replace with signalised junctions with surface pedestrian crossings.
- Similarly replace the grade-separated and roundabout junctions on **Avon Ring Road, Easton Way/St Phillips Causeway** and **Bond St/Temple Way** by surface-level signaled junctions. The future replacement of **Brunel Way**, as necessarily a high-level river crossing, has however a different context.

- Convert the **M32** Park&Ride bus to **tram** (the M32 will also carry the city centre–UWE–Emerson’s Green–Yate–Thornbury tramtrain line). See TfGB’s ***Rapid Transit Plan***.
- ‘**Green wave**’ bus/tram priority traffic signals systems throughout the main radial on–street routes, except at some **suburban centre** bus–gates, or Mixed Priority Route layouts.
- Fully designed public transport **hubs**.
- Integrate with TfGB’s ***Rapid Transit Plan*** infrastructure programme.
- Replace the **Plimsoll Bridge (Brunel Way)** while simultaneously closing **Dowry Square**, and making **Merchants Rd Bridge** bus–and–cycle–only.

A RE-EVALUATION OF BRISTOL'S ROAD HIERARCHY

1. Why bother about a 'road hierarchy'?

For a generation or more, thinking about 'road hierarchies' has been unfashionable. Contrast the 1970s: when urban and transport planners wanted to know which roads they should expand or construct to deal with an anticipated (and self-fulfilling) growth in private car traffic. Yet bothering about road hierarchies soon will become fashionable once more – this time around, to work out which roads are best suited to cycling, or pedestrians, or bus operation, or future tram routes, and then making them so. Without an official road hierarchy every road is potentially a traffic route, and thus becomes unsuited to bus, walk or cycle usage. This is true whether one is talking about a city, a suburban commuter settlement, a market town, a rural area or a National Park.

In the 70s, behaviourally naive 'traffic models' were used to 'predict' (that is, 'trend plan') the future. More recently, the Traffic Management Traffic Act 2004 has been narrowly interpreted to mean that all cars turning up on Bristol's roads had to be catered for. 'Traffic' did not seem to include public transport users, pedestrians or cyclists; and 'catered for' did not consider externalities like noise or severance (and only grudgingly, accidents). Air quality issues belatedly have intruded, but largely ignored in practice. Rat-runs – cars taking short-cuts through often residential streets – have been actively assisted (by traffic signal timings, for example), to supposedly 'enhance the capacity of the network'. Until very recently this has reinforced the idea that car usage is the norm. This has gone hand-in-hand with declining personal health, increasing inequality, and degradation of the environment. 'Public space' has been one of the casualties.

2. Bristol's transport planning

For a while now, Bristol has been planned as if cars mattered, not people. The city is indeed particularly poor in this regard. A lot can be blamed on the lack of an urban Rapid Transit system, whether heavy-rail or tram – a problem not shared by Manchester, Sheffield, Nottingham and (soon) Cardiff. Hence the need for Transport for Greater Bristol's recently drafted *Rapid Transit Plan*. With little alternative – although the buses have been getting better, and will get more so if the TfGB *Bus Plan* is influential – movement choices come down to walking, cycling or the car. The car retains the upper hand.

3. Current road usage

The most easily-digestible data on traffic flows in Bristol is probably still that of the *Bristol Local Transport Plan, 2001/2–2005/6* (Appendix 4.1, Figs. 1 and 2) published in 2000. The traffic figures it contains have never been fully analysed. These figures, admittedly out-of-date, are sobering. At that date (the actual traffic counts were made between 1996 and 1999), over 60,000 vehicles (95% of them cars) were moving (two-way) on the M32 between 7am and 7pm; on the other side of the city 50,000 were crossing over the Avon at Brunel Way, fed by the A4 Portway, the A370 and other approaches.

Within the city itself relatively minor roads like Ashley Down Rd and St John's Lane in the inner city were carrying 15,000 and 16,000 respectively. To put this in perspective, Ashley Down Rd, which appears in no transport planning strategies, was carrying more cars than the parallel A38 Gloucester Rd which was supposed to be the main traffic route in that radial corridor; while St John's Lane was carrying almost twice the traffic of the parallel A370 York Rd. Things have not markedly changed since, but need to. It is in part an issue of equality.

4. Bristol's road hierarchy

Laissez faire transport planning means that the city's road hierarchy of A,B,C and unclassified roads has, the motorways and some few new bypasses aside, not been re-assessed for decades. The result is a free-for-all in Bristol, where any road can become legitimised by usage as a general traffic route (usually unsigned), managed by a **Highways Authority** which is capable of redesigning the roadway, junction layout and traffic signals to accept such traffic. This is the unofficial but informal acceptance of 'rat-runs'. The result is widespread traffic queues, delays, excessive vehicle emissions, and dangerous junctions – across the city – blocking the progress of amongst other things, buses, bicycles and pedestrians. Some of the queues are outside Primary School windows.

The above-mentioned *Bristol Local Transport Plan, 2001/2–2005/6* proposed and mapped a revised road hierarchy (Appendix 4.1, Fig. 3), including the designation of the city's traditional radial main roads as Bus Priority Routes. The Plan was commended by the government's Dept. for Transport. None of the recommended reform has actually occurred, nor the city's highway signage renewed. The partially-successful **Greater Bristol Bus Network** traffic management improvements,

at least superficially followed its spirit. However, traffic signal renewal and retiming, were designed to ease general traffic rather than specifically buses, in the belief that faster-flowing general traffic would benefit buses. It doesn't really; it encourages the continued growth of general traffic, leading to traffic-induced delays to buses somewhere else along the route. In spite of this, bus usage in Bristol has bucked the national trend and risen; partly no doubt because of the lack of any rapid transit alternative. But modal split – and the relative dominance of car usage – has not dramatically shifted. The city's rat-runs have if anything grown in intensity and number. Because measurements are not being taken, no-one actually knows how bad traffic in Bristol is, or where it is.

An essential first step then, is to undertake a **review of Bristol's road hierarchy**, with the intention thereafter to positively manage roads in concert with revised designations, and to renew our highway signage. A draft map is presented in **Map 1**, largely adopting *BLTP's Appendix 4.1, Fig. 3*. Its broad structure, making full use of existing highways infrastructure and to a large degree respecting agreed hierarchical concepts, is as follows:

- The **M4** and **M5** motorways as E–W and N–S approaches to but in effect **conurbation bypasses** for Bristol,
- The **A4174 Avon Ring Road** as in effect a **ring road** around the E and most of the N sides of the city, with A4 Portway, Brunel Way bridge and the A370 Long Ashton bypass operating as a local W side bypass. The remaining S side of the city has a partial ring road in the new A4174 South Bristol Link, and the improved A4174 (Hengrove Way–Callington Rd) road within the city fabric connecting somewhat unsatisfactorily either end with the South Bristol Link and A4/Avon Ring Road. A new-build completion of this southern ring, avoiding built-up Brislington, Whitchurch, Hengrove and Withywood, would not be illogical (but would have to be allied to traffic restraint on existing roads and is said to have engineering geological landslip issues along the north face of Dundry Hill).
- Certain **radial traffic routes** extending in towards the city centre are inevitably required. Those thought generally to be environmentally acceptable to carry more heavy traffic flows include the **M32**, **A4 Bath Rd**, **A38 Bridgwater Rd**, **A370** and **A4 Portway**. These routes are already designated as **National Primary Routes** (see maps in *BLTP, 2001/2–2005/6*, App. 5).

- The **Inner Ring Road** (or Scope Route) is already defined in city planning documents, at least in broad terms, ties together the National Primary Routes around the city centre while largely avoiding allowing through-traffic directly through the city centre. The IRR is however capable of up-dating for environmental reasons.
- The city's traditional radial roads currently designated County Primary Routes or being simply A roads, not forming environmentally acceptable radial traffic routes because they serve the main suburban shopping centres, the *BLTP* proposed as **Bus Priority Routes** (see *BLTP, 2001/2–2005/6*, App. 4, Fig.3). Namely, the A38 **Gloucester Rd**, A432 **Fishponds Rd/ Stapleton Rd**, A420 **Lawrence Hill/Old Market**, A37 **Wells Rd**, the inner end of the A38 at **Bedminster Parade**, A4 **Hotwells Rd** inward from Brunel Way, and A4018 **Whiteladies Rd**.
- Localities within the city are interconnected via acceptable **distributor roads** partially identified in *BLTP, 2001/2–2005/6*, App. 4. The least controversial include recognised main feeders onto higher hierarchy routes: Muller Rd onto the M32; and Bridge Valley Rd and Sylvan Way onto Portway. But these definitions, and any actions flowing from that, demand fuller discussion. Excluded should be many currently heavily-trafficked and largely unplanned 'rat-runs' (see below).

It is proposed that once agreement between WECA and BCC can be achieved as to the city's revised road hierarchy, then the Dept. for Transport be approached to confirm any **road re-designations** thereby required, and the Highway Authority (BCC and WECA in mutual agreement) thereafter undertake a full reform of the city's **highway signage**. The resultant reform has then to be fed through to Ordnance Survey, commercial road atlas publishers, and satnav apps. Bristol's traffic management will cease to be anarchic, and take on 'Continental' socially-responsible urban planning.

Map 1 is not without its complications. The 'National Primary Route' network is that proposed by *Bristol Local Transport Plan, 2001/2–2005/6*, and is not yet currently official. Further, the attempt to define logical, suitable 'distributor roads' is tentative. Marked also on this map are those other roads – largely unplanned and uncontrolled rat-runs – experiencing during the survey period 12-hour two-way flows of over 5,000 vehicles, which is a lot if you have to live next to it. This map of otherwise 'local access roads' is not complete. Its implications need to be

worked through in local traffic management plans. The Sector Studies of the rest of this traffic Management Plan will draft suggested neighbourhood solutions.

5. Bus/tram Priority Routes

Efficient public transport is an aspect of equality of opportunity: poor services impact most on the already disadvantaged. But this situation can be improved.

Bristol's potential Bus Priority Routes are the A38 **Gloucester Rd**, A432 **Fishponds Rd/ Stapleton Rd**, A420 **Lawrence Hill/Old Market**, A37 **Wells Rd**, the inner end of the A38 at **Bedminster Parade**, A4 **Hotwells Rd** inward from Brunel Way, and A4018 **Whiteladies Rd**. These routes remain full of car traffic: which severs suburban centres that include the majority of Bristol's traditional suburban roadside retail foci, and brings noise, air pollution and traffic danger into these pedestrian-intensive public spaces. Sometimes bus-lanes on these routes, unless carefully planned with wider traffic management measures, can as a side-effect shunt general traffic onto parallel existing or newly-breaching rat-runs. Bus services joining these main roads from side-roads without bus-priority assistance can be stuck in traffic queues trying to get into the main road.

More carefully-designed **bus-priority**, including **bus-triggered signals** on the side-road entry points, and more comprehensive lengths of radial road (and main orbital road) **bus-lanes** where space permits will help. The City Council is attempting this by the **Bus Deal** now struck with the main bus operator First Bus, which in return for undertaking extra bus-priority traffic management is promised more buses and more frequent bus services. This enterprise needs perhaps better design and/or more political will and constructive public engagement; progress has been slow. Where road width is insufficient (eg. in Fishponds shopping centre), have widened footways but no bus-lanes; approach via **bus-triggered signals**.

Another required policy strand is to complete the ring of bus-served **Park&Ride sites**, so that each Bus Priority Route has a Park&Ride close to the beginning of the city's built-up area to tap-off commuter car drivers. Over the last few years this programme has stalled, with effectively no progress on getting P&R on the M32, A37, A38 Gloucester Rd or A4018 Whiteladies Rd. (The Long Ashton site now serves not only the A370 but also the A38 Bridgwater Rd via the South Bristol Link). Part of this lack has been due to the disinterest of South Gloucestershire Council; and the A37 at Whitchurch, Bath & Northeast Somerset Council.

The most radical and long-term measure is to move Bristol away from car-dependency not only by helping bus flows (and to plan for and build rapid transit), but by restraining car usage. This is already occurring naturally, given the declining car-ownership levels amongst the young (whose driving insurance costs are high, and a car no longer the 'must have' personal accessory). Transport modellers have not caught up with this social trend. That aside, if we wanted Bus Priority Routes to live up to their name, we would design them radically as **Mixed Priority Routes** of the type achieved on Walworth Rd in the South London borough of Southwark: with widened footways, removal of kerbside parking, and bus-lanes leading to bus-priority traffic signals giving entry to a narrowed road stretch.

More radical still, and at a later stage, would be to block Bus Priority Routes to general traffic by means of a **bus-gate** at the heart of a corridor's suburban shopping centre; otherwise rely on 'green wave' bus/tram priority traffic signals. Bristol has long had a central city bus-gate at Horsefair/Penn St in Broadmead, and in the inner city at East St in Bedminster and (for some turns only) Stapleton Rd in Easton; it is proposing others at Bristol Bridge and Baldwin St/the Centre, and should do so also on **Park St.** which currently likewise feeds unnecessary traffic into the Centre. In the future however one would wish to see bus-gates, Mixed Priority Route treatment or 'green wave' bus/tram priority traffic signals systems for all other suburban centres: at **Bedminster Parade, Broadwalk** (Knowle), **Old Market, Church Rd Redfield, Fishponds, Gloucester Rd** Bishopston, **Westbury on Trym** and **Whiteladies Rd.** These sites are indicated on **Map 1.** It should be re-emphasised that this is a late phase of the Plan, and can only work once Park&Ride and other parking measures (include a Workplace Parking Levy – see TfGB ***Parking Plan***) are in place. A precursor to the environmental improvement of these suburban centres is to remove **on-street parking** (except for disabled and loading bays) and to manage premises access. Bus-gates should not be contemplated without first ensuring that the alternative **rat-runs** do not get worse, by judiciously closing them – as Avon County Council had begun to in St Paul's by the Inner Ring Road and M32, Montpellier beside the A38, and Knowle beside the A37. One political justification for calming both suburban centres and rat-runs is their current level of road accidents. Another is to create space for associated **public transport 'hubs'**. Cyclists may use bus-lanes temporarily; but where width exists on a main radial or orbital route, **segregated cycleways** or **parallel calmed cycle routes** are desirable. Often it might be advisable to **coincide with the arrival of a**

tram line before installing a bus– (now tram–) and cycle gate (see TfGB *Rapid Transit Plan*). But some, like Park St, can be done now. As can parallel **calmed cycle routes** on side–streets on some corridors.

6. Public transport hubs

Within suburban centres (but also elsewhere at for example MetroWest rail stations), TfGB's *Bus Plan* and *Rapid Transit Plan* envisage 'public transport hubs' – **interchange** stops served variously by trams, radial, orbital and feeder bus services. Sometimes these could be terminal stops (though this has implications for bus stacking). Stops ideally would be shared between radial, orbital and feeder buses; though this will not always be possible due locally to routes and road layouts.

Associated facilities can include shelters (certainly), seating, toilets, cycle parking, even refreshments. This is a new design task for Bristol, but a brave start has already been made at the shared stops now found at Old Market, @Bristol, Hengrove Park and Southmead Hospital. The planning of orbital and feeder bus routes is to some extent iterative upon finding suitable hub locations.

Only when interchange hubs are established will it feel as if Bristol's public transport system is a real alternative transport system – one matching the '**go–anywhere**' characteristic of the private car or taxi achieved by go–ahead cities like West Berlin and Utrecht.

7. Road accident patterns

Road accidents impact most upon disadvantaged localities, for a variety of reasons; this must stop.

For several years (and possibly still) the City Council recorded road accidents not by location, but by assigning many to the nearest road junction, on the assumption that junctions are the hazard. The real pattern can be gained from *BLTP, 2001/2–2005/6 (App. 3.4)* which maps accidents by actual site, for groups of 2 or 3 city wards. The pattern that emerges is revealing. Firstly, although the worst concentrations of accidents do occur at or approaching a main road junction, the majority of accidents don't. Most are simply spread along those roads with the most traffic: the official traffic routes, but also the rat–runs. Thus in South Bristol, Bishopsworth, Hartcliffe and Whitchurch Park wards had thin strings of accidents

on A38 Bridgwater Rd, A4174 Hartcliffe Way and Whitchurch Lane; but most of its 301 'killed or injured' casualties (1997–9), including a relatively high proportion of children, arose from poor driving on minor estate roads. Whereas in Brislington East and West wards, the 366 casualties there relate mostly to a concentration of accidents along the A4 Bath Rd, with the rest largely confined to strings along the trafficked 'distributor roads' (or 'rat-runs' depending upon definition) Talbot Rd, West Town Lane, Hungerford Rd, Sandy Park Rd, Whitby Rd, Wick Rd, Allison Rd, Broomhall Rd, Wootton Rd. This variation is instructive and should direct subsequent remedial efforts.

The solution is thus some **junction improvements** including traffic signal management, lighting and carriageway modification (the traditional response); but more importantly, **speed control, traffic reduction and traffic route management**. The detailed ward maps of *BLTP, 2001/2–2005/6* seem not to have been repeated or updated since.

Meantime the city adopted a city-wide **20mph policy**, thereafter gradually and haltingly implemented. Road accidents may have since reduced, especially because many of the city's main suburban traffic routes have been included, as well as residential side-roads. All to the good. But the accident maps show this is not the whole problem.

The city road hierarchy's chief routes, including the M32, Portway, Bath Rd and Brunel Way, display a string of road accidents (often shunts). As part of the *Rapid Transit Plan*, the M32 is envisaged as **de-motorwayed** and it and the Avon Ring Road calmed so as to be suitable to tram operation with stops and surface pedestrian crossings. This should be controlled by a **30mph limit**. Although the M4, M5 and M49 can remain faster, they show accidents around their junctions with each other and with the A369, A4018 and A38; these junction approaches should be negotiated with Highways England down to on-motorway **40mph**, approached by 50mph buffer zones. This would make driving the gauntlet of the M4/M5 junction less of a fear-inducing experience.

8. 'Liveable neighbourhoods' – closing rat-runs

'Liveable neighbourhoods' is a concept whose time has come, and trams, bus-priority, cycleways and a defined official road hierarchy all help. But as already implied, traffic rat-runs also matter. These tend to be roads parallel to official

main routes, or diagonal roads penetrating otherwise quiet residential neighbourhoods.

Drivers rat-running along these lesser routes chase a supposed time advantage and tend as a result to drive too fast, and inconsiderately; not infrequently they cause accidents to each other or to residents. The numbers rat-running sometimes (as illustrated above) exceeds those using official traffic routes. This can seriously impact on the environmental situation for residents; it can also totally overload traffic junctions and thus actually further delay and congest (rather than 'relieve') official through-routes. *What is less often said is that unless Bristol tackles its rat-running problem any attempts at solving air pollution, altering modal split, encouraging bike usage, or making a tram system economically viable, will be severely hampered.*

Geography dictates that if unchecked, rat-runs impact most upon more densely-packed, disadvantaged inner city localities.

An essential aspect, given the Government's desire encourage cycling, is that without tackling rat-runs – not just at crossing-points but throughout their entire length – no significant social diffusion of cycling is likely to occur. If a pensioner or child cannot safely reach a cycle route because of criss-crossing rat-running through-traffic, they may decide simply not to try. Nor will their nearest and dearest feel comfortable if they do.

The first task is to identify rat-runs. Where are they, and which roads? Which complicated rat-run routes intersect? In practice, the city's drivers know where the rat-runs are; so do local residents.

What then? If one wishes to close a rat-run – as often a majority of local residents do – it is possible to persuade ward councillors to lobby the Local Authority in its guise as Highway Authority to do so. **Political will**, and public pressure for this has grown recently due to worsening air pollution.

If rat-run closure is to be revived, it requires that we anticipate side-effects by understanding and managing the road hierarchy as an interacting system. One needs a comprehensive traffic management plan. That is something the 'Sector Studies', in combination, can do (see below). Actually treating a rat-run (and if

necessary other adjacent streets) is simple enough: it can be done cheaply on an experimental basis with a temporary Traffic Order and a set of bollards or railway sleepers. Closure should be **permeable to cyclists**, as rat-run routes are very often excellent potential cycle routes and could greatly increase Bristol's safe cycle route network. If on a bus route, the closure needs of course to be in the form of **bus- (and cycle-) gates**. Some few socially focal streets can be **pedestrianised**, with controlled servicing access.

9. Lorry, emergency and delivery van access routes

Traffic engineers and town planners often fail to deal properly with road-freight access. Development architects are equally bad. Large lorries need to be confined to suitable routes; but equally must be provided with the roads and access plans to do so. Emergency vehicles likewise need fast and efficient routes. Little of this has been thought through (except by the Fire Service). Clogged-up main traffic routes and anarchic rat-running traffic do not help.

Bristol City Council in alliance with B&NES and South Gloucestershire did publish in 2003 a paper-based Greater Bristol **Commercial Vehicle Drivers' Atlas**. Well received by freight operators, copied by the West Midlands, it showed appropriate routes to every main employment, retail, educational, health and leisure centre in the built-up area; plus low bridges and weight, width and access restrictions. The intention originally was to update this (notably in line with road hierarchy decisions) and re-launch it in modern satnav format for commercial operators, but this never happened. The Atlas is out of print. Clearly this initiative needs to be revived.

These days there is a new problem: the massive growth in van-borne home deliveries. This development is inherently unsustainable, being person and vehicle intensive. The way forward may include **local collection centres** (for example at Post Offices and corner stores), **consolidation centres** further back down the supply chain, and **electric vehicles**. The principle perhaps is of wide application: including for example consolidating individuals' refuse and recycling bins in convenient single sites for each street as done in Dutch 'woonerven' or traffic-calmed streets (we call them Home Zones; see below).

10. Access to car-dependent centres

Bristol's car dependency cannot be tackled without altering the character of our many American-style 'ex-urban' retail, leisure and employment centres: Cribbs Causeway, Hengrove Park, Hengrove Leisure Park, Imperial Park, AvonMeads, Longwell Green, Brislington retail centre(s), Winterstoke Rd, Muller Rd, David Lloyd, BAWA, Sainsbury's Emerson's Green and so on. They are difficult to reach without a car. This therefore is an issue of equality, given that those without access to a car include the more socially-disadvantaged citizens. To a lesser degree similar applies to our main public open spaces including Ashton Court, Blaise Castle, Snuff Mills, Conham riverside, Leigh Woods, The Downs, the Zoo, Purdown, and undiscovered ones like Dundry Hill.

Any reduction of the city's traffic will be partially dependent upon improving public transport access to these now established sites, as well as encouraging the site operators to engage in this debate. Most of the solution will be reform of the bus network, notably by integrated **orbital bus services**. See the *TfGB Bus Plan*. A safe, coherent network of **cycleways** too must be part of the solution (see below).

11. Cycling policy

Bristol has a well-developed network of popular radial **cycleways** leading out into the surrounding countryside. It is less good on main radial traffic routes, which often are the most direct and least hilly route into town. Or orbital routes. Or in the city centre.

The government has issued new traffic management advice in respect of cycling infrastructure, notably *Gear Change: A bold vision for cycling and walking* (DfT) and the inter-relating *Cycle Infrastructure Design: Local Transport Note 1/20, July 2020* (DfT), broadly following modern Dutch practice, so any proposed measures necessarily will be compatible with this. Significantly, painted on-road cycle-lanes are no longer acceptable. Rather, alongside or parallel to heavily-trafficked roads, cycleways will have to be segregated. Cycle routes can be designed through lightly-trafficked street networks, especially where through-traffic by motor vehicles using that route (or parts of it) are removed by carefully sited 'modal filters: for example, bollards allowing cycles and pedestrians through, but vehicles not. Similar effects can presumably achieved alongside bus-gates if the road happens to be a bus route. The implications for Bristol's cycle planning are considerable. Some of our main cycle flows – for example that on Gloucester Rd

towards the city centre – no longer meet design criteria. This can be improved in future by the sort of **Bus Priority Route** treatment and future tram routes advocated in this paper. Similarly, several of the inner city rat-runs dealt with in this paper would make excellent, direct, longer-distance cycle routes if through-traffic can indeed be effectively removed – and at relatively low cost. Bristol's main cycle route map might fairly radically change as a result. It is important to note that simply relying on official cycle routes, and segregated cycleways, has to date failed to address the issue of how local residents actually access these routes if they are beset by intervening local rat-runs perceived by aspirant cyclists to be dangerous to use or cross.

Between Broadmead and the Centre, a route should be chosen for a segregated cycleway – perhaps along **Nelson St**. On other significant (or potential) cycle routes in the city, segregated cycleways may be desirable; Highway Authorities across the country are already doing this as Covid-19 measures (see advice at <http://airqualitynews.com/2020/06/17/cities-must-act-to-secure-the-future-of-urban-cycling/>, but such measures should be made **permanent** and on-street parking adjusted accordingly. On some roads (see above) there may be room for both a bus-lane and a segregated cycleway.

In the city centre, segregated cycleways may be appropriate around the **Centre**, on **Triangle West** and South, **Bond St** and **Temple Way** around Cabot Circus, on **Merchants Rd Bridge**, **Prince St Bridge** and through **Old Market** and **Haymarket**. At **bus hubs**, cycle route design must be adapted as appropriate.

It has been mentioned above that the **closure of traffic rat-runs** will open up a whole new network of cycle routes across the city at very low cost: no additional infrastructure is required other than to make the road closures permeable to cycles. Removal of intersecting through-traffic rat-runs is crucial also to enabling cycling to be an option available to a wider range of citizens, who rightly value their personal safety and who include the more disadvantaged.

Cyclists often **conflict with pedestrians** where joint flows are concentrated, as in the pedestrianised Centre and on narrow bridges. Cycleways should be designed so the conflict is avoided, but occasionally cyclists should be required to dismount. Re-locating the cycleways in The Centre so they run alongside the carriageways

would resolve the current conflict where cyclists and pedestrians are competing for the same space.

Conflict within parks needs to be monitored: segregated cycleways may be possible (as in Castle Park). Where **calmed roads** are instigated – as proposed for Ladies Mile and Circular Rd on the **Downs** – cyclists may use the carriageway safely.

Imagine we are in Holland – they have achieved it there. The Bristol Cycling Campaign's **strategic cycleways map** seems to have been informally adopted by the City Council, but such plans must be up-dated in the light of up-dated criteria, firmed up and implemented faster.

12. Parking

Parking is so important that we have produced a separate TfGB ***Parking Plan for Bristol*** – covering **on-street parking, Park&Ride, Workplace Parking Levy, Residents (and Businesses) Only Parking Zones**, and more. Parking control is part of the traffic management armoury. By contrast, secure on-street cycle parking must be greatly expanded.

13. Motorways and National Primary Routes

The M4 and M5 motorways will continue to act as the Bristol's national connectors and in parallel its bypasses. Next below in the regional road hierarchy, the M32 and the National Primary Routes A4, A38 and A370 link the city centre's Inner Ring Road to this national network, but need not stay exactly as they are at present.

The **M32** in particular may now be seen to have been a planning mistake that has encouraged general traffic to pour into inner Bristol. We recommend it be de-motorwayed, and its now decaying concrete grade-separated junctions be replaced as surface-level signalled cross-roads. As Bristol moves towards being a largely car-free city, then within the built-up area the space taken by hard shoulders, centre reservations and slip roads will not be needed, and can be reallocated to **tram lines, segregated cycleways**, and separate routings for electric buses, electric service and delivery vehicles and the disabled. At the outer end there will be a **Park&Ride**. Along some stretches will be space for amenity (perhaps inspired by New York's Highline). A comparable approach is envisaged for Bristol's other 'high standard' highways: the **Avon Ring Road, Easton Way/St Philips Causeway, Bond**

St/Temple Way. The replacement for **Brunel Way** partially will differ, being a high-level river crossing.

In the interim, some limited use of these roads by cars can be retained as intermediate stages. These stages might include being long-distance general traffic feeders towards central Bristol, but with levels of commuter and shopper car traffic much reduced for the benefits of Bristol residents and their air quality. This is perfectly possible, given a combination of TfGB's ***Rapid Transit, Bus*** and ***Parking Plans*** , and **de-motorisation of the M32**. The speed limit should become 30mph, with traffic signals and **surface pedestrian crossings** at junctions, in order to decrease both road accident rates and community severance. Initially, **Park&Ride MetroBus** services using bus-lanes should use junction slip roads to create bus-stops: on the M32 at Eastgate and Easton Way **hubs**. Later, and in parallel with the removal of the grade-separated junctions, some of these services should be upgraded to tram as proposed in TfGB's ***Rapid Transit Plan***.

BRISTOL CITY SECTOR STUDIES

(The Maps for the Sector Studies are forthcoming)

1. BRISTOL CITY CENTRE

(within the Inner Ring Road).

See Bristol City Centre, Map 2.

Problems

- Bristol has a relatively low-density and spread city centre, with distinctively different parts (thus reflecting the city as a whole). Increasingly high density better-off and student housing burgeoning in parts. This affects both travel **behaviour** and residents' expectations.
- Illegal levels of **air pollution**, in great part due to vehicle exhausts, tire and road-surface wear – thus, to traffic level.
- Excessive **traffic noise and severance**: notably along the Inner Ring Road at Triangle, Park Row/Upper Maudlin St/Marlborough St (by the BRI hospital), Bond St and Temple Way; but within that ring also at the Centre, Haymarket, the Bearpit, Bristol Bridge, Baldwin St, Station Approach, Anchor Rd, Lewins Mead/Rupert St/Nelson St, High St and Union St..
- The **Inner Ring Road** is hard to cross walking or cycling, and is inappropriate in its northern narrow section.
- Poor **interconnectivity** between Broadmead and Centre.
- Poor public transport links to and facilities at **Temple Meads station**.
- Discontinuous safe **cycling** and **walking** movement networks.
- An **incoherent bus** network, and too many buses terminating in the central area creating congestion, obstruction and pollution.
- **No high capacity** rapid transit/tram system.
- No attempt to map or constrain **rat-runs** or cross-centre **through-traffic**.
- 1960s(?) one-way 'gyratories' at **Dowry Square/Cumberland Basin, Triangle** and **Old Market/West St.** around the Inner Ring Route creating environmentally sterile conditions to adjacent local neighbourhoods in Hotwells, Clifton and St. Judes.

Opportunities

- Immediate 'pop-up' **Covid 19 measures** about to be implemented (see <https://news.bristol.gov.uk/news/pandemic-accelerates-revamp-of-bristols-transport-network>).

- As a result, more political will to enact **walking and cycling improvements**.
- **Bus operations** now (temporarily) under public control.
- Growing awareness of need for **air pollution** action.
- The delayed **Temple Meads** improvement intentions.
- The proposed replacement of **Plimsoll Bridge (Brunel Way)** at Cumberland Basin.

Analysis and proposals

Policy.

- **Bristol's City Centre Plan**, rather than simply having a policy of 'reducing the level of traffic entering the heart of the city' (para. 7.6), should offer detail as to how this is going to be achieved, since this will have an impact on adjacent site development. The following new policies should be included:
- Adoption of either Road User Charging or a **Workplace Parking Levy** (for businesses with more than 5 parking places).
- **Closure of through-routes** across the city centre. Bus-gates and other access gates for permitted access and emergency vehicles can take any appropriate form, but must be enforced.
- Actually enact the Council's stated '**transport hierarchy**' of pedestrians, cyclists, public transport, freight and only then cars.
- Create parallel networks of safe and attractive **walking routes** and **cycle routes** into and across the city centre.
- No more temporary public **carparks** to be permitted.
- **Integrate** the Council's Planning, Traffic Management, Public Transport and Parking policies; not operate them within independent Council departmental silos as traditionally.
- Make Bristol's city centre able to hold its head up to its **European** twinned cities Bordeaux and Hannover.
- Improve conditions at the Inner Ring Road over-loaded traffic **gyratories** at **Cumberland Basin, Triangle and Old Market**.

Measures, by transport mode.

- *The car: the road hierarchy.*
 - The **Inner Ring Road** (Scope Route: Bond St–Temple Way–Temple Gate–York Rd–Coronation Rd–Brunel Way–Hotwell Rd–Jacobs Wells Rd–

Triangle–Park Row–Upper Maudlin St–Marlborough St) must be rethought – the current version is over-congested and especially poor around the **BRI**. It must be rendered both more efficient but its environmental impact minimised. This may be achieved by a 20 mph limit, banned right turns, tram/bus lanes, tree planting, parallel segregated cycleways, widened footways, wide pedestrian crossings with a longer pedestrian phase, and improved traffic signing (including access routes; see below). Traffic congestion and air pollution might be reduced on the narrow segment passing the BRI by installing a one-way bus-gate on **Perry Rd** (allowing general traffic in the opposite direction), paired with an equivalent but opposing one-way bus-gate on the alternative Lewins Mead/Anchor Rd/Jacobs Wells Rd route (perhaps by St Mary on the Quay in the Centre); which way round such a one-way gyratory operated is open to debate; but much of the Perry Rd would require a ‘green wave’ bus/tram priority traffic signals system. To ease congestion of a different segment of the IRR, perhaps **York Rd** might be operated one-way, paired with **Clarence Rd**.

- The rest of the city centre should be **closed** to other than buses and trams, and servicing access.
- *The car: local traffic management.*
 - The plan requires a scheme for **vehicular servicing access routes** into the city centre (para. 7.6 of the Bristol Central Area Plan refers to 'vehicular access zones'). These should take the form of one- or two-way access **loops** from the Inner Ring Road. These should close general through-traffic and rat-run options.
 - Existing cross-centre routes and rat-runs thereby **closed** need to include: **Baldwin St/Park St; Counterslip/St Thomas St/Redcliffe St; Merchants Rd Bridge/Cumberland Rd; St George’s Rd/Frog Lane/Trenchard St/Colston St..** Remove through-traffic from **Nelson St, Union St. and Lower Maudlin St.**
 - **Cyclists allowed two-way** throughout.
 - Agree a **replacement** of the deteriorating **Plimsoll Bridge (Brunel Way)** at Cumberland Basin that is low speed, and removes general traffic from **Merchants Rd Bridge** and **Dowry Square**. A two-way solution is required via **Cumberland Basin Rd** and **Christina Terrace**. **Dowry**

Square can be closed at Cumberland Basin Rd; and **Merchants Rd Bridge** become a bus-and-cycle gate.

- Protect the semi-pedestrianised Spike Island part of Harbourside by cutting the **Cumberland Rd** rat-run (recently physically closed because of New Cut river embankment collapse) at Merchants Rd Bridge.
- Remove the gyratory at the Triangle, and make **Triangle East** a bus (future tram) **hub**; general traffic two-way via Triangle West and South.
- On the environmental improvement of **Old Market**, see Sector Study 5 (Inner East Bristol, p. 47).

- *Bus/tram routes.*

- See TfGB's ***Rapid Transit Plan***. The bus and future **tram network** must be agreed, including in the city centre.
- The present usage by buses of **Horsefair/Penn St, Broad Quay, Thunderbolt Square** and **Nelson St** is unnecessarily intrusive and should cease. Too many buses crowd into the Centre. A **reorganisation of the bus system** into trunk, orbital and feeder will mean not all routes go to the city centre any longer.
- Integrated '**bus (tram) hubs**' must be defined, allowing easy interchange between routes: at **Centre, Haymarket, Cabot Circus, Old Market, Temple Meads** and **Triangle East**.
- A simplified bus/tram **City Centre Loop** circuit serving the above **public transport hubs** would be **Bond St–Temple Way–Victoria St–Baldwin St–Centre–Lewins Mead–Haymarket**. (A routing via Redcliffe Way/Redcliffe Bridge/Prince St rather than Victoria St/Bristol Bridge/Baldwin St is an option, but is less useful). This circuit could be one- or two-way (preferably the latter) and is suitable for high capacity trams. See TfGB ***Bus Plan*** and ***Rapid Transit Plan***.
- The **hubs** should be designed as properly integrated interchanges (as partially already at Old Market and @Bristol). The **City Centre Ring** bus (and future tram) service via Temple Way should have interchange stops on the slip-roads at the **Old Market hub** (as already exists for some other services). The Triangle should be a two-way bus-only hub at **Triangle East**.
- A **City Centre Circular Bus**, operated as a circular route perhaps by smaller vehicles, would improve circulation for disabled people and others, especially to BRI, Triangle and Penn St. A suitable route might

be **Triangle**–Park Row–BRI–Lower Maudlin St–Horsefair– Penn St–Tower St–Counterslip–Temple Back–**Temple Meads** (either via Temple Back East or Friary)–Redcliffe Way–Prince St–**Centre**–Park St–**Triangle**. This would require some carriageway remodelling at Haymarket and Friary, with segregated cycleways if possible.

- Some **inner city feeder and sub-radial bus services** could for service efficiency, and to reduce bus nuisance in the Centre, turn back at the first city centre hub (see TfGB *Rapid Transit Plan*). This is possible where turn-around facilities exist or could exist: as they do at Old Market (roundabout), Stokes Croft (Bearpit roundabout), Triangle (the Triangle), Temple Meads (Friary turn-back, and/or Temple Back East).
- *Pedestrian zones and routes.*
 - Certain city centre **focal places** should be given over largely to pedestrians: the **Old City, Broadmead/Cabot Circus, the Centre, Harbourside, Queen Square, King St, College Green, Park St, Castle Park**. Intrusive traffic impacts should be kept away from these places, either by pedestrianisation, bus-gates or traffic management of servicing access routes. Other busy walk routes suitable for pedestrianisation are **Union St, Nelson St and Denmark St**, with controlled serving access.
 - Links between these civic spaces, and in from the suburbs, should be identified, signed and improved. Such measures are compatible with the **footway widenings** currently planned by the City Council, though these need to be more extensive.
 - **Walk routes** into the city centre crossing the Inner Ring Road must be improved at the **Triangle, Merchants Rd Bridge and Dowry Square** (see above), and just outside the zone at **Old Market** (see Sector 3) and **Bedminster Parade** (see Sector 5).
 - Signalled **pedestrian crossings** over the Inner Ring Road in general should be recalibrated to give greater time to pedestrians.
 - **Prince St Bridge** should revert to pedestrians and cyclists only, including a separate cycleway (as was the situation for many months while it was being repaired).

- The **Cumberland Basin** end of Harbourside must be calmed, with general traffic removed from both **Dowry Square** and **Merchants Rd Bridge** (see above).
- Cycleways across the pedestrianised **Centre** are inappropriate and threatening to pedestrians. They should be removed, replaced by **cycleways** alongside the carriageways, and cyclists obliged to **dismount** through the pedestrian areas. The cycleway and parallel footpath through Castle Park are better designed; a watching brief is required there re **cyclist–pedestrian conflict**.
- *Cycle routes.*
 - The Plan is compatible with the city-wide strategic **cycleway map** produced by the Bristol Cycling Campaign and informally adopted by Bristol City Council, which now however needs updating in the light of new government design requirements. Several stretches of new segregated cycleways are required alongside and crossing the **Inner Ring Road** and over the **river bridges**.
 - And equally compatible with – but more extensive than – the ‘**pop-up**’ **measures** currently proposed by BCC.
 - Particularly important (and additional to BCC’s proposals) are improved **cycle crossings of the Inner Ring Road** at for example the Bearpit, Bath Rd Bridge, Bedminster Bridge, Dowry Square and the Triangle.
 - The link between Broadmead and the Centre via **Nelson St** is poor, but can be improved by the removal of buses (see above). But it and **Union St**, if pedestrianised, would require segregated cycleways so as to minimise pedestrian–cyclist conflict.
 - Each of the above hazardous points probably puts off many potential cycle commuters and city centre visitors.
 - On **pedestrian–cyclist conflict** in the city centre, see above.
 - Roadside **segregated cycleways** are required alongside the Centre and the rest of the bus/tram city centre circuit as proposed in TfGB’s ***Rapid Transit Plan***, including **Victoria St, Bristol Bridge, Baldwin St** (where it already exists), **Lewins Mead, Haymarket, Bond St, Temple Way**, the **Old Market St roundabout, Temple Gate**; plus along or parallel to the rest of the Inner Ring Road and its bifurcations as proposed in this Plan namely **Bath Rd Bridge, Clarence Rd** (where it exists), **Bedminster**

Bridge, Commercial Rd, Cumberland Rd (where it exists), Merchants Rd bridge, Hotwell Rd (where it exists), Anchor Rd (where it exists), Jacobs Wells Rd, Triangle, Park Row, Upper Maudlin St and Marlborough St.

- *Parking control.*
 - No traffic management plan will work without control of commuter and shopper car parking; yet no comprehensive Parking Plan exists. See TfGB's *Parking Plan*. For the city centre five threads are relevant:
 - a **Workplace Parking Levy** (the option of a Congestion Charge might work);
 - completion of the **Residents & (Businesses) Only Parking Zones programme throughout inner Bristol**;
 - the wholesale **removal of on-street parking** in the city centre apart from disabled and loading bays;
 - no permission for **temporary car parks** on vacant land;
 - a reform of the parking clauses of **development control policies**.

All these modal design considerations must be pursued in parallel, leading to an *iterative design process*, initially implemented through **temporary experimental traffic management measures**. The plan offered here is a first attempt at a resultant city centre traffic management plan, and is offered for discussion.

2. INNER NORTH-EAST BRISTOL (ST PAUL'S, ST WERBURGH'S, MONTEPELIER, ST ANDREWS, ASHLEY DOWN, EASTGATE).

(between the M32, A38 Gloucester Rd and B4469 Muller Rd).

See North-East Bristol, Map 3.

Problems

- A relatively high-density residential zone of very mixed social characteristics, ranging from well-to-do in the north, to poor in the south and east with some BAME localities but scattered gentrification – all of which affects transport **behaviour**.
- The inner parts (St Paul's, St Werburgh's, Eastgate) lie within Bristol's worst and illegal **air pollution** zone (map available at using <https://opendata.bristol.gov.uk/pages/air-quality-dashboard-new/air-quality-now#map>). Much of it comes from the M32 which flanks the area; but a lot too from external through-traffic using the area's internal roads.
- No attempt to map or constrain **through-traffic** and **rat-runs**, notably parallel to or accessing M32 and A38. This is the area's worst traffic issue – not untypical for inner city areas imposed upon by suburban car commuters.
- Resultant excessive **traffic noise and severance** (notably alongside M32/A4032/A4044 Newfoundland St–Bond St, on A38 Stokes Croft–Cheltenham Rd–Gloucester Rd, B4464 Muller Rd, B4052 Ashley Down Rd, B405 Ashley Rd–Lower Ashley Rd, and the lesser classified City Rd, Sevier St–York St–James St–Glenfrome Rd, Magdalene Place, Mina Rd southern part, Somerville Rd, Chesterfield Rd–Cromwell Rd).
- Road **accidents** are relatively high in this area, partly perhaps because of the level of pedestrian activity but also rat-running.
- **M32** hard to cross walking or cycling (thus poor **interconnectivity** between St Paul's/St Werburgh's and St Jude's/Easton).
- Poor **bus** service for St Werburgh's/Eastgate areas, and highly unreliable due to rat-run traffic congestion along bus route 5.
- Relatively good **cycling** and **walking** provision – including the Concorde Way to UWE – except where using or crossing main traffic routes. Some otherwise convenient routes are plagued by traffic.
- Excessive **commuter car parking** in St Werburgh's, and to a lesser extent in St Andrew's/Bishopston. (The existing Residents Only Parking Zones are St. Paul's and Montpelier; see <https://www.bristol.gov.uk/parking/map-of-scheme-areas>).

Opportunities

- Immediate ‘pop-up’ **Covid 19 measures** about to be implemented or being discussed in Stokes Croft and Mina Rd minor shopping centres.
- Very variable community **political influence**, with wealthier northern part of zone contrasting with the southern.
- **Bus operations** now (temporarily) under public control.
- Growing awareness of need for **air pollution** action.

Analysis and proposals

Policy.

- An **M32 Park&Ride** service to bring its traffic levels down. See TfGB *Rapid Transit Plan*.
- **Closure** and/or mitigation of **rat-runs** through this part of the inner city. Much of this traffic is coming from the outer city or beyond.
- Reduce **severance** of the **M32**. Put a segregated cycleway alongside the M32.
- Improve **bus services** to St Werburgh’s/Eastgate.
- Calm the A38 Gloucester Rd–Stokes Croft **Bus Priority Route**.
- Remove car **commuter parking**.
- Improve walking and cycling conditions.
- **Protect** this area. Most of the traffic comes from outside.

Measures, by transport mode.

- *Car: the road hierarchy.*
 - The M32:
 - In the future, the space taken by hard shoulders, centre reservations and slip roads will not be needed, and can be replaced by tram lines, segregated cycleways, and separate routings for electric buses, electric service and delivery vehicles and the disabled. At the northern end there will be a Park&Ride. Along some stretches will be space for amenity (perhaps inspired by New York’s Highline). (A comparable approach is envisaged for Bristol’s other ‘high standard’ highways: the Avon Ring Road, Easton Way/St Philips Causeway, Bond St/Temple Way, and Brunel Way).

- As Bristol moves towards being a largely car-free city some limited use by cars of the former M32 should be retained as intermediate stages. These stages might include being a long-distance general traffic feeder towards central Bristol, but with the level of commuter and shopper car traffic much reduced for the benefits of Bristol residents and their air quality. This is perfectly possible, given a combination of TfGB's *Rapid Transit, Bus* and *Parking Plans*, and **de-motorisation of the M32**.
- When funds allow, the structurally aging **grade-separated junctions** of the M32 should be replaced by surface signalled cross-roads.
- In the interim, an **M32 Park&Ride MetroBus** service using bus-lanes on the M32 should use the junction slip roads to create bus-stops at Eastgate and Easton Way **hubs**, later upgraded to tram as proposed in TfGB's *Rapid Transit Plan*.
- The speed limit of the (ex-)M32 should become **30mph**, with traffic signals (existing) and **surface pedestrian crossings** at its junctions, in order to decrease both road accident rates and community severance.
- On environmental and access grounds, local **distributor roads** connecting to the M32 legitimately include:
 - **Muller Rd** (for the northern part of this area), and **Lower Ashley Rd** and **Stokes Croft** for the southern part.
 - At **Mina Rd**, the M32 junction 3 slip-road should link only into **New Gatton Rd** for industrial access; not Mina Rd or Gatton Rd.
 - A watching brief should be maintained in St Paul's on through-traffic usage of **Portland Square**, but also **Brunswick Square** and Newfoundland Rd, and remedial traffic management undertaken as necessary (leaving cycling as two-way): the obvious option is to pedestrianise the two squares.
- The A38, a major shopping centre in its **Gloucester Rd** section, needs proper **Bus Priority treatment**. This could legitimately include a bus-gate (allowing servicing access and cycles), say between Raglan Rd and Claremont Rd. Or else **Mixed Priority Route** treatment (with footway widening, removal of on-street parking except for disabled and loading bays between Somerville Rd and Cromwell Rd, and bus pre-signals on bus-lanes approaching this stretch from both north and

south. Alternatively again, there should be a 'green wave' bus/tram priority traffic signals system. The design should be consulted on with retailers and residents, First Bus and the police: but the principle should be stuck to, for the wider city's good. Traffic management treatment of connecting roads notably **North Rd** and **Belmont Rd** paralleling Gloucester Rd may be required, to prevent the worsening of alternative potential rat-running: achievable through local road closures or alterations to existing one-way controls.

- *Car: local traffic management.*

- The major rat-runs through the area – so gross as to have become quasi-official with B-classification – must be stopped:
 - **Ashley Down Rd–Ashley Hill** (in 1997–7, 12 hour two-way flow of 15,000 vehicles – greater than that of A38 Gloucester Rd) can be closed between Ashley Court Rd and Chesterfield Rd, greatly to the benefit of air quality, severance and traffic delays in Montpelier, St Paul's and St Werburgh's at Sevier St/Sussex Place and Lower Ashley Rd/Sussex place junctions, and relieve also a **Chesterfield Rd–Somerville Rd** rat-run which currently impacts upon a junction on Gloucester Rd. Both routes are used as a quick cut to the M32. Ashley Down Rd traffic can continue to proceed via **Chesterfield Rd–Cromwell Rd**, back onto Gloucester Rd beyond Bishopston; a watching brief should be held here to counteract overuse by through-traffic. To protect Montpelier, **St Andrew's Rd** (already a minor rat-run) should be closed at Cromwell Rd; allowing the Richmond Rd closure to be reopened to improve circulation within Montpelier. Ultimately, it might prove desirable to put a bus-gate for the bus no. 70 service on **Cromwell Rd** at Chesterfield Rd (or at Somerville Rd – subject to local discussion), in order for Somerville Rd–Cromwell Rd not to become a de facto bypass for a closed Gloucester Rd (see below).
 - **Sevier St–Glenfrome Rd** (in 1997–7, 12 hour two-way flow of 9,000 vehicles) is used as an alternative route when the M32 is congested; it can be closed by a bus and cycle gate at the railway bridge (between Eastgate Rd and St Werburgh's Rd), greatly to the benefit of air quality at St Werburgh's Primary

School, and air quality, severance and traffic delay (as for Ashley Hill, above). Eastgate would retain access to the city centre via both the M32 and Stapleton Rd.

- **Lower Ashley Rd–Ashley Rd** (in 1997–7, 12 hour two-way flow of 9,000 vehicles) likewise is used as a cut-through to the M32; it could be closed by a bus–gate at Albert Park, in order to end this orbital official rat–run that so impacts upon St Paul’s. Lower Ashley Rd, Ashley Rd and **City Rd** would continue to act as local distributors, but no longer as through–routes.
- **Sussex Place**, in the middle of St Paul’s, is an over–congested street connecting multiple rat–runs but would be largely solved by the cutting of Ashley Hill and Glenfrome Rd (see above).

Each of these closures should be made permeable by cycles. All would make good cycle and walk routes (though Ashley Hill is steep) without further investment.

- A lesser rat–run needing treatment is **Magdalene Place**, paralleling Sussex Place; close between Southey St and Morley St.
- Other measures may be known locally to be desirable in the area at the northern ends of Ashley Down Rd and Muller Rd towards Horfield, around the cricket ground and the Memorial stadium.

- *Bus/tram/Rapid Transit.*

- M32 – see above, and TfGB’s ***Rapid Transit Plan***. The M32 will eventually become a **tram** route, with interim stops at the public transport **hubs** Eastgate and Easton Way/Lower Ashley Rd.
- The A38 **Gloucester Rd/Cheltenham Rd/Stokes Croft** should become a **Bus Priority route** – later a **tram line** (see TfGB ***Rapid Transit Plan***) – with **tram–gates** in its two centres, Bishopston and Stokes Croft.
- A new **MetroWest station** is planned for **Ashley Down**, off Muller Rd at Station Lane/Station Rd; improved services at Montpellier station.
- The current infrequent, and delayed through traffic congestion, **bus service 5** can be replaced by a 15 minute shuttle between the two **public transport hubs** of Stokes Croft/Bearpit and the Eastgate Centre.
- Note that TfGB’s ***Bus Plan*** proposes an **Inner Ring orbital service** along City Rd and Lower Ashley Rd: providing a service to BRI, Bearpit/Haymarket, Easton and AvonMeads, and interconnecting with radial bus/rapid transit routes on the M32 and A38. New bus–stops

required at the M32 and in Stokes Croft (see TfGB *Rapid Transit* and *Bus Plans*).

- Bus no. 70 emerging from Cromwell Rd is delayed at the **Arches** by through-traffic usage of Cromwell Rd; install **bus-triggered traffic signals**.
 - For a **Middle Ring orbital bus service**, bus-lanes and/or bus-triggered signals would be required on **Muller Rd** (see TfGB *Rapid Transit* and *Bus Plans*).
 - Improve the **visibility of Montpelier station** from Gloucester Rd.
 - The current location of **bus-stops** along the A38 corridor has been more determined by traffic conditions than for passenger convenience. Bus interchange often is inconvenient. Review the bus-stop locations.
- *Pedestrian zones and routes.*
 - On the environmental improvement of the A38 suburban shopping centre in **Bishopston**, and **Stokes Croft** nearer the city centre, see above.
 - **Mina Rd** at its shops should be calmed by the removal of its M32 access point.
 - The poor links to Easton will be improved by the changes proposed for the **M32** (above), making its crossing far more simple and less stressful.
 - On walking alongside the current rat-runs, see above. Air pollution there would be greatly decreased.
 - Both **Brunswick Square** and **Portland Square** are obvious candidates for pedestrianisation (currently they are emergent rat-run routes).
- *Cycle routes.*
 - **Gloucester Rd/Cheltenham Rd** is a de facto major cycle route, but largely lacks cycling provision. As a Bus/Tram Priority Route (see above) the options for cycle provision would seem to be either a **segregated cycleway** along the A38, or else **calmed cycle routes** in parallel (eg. **North Rd** in Bishopston), or as likely a combination of the two with a segregated cycleway on the A38 southwards from North Rd to the Bear Pit. This should be subject to local consultation.
 - The **Concorde Way** cycle route can be improved by the traffic management of **Mina Rd** (see above).

- The direct *de facto* on-road cycle routes via City Rd, Ashley Rd, Lower Ashley Rd and Glenfrome Rd would be greatly enhanced by the rat-run traffic control measures outlined above.
- *Parking control.*
 - A **Residents Only Parking Zone** should be applied to **St Werburgh's, St Andrew's** and **Bishopston**. Allow for disabled and servicing vehicles permits, and sell to residents as 'only £1 per week, only to car owners' (or equivalent).
 - Intrusive visitor parking around the **cricket ground** and the **Memorial stadium** may require attention.

3. SOUTH BRISTOL

(south of the River Avon).

See South Bristol, Map 4.

Problems

- East Bristol aside, the less fashionable part of the city, and thus having relatively low car ownership; but much car usage for blue-collar commuting. The relatively high-density inner-city residential zone is plagued by through-traffic from outside; the outer parts are relatively low density, but with incoming car commuter streams. Partial gentrification in Southville, Victoria Park, Totterdown and Knowle – which does affect travel **behaviour**.
- Somewhat counter-intuitively, South Bristol has considerable **air pollution**. This embraces most of Southville, Windmill Hill and the central parts of Bedminster, with thin tentacles along the main traffic routes out to the city's edge at A370 Cumberland Basin and Bower Ashton, A38 Bedminster Down, A4 Brislington and A37 inner Hengrove. Partly this is pollution blown from the city centre, but part clearly from the traffic on these roads.
- Excessive **inbound car commuting** is characteristic of the **A369, A370, A38, A37 and A4**. But also of the minor **Queens Rd/Broad Oak Hill*** into Withywood, **Stockwood Lane*** into Stockwood, **Scotland Lane** to Brislington, **Sleep Lane*** and **Maggs Lane*** through Whitchurch and **Crews Hole Rd*** into St Anne's, each of which are effectively country lanes (those marked with an asterisk lying within or crossing into neighbouring authorities).
- Much of South Bristol's traffic is however **local blue-collar journeys to work**, impacting particularly in congestion on **Winterstoke Rd, Hartcliffe Way, St John's Lane, Whitby Rd and Broomhill Rd**.
- The area has major concomitant **road congestion**, with almost daily stand-stills at most of the major junctions along each of the major roads through the area, but also along lesser distributor roads like **St John's Lane, St Luke's Rd, Whitby Rd, Broomhill Rd, Talbot Rd**. This is unpleasant for immediate residents (see below).
- Legitimate **distributor roads** and informal **rat-runs** operate indiscriminately.
- The resultant excessive **traffic noise and severance** is patchy but real.
- **Radial bus** services are for the most part comprehensive, but can be subject to severe traffic delays; **orbital services** – suitable for local employment journeys – are poor or non-existent.

- **Cycling and walking** provision is good in some areas, notably to Southville and south-westwards out into the countryside (due to local lobbying), but poor elsewhere including the A38, A37 and A4 corridors.
- **Commuter car parking** is a problem in Windmill Hill. (The existing RPZs are Southville, Bedminster East and Bower Ashton).

Opportunities

- Immediate ‘pop-up’ **Covid 19 measures** about to be implemented in Bedminster Parade shopping centre.
- Very variable community **political influence**, with wealthier north-western part of zone contrasting with the southern and eastern.
- **Bus operations** now (temporarily) under public control.
- Growing awareness of need for **air pollution** and **congestion** action

Analysis and proposals

Policy.

- Reduce inbound car **commuter parking**.
- Add a **Park&Ride site for the A37** (A370 and A4 already have them, and the South Bristol Link road allows A38 traffic to reach the former); expand all Park&Ride services.
- Calm the inner city sections of the **A38** and **A37**, both **local shopping centres**; similarly **North St** in Southville.
- **Closure** and/or mitigation of overloaded local distributor roads operating as through-traffic **rat-runs**.
- Raise the attractiveness of **cycling** and **public transport** as alternatives to car commuting, and make **cars** less attractive.
- **Modernise** (civilise) this area; much of it seemingly in a 1950s time warp.

Measures, by transport mode.

- *Car: the road hierarchy.*
 - The principal road hierarchy is self-evident, being the radial long-distance **A369, A370, A38, A37** and **A4**, interconnected by the **Inner Ring Road** (Coronation Rd/York Rd), but also by the effective ‘Outer Ring Road’ the **A4174 South Bristol Link/Hengrove Way/Airport**

Rd/Callington Rd. Additional important orbital links are the **A4329 Winterstoke Rd** and **A4320 St Philip's Causeway**.

- However, the old A38 and A37 radials within inner Bristol between the Outer Ring Road and the Inner Ring Road, forming South Bristol's suburban shopping centres at **Bedminster Parade** and the **Wells Rd** in Knowle and Totterdown should be **Bus Priority Routes** with through-traffic disincentivised. Similarly B3120 **North St** in Southville. **East St** in Bedminster already has a bus-gate.
- Many roads interconnect within this basic pattern, and where serving immediate local access needs operate satisfactorily as local **distributor roads**. Some however have become semi-official cross-town routes, a role for which they are environmentally unsuited, hopelessly over congested, and pump air pollution into the locality and sometimes into Primary Schools. Notable in this latter group are *pseudo-radials*
 - **Whitby Rd**,
 - **Sandy Park Rd** and **Broomhill Rd** (paralleling the A4 through Brislington/Broomhill);
 - **St Luke's Rd** and **Redcatch Rd** (paralleling the A37 in Totterdown),
 - **Dean Lane** and **Whitehouse Lane** (each paralleling Bedminster Parade);plus the *pseudo-orbitals*
 - **North St** through Southville,
 - **St John's Lane** through Victoria Park,
 - **Talbot Rd** through Knowle, and
 - **Wick Rd** through Brislington.

Their current usage not only is very inefficient in transport terms, but bad news for adjacent residents. They need to be constrained.

- More localised rat-runs requiring treatment include **Novers Hill** in Knowle West. There are also the unsuitable **country lanes** (cited above) feeding car commuters across the city's southern boundary and likewise requiring treatment.
- A quasi-official outer orbital route exists between the A4 and East Bristol via **Wick Rd** in Brislington – **Newbridge Rd** – **Netham Bridge** – **Blackswarth Rd** – Redfield. While not particularly suited to this usage it may have to continue, since it is the only local orbital for the outer suburbs; if usage becomes excessive it may require action. The A4320

(St Philips Causeway) and A4174 (Avon Ring Road) offer more distant alternatives.

- *Car: local traffic management.*
 - The principal over-trafficked distributor roads requiring treatment are therefore:
 - **St John's Lane** (in 1997–7, 12 hour two-way flow of over 16,000 vehicles) is an extremely overused road, and adds to junction congestion on the A38 at Bedminster Rd and to the A37 at Totterdown. A possible treatment of this excessive traffic, which delays two internal bus routes, would be to cut the road in the middle, alongside Victoria Park Primary School between Wedmore Vale and St John's Crescent (Atlas Rd might need cutting at the same time): thus allowing the western half to continue to serve Knowle West via Wedmore Vale (a bus route, service 90), and the eastern to still serve Redcatch Rd (likewise a bus route, service 91); while disallowing east-west through-traffic, and the diagonal traffic between Bedminster and Redcatch Rd/Knowle. A watching brief would need to be kept on parallel Wingfield Rd and Daventry Rd to ensure traffic did not simply transfer.
 - **St Luke's Rd** (in 1997–9, 12 hour two-way flow of 11,000) acts as a 'bypass' to the A37 Wells Rd. While part of the St John's Lane system, it probably would not be sufficiently cleared by the latter's closure (its actual traffic sources have not been identified but probably include Redcatch Rd). It creates considerable congestion on the Inner Ring Road by its junction with York Rd. If cut at the railway bridge, it would continue to give industrial access into Mead St from the Inner Ring Road.
 - **Whitby Rd**, an industrial access road used as a pseudo-radial commuter route and daily jammed solid at rush hour (traffic unmeasured). Considerably adds to the congestion already evident around Netham Bridge over the Avon at Feeder Rd; but also to St Philips Causeway in Arno's Vale. Could be cut at the railway bridge: thus continuing to allow unhindered industrial access at either end, from Feeder Rd and from St Philip's Causeway.

- **Broomhall Rd**, the residential distributor for Broomhill, but used as a commuter pseudo-radial (traffic unmeasured) parallel to and connecting to the A4, and adding to junction congestion on the A4 at both Arno's Vale (via Sandy Park Rd in Brislington, 8,000 vehicles) and at Brislington Park&Ride. Could be closed with a bus-gate (service 96) at Ironmould Lane: thus preserving (and easing) industrial access into the Brislington Trading Estate from the A4 via Emery Rd. This closure would give some relief also to both the Sandy Park Rd and Feeder Rd pseudo-radials which currently feed it.
- **Talbot Rd**, a de facto orbital link between the A37 at Broadwalk and the A4 in Brislington, adding to junction congestion to both. Its usage (rather than the A4174 Callington Rd Outer Ring Road) penetrates residential Knowle and encourages yet more South Bristol driving. It could be cut between Buller Rd and Lodway Rd: thus dividing it between a Knowle local distributor and a Brislington one.
- On **Dean Lane** and **Whitehouse Lane** see Bedminster Parade (below) as a Bus Priority Route and pedestrian focus.

Each of these rat-run closures (**St John's Lane**, **St Luke's Rd**, **Whitby Rd**, **Broomhall Rd**, **Talbot Rd**, **Dean Lane** and **Whitehouse Lane**) should be made permeable by cycles. Most would make would **good walk and cycle routes** without further much investment (though Talbot Rd is steep), with their danger and pollution reduced. However, **St John's Lane** probably could remain trafficked in its western part towards Wedmore Vale, and its eastern part towards Redcatch Rd; a segregated cycleway might be advisable along its wider western end, and alternative signed cycle routes signed via Littleton Rd/Weymouth Rd in the west, and Almorah Rd/Hill Ave/St Luke's Rd in the east.

- Country lanes used to rat-run across the city boundary – **Queens Rd/Broad oak Hill*** into Withywood, and **Sleep Lane*** and **Maggs Lane*** in Whitchurch – should be cut. **Stockwood Lane*** connecting Stockwood and Keynsham probably likewise. In each case suitable main road alternatives exist (* indicates a highway external to Bristol's control). Liaison with North Somerset and B&NES Councils required.

- Three internal narrow country lanes, become rat-runs but entirely inappropriately, and which interrupt local public open spaces, are **Scotland Lane** (by Stockwood open space), **Novers Hill** (by Northern Slopes), and **Crews Hole Rd** (by Conham riverside). Each can be stopped up. Crews Hole Rd/Conham Rd (5,000 vehicles), now a housing distributor road, lies on the north bank of the Avon but is fed by Whitby Rd (and Feeder Rd running north of the Avon but south of the Feeder Canal); it should be closed beyond Niblett's Hill where the riverside cycleway coincides. This would allow the riverside carpark still to be approached from Hanham; a watching brief should be kept on Troopers Hill Rd and Niblett's Hill which likewise could be cut.
- Other measures may be known locally to be desirable. In St Anne's, an example is **Langton Court Rd** (a commuter rat-run parallel to the Wick Rd distributor) which should be closed at the railway bridge. Windmill Hill suffers persistent unresolved commuter through-traffic, curable by cutting **Cotswold Rd** between Dunkery Rd and Brendon Rd. There will be examples in the outer parts of South Bristol – in Ashton Vale, Highridge, Bishopsworth, Withywood, Hartcliffe, Knowle West, Hengrove and Stockwood – and around the Ashton Gate Stadium. These outer residential areas however are generally less traffic-ridden than inner Bristol.
- Pedestrianise the historic 150 year old **Clifton Suspension Bridge** designed by I.K.Brunel. A closure required not just for congestion and traffic restraint, but as a major civil engineering and tourist improvement. This would reduce traffic on the A369 but also within Clifton, be a boost to a major tourist site, and would relieve this historic structure from the physical stress that it must be under (and which will eventually lead to its ultimate retirement anyway, at greater repair cost).
- Collectively, the above measures probably would ease **flows on the main hierarchy routes** through South Bristol – even if initially adding to their total flows – by easing sundry of their **junctions**.
- Unless these traffic issues are dealt with, there will be limited **incentive** for South Bristolians and North Somerset and B&NES car commuters to **change their habits**. Personal fitness, city air pollution and social severance will continue to deteriorate. We deserve better.

- *Bus/tram/rapid transit routes.*
 - Initiate an **A37 Park&Ride** bus service, if necessary on a temporary P&R site.
 - **MetroWest stations** are planned or required for **Ashton Gate** and **St Anne's**, and far more frequent services through **Bedminster** and **Parson St stations**.
 - The TfGB ***Rapid Transit Plan*** proposes tram routes for the A4 **Bath Rd**, A37 **Wells Rd** and A38/A4174 **Bedminster Parade/Hartcliffe Way**. Each will interconnect with orbital bus services, run via suburban hubs, and each have access to Park&Ride city-edge carparks. In the interim, each is a trunk radial bus service and should be furnished as far as possible with continuous bus-lanes (or bus-triggered signals if this is disallowed by road width). On-street parking should be removed. Eventually, install a **tram-gate** at **Bedminster Parade**, or perhaps rather a 'green wave' bus/tram priority traffic signal system. **Bath Rd** and **Wells Rd** likewise should have a 'green wave' bus/tram priority traffic signal system. Provide a parallel segregated cycleway, or else a calmed parallel back-street cycle route.
 - TfGB's ***Bus Plan*** proposes an **Inner Ring** orbital bus service from Long Ashton Park&Ride, via Bower Ashton (for Ashton Court and Ashton Gate Stadium) – North St – Bedminster Parade hub – Temple Meads hub (or Sheene Rd – St John's Lane – Wells Rd – Broadwalk Knowle hub – Talbot Rd/Kensington Pk Rd – Bath Rd), Arno's Vale – St Philips Causeway to AvonMeads, Easton and beyond. This would require some bus-priority measures: bus-triggered signals at Sheene Rd, and bus-lanes on St Philips Causeway.
 - Also a **Middle Ring** orbital bus service from Long Ashton Park&Ride, via Bower Ashton (for Ashton Court) – Winterstoke Rd (for Ashton Gate Stadium) – Bishopsworth Rd – Bedminster Down –Whitchurch Rd – Hareclive Rd – William Jessop Way bus-gate (or via Hartcliffe Way) – Hengrove Pk Hosp. hub – Whitchurch Lane – Imperial Pk – Hengrove Way (for Hengrove Leisure Centre) – Airport Rd – Callington Rd – Brislington P&R hub – Bristol Hill – Wick Rd – Newbridge Rd – Netham Bridge to Redfield and beyond. This would require some bus priority measures, including bus-lanes on Winterstoke Rd, Hartcliffe Way, Hengrove Way and Callington Rd, and bus-triggered signals on Newbridge Rd and at Netham Bridge.

- The suburban centre of **North St** in Southville would benefit environmentally by a bus-gate (as locally being discussed), perhaps at the Tobacco Factory. This might necessitate the cutting also of the parallel Duckmoor Rd (between Raleigh Rd and Durnford St).
 - Install **bus-triggered traffic signals on Sandy Park Rd** for right-turning bus no. 1 into Bath Rd.
 - Improve the **visibility of Bedminster station** from East St and Malago Rd, and of **Parson St station**.
 - The largely car-dependent retail centres at **AvonMeads** in St Philip's and **Imperial Park** in Hartcliffe, as well as the superstores Tesco's on Callington Rd and Sainsbury's on Winterstoke Rd, plus Hengrove Leisure Centre on Hengrove Way, all would be served by either the Inner Ring or Middle Ring bus orbital proposals.
- *Pedestrian zones and routes.*
 - **Bedminster Parade** is an important local shopping centre but is over-trafficked and needs to become calmed as well as Bus/tram Priority. On-street parking (apart from loading and disabled bays) should be removed (but not all off-road car parks subjected to closure for redevelopment), footways widened, a separate cycleway provided. Ideally this street would be bus- (later tram) and-access only. Ultimately that should be possible, since for local movements **Dean Lane/Catherine Mead St/St John's Rd** offers an alternative for low traffic levels (longer-distance traffic should use the A370). But the overused **Dean Lane** should be cut at Holy Cross Primary School: still allowing Dean Lane/Stackpool Rd to serve Southville, and St John's Rd/Catherine Mead St./Dean Lane serve Azda superstore and southern Bedminster. **Whitehouse Lane** could be cut north of Philip St, as currently the lane – an industrial service road – is used as a rat-run.
 - **Wells Rd** at both Broadwalk in Knowle and again in Totterdown likewise is a shopping street but over-trafficked. It too requires environmental treatment as proposed for Bedminster Parade. Ultimately, at low traffic levels, Wells Rd at Knowle (say, between Broadwalk and Redcatch Rd) could become bus-and-access-only and more of a suburban centre. At local low traffic levels, local roads can act as alternatives – but must be prevented from becoming rat-runs.

- Walk routes into the city centre from South Bristol need improvement at several bridges over the New Cut and the River Avon. Several exclusive pedestrian (and cycle) bridges exist, but three more could be created: at **Clifton Suspension Bridge** (into Clifton, a tourist site in itself), **Merchants Rd Bridge** (around the outer end of Harbourside, a leisure walk circuit; can become bus only), and **Prince St Bridge** (previously closed during lengthy repairs; around the inner end of the Harbourside walk). Cyclists crossing these bridges should be separated from pedestrians, but required to dismount on Clifton Suspension Bridge.
- On the rat-run roads, see above.
- On the riverside walk up-river, see cycling (below).

Cycle routes.

- The calming of the A38 **Bedminster Parade** and the A37 **Wells Rd** (see above) would make these main routes less unsafe for cyclists. Install segregated **cycleways** in both, or else parallel signed calmed side-road cycle-routes. Bath Rd likewise requires a parallel segregated cycleway.
- Elsewhere along the A38 and its parallel radials, cyclists can already use the bus-gated one-way **East St Bedminster** shopping street, but require provision elsewhere. **Malago Rd/Sheene Rd/Bedminster Rd** may have space for a segregated cycleway; Hartcliffe Way has one; **Whitchurch Lane** needs one. **West St Bedminster** requires more calming, though this may be partially achieved through both the cutting of Dean Lane (through still usable via Catherine Mead St/St John's Rd) and Whitehouse Lane, plus the bus/tram gate at Bedminster Parade.
- The **A4 Bath Rd** is in part paralleled by the cycle and walkway along the river Avon, between Temple Meads and either Edward Rd or St Philips Causeway (which needs a segregated cycleway) near Arno's Vale. However, a segregated cycleway is desirable along its length as far out as the city boundary if this is possible to install.
- Likewise **St John's Lane** is potentially an excellent level orbital route for cyclists if its traffic is much reduced. For cycling provision see above.

- The closure of **St Luke's Rd** to through-traffic at the railway bridge would open up a more direct on-road route for cyclists to the city centre (via a path over the Banana Bridge and through Redcliffe) from Victoria Park and Knowle West, incidentally relieving the minor rat-run along Hill Ave..
- The excellent longer-distance cycle routes out into the countryside – the Pill Path downriver, the Festival Way and Whitchurch Railway Path southwards, and the riverside path upstream along the Avon – have one blot, the last one. However, if the **Crews Hole Road** rat-run is cut at Conham riverside this will be largely rectified.
- Cycle routes from South Bristol into the city centre would be much improved by the bridge closures proposed for pedestrians (above). **Prince St Bridge** should have a segregated cycleway. **Merchants Rd Bridge** is narrow, but may be able to fit a cycleway alongside a bus-gate. Cyclists should however be required to dismount over a pedestrianised **Clifton Suspension Bridge**, due to wandering sight-seeing tourists there.
- *Parking control.*
 - Southville, Bedminster East and Bower Ashton are already **Residents Only Parking Zones** see <https://www.bristol.gov.uk/parking/map-of-scheme-areas>). This treatment should be applied also to **Windmill Hill, Totterdown** and when necessary Bedminster West and Ashton Vale. Allow for disabled and servicing vehicles permits, and sell to residents as 'only £1 per week, only to car owners' (or equivalent).
 - Within the shopping centres **East St/Bedminster Parade, Wells Rd** (at Broadwalk) and **North St** in Southville, on-street parking should be removed (except for disabled and loading bays within widened footways).
 - Intrusive visitor parking around the **Ashton Gate Stadium** may require attention, including a Residents Only Parking Zone in 'Bedminster West'. Bristol City FC interests may be against, but eventually its access needs should be met by public transport improvement including MetroWest, the proposed orbital bus services, and Park&Ride.

Assessment

One should be under no illusion that the above measures will be locally popular. Many would be resisted; however, some neighbourhood communities will be more **sympathetic**. It might be wise to start in Southville where a level of activism and support already exists: the closure of North St. has for example already been floated by local interests. One could start there; and work outwards. A parallel approach is to team up with local **Primary Schools** – as on St John's Lane and Dean Lane – affected by traffic related air pollution.

If traffic management is undertaken in parallel with **Park&Ride** expansion, **bus priority measures**, **orbital bus services**, **improved cycle routes** and **Residents Only Parking Zones**, this eventually should lead to **modal change** in South Bristol amongst both local and incoming car commuters. Care would need to be taken that **new rat-runs** are dealt with as they arise. Also, a concerted **publicity and political programme** would be required. Eventually, **parking** would need to be reduced at South Bristol's various employment, shopping and leisure destinations.

Under the TfGB ***Rapid Transit Plan***, **trams** – or at least trunk buses, served by bus orbitals and bus feeders to suburban hubs – would arrive on the **Bath Rd, Wells Rd** and **Bedminster Parade/Hartcliffe Way** routes, linked in part to Park&Ride expansion. Whether such investment is required prior to, during or after traffic management reform is a moot point. South Bristol's **MetroWest stations are likely to remain as Bedminster, Parson St. but soon reopenings at Ashton Gate** and hopefully **St Anne's**, and will help also; the anticipated reopening of the **Portishead Line** will have a dramatic effect on the consciousness of Bristolians and inward commuters about the utility of public transport – but only once the service level is at least a twenty minute frequency.

4. INNER NORTH BRISTOL (CLIFTON, HOTWELLS, REDLAND, COTHAM)

(between the R. Avon downstream and the A38 Gloucester Rd, up to The Downs).

See Inner North Bristol, Map 5.

Problems

- The fairly low density, fashionable and largely better-off zone of inner North Bristol nonetheless sees too much car usage. For students, who make up a significant element of the local population, public transport is perhaps the third option after walking or cycling. But too many other residents use their car to pop out to the shops, go to the sports centre or an evening out in town, or indeed to work. Nonetheless, many households in the inner parts do not own (or want) a car.
- Not many streets experience severe traffic problems, but some do: the A4 **Portway** (in 1997–9, 12 hour two-way flow of 34,000) and the **Brunel Way** (50,000) river crossing; and the Scope Route/Inner Ring Road **Hotwells gyratory**, **Hotwell Rd** (24,000), **Jacobs Wells Rd** (12,000), **Triangle** (29,000), **Park Row**, **Upper Maudlin St** (27,000), **Marlborough St** (28,000).
- However the true **total traffic** picture is worse, and concealed. For example, the supposed ‘corridor’ flow along the A4018 Whiteladies Rd is doubled if the Pembroke Rd (7,000) and Hampton Rd (10,000) parallel routes are taken into account. Similarly, the B4054 Cranbrook Rd (6,000) carries another half of that measured on the A38 Gloucester Rd ‘corridor’; with another 100% also on the parallel Ashley Down Rd (15,000) – see the St Paul’s, etc. Sector 2.
- Several **rat-runs** thread through Clifton, Redland and Cotham. Partly these may reflect university staff and students; partly, car-dependent residents living further out in North Bristol, partly perhaps people taking short-cuts towards employment zones elsewhere.
- Being in large part on a hill and not facing the prevailing wind, **air pollution** affects largely only those areas closer to the city centre: in Hotwells, Kingsdown, southern Cotham and alongside Gloucester Rd.
- Extraneous commuter car parking is no longer a problem for this part of town (unlike much of East and parts of South Bristol) as **Residents Only Parking Zones** completely cover it. The exception – for no good reason – is **The Downs**.

- **Bus services** are good in the main corridors: the A4018 Whiteladies Rd, and A38 Gloucester Rd. The extensive residential hinterlands however are not particularly accessible, thereby encouraging car dependency.
- **Cycle routes** into the city centre are poor, and this has as much to do with traffic as with hilliness.
- Cycling on **The Downs** – the best potential locale for family cycling in inner Bristol – is hazardous because of traffic, parking, and the resistance to cycleways on the part of the Downs Committee.

Opportunities

- The temporary reduction in traffic as a result of **Covid 19**. **The Mall** elite shopping centre in Clifton has been given widened footways.
- A growing awareness that **traffic might be a problem for Bristol** in general.
- Growing interest in and acceptability of **cycling**.
- The potential of the Severn Beach Line to become part of a **MetroWest** rapid transit system, with stations at Clifton Down, Redland and Montpelier.
- Try to imagine what North Bristol would be like if it were not in say Germany, Holland or Sweden, with a **socially-planned environment**.

Analysis and proposals

Policy.

- **Closure** and/or mitigation of **rat-runs** especially through the more inner parts of this rather exclusive side of the city. Much of its traffic is coming from outside – though far from all.
- Increase the **efficiency** of the main road network.
- Reduce through-traffic in the main shopping centres **Clifton Down** and **Bishopston**.
- Invest in and improve the **attractiveness** of public transport.
- Remove the anticipation that **parking** will always be possible.
- Improve **cycling** access into this part of the city.
- Enhance **The Downs**, trashed by traffic and plagued by parking.
- Better **connect** with the city centre.
- Remove rat-running from the inappropriate narrow historic streets of **Clifton** and **Hotwells**.

Measures, by transport mode.

- *Car: the road hierarchy.*
 - The **A4 Portway** from the M5, and the **Brunel Way** river crossing are legitimate National Primary Routes into Bristol.
 - The **Inner Ring Road** is more contentious in its current alignment, is over-congested, polluting, severing and directly impacts on the BRI and on this sector's part of 'city centre' – the **Triangle** and the 'West End'. It can be modified by de-emphasising this side of the IRR, partly by allowing **Lewin's Mead** to take some of the strain. A partial one-way system is possible: see TfGB **City Centre, Sector 1**.
 - The **A4018** (21,000) and **A38** (22,000) operate as main approach routes into North Bristol from the north. However, in their inner sections they are the area's main suburban centres, along **Whiteladies Rd** (16,000) and **Gloucester Rd** (15,000): these need to become **Bus Priority Routes**.
 - Acceptable **distributor roads** connecting the main routes together include the A4156 **Upper Belgrave Rd/Bridge Valley Rd** (11,000), and the A4018 **Westbury Rd** (21,000) reaching it. However, both impact upon **The Downs**, and need there to be calmed; similar applies to B4054 **Stoke Rd** (10,000) linking towards Shirehampton. **Queens Rd/Clifton Down Rd/Clifton** (8,000) connects Clifton. All would benefit from a constraint on parking (public, private and on-street) in Bristol city centre, but also around Clifton, Whiteladies Rd and Gloucester Rd.
 - Acceptable as local distributor roads, but currently greatly overused as through car commuter routes, are: B4054 **Cranbrook Rd/Linden Rd/North View** (6,000) connecting Henleaze towards the city centre; **Pembroke Rd** (7,000) in Clifton parallel to Whiteladies Rd; **Redland Hill/Redland Rd/Arley Hill** (4,000) through Redland. Their traffic can partially be restrained by restraining parking (as defined above).
 - On environmental grounds and road unsuitability, the pseudo-radials **St Michael's Hill/Hampton Rd** (10,000) parallel to Whiteladies Rd, and **Horfield Rd/Cotham Brow** (5,000) through Kingsdown and Cotham, need to be cut. Likewise the official but unsuitable orbitals B3129 **Clifton Suspension Bridge** into Clifton, and the B4051 **Dighton St/Jamaica St.** around Stokes Croft.

- A clutch of narrow and unsuitable rat-runs lead out of Clifton southwards: **Granby Hill, Clifton Vale, Clifton Wood Rd, Constitution Hill, Lower Clifton Hill**. They too need to be cut.
- **Clifton Suspension Bridge**, which pours 9,000 vehicles into and through Clifton, is entirely unsuitable as a modern traffic artery. **Close** to traffic.
- As an approach to the city centre, **Triangle East** can be made a two-way bus-gate, enhancing its nature as both shopping focus and **bus hub**. Triangle West and South can operate two-way as part of the Inner Ring Road, with a segregated cycleway.
- *Car: local traffic management.*
 - Some of the car commuter runs across the area could advantageously be cut:
 - **The Downs** – both **Ladies Mile** and **Circular Rd** could be stooped as rat-runs by cutting in their middles: in the case of the second allowing the gorge-top car parking to be reached from either end.
 - In Clifton, the **Clifton Suspension Bridge** should be **pedestrianised**.
 - In Hotwells and Clifton Wood, **Granby Hill** and **Clifton Vale** could be cut south of Cornwallis Crescent; **Clifton Wood Rd** south of Randall Rd; **Constitution Hill** and **Lower Clifton Hill** south of Clifton Rd.
 - In Cotham, **Hampton Rd** could be cut at Cotham Hill, and **Cotham Brow** cut south of Cotham Park (other local measures may be necessary).
 - In Stokes Croft, **Jamaica St** could be cut by pedestrianizing it at King Square.

Each of these should be cycle permeable; most would make excellent cycle routes once made safe (a few are too steep).
 - Other measures may be known locally to be desirable in the northern part of Cotham and Redland.
- *Bus/tram/rapid transit routes.*
 - The A4018 requires continuous **bus-lanes**, and the removal of on-street parking throughout (except for disabled and loading bays within

widened footways). For the **Whiteladies Rd** section, the local shopping high street, options include a bus- (and cycle) gate and public transport hub at Clifton Down. The A38 requires equivalent treatment, as does its **Gloucester Rd** Bishopston shopping centre section. The latter too could eventually have a bus- (servicing access and cycle) gate.

- An enhancement would be TfGB's *Rapid Transit Plan* '**Westbury on Trym tram Line**' down the A4018/Whiteladies Rd/Triangle/BRI/Bus Station/Haymarket; likewise the **Filton Line** down the A38 into the city centre.
 - **Queens Rd Triangle East** to become a two-way **bus/tram hub**. Cyclists should be given cycle-lanes on Triangle West and South.
 - **Park St** should have a **bus-gate** at College Green.
 - **A4 Hotwell Rd/Anchor Rd** requires continuous bus-lanes.
 - TfGB's **Inner Ring orbital bus route** from Cumberland Basin, via Hotwell Rd, Jacob's Wells Rd, Triangle East, Park Row, Marlborough St to Stokes Croft would require bus-lanes on Hotwell Rd, and bus-triggered signals on Jacob's Wells Rd, Park Row and Marlborough St. Serves the BRI and the Bus Station. Subsequently, restructure Haymarket to allow this service to run to the **Haymarket hub** via Lower Maudlin St. Make **Park Row/Maudlin St/Marlborough St one-way for general traffic**; two-way for buses, trams and emergency vehicles, with a **cycleway** alongside. (General traffic partially diverted via **Lewins Mead** – but allowing movements only between Bearpit and Anchor Rd).
 - Enhanced **MetroWest** service at the existing Clifton Down, Redland and Montpellier stations.
 - Restructure bus services 8/9 to become high frequency local **feeder buses** serving Clifton, Bristol Zoo, Redland and Cotham but terminating at the **Triangle** and **Gloucester Rd (The Arches) bus hubs**.
- *Pedestrian zones and routes.*
 - The removal of on-street parking (while retaining managed premises servicing access) within the **Whiteladies Rd**, the **Triangle**, **Park St** and **Gloucester Rd** shopping centres would enable footway widening and greatly enhance these places as desirable pedestrian destinations, and doubtless benefit them economically. The local road circulation network allows that at low traffic levels each eventually could be

controlled by **bus-gates**, to be converted to **tram** operation; in practice, this measure could be softened to the provision of a 'green wave' bus/tram priority traffic signal system.

- The western part of **Cotham Hill** can be **pedestrianised** where the local shops and cafes are.
- A pedestrianised **Clifton Suspension Bridge** would enhance its tourism potential and be an excellent walk route to Ashton Court.
- **The Downs** will be calmed around Ladies Rd and Circular Rd.
- Walk routes to the city centre via **Park St** and via **Park Row/Upper Maudlin St/Lower Maudlin St** will be more pleasant, the less congested and polluted they become.
- *Cycle routes.*
 - The direct *de facto* on-road cycle routes via the **A4018** and **A38** would become far better when these roads become Bus (and cycle) Priority Routes, especially if and when bus (and tram)-gates prohibit general through-traffic at **Whiteladies Rd** (Clifton Down), **Gloucester Rd** (Bishopston) and **Stokes Croft**. Provide segregated cycleways throughout; and where not possible, signed parallel calmed side-road cycleways.
 - **Traffic reduction** on the local distributor roads and rat-runs similarly.
 - A segregated cycleway is required on **Jacob's Wells Rd/Triangle/Park Row/Perry Rd/Upper Maudlin St/Marlborough St**, connecting the University area to the city centre and Harbourside for cyclists for the first time.
 - On a pedestrianised **Clifton Suspension Bridge** cyclists should be required to dismount due to tourist pedestrian pressure; nonetheless it will be an excellent cyclists' route to Ashton Court.
 - **The Downs** if Ladies Rd and Circular Rd are freed of through-traffic can become signed family cycleways. Cycleways likewise required alongside Parry's Lane, Westbury Rd and Upper Belgrave Rd.
 - The closure of the **St Michael's Hill/Hampton Rd** rat-run will make a fine (if steep) cycle route northwards, with a branch similarly via **Cotham Brow** to Gloucester Rd (and on via **Cromwell Rd**): both connect to Bristol University.

- *Parking control.*
 - **On-street parking** to be restrained in the local shopping centres, aside from loading and disabled bays). This will change local consciousness away from the driving option and enhance the demand for appropriate local **feeder bus** services to these shopping centres/public transport hubs.

5. INNER EAST BRISTOL (LAWRENCE HILL, BARTON HILL, EASTON, GREENBANK, REDFIELD)

(between the Inner Ring Road, M32, River Avon, and a line between Eastville, St George's and Netham Parks).

See Inner East Bristol, Map 6.

Problems

- A **neglected** set of high density less well-off neighbourhoods. Low car-ownership. Some localities rebuilt as high-rise. Now a high BAME proportion in the inner parts. Gentrification beginning around Old Market and Greenbank.
- Much of it lying within Bristol's worst and illegal **air pollution** zone (map available at <https://opendata.bristol.gov.uk/pages/air-quality-dashboard-new/air-quality-now#map>). Much pollution comes from the concentration of heavily trafficked main commuter roads into the city centre, but also from external through-traffic cutting through rat-runs. The pollution 'comes from outside'.
- Quite a lot of inbound car commuting generated by the extensive **St Philip's trading area**.
- All the main roads are highly congested, due mostly to sheer **traffic levels** within a tight network of such roads; partly due to overloaded junctions with each other, but also to impinging uncontrolled rat-runs. The main roads being: M32 (in 1997-7, 12 hour two-way flow of 44,000 vehicles); Temple Way (41,000); Easton Way (36,000) and St Philip's Causeway (22,000); Old Market (24,000); A432 Stapleton Rd (10,000 outer part, 6,000 inside Easton Way); A420 Lawrence Hill (15,000 outer part, 20,000 inside Easton Way). These are shocking levels of traffic to impose upon a poor inner city area, which has long been seen as no more than a set of road junctions.
- No attempt to map or constrain the excessive **through-traffic** and **rat-runs**, notably on, by-passing or accessing the M32, A432 and A420 radials.
- Resultant excessive **traffic noise, severance, danger** and **pollution**.
- There are some acceptable industrial access routes, including **Feeder Rd** (13,000); but this and several other roads are used inappropriately by through-traffic including: **Pennywell Rd** in Easton; the B4465 **Whitehall Rd /Easton Rd** (7,000 at Easton Rd) and **Russell Town Ave** in Redfield/Easton/Lawrence Hill; **Silverthorne Lane/Midland Rd** and **Days Rd** in The Dings; **Days Rd/Barrow Rd/Barton Hill Rd/Queen Ann Rd/Avonvale Rd**,

Pile Marsh (leading to **Beaufort Rd** in St George's) and **Marsh Lane** all in Barton Hill. That mostly their traffic levels have not been surveyed merely reflects this area's neglect.

- Road **accidents** are high in this area, perhaps because of the level of pedestrian activity and rat-running, with in addition possibly cultural factors.
- **M32** hard to cross walking or cycling (thus poor **interconnectivity** between St St Jude's/Easton and Paul's/St Werburgh's).
- Poor **bus** service for the St Philip's and Barton Hill areas.
- The **local shopping centres** badly need traffic calming; all are subject to much through-traffic.
- Some good **cycling** and **walking** radial routes – the Frome Path, Bristol & Bath Railway Path and the Whitchurch route passing St Philip's – but interconnecting routes rather poor, and the main and other roads frankly uncyclable due to motor traffic.
- **Residents Only Parking Zones** in 'Easton and St Philips' (see <https://www.bristol.gov.uk/parking/map-of-scheme-areas>) inside the Easton Way orbital road. This is far less than in other sectors of the city. Needed also further out, in Lower Easton, Barton Hill and Netham.

Opportunities

- Immediate 'pop-up' **Covid 19 measures** perhaps soon to be implemented in St Marks Rd and Mina Rd.
- Low community **political influence**, hence its neglect. A lack of opportunity.
- **Bus operations** now (temporarily) under public control.
- Growing awareness in the city in general of the need for **air pollution** action.

Analysis and proposals

Policy.

- An **M32 Park&Ride** service to bring its traffic levels down. See TfGB *Rapid Transit Plan*.
- **Protect** these vulnerable neighbourhoods from traffic mostly passing through from outside.
- **Closure** and/or mitigation of **rat-runs** through this part of the inner city.
- Reduce **severance** of the **M32**.

- Protect in this part of the city the local shopping centres at **St Marks Rd** and **Stapleton Rd** (both east and west of Easton Way) in Easton, and **Church St** in Redfield, currently plagued by external traffic. **Old Market** and **Stapleton Rd Easton** each in their different ways are cultural foci within Bristol, and should be treated as such.
- Recreate **Old Market/ West St** on the edge of the city centre as a major Bristol centre, as it was in medieval and early modern times.
- Improve bus accessibility with new **orbital bus services**.
- Improve **bus services** to St Philip's and Barton Hill.
- Calm the radial A432 Fishponds Rd/Stapleton Rd and A420 Church Rd/Lawrence Hill/Old Market as **Bus Priority Routes**.
- Remove car **commuter parking**.
- Create a **local network** of safe, usable **cycle routes**.

Measures, by transport mode.

- *Car: the road hierarchy.*
 - The road hierarchy has to include the **M32**, the **A4** (flanking the area), the **A4044 Inner Ring Road** (Temple Way), and the orbital **A4320 Easton Way/St Philip's Causeway**.
 - However, the old inner city radials **Stapleton Rd/Lamb St** and **Church Rd/Lawrence Hill/West St**, combining into **Old Market**, which host the area's main shopping streets, should become **Bus Priority Routes**. There is already a bus-gate on **Stapleton Rd** at Easton Way.
 - It is clear that the **M32** should remain as a long-distance general traffic feeder towards central Bristol, but its level of commuter and shopper car traffic must be much reduced for the benefits of Bristol residents and their air quality. This is perfectly possible, given a combination of TfGB's *Rapid Transit*, *Bus* and *Parking Plans*, and **de-motorisation** of the M32.
 - When funds allow, the structurally aging **grade-separated junctions** of the M32 should be replaced by surface signalled cross-roads.
 - In the interim, an **M32 Park&Ride Rapid Transit** service using the M32 should use the junction slip roads to create bus-stops at Eastgate and Easton Way **hubs** as proposed in TfGB's *Rapid Transit Plan*.

- The speed limit of the (ex-)M32 should become **30mph**, with traffic signals (existing) and **surface pedestrian crossings** at its junctions, in order to decrease both road accident rates and community severance.
 - For the St Philips industrial area, **Feeder Rd** is the main internal distributor, connecting to St Philips Causeway via **Albert Crescent** and **Albert Rd**, with a lesser link to the A4 Bath Rd via **Totterdown Bridge**. However, its use as a pseudo-radial by car commuters worsens congestion on St Philips Causeway at its junction, and likewise at Netham Bridge, and must be restrained.
 - A legitimate local distributor in Redfield/Whitehall is B4465 **Whitehall Rd** (also a bus route for services 6/7) but this has been allowed to become an overused car commuter pseudo-radial.
 - Likewise in Barton Hill, **Avonvale Rd** (partially, bus service 36) is a local distributor, but overused as a commuter pseudo-radial.
 - By default, the area's outer orbital distributor is **Netham Bridge/Netham Rd/Blackswarth Rd/Chalks Rd/B4465 Whitehall Rd/B4469 Gordon Rd/Rose Green Rd/Royate Hill/Fishponds Rd/Muller Rd**.
- *Car: local traffic management.*
 - The over-sized commuter car flows on the A432 and A420 both will to an extent be eased by the closure of **Old Market** (see below). Traffic will be encouraged onto public transport or the M32 and A4.
 - Major rat-runs through the various neighbourhoods must be constrained, so we can begin to ameliorate the local environment. This in addition will help ease traffic congestion on the main road network by freeing-up junctions.
 - If the A420 **Church Rd** Redfield is to become Bus Priority through the shopping centre (as it should) then the **bus- (and servicing access only-) gate** could be at Chalks Rd signals. Barton Hill then retains access via Lawrence Hill to Easton Way, and Speedwell, St George's and Fishponds via Royate Hill, Fishponds Rd and Muller Rd to the M32.
 - In Redfield **Whitehall Rd** can be cut at the railway bridge at **Easton Rd**, thus retaining Whitehall Rd as an internal distributor for Redfield/Whitehall, and Easton Rd for Easton, while discouraging radial through-traffic. Under this arrangement

Russell Town Ave (bus services 6/70) onto the A420 would continue to be heavily used; it should be treated with a bus-gate (perhaps at the Academy), thus giving Whitehall Rd/Russell Town Ave. bus-priority status.

- In St Philips **Feeder Rd** can be maintained as a lorry access route, approach from St Philips Causeway via Albert Rd, but discouraged as a car-commuter pseudo-radial by cutting several of its inner and outer city feeders: **Avon St, Kingsland Rd, Cattle Market Rd, Crews Hole Rd** and **Broomhill Rd** and (for the last two see Sector 3).
- In Barton Hill **Avonvale Rd** can be eased by having a bus-gate east of Marsh Lane, retaining industrial access via Days Rd/Barrow Rd/Jarvis St. from St Philips Causeway, and by Marsh Lane from Feeder Rd. The cutting of **Beaufort Rd** at Blackswarth Rd would help protect St George's from car commuters using Pile Marsh-Avonvale Rd into town.
- In Easton **Pennywell Rd** should be cut at Easton Way.
- In The Dings **Midland Rd** (via a two-way Lawford St) and Avon St can continue to provide access in the area; but through-traffic can be cut by cutting each of **Avon St, Gas Lane** and **Kingsland Rd** at their railway bridges, and **Days Rd** at Kingsland Rd, thus separating The Dings from the industrial access needs of non-residential parts, which can continue to be served by Feeder Rd and from St Philips Causeway by Days Rd.
- In St Jude, close **Wade St** at the River Frome, to protect the Frome Valley cycleway and path, and stop this road being an informal sliproad onto the M32.
- The **Netham Bridge/Netham Rd/Blackswarth Rd/Chalks Rd/B4465 Whitehall Rd/B4469 Gordon Rd/Rose Green Rd/Royate Hill/Fishponds Rd/Muller Rd**. local orbital route would be partly eased by reducing radial usage of Whitby Rd (see Sector 3), Whitehall Rd and Feeder Rd (see above), and Church Rd and Stapleton Rd (see Bus Priority Routes, below), by easing its junctions with those roads.

Each of these closures should be made permeable by cycles. They all make would good walk and cycle routes without further investment, with their danger and pollution reduced.

- *Bus/tram/rapid transit routes.*
 - Under TfGB's ***Rapid Transit Plan***, the **M32** will eventually become a Park&Ride **tram** route, with interim stops at the public transport **hubs** at Eastgate and Easton Way/Lower Ashley Rd, but necessarily will remain as a decongested main road towards the city centre.
 - The **MetroWest** Lawrence Hill and Stapleton Rd **stations** will see increased service frequencies, and become local public transport hubs interchanging with buses (and possibly trams).
 - Also under the TfGB ***Rapid Transit Plan***, **trams** are an option for both the **Stapleton Rd** and **Lawrence Hill/Church Rd** radials (to Fishponds and Kingswood respectively). In the interim, **Bus Priority Route** status should see the removal of on-street parking (except for disabled and loading bays) in their shopping centres, and footway widening. In Redfield, bus-priority approach signals outbound at Russell Town Rd, inbound at at Chalke Rd. On Stapleton Rd an equivalent arrangement.
 - On **Stapleton Rd** the existing bus-gate at Easton Way could be strengthened by making the turns off Easton Way as 'access only' (with occasional police monitoring of compliance). General local circulation can remain via Lower Ashley Rd from the (calmed) M32 (junctions 2 and 3).
 - An **Old Market bus- (and servicing access only-) gate** is required to complete this traditional centre's up-grading and its status as a **bus** (and future tram) **hub**. Remove on-street parking and widen the footways. Likewise the pedestrianisation of **West St** in St Jude's (see below); buses can be routed two-way around Trinity Rd/Lamb St. A segregated cycleway should be provided. Access into the area can be from Easton Way via Clarence Rd and Stapleton Rd.
 - Barton Hill would remain connected to the main road system via Lawrence Hill; Speedwell via Blackswarth Rd/Feeder Rd and Royate Hill; Hanham and Kingswood via Lodge Causeway and the Avon Ring Road. Note that neither the long narrow **Two Mile Hill** nor **Summerhill Rd** are suitable connectors towards the city centre for Kingswood and Hanham: both require traffic reduction, which bus-priority on Church Rd and a bus-gate on Old Market would achieve. Nor should **Whitehall Rd** remain a traffic route into town, as already proposed by the bus-gate on Russell Town Rd and the closure of Easton Rd.

- The current infrequent, and delayed through traffic congestion, **bus service 36** through Barton Hill has recently been truncated and improved, and would be better under conditions of less through-traffic; but might be further improved by terminating at the Old Market hub, and if necessary with bus-triggered signals where **Ducie Rd** enters Church Rd, with also here a bus-stop for a Lawrence Hill MetroWest interchange.
- The bus services (6/7) on **Whitehall Rd** would be improved by traffic reduction (as above) and could terminate at the Old Market hub.
- A bus service is required on **Feeder Rd**, both for worker access into St Philips but also to create a direct service into town from St Anne's and St Anne's Park. Terminate at Temple Meads.
- TfGB's **Bus Plan** proposes an **Inner Ring orbital service** along Easton Way and St Philips Causeway: providing a service to St. Paul's, Stokes Croft and AvonMeads, and interconnecting with radial bus/rapid transit routes on the M32, A432, A420 and A4. This will require **bus-lanes** on Easton Way/St Philips Causeway. **Avonmeads** can be served by an on-road bus-stop and surface pedestrian crossing; the **Old Market hub** by stops on the roundabout's northern sliproads; **Cabot Circus hub** by the existing bus-stops.
- TfGB's **Rapid Transit Plan** likewise proposes a **Middle Ring orbital bus service** from Netham Bridge along Blackswath Rd, Chalks Rd, Whitehall Rd, Royate Hill and Muller Rd, with interchange stops at Netham Bridge, Redfield (new stops by Church Rd), Fishponds Rd (new stops) and Eastgate (probably relocated stops).
- Improve the **visibility of Stapleton Rd station** from Stapleton Rd; also additional bus-stops to create a MetroWest interchange.
- The current location of **bus-stops** along the A432 and A420 corridors has to some extent been determined by traffic conditions rather than passenger convenience. Bus and rail interchange often is inconvenient. Review the bus-stop locations.
- The **City Centre Ring** bus (and future tram) service via Temple Way should have interchange stops on the slip-roads at **Old Market hub** (as already exists for some other services). This will require **bus-lanes** on Temple Way.

- *Pedestrian zones and routes.*
 - **Old Market** could well regain its former status as one of the chief centres of Bristol. See the proposed bus-gate (above), and the pedestrianisation, with controlled serving access, of its **West St** extension (above).
 - On the environmental improvement of the **Stapleton Rd** and **Church Rd** shopping centres in Easton and Redfield, currently much plagued by external through-traffic, see above.
 - The role of the northern end of **St Marks Rd** as a local access route requires downgrading, and the environment of its shopping centre thereby improved. The precise design should be contingent upon consultation with residents and retailers.
 - Adjacent to Temple Meads and to the soon campus of Bristol University, **Cattle Market Rd** should be closed to traffic and repurposed (again) as a students' walking and cycling access. Vehicular access to the campus retained via Totterdown Bridge, and St Philips Causeway via Albert Rd.
 - The poor links to St. Paul's will be improved by the changes proposed for the **M32** (above), making its crossing far more simple and less stressful.

- *Cycle routes.*
 - The direct on-road radial cycle routes via the A432 **Fishponds Rd**, A420 **Church Rd**, B4465 **Whitehall Rd** and **Feeder Rd** all are likely to remain substandard. Whether any of these roads in their non-shopping sectors could be supplied with segregated cycleways is a design issue. Parallel back-street cycle routes or cycleways off-line seem essential. The Bristol & Bath Railway Path, Frome Path and River Avon Path only to a limited degree provide this.
 - At **Old Market** a consultation exercise needs to discern whether a segregated cycleway is possible. Otherwise, sign a parallel calmed side-road cycle route.
 - Both the **Inner Ring Road** and **Easton Way/St Philips Causeway** orbital routes should be provided with road-side segregated cycleways, as in part they already have.
 - Through-traffic removal from local rat-runs can create a local network of safe cycle routes – something absent at present. The best

candidates are perhaps: **Pennywell Rd** (connecting to the Frome Path and Concorde Way, if a cycleway crossing of M32 Junction 3 is provided); **Whitby Rd** (connecting to the River Avon Path upriver, if a cycleway crossing of Netham Bridge is provided); **Midland Rd/Kingsland Rd** can be an orbital connector; **Gas Lane/Silverthorne Lane/Queen Ann Rd/Avonvale Rd/Pile Marsh/Beaufort Rd** connects the city centre with St Georges and Netham Park for the upriver River Avon Path.

- *Parking control.*
 - Enlarge the current **Residents Only Parking Zone** in 'Easton' to include **Gas Lane** in St Philips, currently a car commuter honeypot.
 - Instigate RPZs in **Lower Easton, Barton Hill and Netham** (taxi drivers can claim as a works expense for tax purposes).
 - Remove on-street parking (except for disable and loading bays) in the **Stapleton Road** in Easton and **Redfield** shopping centres.
 - Once a bus service is operative on Feeder Rd to St Anne's, inform the businesses in **St Philips** and **St Anne's**.

DETAILED PHASED PROGRAMME BY CITY SECTOR.

1. BRISTOL CITY CENTRE.

Immediate (within 6 months).

- **Bus-gates** at **Bristol Bridge** and **Baldwin St/Centre** as planned by BCC, but also at **Park St**, **Old Market** and **Merchants Rd Bridge**.
- **Redefine the Inner Ring Road** to reduce congestion passing the BRI and on York Rd.
- Removal of cycleway through the **pedestrianised Centre**, and replace by interim cycleways alongside the flanking carriageways.
- The implementation of **servicing access loops** within the Inner Ring Road, initially by bollarded temporary experimental measures.
- Pedestrianise the **Old City**, **Denmark St** and **King St** with controlled servicing access.

Interim (within 3 years).

- **Reroute buses** onto Victoria St/Bristol Bridge/Baldwin St/Centre/Lewins Mead/Haymarket/Bond St/Temple Way, and away from environmentally sensitive **Horsefair/Penn St**, **Union St**, **Broad Quay**, **Thunderbolt Square** and **Nelson St**.
- Initiate a **City Centre Circular Bus** service via Temple Meads, BRI and Triangle.
- **Calm the Inner Ring Road**, with 20 mph speed limit, banned turns, recalibrated pedestrian crossings and defined cycle crossings.
- Consult on, and implement, a **Workplace Parking Levy** (as in Nottingham). **Remove on-street parking** in the central area except for disable and loading bays.
- Agree a **replacement** of the deteriorating **Plimsoll Bridge (Brunel Way)** at Cumberland Basin that is low speed, and removes general traffic from **Merchants Rd Bridge** and **Dowry Square**. A two-way solution is required via **Cumberland Basin Rd** and **Christina Terrace**. **Dowry Square** can be closed at Cumberland Basin Rd; and **Merchants Rd Bridge** become a bus-and-cycle gate.
- Do detailed designs for **bus hubs** at **Temple Meads (Friary)**, **Centre**, **Triangle (East)**, **Haymarket/Bus Station**, **Cabot Circus (Bond St)** and **Old Market** (including stops on the NW and NW sliproads at the roundabout) that allow for **future trams**. Implement in interim form.

- Agree and **safeguard future tram routes** along Bond St–Temple Way–Victoria St–Baldwin St– Centre–Lewins Mead – Haymarket.
- Initiate the first **MetroWest** frequent rail service through Temple Meads.
- Pedestrianise **Nelson St** and **Union St**, with controlled servicing access, inclusive of segregated cycleways on each.
- Build **segregated cycleways** alongside the Inner Ring Road, and along or parallel to the revised City Centre Loop bus circuit of Victoria St/Bristol Bridge/Baldwin St (in place already)/the Centre/Lewins Mead (see TfGB ***Bus Plan***).

Ultimate (within 10 years).

- Fully implement the **central area public transport hubs**, with full associated facilities (see TfGB ***Rapid Transit*** and ***Bus Plans***).
- Open the first **tram line** through the Centre.
- (Later) complete the ***Rapid Transit Plan***, including the tram **City Centre Ring**.

2. INNER NORTH-EAST BRISTOL

Immediate (within 6 months).

- Make permanent the BCC '**pop-up**' footway widenings on Stokes Croft and Mina Rd.
- Do temporary closures of **Ashley Hill** (at Chesterfield), **St Andrew's Rd** (at Cromwell Rd), **Glenfrome Rd** (a bus-gate at the railway bridge), **Mina Rd** (at Gatton Rd) and **Magdalene Place** (in the middle), as an attempt to enforce air quality standards.
- Replace the **no. 5 bus** by a 15 min. frequency bus shuttle between Stokes Croft (Bearpit) hub and Eastgate hub (optionally continued to Fishponds as at present). This will be more reliable with Glenfrome Rd closed by a bus and cycle gate.
- Install bus-triggered traffic signals on **Cromwell Rd** for left-turning buses out of Cromwell Rd at the Arches on the A38.
- Improve signage of **Montpelier station** at the Arches.
- New bus-stops on an **Inner Ring orbital bus service** at the M32 and in Stokes Croft (see TfGB *Rapid Transit* and *Bus Plans*).

Interim (within 3 years).

- Instigate interim **Bus Priority Route** measures on the A38 Gloucester Rd (and adjacent parallel residential roads where necessary) between Somerville Rd and the Arches; carry out a **Consultation Exercise** for Ashley, Bishopston, Eastville, Redland and Cotham wards, presenting the traffic management options.
- Make the closures of Ashley Hill, Glenfrome Rd, Mina Rd, etc.. **permanent**.
- **Residents and Business Only Parking Zones** for St Werburgh's and St Andrew's.
- Redesign **Eastgate** roads to create a **bus hub**.
- Initiate **MetroWest** services, with a new **station at Ashley Down**, and improved services at Montpelier station.
- Install an experimental bus-gate on **Ashley Rd** at Albert Park, and **Cromwell Rd** at Chesterfield Rd.
- Bus-lanes or bus-triggered signals on **Muller Rd** for a **Middle Ring orbital bus service** (see TfGB *Rapid Transit* and *Bus Plans*).
- Pedestrianise **Portland Square** and **Brunswick Square**.

Ultimate (within 10 years).

- Open the **tram lines** along the M32 and A38 to the city centre, and remodel each road as appropriate. On the former with stops at Eastgate and Easton/St Paul's; on the latter with relocated stops at Somerville Rd, the Arches/Montpelier station, Ashley Rd, City Rd, Bearpit, etc.. More than one of these will become public transport **hubs** interchanging with rapid transit, orbital or feeder buses.
- Make **permanent** the internal road closures and bus-gates.
- Make the Gloucester Rd **Bishopston shopping centre** tram-and-access-only between Somerville Rd and Zetland Rd, and **Stokes Croft** likewise between Ashley Rd and Jamaica Rd. Alternatively, install a 'green wave' bus/tram priority traffic signal system throughout the A38. Install parallel safe cycle routes/cycleways.

3. SOUTH BRISTOL

Immediate (within 6 months).

- The BCC '**pop-up**' **footway widenings** in Bedminster Parade.
- Install temporary **bus-lanes** where possible throughout the A38, A37 and A4 Bath Rd, and remove all on-street parking except for disabled and loading bays.
- A temporary closure of **North St.** (at Tobacco Factory) in Southville centre with a bus-cycle-and- emergency vehicle-gate.
- Install bus-triggered traffic signals on **Sandy Park Rd** for right-turning bus no. 1 into Bath Rd.
- Improve the visibility of **Bedminster station** from East St and Malago Rd, and of **Parson St station**.
- A trial **Inner Ring orbital bus service** out of Long Ashton P&R via Ashton Court/Ashton Gate Stadium/Southville/Bedminster/Temple Meads/(or Victoria Park/Broadwalk/Talbot Rd) to Brislington P&R site and thence St Philips Causeway and AvonMeads, etc. (see TfGB ***Rapid Transit*** and ***Bus Plans***), would require some new bus-stops, and bus-priority measures and stops at Arno's Vale/St Philips Causeway.

Interim (within 3 years).

- Close **St John's Lane** (at Victoria Primary) on traffic management and air quality grounds, and **St Luke's Rd** (at the railway bridge) on environmental, safety and cycling grounds.
- Make the **North St** closure permanent, complete with landscaping improvements, and any other traffic calming measures required.
- Close **Clifton Suspension Bridge** to motor vehicles on traffic, structural and tourism grounds. Make **Merchants Rd Bridge** bus and cycle only; close **Prince St Bridge** to motor vehicles, but with a segregated cycleway.
- Experimental closure of **Dean Lane** (at Holy Cross Primary) in Southville, **Cotswold Rd** (at Dunkery Rd) in Windmill Hill, **Talbot Rd** (at Lodway Rd) in Knowle, **Whitby Rd** (at the railway bridge) and **Langton Court Rd** (at St Anne's Primary) in St Anne's, **Crews Hole Rd** (at Conham riverside) in Hanham, **Broomhill Rd** (a bus-gate at Ironmould Lane) in Broomhill, on air pollution and traffic management grounds. All to be cycle permeable.
- Close **Queen's Rd** in Withywood and **Stockwood Lane** in Stockwood (both at the city boundary) on traffic management grounds.

- Close the narrow lanes **Scotland Lane**, **Novers Hill**, **Sleep Lane*** and **Maggs Lane*** on traffic management and environmental grounds (* indicates a highway external to Bristol's control).
- A trial **Middle Ring orbital bus service** out of Long Ashton P&R via Ashton Court/Ashton Gate Stadium/Winterstoke Rd/Bedminster Down/Bishopsworth/Hartcliffe/Hengrove Park Hospital/Imperial Park/Hengrove Leisure Centre/Callington Rd/Brislington P&R/Wick Rd to Redfield, etc., would require some bus priority measures, including bus-lanes on Winterstoke Rd, Hartcliffe Way, Hengrove Way and Callington Rd, and bus-triggered signals on Newbridge Rd and at Netham Bridge.
- An **A37 Park&Ride** bus service, additional bus-lanes on **Wells Rd**, and an experimental road narrowing at **Broadwalk** hub. Sign a parallel calmed cycle route where there is no room for an on-road segregated cycleway.
- Additional environmental improvement of **Bedminster Parade**, including a cycleway.
- **Residents Only Parking Zones** for **Windmill Hill** and **Totterdown**. Consult on a possible zone for **Ashton Gate/Vale**.

Ultimate (within 10 years).

- **Hengrove Park tram line** from Hengrove Park hub, via Hartcliffe Way, Bedminster Rd/Sheene Rd/Malago Rd/Bedminster Parade/Redcliffe Hill/Redcliffe Way to Temple Meads and the Inner Ring tram route, with a connection at **Parson St** and **Bedminster stations**, and a public transport **hub** and **tram-gate** at **Bedminster Parade**. Provide a parallel segregated cycleway throughout the route.
- **Bath tram line** via Bath Rd from Temple Meads; interchange **hubs** at Temple Meads, Arno's Vale and Brislington P&R. Segregated cycleways, or signed parallel off-line calmed cycle routes. A 'green wave' bus/tram priority traffic signal system throughout Bath Rd.
- Install a **bus (tram)-gate in Bedminster Parade**. Include a segregated cycleway. Alternatively, install a 'green wave' bus/tram priority traffic signal system at Bedminster Parade, and anyway throughout on the main road sections of the Hengrove tram route.
- Make the above temporary road closures and bus-gates **permanent**.
- *(Later)* Convert the **Wells Rd P&R** bus to **tram**, with a 'green wave' bus/tram priority traffic signal system.

4. INNER NORTH BRISTOL

Immediate (within 6 months).

- Install ‘pop-up’ cycleways on **Jacob’s Wells Rd**, the **Triangle**, and **Park Row/Upper Maudlin St/Lower Maudlin St**. Expand this to all stretches of the **A4018** and **A38** currently lacking a bus-lane; remove all on-street parking on these routes.
- Close **Clifton Suspension Bridge** to motor vehicles, on engineering structure and tourism grounds.
- Install a bus-gate on **Park St** (at College Green).
- Operate Lewins Mead and Park Row/Upper Maudlin St/Marlborough St as a bifurcated **Inner Ring Road**.
- A trial **Inner Ring orbital bus service** via Hotwell Rd–Jacob’s Wells Rd – Triangle–Park Row–BRI–Marlborough St–Stokes Croft (see TfGB *Rapid Transit* and *Bus Plans*), would require bus-lanes on Hotwell Rd, and bus-triggered signals on Jacob’s Wells Rd, Park Row and Marlborough St.
- On **the Downs**, cut both Ladies Mile and Circular Rd (in their middles). Sign as a leisure cycle route circuit. Negotiate with the Downs Committee roadside cycleways for Parry’s Lane, Westbury Rd and Upper Belgrave Rd.
- In Hotwells and Clifton Wood, cut **Granby Hill** and **Clifton Vale** (both, south of Cornwallis Crescent); **Clifton Wood Rd** (south of Randall Rd); **Constitution Hill** and **Lower Clifton Hill** (south of Clifton Rd).
- In Cotham, cut **Hampton Rd** (at Cotham Hill), and **Cotham Brow** (south of Cotham Park); other local measures may be necessary.
- In Stokes Croft, cut **Dighton St** at Princess Row.
- Restructure bus services 8/9 to become high frequency local **feeder buses** terminating at the **Triangle** and **Gloucester Rd (The Arches)**.
- Improve signage of **Montpelier station** at the Arches.

Interim (within 3 years).

- Make permanent the **A4018 bus-lanes**, and the removal of on-street parking throughout (except for disabled and loading bays within widened footways). For the **Whiteladies Rd** section, the local shopping high street, options include a bus (and cycle) gate and public transport hub at Clifton Down; possibly even a bus-and-cycle promenade for students and residents all the way from Blackboy Hill (Upper Belgrave Rd) down to Clifton Down station. Carry out a **Consultation Exercise** for Clifton East, Cabot, Redland and

Cotham wards, concerning making **Whiteladies Rd** a Bus Priority Route, a future tram route, Triangle East a bus/tram hub, and **Cotham Hill** pedestrianised. Provide a segregated cycleway throughout.

- The A38 requires similar treatment, as does its **Gloucester Rd** Bishopston shopping centre section. The latter too could eventually have a bus-gate, and parallel cycle routes/cycleways.
- Restructure **Haymarket**, to allow the Inner Ring bus orbital to run via Lower Maudlin St and the **Haymarket hub** to Stokes Croft. Include a segregated cycleway if possible.
- Install a two-way bus-gate at **Triangle East**, to become a bus (future tram) **hub**. Make Triangle West and South two-way as part of the Inner Ring Road, with segregated cycleways.
- Instigate interim **Bus Priority Route** measures on the A38 Gloucester Rd (and adjacent parallel residential roads where necessary) between Somerville Rd and the Arches. Provide segregated cycleways where possible; otherwise sign parallel cycle routes on calmed side-roads.

Ultimate (within 10 years).

- Carry out agreed **Whiteladies Rd/Cotham Hill/Triangle** and **Gloucester Rd** improvement plans. Install a **bus (tram)-gate** on Whiteladies Rd at Clifton Down.
- Initiate **MetroWest** services, with an enhanced service to Clifton Down, Redland and Montpelier stations.
- Open the **Westbury on Trym tram** line along the A4018 Westbury Rd–Whiteladies Rd–Triangle–BRI–Haymarket, and **Filton Line** along Gloucester Rd/Stokes Croft (see TfGB *Rapid Transit Plan*).
- Make **Gloucester Rd shopping centre bus-and-access-only** between Somerville Rd and Zetland Rd.

5. INNER EAST BRISTOL

Immediate (within 6 months).

- Do temporary closures on **Easton Rd** (at Whitehall Rd), **Crews Hole Rd** (at Conham riverside), **Beaufort Rd** (at Blackswarth Rd), **Pennywell Rd** (at Easton Way) and **Lower Ashley Rd** (at Easton Way) to improve main road junction efficiency.
- In The Dings, cut each of **Avon St**, **Gas Lane** and **Kingsland Rd** at their railway bridges, and **Days Rd** at Kingsland Rd; in St Jude's cut **Wade St** at the River Frome.
- On **Stapleton Rd** make the turns eastward off Easton Way 'access only'.
- Install experimental bus- (and servicing access only-) gates on **Old Market**, and on **Church Rd** Redfield at Chalks Rd, and remove on-street parking except for loading and disabled bays. Sign parallel calmed side-road cycle routes.
- Bus-gates on **Avonvale Rd** (east of Marsh Lane) and **Russell Town Rd** (at the Academy), to achieve bus priority and reduce through-traffic.
- Remove on-street parking in **Old Market** and **West St** to widen the effective footways.
- Close **Cattle Market Rd** to through-traffic.
- Replace the **no. 36 bus** by a 15 min. frequency bus between Old Market hub and Brislington Park&Ride hub.
- Improve the **visibility of Stapleton Rd station** from Stapleton Rd; also additional bus-stops to create a MetroWest interchange.
- An **Inner Ring orbital service** along Easton Way and St Philips Causeway: with stops at Avonmeads, Lawrence Hill, Stapleton Rd, M32 junction 3. This will require bus-lanes on Easton Way/St Philips Causeway.
- Enlarge the current **Residents Only Parking Zone** in 'Easton' to include **Gas Lane** in St Philips.
- Install temporary **bus-lanes** where possible throughout the A432 and A420 routes, or approach narrow stretches via **bus-triggered signals**; remove all on-street parking apart from disabled and loading bays within widened footways within the shopping sections. Sign parallel, side-road cycle routes.
- Downgrade the traffic usage, while managing servicing access, of the **St Marks Rd** local centre.

- Close and pedestrianise, with controlled servicing access, the **St Marks Rd** shopping centre. Temporarily **widen the footways** in **Old Market/West St**, **Stapleton Rd Easton** and **Church Rd Redfield**.
- Consult on RPZs in **Lower Easton**, **Barton Hill** and **Netham**.
- TfGB's ***Rapid Transit*** and ***Bus Plan*** **Middle Ring orbital bus service** will require interchange stops at Netham Bridge, Redfield (new stops by Church Rd), Fishponds Rd (new stops) and Eastgate (probably relocated stops).

Interim (within 3 years).

- Install a 'green wave' bus/tram priority traffic signal system throughout the **A420** east of Old Market. Install a bus-triggered signal on **Dulcie Rd** at Church Rd and a 36 bus-stop for a Lawrence Hill MetroWest interchange.
- Establish a bus service along **Feeder Rd**, between St Anne's Park and Temple Meads hub.
- Pedestrianise or make bus-only **West St** by Old Market, with controlled servicing access; make Trinity Rd/Lamb St/Lawford Gate two-way for traffic.
- Re-evaluate the **bus-stop** locations on the A432 and A420, and move if appropriate.
- Complete the segregated **cycleway** along Easton Way/St Philips Causeway, and along Temple Way.
- **Bus-stops** on the M32 sliproads at junctions 2 (Eastgate) and 3 (Easton/St Paul's).
- Make the above road closures and bus-gates **permanent**, and environmentally improve the shopping centres.

Ultimate (within 10 years).

- Initiate **MetroWest** services, with improved services to Lawrence Hill and Stapleton Rd stations.
- **Demolish** the grade-separated junctions of the (de-motorwayed) M32 and replace with signalised surface junctions and a cycleway.
- Convert the **M32 Park&Ride bus to tram**. (The M32 will also carry the city centre-UWE-Emerson's Green-Yate-Thornbury tramtrain line; see TfGB ***Rapid Transit Plan***).
- (*Later, optional*). Install **tram** services along Fishponds Rd/Stapleton Rd/Old Market, and Church Rd/Lawrence Hill/Old Market; install **tram-and-access-gates** in both.

Appendix:

TfGB TRAFFIC MANAGEMENT PLAN MAP 1

The following map suggests a completed process. In practice, the bus-gates on main radial roads are envisaged for a phase when the Park & Ride system, Workplace Parking Levy and Residents Parking Zones have been completed (see TfGB Parking Plan), bus-priority, bus hubs and orbital bus routes established, cycleways improved and completed, and general traffic levels much reduced. The shopping centre 'bus-gates' might conveniently coincide with the implementation of tram routes on particular corridors. An alternative to such treatment might however better be a 'green wave' tram-priority traffic signals system (as operating in Brussels), catering for a limited amount of access and general traffic on Gloucester Rd, Stokes Croft, Church Rd Redfield, Stapleton Rd, Wells Rd, Bedminster Parade and Whiteladies Rd (thus avoiding unnecessary traffic increase on side-road alternatives including Ashley Down Rd, Cromwell Rd, Redcatch Rd, Queens Rd Clifton and Pembroke Rd).

