Transport for Greater Bristol Alliance
Campaigning for Integrated Transport

tfgb.org

TfGB BUS PLAN FOR BRISTOL

(2018, partially revised Aug 2020)

CONTENTS

INTRODUCTION AND SUMMARY

2020 update

This Plan, presented to Bristol City Council in 2018 (and thence partially adopted in principle by them) has been partially updated in August 2020 to reflect the current situation with WECA as Transport Authority and the initiation of MetroBus services.

It should now be read in conjunction with TfGB's ***Rapid Transit Plan*** *(2020) which advocates ultimately the conversion of the main radial bus routes to* ***on-street tram*** *operation, interlinked with enhanced* ***MetroWest rail*** *services, in a fully developed urban transit system comparable to those already emerging in other Bristol metropolitan regions including Manchester, Birmingham, Sheffield, Nottingham, Newcastle, Edinburgh, Croydon in London, and soon Cardiff.*

Inventing a Bus Metro

If public transport is ever to compete with the car as a generalised mode of transport in the West of England, several major changes are required of local bus services in order to move them towards a **Bus Metro**. These principal aspects of change may be listed.

1. **Reform of the bus route network**. Main radial (or **'trunk'**) routes exist, but are being modified by WECA's **MetroBus** concept. This concept contains some orbital elements, but these need to be made more comprehensive; reasonably direct orbital routes are essential to interconnect suburbs, and to interchange with trunk and feeder bus services, and with the future rail **MetroWest**. Simultaneously, feeder services, including those accessible to disabled people; these must be integrated both as to route and funding, vehicle type, and should embrace a taxicard scheme. In the future, some of these routes should be operated by **trams** (*see **TfGB Rapid Transit Plan**, forthcoming*).

2. **Bus Interchanges.** No bus network will ever be able to meet the need for universal 'A to B' demands – the demand cars meet – unless the principle of interchange is accepted. A set of efficient interchange **'bus hubs'** is

required, including suburban 'hubs' at shopping centres and MetroWest stations.

3. **Interchangeable ticketing.** A precondition of bus hubs. Interchangeable ticketing is essential to speed up buses, enhance their reliability and thus attractiveness to users, and thereby their operational economics.

4. **Bus priority.** Bus priority traffic management is another precondition: for the improvement of bus reliability, a reduction in travel time and an enhancement in bus operating economics. The Greater Bristol Bus Network (GBBN) bus priority investment programme has proved a very partial attempt to achieve this.

5. **Bus information**. To use a bus system you have to know where it goes, what interchanges are possible, what time buses in reality leave and arrive, and how much it will cost. In the West of England such matters remain largely a mystery. A whole new user-friendly approach is essential.

None of the above conditions yet applies to the West of England's bus network. This paper addresses each issue, but in no particular order since the required changes depend upon each other to meld into a coherent whole. All have to be pursued simultaneously.

The six Parts of this paper address each issue identified above.

Multi-modal travel

In order not to overload the bus network, most travellers must not use it most of the time. Other modes must be improved in parallel:

- *heavy-haul long to medium distance journeys* should be provided for by **rail** (Intercity, regional and urban MetroWest) wherever possible;
- *medium to short distances*, by whoever can, by **bicycle**;
- *short journeys* are best on **foot**; though
- *some journeys or travelers* may require a **taxi**, **shared or club car**.

Many medium to long distance journeys can be **multi-modal**. It is therefore essential that each of these modes is given a coherent, distinct and efficient

network. Bus services must interconnect with the rail, cycle and path networks, and taxi / club car ranks, as often as possible in order to multiply the options for multimodal travel. That way, we can render the car unnecessary for most journeys, as has already occurred for instance in the comparable city of Utrecht.

MetroBus

This paper necessarily embraces what to do about the West of England Combined Authority's (WECA) partially implemented MetroBus plans.

Part of the rationale behind MetroBus was to upgrade Greater Bristol's bus provision by generating purpose-built 'guided bus' routes that could attract government funding. Another part of the rationale was in practice the fact that the local authorities had limited capacity to deal with the existing bus service and its reform. Any bus reform continues largely to be led by the monopoly bus provider, First Bus Group.

On the buds network implications of MetroBus for existing bus services one Council officer remarked: 'existing bus routes might eventually change, but that will be up to the provider'. Neither has there been much evidence that MetroBus routes have been planned to interchange with either existing bus services, or with rail.

The MetroBus routes as initially planned arguably have been a colossal waste of public money and have not addressed the issue of bus reform. Instead, we need start the process of replanning bus routes as outlined here. We incorporate those aspects of MetroBus that might be worth retaining. It should be noted however that what basically is required is simply a few express routes which ordinary buses – rebranded as MetroBus – might travel on for parts of their journey.

This paper contains no discussion of the merits or otherwise of **'guided bus'** technology (one of the original rationales for the MetroBus bid). There proved to be almost no locations suitable for guided bus alignments within Bristol, and in the event only one has been built (in intermittent sections at Ashton).

PART 1. A REFORM OF THE BUS ROUTE NETWORK

A. AN EVOLUTION OF THE 'METROBUS' BRANDING.

Summary

The current and planned MetroBus services may be expected to have three major impacts on Bristol's transport environment:

1. on the **commercial viability of existing bus services**, notably some trunk routes, since MetroBus would compete with them for passengers;

2. on the availability of annual **support for other bus services**, since MetroBus would compete for annual subsidy (it being unlikely to be immediately, if ever, profitable);

3. on funding available for **rail infrastructure and support**. If major investment continues to go into MetroBus then it is unlikely simultaneously to be available for **MetroWest** development. MetroWest is and will be delayed, and in danger of being permanently shelved.

A fourth potential impact – any major impact upon **modal split** – is however unlikely to occur, since the current MetroBus schemes meet relatively few Bristolians' travel needs.

We address here only aspects of the first two impacts – notably on Bristol's main trunk bus services.

An Analysis

First Bus' reaction

Belatedly (and as anticipated by ourselves) First Bus consented to be the principal MetroBus operator – presumably to ward off competition to its local monopoly position; though has in effect subtracted out some services.

This paper addresses in passing the impact on First Bus's existing commercial services.

The Local Authorities' reaction

Bristol City Council (BCC) was the initiator and inially party to the planning of MetroBus, as a way of gaining government grant. In practice however, the suburban-dominated West of England Combined Authority (WECA) has taken over the subsequent planning. BCC's own public transport team were not initially involved, and were unsupportive of the guided bus concept.

Both of Bristol's first two elected Mayors have been outsiders to the MetroBus concept. Their most important decision has been to consent to redistribute BCC's bus subsidies budget – which hitherto went mostly to non-economic services run by First Bus or Community Transport, as well as to Park & Ride services. Predictably, much of the officer time, planning and to an extent subsidy has been diverted into supporting the supposedly 'unsupported' subsequent operation of MetroBus, now theoretically operated commercially – or at a 'loss leader' loss – by its new operators. This has been seen necessary so as to avoid MetroBus being seen to be a failure. Equivalent issues will have been faced by South Gloucestershire.

The net result has been a radical shake-up to decide which bus services continue to receive Local Authority subsidy. The incentive is to try to replace some currently subsidised services by investment in MetroBus.

How might this work out?

Long Ashton service.

This much altered basically Park & Ride service is now in operation, but has little relevance to city bus services, being designed mostly for external commuters from North Somerset. There will however be some impacts. Passenger numbers, after an initially negative response from users, are said to be rising; hopefully this will lead to a reduction in the subsidy hitherto required. At a later date the service is planned to reach Hartcliffe, which may facilitate better bus trunk travel into the city centre.

Ideally, this service would have retained the routing of BCC's Long Ashton P&R, if improved with an inbound bus-lane on Hotwell Rd, control of the intrusive Clifton Vale rat-run, and perhaps with bus-triggered signals on the A370 and A369 approaches to Brunel Way. These same measures would benefit Portway P&R. Hitherto, BCC has a poor record of bus priority traffic management on the Hotwell Rd / Brunel Way corridor, preferring in GBBN a general traffic signals

enhancement: which merely increases road capacity, and thus attracts general traffic, and thus will lead eventually to further traffic congestion and a *reduction* – not improvement – in bus priority. This technical problem must be addressed (and will be helped by emerging parking control policies). The building of the Ashton Vale guided bus flyover has proved an expensive liability; nonetheless at present it seems to be attractive to new users, and thus diverts some car commuters from continued penetration into the inner city,

BCC's **Portway Park & Ride** would benefit if more bus priority is put into Hotwell Rd; but will probably disbenefit (through investment delay) as investment has been diverted to the Ashton Avenue Bridge / Cumberland Rd route chosen for MetroBus.

North-South MetroBus

North-South MetroBus services are beginning to have considerable impact upon main trunk services currently operating in both the North Fringe and in South Bristol. None of this is 'guided bus'.

In order to reduce systematic congestion-related delays, these services should be split into two halves: **MetroBus (North)** and **MetroBus (South).**

MetroBus (North).

As MetroBus routes develop there will be considerable impact and competition with those bus services currently operating to or along Cribbs Causeway, UWE, Stoke Lane, M32 and Frenchay Park Rd. Some First Bus and might be substituted by MetroBus; but others may merely become less commercially viable. Full liaison with First Bus is essential, but seems sporadic.

Each of **Cribbs Causeway**, the University of the West of England (**UWE)**, and at later date **Bristol Parkway station** can in effect continue to operate as bus interchanges between trunk and feeder services and thus as **North Bristol bus hubs.** MetroBus (North) – services M1 and M3 – should be able to offer a fast link between each of these hubs and the city centre: but at present only does so for some of them.

In the event, the major success of MetroBus may turn out to be the first operation opened, having been a last-minute afterthought: the fast M3X Emerson's Green – city centre service via the new (and welcome) M32 bus-lane (service M3 travels via UWE).

MetroBus (South).

MetroBus M1 in South Bristol connects the city centre with the **Bedminster** (the Parade, but also Malago Rd serving Bedminster station) and **Hengrove Park** bus hubs. It could offer a fast link between them via Hartcliffe Way, but does not, and instead serves at its outer end as a local bus around Knowle West. This is solely due to the deal eventually arrived at between WECA and First Bus as operator; but succeeds only in reducing the viability of First Bus's existing and continuing local city bus services.

At Bedminster, both inbound and outbound services should use Malago Road, so as to serve as a bus/rail interchange at Bedminster station, as well as at Parson Street station. These connections could promote rapid journey times to the Northern Fringes and other locations on the future **MetroWest** using bus and rail. They would also provide rail to bus interchange for travellers bound for the centre of Bristol and southbound to the southern fringes. If routed via Bedminster Rd rather than West St Bedminster, better bus priority traffic management could be provided; or else West St should become a managed Bus Priority Route.

City Centre

There incidentally were benefits to city centre bus operations through MetroBus investment - tangentally, in the form of Bristol City Council's diversion of funding into largescale environmental streetwork improvements in the Centre. However, much more benefit could perhaps be extracted if this were rethought. For example:

We propose a two-way **City Centre Loop** circuit for buses: perhaps via Centre / Haymarket / Bond St / Old Market roundabout/ Temple Way / Temple Back East / Friary (for **Temple Meads hub**) / Victoria St / Bristol Bridge / Baldwin St. This, currently used by Park & Ride services, would be (and to an extent is) useable by many more city buses, notably the main trunk ones. In future it could be converted to **tramtrain Metro, perhaps linked to the main railway line at Temple Meads (an alignment that should be, but currently is not safeguarded through the planning system).** But linked in certainly to future on-street tram radials and to existing radial MetroBus and city bus services: via Triangle/Park St (or Park Row/Upper Maudlin St/Lower Maudlin St); the M32; Old Market; Bath Rd Bridge: Bedminster Bridge/Redcliffe Hill/Redcliffe Way; and Hotwell Rd/Anchor Rd (rather than the current guided busway/Ashton Ave Bridge/Cumberland Rd).

Throughout these city centre bus priority routes, **segregated cycleways** or adjacent **calmed cycle routes** should be provided in parallel as a matter of course: since increased bus operations on these streets would otherwise make cycle usage hazardous, though they are the flattest and most direct cycle routes.

B. THE MAIN TRUNK ROUTES.

Introduction.

First Bus, the local semi-monopoly commercial bus operator, has in the past expressed a desire to move towards an '**Overground**' route network, based on the main trunk routes of Bristol's historic bus network. This in effect could be read as a **MetroBus** network, though lacking consideration of the question of either hubs or feeder services, and only occasional distinction between longer-distance suburban express services (a logical aim, partially achieved by MetroBus M3X) and local or inner city services. The discussion in this paper should be read as referring to the interim situation desirable between now and the adoption by WECAand eventual implementation of TfGB's ***Rapid Transit Plan***, which amongst other things advocates the conversion of most main radial bus routes to on-street tram operation, connecting to a loop circuit in the city centre.

The **MetroBus** A370 and M32 corridor services could be seen as a first set of upgraded main trunk routes, though couched in the case of Long Ashton as solely a 'Park & Ride' service. Indeed, the existing BCC **Park & Ride** services on the Bath Rd A4 (E), Portway A4 (W) and Long Ashton A370, with their flat fares and city centre loop could be seen as an aspirant reformed main route network, though one designed exclusively (except for the Portway service) around the needs of out-of-town travellers. As yet, only Portway Park & Ride and the Long Ashton and M32 MetroBus services have intermediate stops. TfGB's *Rapid Transit Plan* which advocates Park & Ride sites at the outer end of most future radial tram routes.

The chief precedent for a reformed trunk network were the **Showcase** and **Greater Bristol Bus Network** (GBBN) investments. These together cover most of the historic trunk routes; but in practice (as discussed under Long Ashton Park & Ride, above) with an emphasis on general traffic priority not bus priority per se.

Unfortunately, today's main bus routes spend a fair amount of time wandering around remote suburban streets (a highly inefficient use of large vehicles), and by the time they pass any inner city stops are in the rush-hour too full to pick

anyone up. At the same time, suburban passengers already on the bus are frustrated by the number of intermediary bus stops delaying them on their way to the city centre. No-one is well served. This is particularly so when a suburb is allocated a bus route to the city centre that does not use a direct main trunk road: examples being the 90 from Knowle West or the 40 from Lawrence West, whose tedious long journey times must make regular users lose the will to live.

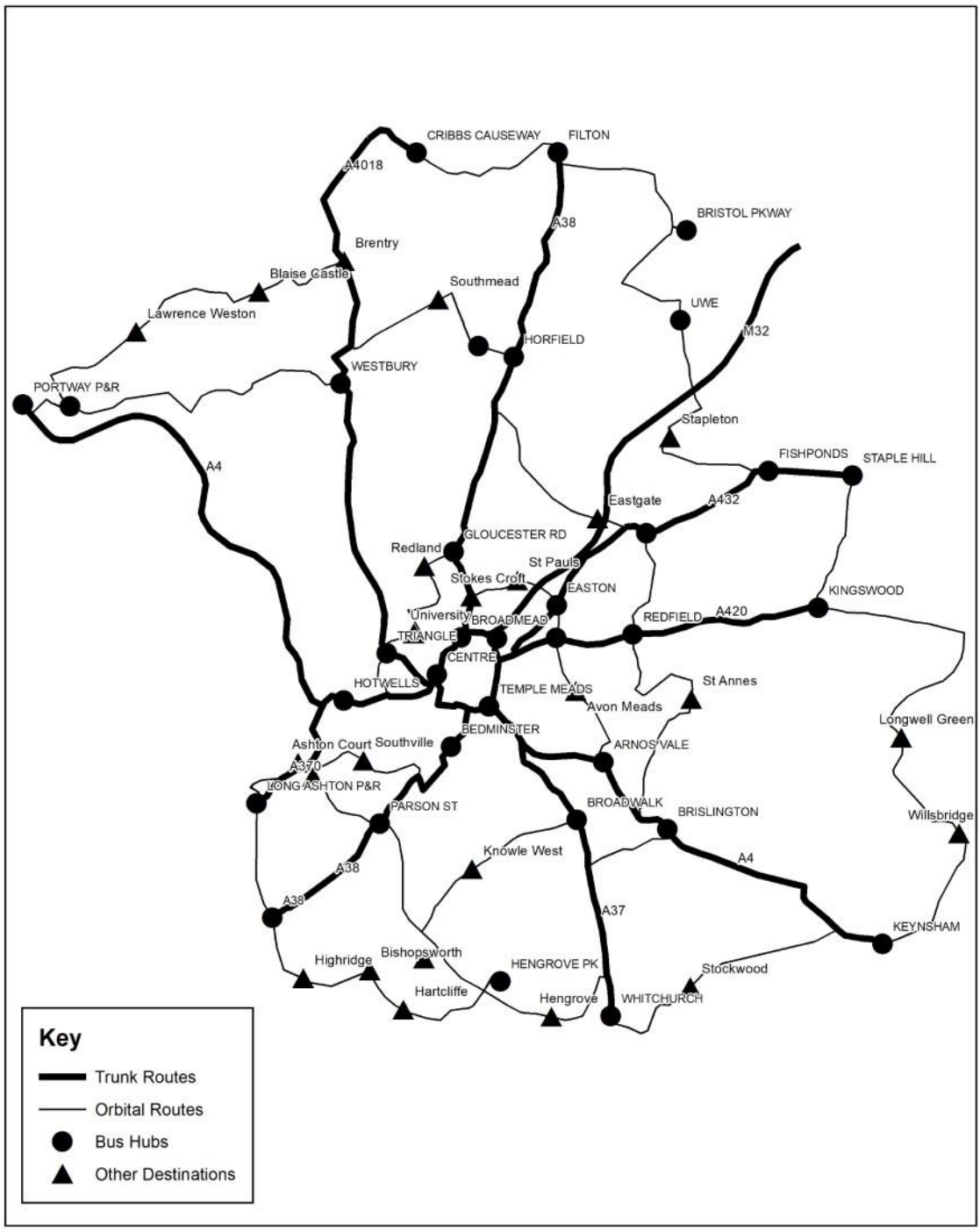
What is needed is reform and improvement of the trunk bus routes, embracing the matters of **bus priority**, **hubs** and **feeder services.** Along the main trunk routes should ply frequent large, accessible, limited stop vehicles, solely designed for trunk haul. They should be fed by feeder services interconnecting at specific hubs, and themselves connect wherever possible to future MetroWest stations. This allows trunk haul vehicles to be used more efficiently, and enables smaller feeder vehicles to serve the suburbs where their shorter hops to a suburban hub can enable quicker turn-around and thus a more frequent local service. Such a system has operated for years in for instance, Berlin. **Once again, integrated ticketing is a prerequisite, and its lack perhaps the chief bane of Bristol's attempts at public transport.**

At the outer end of their route, trunk routes should either terminate at a main suburban hub (as in Berlin), or have a limited loop or branches out to a principle suburban pick-up points for a whole residential suburb (as in Nottingham), or at a Park & Ride car park (as in Bristol's P&R services).

A suggested outline of a draft reformed Bristol bus network (minus the options for trunk outer routings) is shown in our sketch map.

TFGB Bus Plan

Trunk and Orbital Routes



Defining the main radials

Each main radial route is shown, together with its principle suggested destination termini and the intermediate suburban 'hubs' where local feeder services might interchange. All these radials already carry trunk commercial bus services and/or Park & Ride services

Also implied are possible **termini loops** or **branches** (sometimes early leaving the main stem) to each trunk route. The trunk radials are:

- ***A 370 Brunel Way.*** *Termini options:* ***Long Ashton P&R****; Bower Ashton campus. Intermediate hubs:* ***Hotwells; Ashton Gate.***

- ***A38 (S) Bedminster Parade. MetroBus (South)*** */ Termini options: Hareclive Rd; Bishport Ave; Chapel Rd Bishopsworth; Sherrin Way; Highridge; Belland Drive Hengrove;* ***Hengrove Park.*** *Intermediate hubs:* ***Bedminster; Parson St station; Imperial Park.***

- ***A37 Wells Rd.*** *Termini options: Whitchurch (possible future* ***A37 Park & Ride****); Belland Drive Hengrove; Stockwood. Intermediate hubs:****Broad Walk Knowle.***

- ***A4 (E) Bath Rd.*** *Termini options: Broomhill; Stockwood;* ***Keynsham****. Intermediate hubs:* ***Arno's Vale; Brislington Park & Ride.***

- ***A 420 Old Market / Church Rd Redfield.*** *Termini options: Hanham; Cherry Garden Rd; Warmley; Cadbury Heath; Soundwell,* ***Kingswood.*** *Intermediate hubs:* ***Lawrence Hill station; Church Rd Redfield.***

- ***A432 Fishponds Rd.*** *Termini options: Downend;* ***Staple Hill****; Fishponds Rd (Muller Rd); Fishponds Vassall Court. Intermediate hubs:* ***Easton Stapleton Rd; Fishponds.***

- ***M32.*** *Termini options: Downend; Mangotsfield; Staple Hill;* ***Emerson's Green****; Bromley Heath;* ***Bristol Parkway station; Cribbs Causeway****; Bradley Stoke; Aztec West. Intermediate hubs:* ***Eastgate Centre; UWE; Bristol Parkway station; Downend; Staple Hill.***

- *A 38 (N) Stokes Croft / Gloucester Rd.* *Termini options:* ***UWE****;* ***Southmead Hospital; Cribbs Causeway****; Filton. Intermediate hubs:* ***Cheltenham Rd Bishopston****;* ***Gloucester Rd Horfield Common****;* ***Abbey Wood station; Southmead Hospital.***

- *A4018 The Triangle / WhiteladiesRd.* *Termini options:* ***Cribbs Causeway****;* ***Southmead Hospital****; Clifton village. Intermediate hubs:* ***The Triangle****;* ***Clifton Down; Westbury village.***

- *A4 (W) Hotwell Rd / Portway.* *Termini options:* ***Avonmouth; Severnside****. Intermediate hubs: Hotwells;Sea Mills;****Portway P&R****; Shirehampton.*

C. UPGRADING ORBITAL SERVICES.

Introduction

Both MetroBus, and the previously subsidised element of the existing city bus network, have orbital route elements to them. This feature of Bristol's bus route network must be greatly enhanced.

Orbital services are not a significant or publically recognised feature of today's bus network. As a result, most Bristolians know only their own local bus route (if that), never contemplate a journey involving more than one bus, and imagine (correctly) that most neighbouring suburbs, hospitals, colleges, large open spaces, all 'out-of- town' centres - and indeed anywhere other than the nearest shopping centre or the city centre - effectively are to them personally **inaccessible by bus**. It is no wonder they chose the car for preference.

This situation does not obtain in European cities with a comprehensive integrated bus network. Nor indeed in North American cities including Manhattan and Toronto, where the rectilinear street pattern, each main street with a bus route along it, allows simple routes to be created between almost any two points with only one or two interchanges. There is no reason why this could not be achieved in Bristol in spite of our apparently very dissimilar historic road pattern. But what is needed is a **Bus Network Review**, such as the mayor of Bristol has commissioned.

Orbital routes

The following desirable features of orbital routes are emphasised:

- A series of **concentric** orbital services is required for a city of this size.
- They should **interchange** with both the future **MetroWest** stations, and the **Park & Ride** external bus commuter sites (where country buses should also interchange), as well as the major **suburban destinations** like shopping centres. **'Hard-to-reach' destinations** – hitherto often reachable only by car or taxi – may be included: hospitals, colleges, car-focused malls, trading estates, sports centres and major public open spaces of city-wide importance (Ashton Court, the upper Avon valley, Purdown, Blaize estate).
- Such services are capable of upgrading and partially replacing current attempts at **subsidised** 'orbital' services.
- Each route should be coherent and **marketable**. Orbitals should therefore be **limited stop**. This allows for frequent interchange, without resulting in very slow journey times that would be a disincentive to use. However, there is a choice to be made between maximum 'accessibility' and maximum speed. Thus in the 'Ring' services proposed here (see below), a deliberate attempt has been made to embrace the relatively remote but large Council housing areas of Hartcliffe, Knowle West, Southmead and Lawrence Weston, although faster routing options might for example follow the South Bristol Link Road or Hengrove Way / Airport Rd. Conversely, Willsbridge might be omitted by routing via the Avon Ring Road; or Lockleaze served rather than the routing via Muller Rd. If a residential area is not directly served, then local feeder routes can be used to make the connection at the nearest bus hub.
- Specific **bus priority** measures may be required, especially at some junctions (see Part 5).
- Services should initially be perhaps 20 minute **frequency**; but enhanced quickly once a market is established. Any lower frequency would probably fail to attract users.

With careful design, even with Bristol's road network, the resultant trunk and orbital bus network could aspire towards the simplified and easy to use comprehensive network of the type provided in Toronto or a German city.

Funding is a major issue, since orbital routes are unlikely to prove economic until their patronage has gradually been built up. Sequential but reducing subsidy probably will be required (as it was initially for the city's Park & Ride services). Useful devices include:

- Infrastructure Levy Payments under the Planning Acts;
- sequentially modifying existing commercial bus services;
- heavy and innovative marketing ('Treat the bus like a car', perhaps?);
- special offers marketed at embraced 'hard-to-reach' destinations;
- initiating the Orbital concept with services to particular popular destinations like Bristol Parkway station, Bedminster East St, Ashton Gate stadium, and Avon Meads and other car-dependent retail centres;
- integrated ticketing – *which is anyway a precondition* – may lead to beneficial cross-subsidisation between trunk and orbital services.

Our sketch plan outlines a possible orbital bus network, set within the radial trunk route system. **Main suburban centres** and **other bus hubs** are shown in bold (with the main centres in capitals). The draft suggested orbital services form a four-tier set of 'ring' services: **City Centre Loops**; an **Inner Ring**; a **Middle Ring** and an **Outer Ring**, together encompassing all of Bristol's contiguously built-up area.

City Centre Bus Loops

These essentially are circular routes within the city centre. Two are envisaged:

- One is addressed in Part 1 (A), in the context of **MetroBus / trunk bus routes**. It interlinks the major city centre destinations and hubs at: the **Centre**, **Broadmead / Bus Station**, **Cabot Circus** and **Temple Meads Station**. It in effect already exists for Park & Ride services.
- A second potentially carries some trunk routes (and in part does) via **BRI Hospital, The Triangle** and **Bristol Bridge.** This would require extensive bus-priority traffic management (see Part 5).

On both loops could operate frequent possibly small vehicles on a 'free' or low flat fare basis, if provided by the Local Authority or commercial interests. Alternatively, MetroBus, P&R services and sundry trunk services incidentally continue to provide much of these loops, but be better marketed in so doing.

Trunk buses (see Part 1(B)) could either use these loops – so that a frequent city centre loop service is effectively provided at marginal new cost. But should it prove commercially or environmentally more efficacious, trunk services may turn

around at the first or second city centre hub they reach. If the latter option is chosen, the loop vehicles will need to be large and extremely frequent. None of this does occurs in any coherent way at present; Park & Ride services for example do not pick up city centre short-hop passengers. Once again, intregrated ticketing would be a precondition.

Inner Ring

Suggested route, with limited stops and interchanges at (including alternative routings): **Long Ashton P&R A370**; Bower Ashton (for UWE / Ashton Court / the Gorge); Southville (North St); Dalby Ave **A38** (for Bedminster MetroWest station); **BEDMINSTER PARADE**; Redcliffe Hill; Redcliffe Way; **TEMPLE MEADS STATION**; *[or else Victoria Park; **Broad Walk Knowle A37**];* **Arno's Vale A4** (for Arno's Vale Cemetery); Avon Meads (retail park, for St Philips trading estate); **Easton Way A420** (for Lawrence Hill MetroWest station); **Easton Way A432** (for Stapleton Rd Easton); **M32 junction 3** (for M3 trunk bus services); St Paul's; **GLOUCESTER RD A38** (for Montpelier MetroWest station); Redland MetroWest station; Tyndall Ave. (for University); **THE TRIANGLE**; *[or else **Clifton** village (for Suspension Bridge];* Jacob's Wells Rd; **Hotwells A4**; Bower Ashton; **Long Ashton P&R.**
Partially replacing the following historic services: **8, 9**.

Middle Ring

Proposed route, with stops and interchanges at : **Long Ashton P&R A370**; Bower Ashton (for UWE / Ashton Court / the Gorge); Winterstoke Rd (for Ashton Gate stadium, trading estate); **Parson St Metro station A38**; Hartcliffe Way; **Imperial Park** (retail centre); **HENGROVE PARK** (hospital, sports centre, college); Knowle West; **BROAD WALK** Wells Rd A37; *[or else Airport Rd];* Callington Rd; Bath Rd A4; *[or else **Brislington P&R** (and trading estates)];* Wick Rd Brislington; St Anne's; Netham (for St Philips trading estate, Avon Trail); **REDFIELD A420;** Whitehall; Rose Green (trading estate); **Eastville A432**; *[or else Whitefield Rd, Lodge Causeway; **FISHPONDS**; UWE Glenside; Stapleton];* **Eastgate Centre** (for M32 services, Frome valley); Muller Rd (for Purdown, Stoke Park); **Horfield A38** (sports centre); **SOUTHMEAD HOSPITAL;** Greystoke Ave Southmead; **WESTBURY**; Combe Dingle (for Blaize estate, Trym valley); Sea Mills; Park Hill (for Kings Weston estate); **SHIREHAMPTON**; **Portway P&R A4**.

Partially replacing the following historic services: **36, 501, 502, 506.**

Outer Ring

Proposed route, with stops and interchanges at : **Long Ashton P&R A370**; South Bristol Link Road (**interchange at A38**); Highridge Common A38; Whitchurch Rd Withywood; **Imperial Park** (retail centre); **HENGROVE PARK** (hospital; sports centre, college); Whitchurch; *[or else Whitchurch P&R A37 if built];* Stockwood; *[or else **Brislington P&R** (when/if relocated)];* **KEYNSHAM** / Keynsham station (for Avon Trail); Willsbridge (for W Mill); *[or else Avon Ring Road];* **Longwell Green** (retail centre); **KINGSWOOD; Staple Hill**; **FISHPONDS;** Blackberry Hill (for St Matthias UWE); Stapleton (for Frome valley and Stoke Park); *[or else Downend; Bromley Heath; Frenchay Hospital];* **UWE; BRISTOL PARKWAY** station; **Filton A38**; **CRIBBS CAUSEWAY;** Brentry ; Henbury (for Blaize estate); Lawrence Weston; **SHIREHAMPTON**; **Portway P&R A4.**
Partially replacing the following historic services: **40, 581, U3, U7.**

D. FEEDER BUSES AND ACCESSIBLE TRANSPORT

One of the most complex issues in bus planning is that of physical accessibility: whether of feeder buses going sufficiently close to all dwellings, or of accessibility for disabled users. There has been limited integrated policy here, and no integrated planning or budgeting. This must change.

- High frequency **feeder bus** services, operating on routes to within 400m of all dwellings, should terminate at main suburban hubs with trunk bus and/or rail services. These services typically are not regarded as 'commercially viable', and so requiring of public **financial support**. However, many can in effect be made commercial if they become attractive feeders to trunk and orbital bus services, effectively cross-subsidising with them. Nonetheless, a residual will require support.

- Even closer **accessibility** – actually **door-to-door** – is required by some disabled users. Some registered disabled users' needs will remain to be met by specialised services: whether **Community Transport** in form, or through the 'wigglybus' organisation of normal feeder bus services. Accessible transport must be provided cost-efficiently in order to reduce current per-

passenger costs – it is not at present with the mish-mash in Bristol of Bristol Dial-a-Ride, Bristol Community Transport, and some local suburban equivalents – and to maximise effective capacity. One necessary reform will be the initiation in the West of England, within the accessible transport budget, of a **Taxicard** scheme for registered disabled users.

The funding and planning of feeder routes.

Generalist feeder buses already exist in Greater Bristol, in two forms. The first are commercial bus services not operating on trunk routes. The second are Local Authority supported services, usually operating with small vehicles in localities of narrow residential streets, or to small remoter areas not otherwise served by commercial buses. Both types are at risk from **financial cut-backs**.

An immediate reform, enabling a considerable improvement in operational economics, would be to terminate feeder buses at **suburban bus hubs** – not in the city centre, where these vehicles help pollute and clog up scarce city centre streetspace. This change would allow a higher frequency of service with the same number of vehicles, and a more reliable running time; both changes being likely to make these services more attractive to users and more financially viable. Some supported services already operate in this manner. Only inner city feeder buses – serving also intermediate stops on main roads – need actually reach the city centre, and then only terminate at the nearest city centre hub.

Such reform has two preconditions. The first is **interchangeable ticketing** (see Part 3). The second is the planning and provision of good **bus hubs** (see Part 2).

A significant political change required, would be a greater measure of Local Authority control over bus routing and financing. This is likely only under conditions of an **Integrated Transport Authority**. As yet, Greater Bristol remains unusual amongst English metropolitan cities in not having such an arrangement in any meaningful form (the various LA's religious retain their separate policies, and offer only the illusion of joint policy-making).

It is possible to work towards coherent transport planning by negotiated agreement with commercial bus operators; but as yet there has been little commercial incentive to do so, or sanctions applicable. Exceptions have been Greater Bristol's '**Showcase**' and '**Greater Bristol Bus Network**' schemes, whereby government grants for bus priority traffic management and bus-stop facilities, have encouraged the Local Authorities and selected bus operators to co-operate:

in on-street facilities, purchase of new vehicles, passenger information, bus operational management, and to a limited extent fares. In future, ticketing may be brought under such arrangements, but only within the bounds the operator(s) choose. However to date, such negotiations have largely involved trunk bus services, and not feeder ones – the latter being in fact planned (if planned at all) separately.

As things stand, the city's bus system is in danger of being stripped down towards simply a trunk network. Unless this process is halted, it will have a very adverse impact upon the ability of buses any longer to compete with car travel. It is not 'growing the market'. **WECA**'s promised **Bus Strategy**, but also **Bristol City Council**'s separate **Transport Strategy, are** therefore crucial, and must bring financial considerations within their remit; ultimately the strategies must be combined.

Bristol City Council already has a planning policy that every household should be within **400m** of a reasonably frequent bus service. This is a good starting point. However, we are aware that BCC's financial support for bus services is reducing.

Feeder buses at suburban bus hubs.

Suburban bus hubs, and bus interchanges at stations, must have sufficient raised platform capacity for trunk, orbital and local feeder buses.

If it proves impossible to provide sufficient capacity in one street location, then additional stops will be required very close by. Clearly, it is likely to be advantageous for feeder buses to lay over at these hubs, which often will be in suburban shopping centres where a good proportion of their passengers will anyway wish to alight. If the hub stop is too congested, a layover stop close by will be necessary. There must be excellent accessible walking facilities between these stops, to allow for ease of interchange for those wishing to do so.

Community Transport and Taxicard

Feeder buses, as all public service buses, will soon by law have to be physically accessible to disabled people. Accessible feeder buses, if organised on **phone-on- demand** 'wigglybus' lines, can offer a door-to-door service for users unable to walk to the nearest bus stop.

However, a door-step service already exists in some areas, operated by voluntary sector **Community Transport** (in Bristol, by Bristol Community Transport, Bristol

Dial-a- Ride, CATT in Hartcliffe, Mede Sprint in Knowle West, and Lawrence Weston Community Transport). Most have been largely Local Authority supported (with the exception of BCT). While some operators are pretty efficient, others when studied were found to be operating at a cost to the Local Authority of double the equivalent taxi fare. If this is found still to be the case, radical reform is required. A more efficient service would both cost less to the Local Authority, and be able to serve more users. A **review** is required.

Community Transport reform could take two mutually-supporting directions. The first could maintain the voluntary sector focus but could entail the award by the Local Authority of local **ward-based contracts** to a selected local provider, who would be obligated to run agreed levels of service from given catchment areas to stated local centres and to public transport hubs. These services could act as a back-up to normal feeder bus services, but in practice may be found to be able to merge and thus be funded jointly. The operators' finances could be eased by parallel award of contracts for schools and social services or Health Authority transport. Equivalent practice has in part already been undertaken in South Gloucestershire.

A second string should be the initiation of a **Taxicard** system in the West of England (as in London). This could beneficially absorb up to half the total 'Community Transport / accessible transport' Local Authority budget. Users would have to qualify through disability, but would then be able to access a subsidised taxi service offering door-to-door travel for medical appointments, social visits, etc., such as are only poorly met by current Community Transport services. Similarly, evenings and weekend travel would be enabled. Taxi providers would require to be registered as having sufficient appropriate trained drivers and vehicle types, and be required to work to a code of conduct.

It is estimated that all of the reform of Community Transport contracts, the reform of supported feeder bus contracts, and a new Taxicard scheme, can be achieved within the existing 'Community Transport / accessible transport' Local Authority budget. Studies have been started on several occasions within Bristol City Council; they must now be brought to fruition and acted upon. Anything less would fail the city's disabled passengers.

PART 2. CREATING PUBLIC TRANSPORT HUBS IN GREATER BRISTOL

Introduction

This Part explores further the bus interchanges or 'hubs' already introduced in Part 1 (sections B, C and D). At present the city's bus users abhor interchange: they use only one bus for any one journey (or more likely, no bus at all), because to interchange to a second bus to get where you want to go, is very likely to involve a long wait in between, and certainly will involve the payment of two not one fares. Why would anyone want to do that (especially if they've got access to a car)?

Yet in Europe, interchange with interchangeable ticketing (including rail) is the norm. It allows the bus and public transport system to compete with car travel.

Some *de facto* bus interchanges – or 'hubs' – already exist in the West of England: in Haymarket (for Broadmead), the Centre, Temple Meads, Bedminster, Old Market, all in the centre of Bristol; and Kingswood, Bristol Parkway, UWE, Southmead Hospital and Hengrove Park in the suburbs. Few of these were specifically designed as a bus hub, however – with the notable exception of Old Market. To the user, most appear accidental and chaotic. With **integrated ticketing** and an increase in incentive to make more frequent bus interchanges, and with the development of a **Rail Metro**, this could and must change. Issues of **accessibility** must also be addressed in these new 'bus hubs'.

Features of a good interchange / bus hub

The following features are desirable (though may not be achievable in all locations):

- all services (trunk, orbital, feeder and Community Transport) should use the same bus-stop;
- a single, well-appointed covered bus shelter (as at Old Market);
- a raised kerb (for accessibility);
- a waiting area sufficient for 2-4 buses (depending on the number of services calling);
- a comprehensive 'real time information' display;
- a city bus system map;
- bus timetables (related to that particular stop);
- a street map showing local popular destinations;
- an adjacent pedestrian road crossing.

In addition, hubs desirably should have:

- an adjacent toilet;
- an adjacent taxi stand;
- adequate cycle parking.

The bus hubs

Hubs sensibly occur at shopping centres, colleges, hospitals, Metro stations and some main road intersections. The principal bubs have already been cited. To recap, the suggested hubs are:

Within Bristol city centre:

- **The Centre.**
- **Broadmead / Bus Station** (in Horsefair).
- **Cabot Circus** (in Temple Way).
- **Temple Meads station** (in Friary).

On the main radial (trunk) routes:

- **A370. Long Ashton P&R.**
- **A38 (S). Parson St station, Bedminster Parade.**
- **A37. Broad Walk.**
- **A4 (E). Keynsham, Brislington P&R, Arno's Vale.**
- **A420. Kingswood, Redfield,** Lawrence Hill station.
- **A432. Staple Hill, Fishponds Rd**, Easton.
- **M32. (Eastgate Centre).**
- **A38 (N).** Filton, Horfield, **Gloucester Rd Arches.**
- **A4018. Cribbs Causeway, Westbury**, **The Triangle**.
- **A4 (W). Portway P&R,** Hotwells.

Plus at other locations, on the orbitals:

- **Hengrove Park hospital.**
- **UWE.**
- **Bristol Parkway station.**

Plus at other Metro stations:

- Bedminster.
- Stapleton Rd.
- Redland.
- Filton Abbey Wood.

- Clifton Down.

The hubs served also by the orbital bus routes are listed in

Funding the hubs

Required works will lie largely within the public highway. Contributions may be receivable from nearby developments through Community Infrastructure Levy payments whenever possible. For bus/rail hubs at mainline and future Metro railway stations, investment is desirable through the Local Authorities' Rail Metro programme.

Future MetroWest bus / rail hubs.

- **Temple Meads station.** Safeguard **Plots 3/6** for a bus/rail hub. Safeguard a **rail alignment** to connect a future city centre tramtrain circuit to the main line at Temple Meads. Utilise **Friary** – and subsequently the link to **Temple Back East**, utilising a bus-gate – as bus access routes to Temple Meads. Divert most current buses. Include current MetroBus services.

- **Filton Abbey Wood station.** Expand existing bus interchange at **Emma-Chris Way**, utilising also the link to **Nutfield Grove** (replacing existing road closure by a bus-gate). Divert all current buses from Filton Ave. Improved station signing and bus information.

- **Bedminster station**. Divert all buses off East St, to use Malago Rd two-way (though this needs local consultation with East St. shoppers. Additional bus-stop by the station. Improved station signing and bus information.

- **Portway station**. Approached by general buses (not just P&R service) using **West Town Rd** two-way.

- **Ashton Gate station.** (Whatever its location) approached by Inner Circle buses from **Brunel Way**, in a loop en route to Long Ashton P&R.

- **Patchway station.** Examine technicalities of relocating station to **A38** so as to be interchange with buses including Outer Circle (but is close to tunnel outlet).

PART 3. ACHIEVING INTERCHANGEABLE TICKETING

(forthcoming)

PART 4. HOW TO DO BUS PRIORITY TRAFFIC MANAGEMENT

Introduction

Without adequate bus priority traffic management, buses get held up in general traffic congestion and are not perceived as offering a reasonable alternative to the car for those with access to the latter.

The Greater Bristol Bus Network (GBBN) scheme was intended to improve bus priority traffic management in the city, but has been inadequately undertaken. The job remains undone.

Bus priority, not general traffic priority

The traffic engineering ethic adopted under GBBN was to upgrade traffic signals so as to achieve a faster throughput of general traffic and thus an effective higher road capacity. Buses were supposed to benefit along with general traffic. Yet this approach can work only in the short term. Higher effective road capacity attracts more traffic, notably at those peak times when extra capacity is released from former congestion. As general traffic levels increase, so congestion gradually returns to its former level. Buses are then once again congested, and have attained only limited advantage over traffic in general – and thus little perceived advantage with respect to car travel.

For real bus priority to be achieved, buses must be given preferential treatment: by means of bus lanes, bus gates and bus-activated traffic signals. This has yet to occur along many radial main roads – the very roads along which most trunk bus routes will run.

A textbook case is the A4 Hotwell Rd, the route of the former Long Ashton and the existing Portway park & Ride services, and many out-of-town services from North Somerset. While outbound bus lanes have been provided, inbound bus lanes have not. Inbound bus priority could be achieved on the existing main route by a bus lane on Hotwell Rd, the removal of intersecting traffic rat-running from Clifton, and the installation of bus activated traffic signals on the A370 and A369

approaches to Brunel Way, helped by a 30mph calming of the hazardous Brunel Way flyover and 20mph along Hotwell Rd as consistent with city policy.

Bus approaches to main roads

Amongst the chief delay points to buses are those where a bus route enters the traffic flow of a main road. This commonly occurs in several types of situation, namely:

- the outer reaches of trunk bus routes, where these first enter the main radial road system (eg. bus service 1 from Sandy Park Rd into Bath Rd);
- where feeder buses join or cross main roads; and increasingly in future, where orbital services cross or join a main radial road (as in the approaches to the Eastgate Centre hub from the M32).

All seem difficult to solve, but need not to be. Southampton has dealt with some by providing bus gate entry onto a main road by rerouting the bus service via a selective sidestreet. In other places (as at Brunel Way), bus activated signals may be appropriate in some circumstances, in spite of their cost.

If this problem is *not* tackled, bus travel will garner a gradually deteriorating popular image as general traffic levels increase. And some of the orbital routes suggested would simply not work during rush hours.

Bus gates and traffic-free zones

In Holland, much use is made of 'bus gates', which allow buses exclusively to penetrate and cross focal city centre or suburban centres, free of other traffic. Notable examples in Bristol include Horsefair, East St Bedminster, the Hartcliffe campus approach to Hengrove Park bus hub, and the Broad Quay flank of the Centre. Such features give buses considerable advantage over general traffic, and markedly improve their image.

Not all bus gates need to be fully exclusive. Often they will be required to cater for servicing vehicles to adjacent premises, emergency vehicles, and sometimes disabled vehicles.

There often is a reticence to implement bus gates. An example is the putative Romney Ave approach to the UWE bus hub, which has been under desultory discussion for years.

Prime candidates for bus gates occur in Bristol city centre, most notably the Park St and Baldwin St approaches to the Centre bus hub. Whilst mooted more than once in the past – usually on civic amenity grounds re calming and beautifying the city centre – their achievement has been consistently shied away from, presumably on general traffic grounds. Equivalent schemes have long been operative in cities like Utrecht and Goteborg; and indeed Bath.

Buses should not however, automatically be assumed to be a good thing within shopping centres. Central Oxford illustrates the advantages of rerouting buses as well as other traffic, to achieve largely traffic-free civic spaces. Arguably, in Bristol buses should be removed from:

- **Horsefair / Penn St** within the central Broadmead / Cabot Circus shopping complex – and routed, with priority, via Bond St / Temple Way;
- **Queens Rd** at the Triangle – and routed two-way, with priority in general traffic, via Triangle South and Triangle West;
- **High St / Wine St**, to create a traffic-free walk route between Broadmead and the Old City – and routed, with priority around the city centre bus loop including Lewin's Mead / Centre /Baldwin St / Bristol Bridge.
- **Quay St / Nelson St**, to create a traffic-free walk and cycle route between Broadmead and the Centre – and routed, with priority, via Lewin's Mead and Rupert St. This will be achievable as general through-traffic is gradually excluded from the Centre; with reduced traffic levels in Haymarket allowing the relocation of Union St and Horsefair stops.
- **East St Bedminster** – and routed, with priority, via Dalby Ave / Malago Rd (this operates already for southbound buses), interchanging in both directions with Bedminster station. This will be contentious however, since East St shopping centre attracts many disabled shoppers, and evening security may be an issue.
- **Westbury High St** – and routed (as some buses already are) via Falcondale Rd and Canford Lane;

Both bus gates and traffic-free zones will be easier to achieve in the city centre once parallel policies of rail MetroWest (ideally with on-street city centre tram-train sections), Workplace Parking Levy, cycleways, Clean Air Zones and possibly road user charging zones have been agreed upon, and a serious reduction in city

centre traffic become predictable. However, the implementation of bus gates in particular should not be delayed – but rather be viewed as early actions bringing forward the political attractiveness and achievement of traffic reduction.

PART 5. BUS INFORMATION, PUBLICITY AND FACILITATING INFRASTRUCTURE.

Summary

To use a bus system you have to know:

- where a bus service goes,
- what interchange hubs are possible and where,
- what time buses in reality leave and arrive,
- how much it will cost,
- whether it is physically accessible to the disabled, and
- whether the bus stop is sufficiently well designed.

In the West of England such matters often are wreathed in mystery. A whole new user-friendly approach is essential, necessarily embracing all of the following elements.

Administration

It should be the Local Authority's responsibility – or better still that of a genuine (not pretend) West of England Integrated Transport Authority (ITA) or Combined Authority (CA) – to ensure that the public have adequate information about local public transport services.

In those parts of the service which remain privatised, the responsibility and cost should be shared with the operator. But the Public Transport Authority should have the right to impose minimum information conditions on the (often recalcitrant) operator. It is unclear how far this is not already enshrined in law, yet not enacted locally; or whether an ITA is required to enable it (legally and in practice).

In either event, the Local Authority as Transport Planning Authority should subscribe sufficient budget within the transport department, to ensure sufficient public information. This does not occur at present. It should also have a dedicated professional staff, as in real ITAs – but as yet not in the West of England.

Route maps

Two types of route map are required, in various contexts:

- A list of the **bus stops** on the service in question. This should appear inside the vehicle, at the bus stop, and on the printed and e-version timetables of the service.

- **A bus system map showing all bus routes, the bus hubs, plus interconnections with the mainline rail and local MetroWest stations.** This should be available in printed form, on the web, and at all major bus stops and connecting rail stations. It could appear in either or both of two formats: a geographical map, identifying named suburbs; or in 'London tube' style diagrammatic form. Bristol intermittently has such things, though rarely comprehensive and often out of date. This lack reflects the city's lack of a 'higher mind' re public transport and its planning. Maps at bus stops should be sufficiently large and at correct height to be readable, and free of obstruction by seated persons (this may mean mounting it on a monolith adjacent to the bus stop, as in Grenada, Spain).

Bus stops

Bus stops should be:

- **Suitably named**, both on-site and on maps. When at a station, the name should be that of 'such-and-such station'. When central to a particular destination (be it suburb, significant building, park, hospital, etc.) the stop should take that name. Otherwise the stop should be named from the road on which it occurs; except where there is more than one stop on that road, in which case and only then) should it carry the sub-name of the nearest sideroad. Whereas at present, naming by obscure sideroad appears to be the norm – an unhelpful practice for most users. The city's bus stops need to be comprehensively renamed.

- **Adequately planned and simple to use.** All bus stops should list prominently those services which call at them. Wherever possible, all services going in a particular direction should use a single unified and adequately sized bus stop, shelter, seating, litter facilities and raised kerb (this practice is now established, as at Old Market and College Green).

- As in Holland, many stops should have **associated cycle parking facilities**, to encourage multi-mode journeys (allowing a wider user catchment per stop).

Interchange with rail.

Bus/rail hubs should be developed at most MetroWest **stations: thus at** Temple Meads, Filton Abbey Wood, Bedminster, Stapleton Rd, etc., complementing the partial existing interchanges at Bristol Parkway, Clifton Down, Parson St and Lawrence Hill. At the minimum, the bus stop must be signposted from the station, and vice versa.

Timetables

These must be:

- paper-based and web-based;
- up-to-date;
- freely available;
- individual service timetables must include a map of the service route, showing also the interchanges possible along it;
- timetables at bus stops and rail stations should take the form of a simple list of arrival times at that stop, with the main final and intermediate destinations named;
- as a matter of principle, registered bus schedules should change as infrequently as possible. Given Bristol's shaky bus planning and budgets, and lack of overall direction (other than commercial), this is the vreverse of the current mess.

Real time information

In a fully developed urban Bus Metro, reliable frequencies of 5-10 minutes do not require Real Time Information (RTI) investment. In the meantime, in the West of England, RTI may be regarded as an unfortunate necessity - needed because our bus frequencies are so low, and unreliable.

The major requirements of RTI are that it should be:

- comprehensive (ie. all service routes, all buses operating those services, and all operators),
- at all bus stops and stations, and
- accurate (eg. operate on bank holidays).

None of the above yet apply in the West of England.

Ticketing

All 'special' tickets and their price (eg. day riders, Avon Riders, etc.) should be well publicised, and this information clearly displayed at all bus stops, in all timetables and on all buses. **Normal tickets should be easy to understand, preferably paid for off-bus, and integrate the services of all bus providers (including Community Transport), and rail. As soon as possible, tickets should be electronic.** London has had all of the above for years.

Disabled travel information

All route maps and timetables should clearly say which bus services, and which interchange Rail Metro stations, are accessible for disabled people.

The **gettingaboutgreaterbristol.org** website of accessible travel information for Greater Bristol, hitherto run by the constituent Local Authorities, must be revived, maintained and advertised.

CONCLUSION: HOW TO TRANSFORM BRISTOL'S BUS SERVICES.

It might be assumed that little can be done in today's straightened financial situation, but this is simply not so. The following is a distillation of immediate ways forward towards achieving a Bus Metro.

Quick wins in bus information - bus stop information.

Bus stops are the public face - the advertising locale - of the city's bus network. The information and publicity presented there is crucial – yet at present the workings of the bus system are a closed shop to all but the most dedicated user, and even then most users know only their own bus route.

The agency will be WECA and the bus operators. There should be:

- bus route maps at all bus stops, indicating also en route interconnecting services;
- "where to catch your bus" maps at all interchange stops (in instances where unfortunately there is more than one bus stop for the different services);

- “towards…” on all bus stop flags, in the format “Towards Centre” or “Towards (suburban terminus or the nearest mutual bus stop where routes diverge)”; and
- bus network maps at all bus stops with bus shelters or other suitable display points.

Bus network funding policies – adapting existing commercial operation.

Newly-planned services in the current situation necessarily will need to make a profit or cover their costs. The alternative – public subsidy – may in the event prove untenable (given that currently, public financial support to buses is being cut). Clear cases in point are the MetroBus proposals and any orbital bus improvements. These preferably should be attempted by, respectively:

- an adaptation of extant trunk and Park & Ride services (though the latter do not yet cover their costs, and are therefore a subsidy to out-of-town commuters); and
- an adaptation and combination of extant commercial and supported orbital services.

For this reason, the existing services operating on the orbital routes, or closely parallel to proposed MetroBus routes, are listed in this paper.

Other funding sources – a coordinated investment programme.

As with rail MetroWest, all potential funding sources must be tapped – including **Community Infrastructure Levy, Road Charging, Workplace Parking Levy, City Deal, parking charges** – drawn in by WECA as Public Transport Authority, and coordinated into Bus Metro (and Rail Metro) system improvement. This approach was adopted by Bristol City Council to achieve its existing Park & Ride investment.

The most essential bus change required – integrated ticketing.

Integrated ticketing alone will allow faster bus run times, therefore require less vehicles, and achieve greater bus reliability; plus facilitate interchange. In sum, it will attract more passengers. This was found in London with the public launch of its ‘Oystercard’ system (since progressively widened).

This in turn will allow lower fares, thus creating a virtuous circle attracting yet more passengers. Which will both reduce the need for bus subsidies, and have a significant impact on city modal split. Which will in turn:

- relieve the need for excessive expenditure on general traffic management and control, and
- allow a transfer of resources towards improving cycling and walking infrastructure. Which will:
- Enhance the attractiveness of multimodal trips involving walk/ cycle and bus. Which will:
- Further drive the virtuous circle.

WECA's continuing failure to achieve this fundamental requirement is its greatest bus-related failure to date. This has to be resolved with all haste. Any tendency for First Buses to obstruct the integration of multimodal, multi- operator ticketing must be more strongly resisted. DfT and WECA must make it clear to First Bus that only integrated ticketing will achieve the full growth potential in the bus market that its Bristol operations badly need.