

South East Hampshire BRT Future Phases Study

Identification of Infrastructure Measures and Service Routes for the BRT Wider Network and the Economic, Funding & Delivery Strategy

Summary Report

Hampshire County Council

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Atkins in collaboration with:



**Albion
Economics**

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Introduction

This report presents recommendations for a comprehensive BRT network for South East Hampshire. In particular it:

- Provides recommendations for a programme of viable infrastructure measures which could provide an enhancement in the quality, journey time, and reliability of all bus services in high volume corridors.
- Considers the extent to which these priority measures could facilitate the introduction of limited stop (express) and conventional stopping BRT services across the sub-region.

Recommendations are made for a network of worthwhile BRT routes which could evolve over time, setting out an outline vision for the short term (by 2016), medium term (by 2020) and long term (by 2026). Limited stop BRT services could provide a rapid public transport alternative to the car where rail is unavailable.

The study has been delivered under the IESE Highways Professional Services Framework for LTP delivery 2010-2013. It forms part of the **Long Term Strategic Implementation Programme (LTSIP) for South Hampshire**, being developed by Transport for South Hampshire (TfSH), which seeks to identify the enabling infrastructure to secure economic growth.

Background

The South East Hampshire sub-region has a constrained transport network with congestion and delay on key links particularly in peak periods. In 2008 Bus Rapid Transit (BRT) was identified as a key transport intervention which would help provide a much needed alternative to the car; and an outline BRT network was identified which connected key towns and destinations in the sub-region.

Significant progress has already been made, in terms of developing a high quality BRT network for the sub-region:

- **Clanfield to Portsmouth ZIP Bus Priority Corridor** - In 2008, the A3 ZIP Bus Priority Corridor from Clanfield (north of Waterlooville) to Portsmouth was opened, providing a reliable, safe, clean and frequent bus service; supported by 6.5km of bus lanes, signals that give buses priority at busy junctions, and a bus-only zone in the centre of Waterlooville. The ZIP Corridor is not currently branded as a BRT service, but represents the first high quality service offering in the sub-region.
- **BRT Phase 1A, Gosport (Eclipse)** - In 2009 a successful bid for £20 million Community Infrastructure Funding enabled work to commence on BRT Phase 1A between Redlands Lane in Fareham and Tichborne Way in Gosport along a disused railway corridor forming a 4.5km dedicated, high specification, busway. Bus services that already serve the Gosport peninsula will use this traffic-free busway for part of their journey, to avoid the regularly congested A32 and improve reliability. Phase 1A opens in April 2012. The route will be served by new, low-emission buses with striking purple and gold Eclipse livery; individual leather seats; wood-effect floors and under-seat lighting; infotainment screens displaying local news as well as real-time arrivals; CCTV and Wi-Fi. The Eclipse brand is seen as the starting point for the development of a wider BRT network for the sub-region.



New Eclipse buses, on Phase 1A busway, Gosport

Vision for a Wider BRT Network

The specific objectives for a wider BRT network are to:

- stimulate a step change in the economic prospects for South Hampshire at the same time as making a demonstrable difference to environmental and health outcomes; and
-

- open up new opportunities for travel by quality public transport, by improving whole journey reliability and experience across modes, and by creating a perception, based on reality, that South Hampshire is forward looking with a vibrant economic future.

In addition, the network is also intended to:

- facilitate development and regeneration in the sub-region, particularly at key strategic economic sites;
- provide a public transport system which enables key strategic housing sites including North Fareham SDA to develop;
- open up new opportunities for the sub-region and particularly Gosport;
- improve the overall quality of public transport;
- improve access to public health services and facilities at both local and sub-regional levels;
- improve access to tertiary education; and
- assist in meeting the requirements of the Air Quality Management Areas (AQMAS).

Figure 1 presents the starting point for the study - **a vision for a BRT wider network** serving and connecting the key locations and centres of activity of Gosport, Fareham, Queen Alexandra Hospital (QAH), Portsmouth, Southsea, Havant, Waterlooville and Clanfield; while also supporting a longer term aspiration to extend the network to serve key strategic development sites at North Fareham, Whiteley, West Waterlooville, and Dunsbury Hill Farm. This vision established the scope of BRT network consideration.

The BRT Concept

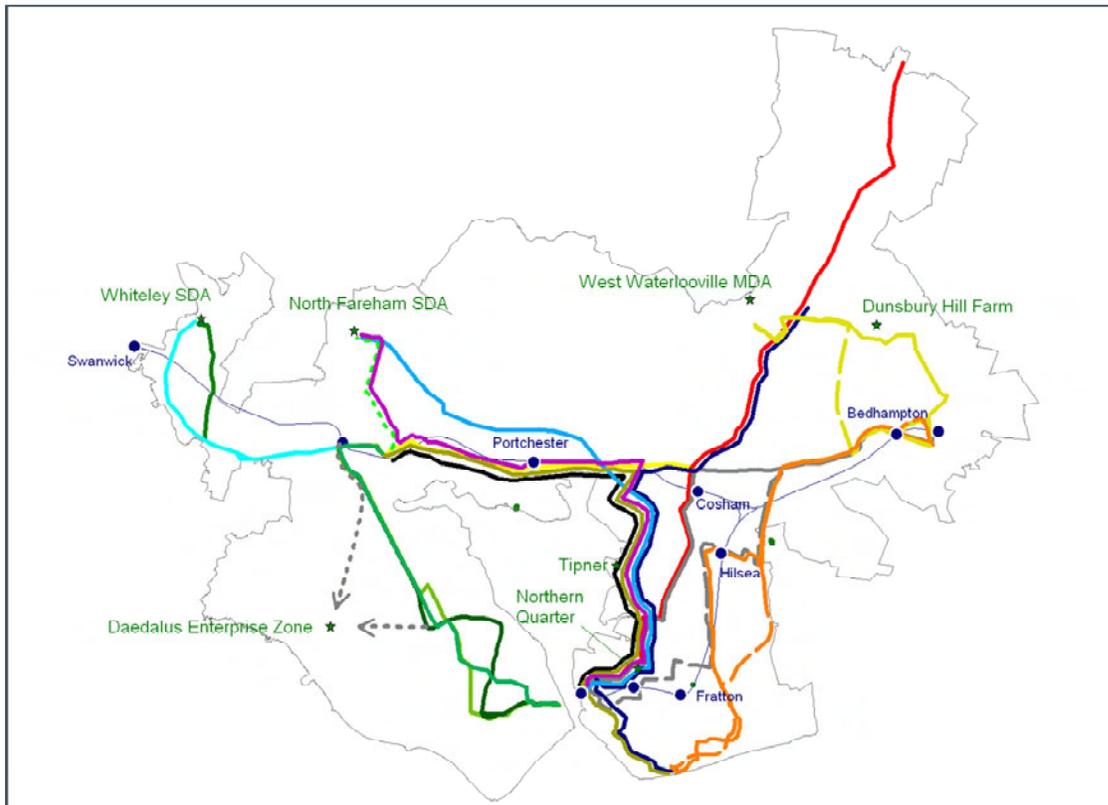
Within South East Hampshire, a successful and deliverable wider BRT network is likely to exhibit the following characteristics:

- serve key longer distance and high volume sub-regional commuting demands, probably as a limited stop / express service offer;
- complement, rather than compete with, the local rail offering;
- sensibly integrate and compliment the wider bus service offering;
- worthwhile, acceptable, and affordable infrastructure priority measures; and
- scope to deliver services without a need for ongoing revenue support from the local transport authorities.

However, successful infrastructure measures need not be linked to delivery of a BRT service offer. Rather, a strong case for some priority measures might be made regardless of BRT, reflecting benefits realisable to bus services generally. A distinction is therefore made within this study between:

- **BRT infrastructure measures** that may be focused on potential BRT routes but which could benefit both BRT or conventional services; and
- **BRT service routes** that would provide a rapid public transport alternative to car and a step change from the otherwise available bus offer, building on the established Eclipse brand. It is noted that the BRT services which start operating in 2012 as Phase 1A of BRT between Gosport and Fareham, are not "limited stop" in nature. Consequently, consideration needs to be given to the potential for both "Limited Stopping" and "Conventional Stopping" BRT services when examining development of the BRT network in South East Hampshire.

Figure 1. Outline vision for a Wider BRT Network (2011) – potential route options assessed in this study



Note - In the medium to long term, Routes C1, K1, M1, H1, and N1 could potentially be routed via planned development at Port Solent / Horsea Island via planned Horsea Island – Tipner Bridge Link.

Key

● Rail Stations

Fareham to Gosport

- A2: Fareham to Gosport via Elson
- A3: Fareham to Gosport via Ann's Hill
- A4: Fareham to Gosport via Forton Rd
- ... J1: Extn of A2/3/4 to N. Fareham

--- High specification public transport links between Daedalus Enterprise Zone and Fareham and Gosport (not assessed as a BRT route in this study)

Fareham to QAH/Portsmouth/Southsea

- B1: Fareham to QAH
- C1: Fareham to Portsmouth
- K1: Extn of C1 to N. Fareham
- M1: Extn of C1 to Southsea
- H1: N. Fareham to Portsmouth via M275

Clanfield/Waterloo to Portsmouth/Southsea

- D1: Clanfield to Portsmouth via QAH
- N1: Waterlooville to Portsmouth via QAH

Havant to Portsmouth/Southsea

- E1: Havant to Portsmouth via QAH
- E2: Havant to Portsmouth via Copnor Rd
- L1: Havant to Southsea (possible extn to Portsmouth)
- L2: Havant to Southsea (possible extn to Portsmouth)

Fareham to Whiteley

- G1: Fareham to Whiteley
- ... G2: Fareham to Whiteley

Havant to Waterlooville

- I1: Havant to Waterlooville (possible extn to WoW MDA)
- I2: Havant to Waterlooville (possible extn to WoW MDA)

BRT Infrastructure Measures

In total, 33 separate infrastructure measures or packages of works aimed at facilitating BRT service delivery have been identified and developed to outline design and costs. Identification of potential measures was based on a review of corridor highway networks and discussion with transport / planning authorities and bus operators. Analysis of constraints, opportunities and issues informed outline design with integration with existing and planned land uses a key consideration. The scope of measures encompassed highway modifications, signal improvements, and improvements in stop and interchange arrangements. Infrastructure measures were grouped into sections serving a common set of potential BRT service routes, and assessed on a section by section basis considering the following aspects:

- outline cost inclusive of Optimism Bias;
- journey time savings for buses and the number of services (BRT and conventional) that might benefit;
- Scale and acceptability of impacts (traffic / land-use / environmental);
- indicative value for money;
- deliverability accounting for ease of engineering, interfaces and dependencies with other projects;
- potential timing of implementation (accounting for relationship with planned developments); and
- funding viability (including scope for 3rd party contributions).

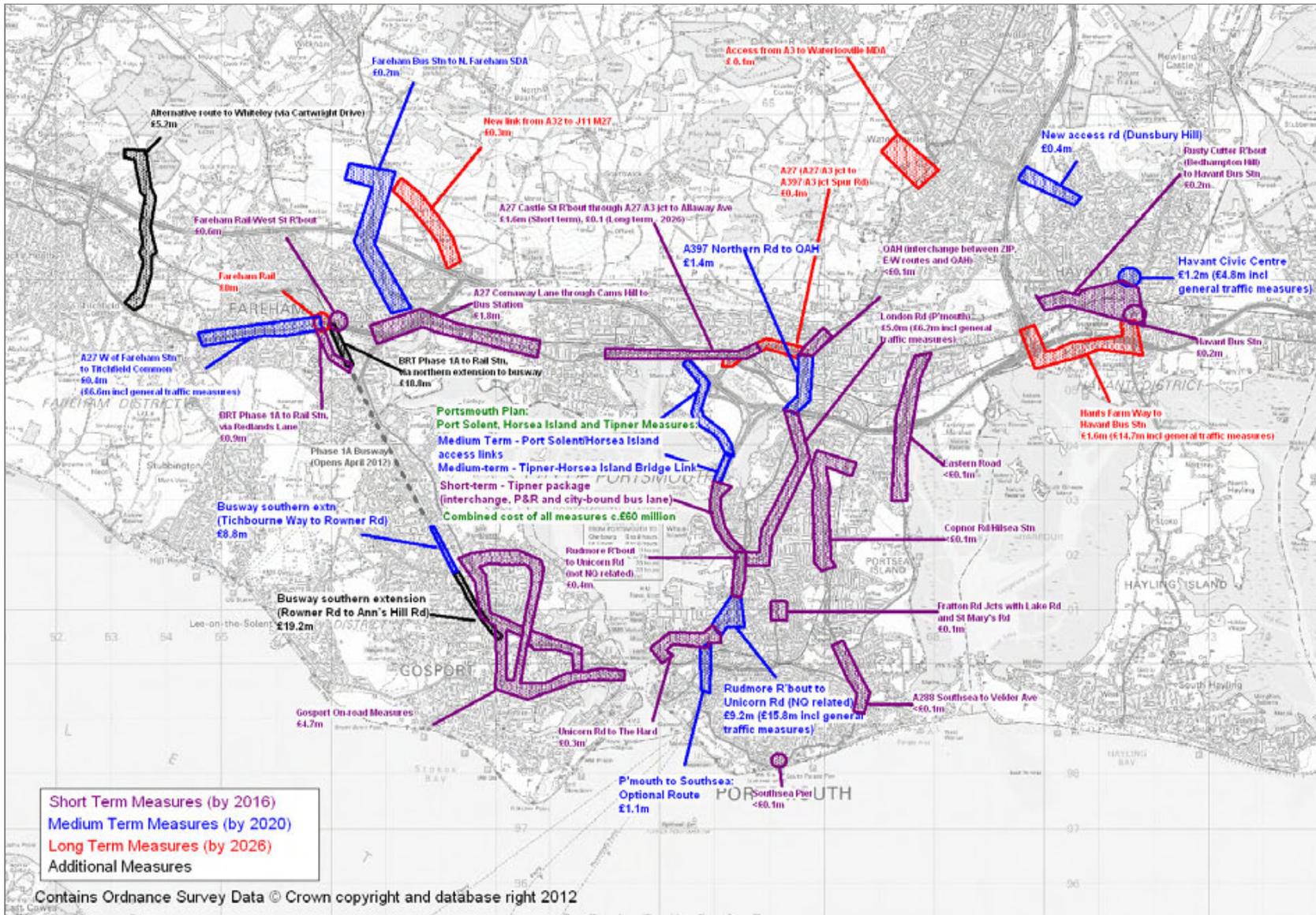
The results of the assessment have been used to identify sections of measures which represent **viable options** for inclusion in a forward BRT infrastructure capital investment plan, i.e. those with sufficient evidence to suggest a sound business case could be prepared. These were grouped into priority / ranking categories. Table 1 below summarises the assessment based on the afore-mentioned criteria and the resulting ranking. **This assessment ranking needs to be considered alongside BRT service route assessment to establish an overall view on BRT network delivery priorities.**

Table 1. Summary of Infrastructure Costs, Assessment and Priority Ranking

Infrastructure measure	Cost inc OB	Timing	Value	Deliverability (including dependency risks)	Likely scale of challenge / opposition	Overall Viability Assessment	Priority / Ranking
Rusty Cutter R'bout (Bedhampton Hill) to Havant Bus Station	£ 185,600	Short	High	Easy	Low	Viable	1
Havant Bus Station	£ 224,000	Short	High	Easy	Low	Viable	1
Fratton Road Junctions, w/Lake Rd and St Mary's Rd	£ 38,400	Short	High	Easy	Low	Viable	1
Rudmore R'bout to Unicorn Rd (not related to NQ)	£ 448,000	Short	High	Easy	Med	Viable	1
QAH (Interchange between ZIP Corridor, east/west routes and QAH)	£ 149,000	Short	High	Easy	Low	Viable	1
Fareham (A27 Cornaway Lane through Cams Hill to Bus Station)	£ 1,843,520	Short	High	Moderate	Med	Viable	2
Fareham (BRT Phase 1A to Rail Station) - via Redlands Lane	£ 912,000	Short	High	Moderate	Med	Viable	2
Unicorn Rd to The Hard	£ 275,200	Short	High	Moderate	Low	Viable	2
London Road (Pmouth)	£ 4,960,000	Short	High	Moderate	High	Viable	2
Fareham Rail Station / West St R'bout	£ 592,000	Short	Moderate	Easy	Low	Viable	2
Gosport on road measures	£ 4,728,000	Short	Moderate	Easy	Low	Viable	2
Southsea Pier	£ 128,000	Short	Moderate	Easy	Low	Viable	2
A288 (Southsea to Velder Ave)	£ 76,800	Short	Moderate	Easy	Low	Viable	2
SVD on Copnor Rd / Integration with Hilsea Station	£ 102,400	Short	Moderate	Easy	Low	Viable	2
SVD on Eastern Rd	£ 76,800	Short	Moderate	Easy	Low	Viable	2
A27 Castle St Roundabout through A27/A3 Junction to Alloway Ave - short term	£ 1,565,041	Short	Moderate	Easy	Low	Viable	2
New access road, Dunsbury Hill	£ 400,000	Medium	High	Easy	Low	Viable	3
A397 Northern Rd, to QAH	£ 1,376,000	Medium	High	Moderate	Low	Viable	3
A27 West of Fareham Rail Station to Titchfield Common	£ 352,000	Medium	High	Difficult	Low	Viable	3
Fareham Bus Station to N Fareham SDA	£ 208,000	Medium	Moderate	Easy	Low	Viable	3
Portsmouth to Southsea (Optional alt. route)	£ 1,123,200	Medium	Moderate	Easy	Med	Viable	4
Rudmore R'bout to Unicorn Rd (NQ related)	£ 9,296,000	Medium	High	Difficult	Med	Viable	4
Busway southern extension (Tichbourne Way to Rowner Rd)	£ 8,800,000	Medium	Moderate	Moderate	Low	Viable	4
Havant Civic Centre	£ 1,152,000	Medium	Moderate	Difficult	Med	Viable	4
Access from A3 to Waterlooville MDA	£ 160,000	Long	High	Easy	Low	Viable	5
Alloway Ave to A597/A3 Jct)	£ 435,000	Long	High	Easy	Low	Viable	5
Harts Farm Way to Havant Bus Station	£ 1,600,000	Long	High	Difficult	Low	Viable	5
A27 Castle St Roundabout through A27/A3 Junction to Alloway Ave - long term	£ 130,000	Long	Moderate	Easy	Low	Viable	5
Fareham Rail Station	£ 8,000,000	Long	Moderate	Difficult	Low	Viable	5
New link from A32 to J11 M27	£ 320,000	Long	Moderate	Difficult	Med	Viable	5
Fareham (BRT Phase 1A to Rail Station) - northern extension to busway	£ 18,752,000	Medium	Poor	Very difficult	Low	ADDITIONAL MEASURE	6
Route to Whitley (via Cartright Drive, Bader Way) - Option B	£ 5,216,000	Long	Moderate	Easy	Med	ADDITIONAL MEASURE	6
Busway southern extension (Rowner Rd to St Ann's Hill Rd)	£ 19,150,000	Long	Poor	Very difficult	Med	ADDITIONAL MEASURE	6

Figure 2 presents a map of all of the assessed infrastructure measures by delivery period

Figure 2. Proposed infrastructure measures which could facilitate BRT, by timescale (post-assessment, additional measures also shown)



The cost of the BRT measures identified as 'viable' amounts to **£49.7 million** (Table 4.2). Costs are inclusive of optimism bias and are for infrastructure works only. They exclude any fleet or on-vehicle costs and also any allowance for client, legal or professional service fees to manage investment programme delivery.

The cost of the viable BRT measures broken down geographically is as follows:

- Gosport and Fareham corridor (£25.8 million);
- Havant and A3 corridor (£3.7 million); and
- Portsmouth (£20.2 million).

The measures have also been categorised as short, medium and long-term, in terms of their likely timing for delivery. The following breakdown accounts for ease of delivery and dependencies on developments:

- £16.3 million short-term (envisaged to be to 2016);
- £22.8 million in medium term (2016 to 2020); and
- £10.6 million in the long term (2020 to 2026).

It should be noted that of the £49.7 million cost of viable BRT measures, £17.4 million is viewed as dependent on non-BRT, general traffic measures being implemented. **These general traffic measures are transport works whose primary purpose is not the delivery of BRT or bus service improvements** e.g. reconfiguration of the highway to enable and accommodate the Northern Quarter development in Portsmouth. If implemented, these general traffic works would enable specific BRT measures to be introduced which otherwise would not be possible. The cost of these general traffic works is £30.7 million and this cost is considered quite separate to the cost of the BRT investment programme, but would also need to be funded for the full BRT programme to be implemented. It is therefore important that the dependency of an element of the recommended BRT investment programme on other works and funding be recognised.

Three of the 33 infrastructure measures considered have been assessed as **additional schemes**, due to their high cost, poorer overall value for money and / or the significant challenges associated with their delivery. These sections relate to the northern extension of the Phase 1A busway; the southern extension of the busway from Rowner Road to St Ann's Hill Road; and the alternative BRT route to Whiteley via Cartright Drive.

Although technically assessed as more challenging to deliver, there may be sufficient political, social, strategic, or other reasons for implementing these measures in the future. Most notable amongst these is the northern extension of the existing Phase 1A busway to Fareham rail station, at an estimated cost of £18.8m. The high cost of this scheme and the challenges associated with its delivery are recognised. However, the scheme has strong stakeholder and operator support, unlike the proposed southern extension of the busway south of Rowner Road to Ann's Hill Road, costed at over £19m. **Inclusion of the northern busway extension as a medium to long-term scheme would increase the overall BRT capital investment programme cost to £68.5m (at 2012 prices).**

The costs presented in Table 2 exclude the cost of Portsmouth Plan infrastructure investments at Tipner, Port Solent / Horsea Island and the proposed Tipner – Horsea Island bridge link, at an estimated combined cost of c.£60 million. The Portsmouth Plan (which presents Portsmouth's Core Strategy development and infrastructure programme) identifies Tipner, Port Solent and Horsea Island as key regeneration sites. Access to these sites by high quality public transport is viewed as central to achieving sustainable development. This is reflected in policies PCS1 (Tipner), PCS2 (Port Solent) and PCS3 (Horsea Island) respectively, which all identify infrastructure that could be utilised by BRT service routes.

The Tipner interchange is a DfT approved and part-funded scheme and will provide a new park and ride facility and an additional dedicated city centre-bound bus lane between Tipner and the Rudmore Roundabout. It is anticipated that the interchange and bus lane infrastructure will be in place by 2016, with the P&R facility being incrementally developed between 2016 and 2026. Development at Port Solent is to be supported by highway improvements including improved access to/from the A27 from Port Way and a new dedicated bus only link between the Port Solent and Horsea Island development sites. Furthermore, in order to provide the necessary capacity and access between Port Solent/Horsea Island and central Portsmouth, a new all traffic bridge connecting Tipner to Horsea Island is proposed and is planned to be in place between 2016 and 2026. The Port Solent and Horsea Island infrastructure proposals are at an earlier stage of planning and development than those for Tipner and do not have funding in place. The availability of this infrastructure looking forward, and the BRT market opportunity that development at these locations could generate has been reflected in the routings identified for potential BRT services (H1 and N1).

Table 2. Summary of capital costs (2012 prices, inclusive of Optimism Bias) of assessed BRT infrastructure measures

Area	Cost type	Viable short term BRT measures	Viable medium term BRT measures	Viable long term BRT measures	Total cost of viable BRT measures	Total cost of additional BRT measures
Fareham, Gosport	BRT measures	£8.1 million	£9.4 million	£8.3 million	£25.8 million	£43.1 million
	<i>Associated enabling general traffic improvements</i>	-	<i>£6.2 million (A27 widening)</i>	-	<i>£6.2 million</i>	-
Havant and A3 Corridor	BRT measures	£0.4 million	£1.6 million	£1.7 million	£3.7 million	£0 million
	<i>Associated enabling general traffic improvements</i>	-	<i>£3.7 million (Havant Civic Centre redevelopment)</i>	<i>£13.1 million (Harts Farm Way A27 overbridge)</i>	<i>£16.8 million</i>	-
Portsmouth	BRT measures	£7.8 million	£11.8 million	£0.6 million	£20.2 million	£0 million
	<i>Associated enabling general traffic improvements</i>	<i>£1.2 million (London Road)</i>	<i>£6.5 million (Northern Quarter development)</i>	-	<i>£7.7 million</i>	-
Total	BRT measures	£16.3 million	£22.8 million	£10.6 million	£49.7 million	£43.1 million
	<i>Associated enabling general traffic improvements</i>	<i>£1.2 million</i>	<i>£16.4 million</i>	<i>£13.1 million</i>	<i>£30.7 million</i>	-

Note – The figures presented above exclude the cost of Portsmouth Plan (Core Strategy) infrastructure investments at Tipner, Port Solent / Horsea Island and the proposed Tipner – Horsea Island bridge link at an estimated combined cost of c.£60 million.

BRT Service Route Assessment

The infrastructure measures identified in Figure 2 for inclusion in a forward investment plan have the potential to facilitate the provision of BRT service routes across the network. To inform the development of a wider network proposition, a high level assessment of potential BRT service routes has been undertaken. Specific assessment criteria included:

- contribution to Core Strategy policies;
- size of target market and current public transport services;
- potential competition with local rail services;
- the scale of bus journey time savings relating to provision of direct service routes, implementation of viable priority measures and provision of conventional stopping BRT services, and savings associated with the provision of limited stop BRT services;
- wider economic impacts;
- access to services and facilities;
- service commercial viability, including scope to secure alternative funding for operations; and
- likely timing of BRT service implementation, reflecting dependencies on development sites.

All the routes identified in Figure 1 were considered, addressing the full range travel markets and opportunities viewed as offering BRT potential.

Proposed BRT Wider Network Proposition

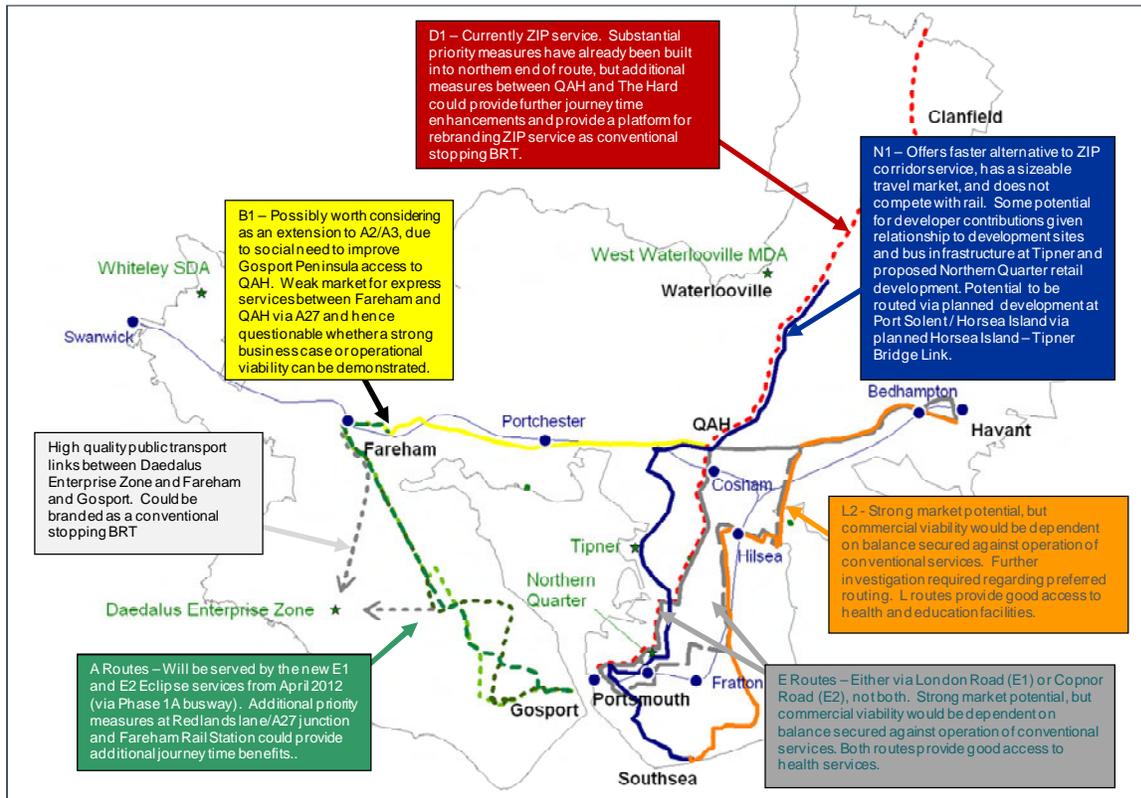
The above assessment described above was used to establish a proposition for a wider BRT network, for the short (by 2016), medium (by 2020) and longer term (by 2026), based on a combination of conventional and limited stopping services which would be well integrated with the wider public transport network.

It is assumed that these services would emerge as a development of the Eclipse brand (developed for the BRT Phase 1A service in Gosport). High frequency is an important consideration in relation to the attractiveness of public transport services. It is therefore anticipated that BRT services would be likely to operate at a minimum 15 minutes service frequency.

The proposed networks are shown in Figures 3 to 5, while Figure 6 shows those routes which have not been included in the network proposition. The rationale for the identified routes is also provided.

Although not assessed at this time as a specific BRT corridor, it is recognised that bus links to the Daedalus Enterprise Zone (EZ) will need to be considered. Bus routes linking the EZ and Fareham would be able to take advantage of the proposed Newgate Lane major improvement scheme and then tie in with the BRT corridor at the northern end of the peninsula to take advantage of the BRT priority measures in the vicinity of Fareham rail station, town centre and bus station. BRT measures in the southern part of the Gosport peninsula, particularly around Brockhurst Road, the hospital, town centre, ferry and bus station would benefit bus services between Gosport and the EZ operating via Rowner Road or Privett Road.

Figure 3. Recommended wider BRT network proposition: Short term (by 2016)



Dotted line indicates *conventional stopping BRT* route; solid or dashed line indicates *limited stopping BRT* route.

Short Term: 2016

● Rail Stations

Fareham to Gosport

- A2: Fareham to Gosport (via Redlands Lane) - Conventional stopping BRT
- A3: Fareham to Gosport (via Redlands Lane) - Conventional stopping BRT
- A4: Fareham to Gosport (via Redlands Lane) - Conventional stopping BRT
- High specification public transport links between Daedalus Enterprise Zone and Fareham and Gosport (not assessed as a BRT route in this study)

Fareham to QAH

- B1: Fareham to QAH - Limited stopping BRT

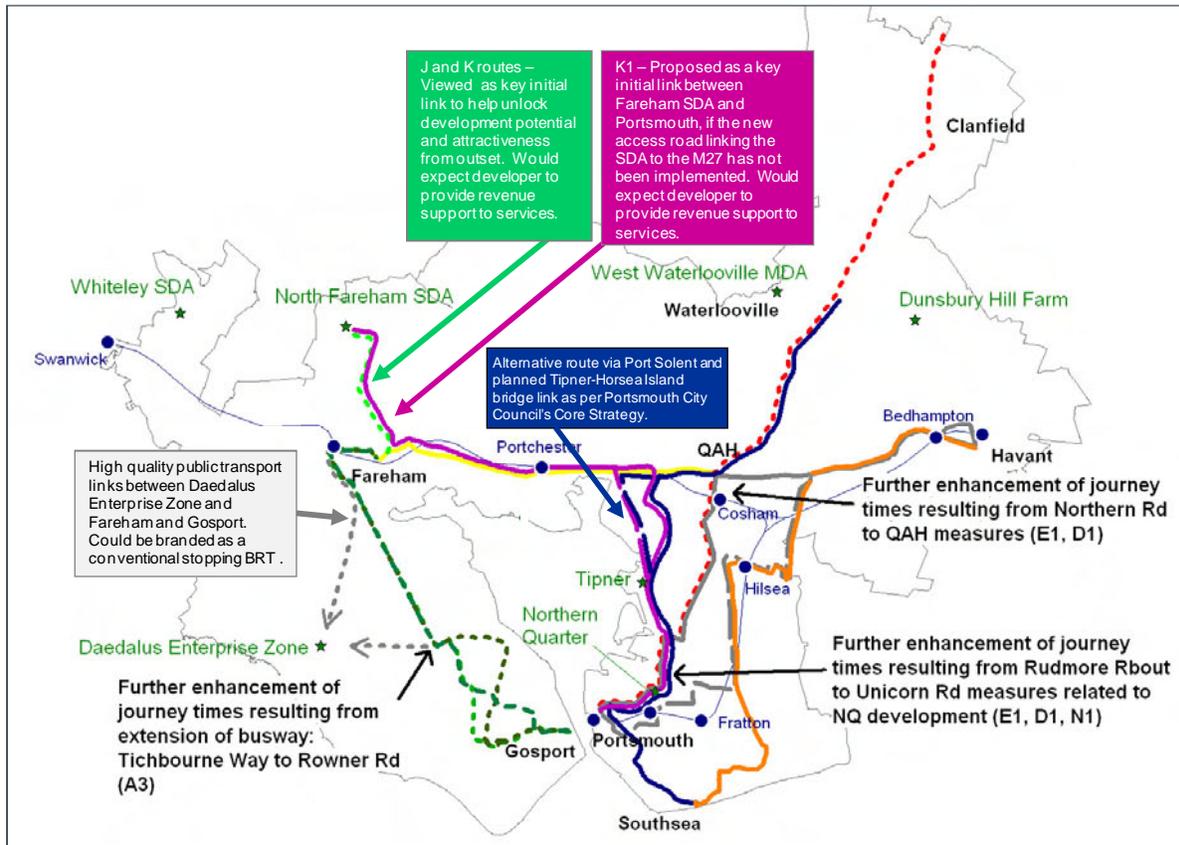
Clanfield/Waterlooville to Portsmouth/Southsea

- D1: Clanfield to Portsmouth via QAH - Conventional stopping BRT
- N1: Waterloooville to Portsmouth via QAH - Limited stopping BRT

Havant to Portsmouth

- E1: Havant to Portsmouth via QAH - Limited stopping BRT
- E2: Havant to Portsmouth via Copnor Rd - Limited stopping BRT
- L2: Havant to Southsea (poss extn to P'mouth) - Limited stopping BRT

Figure 4. Recommended wider BRT network proposition: Medium term (by 2020)



Dotted line indicates *conventional stopping BRT* route; solid or dashed line indicates *limited stopping BRT* route.

Medium Term: 2020

● Rail Stations

Fareham to Gosport

- A2: Fareham to Gosport (via Redlands Lane and S. Extn of Busway to Rowner Rd) - Conventional stopping BRT
- A3: Fareham to Gosport (via Redlands Lane and S. Extn of Busway to Rowner Rd) - Conventional stopping BRT
- A4: Fareham to Gosport (via Redlands Lane and S. Extn of Busway to Rowner Rd) - Conventional stopping BRT
- J1: Extn of A2/3 to N. Fareham - Conventional stopping BRT
- High specification public transport links between Daedalus Enterprise Zone and Fareham and Gosport (not assessed as a BRT route in this study)

Fareham to QAH/Portsmouth/Southsea

- B1: Fareham to QAH - Limited stopping BRT
- K1: N. Fareham to Portsmouth - Limited stopping BRT

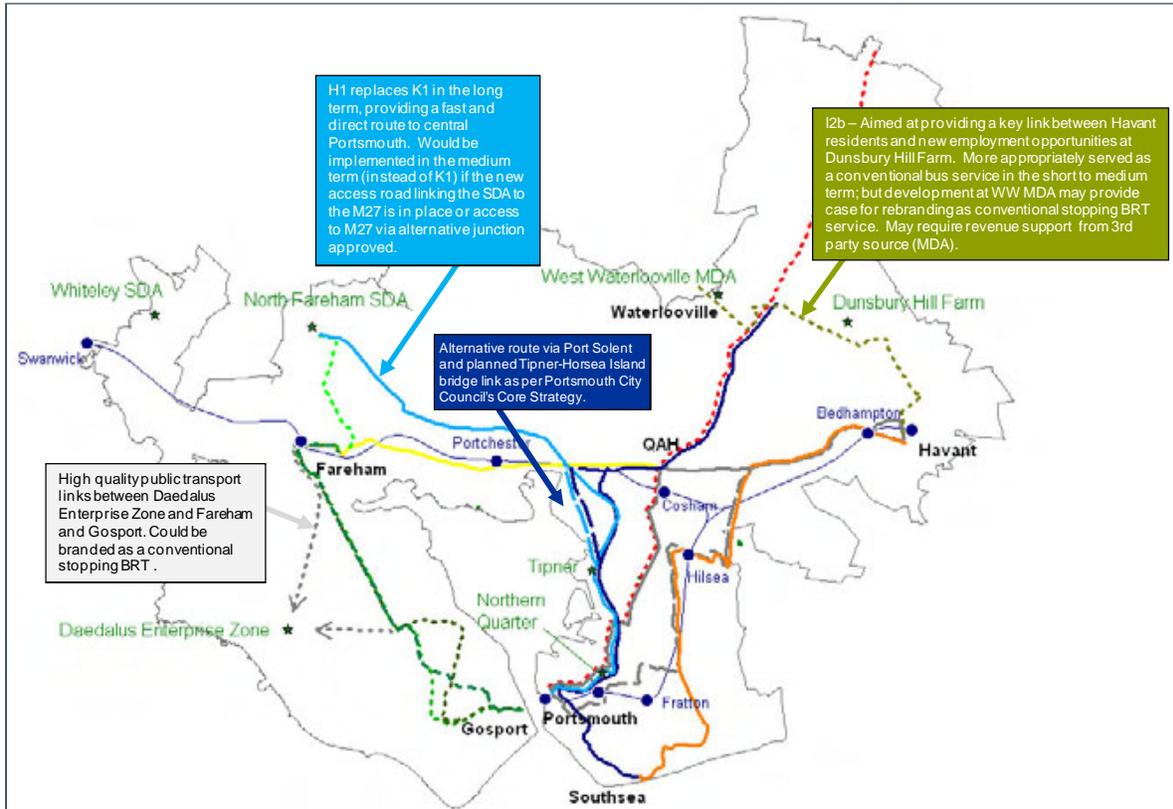
Clanfield/Waterlooville to Portsmouth/Southsea

- D1: Clanfield to P'mouth via QAH - Conventional stopping BRT
- N1: Waterlooville to P'mouth via QAH - Limited stopping BRT

Havant to Portsmouth

- E1: Havant to P'mouth via QAH - Limited stopping BRT
- E2: Havant to P'mouth via Copnor Rd - Limited stopping BRT
- L2: Havant to Southsea (poss extn to P'mouth) - Limited stopping BRT

Figure 5. Recommended wider BRT network proposition: Long term (by 2026)



Dotted line indicates *conventional stopping BRT* route; solid or dashed line indicates *limited stopping BRT* route.

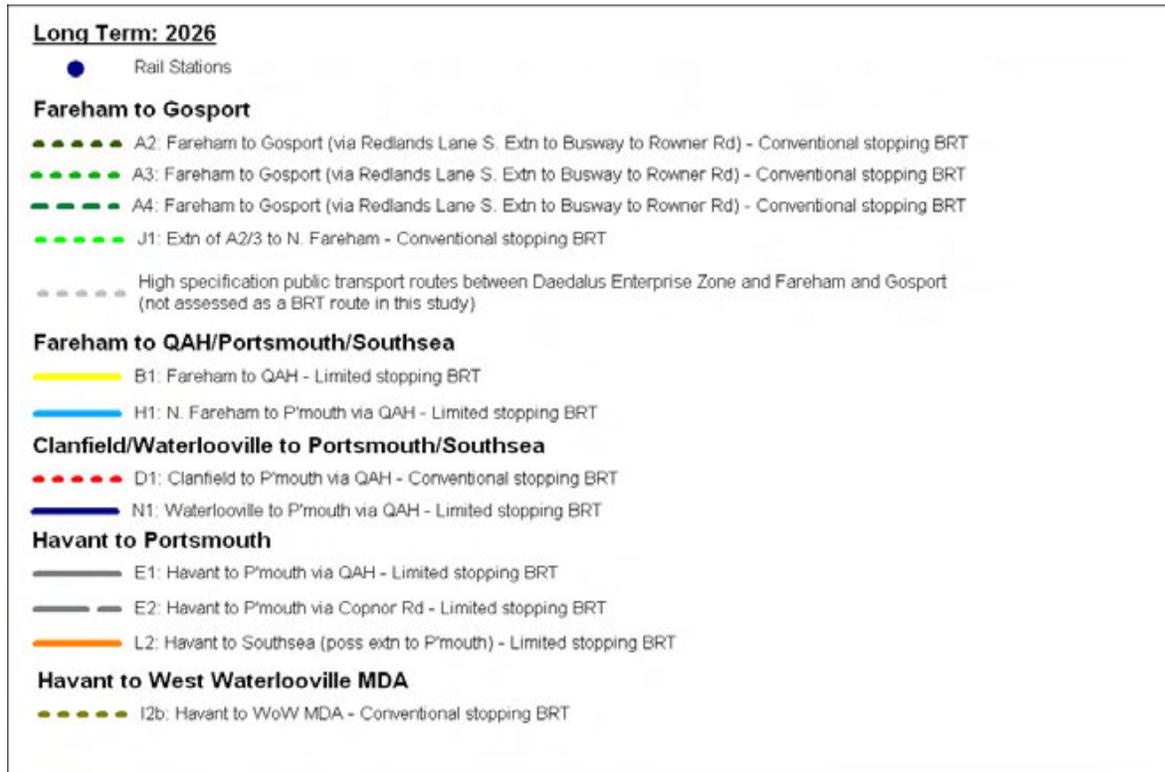
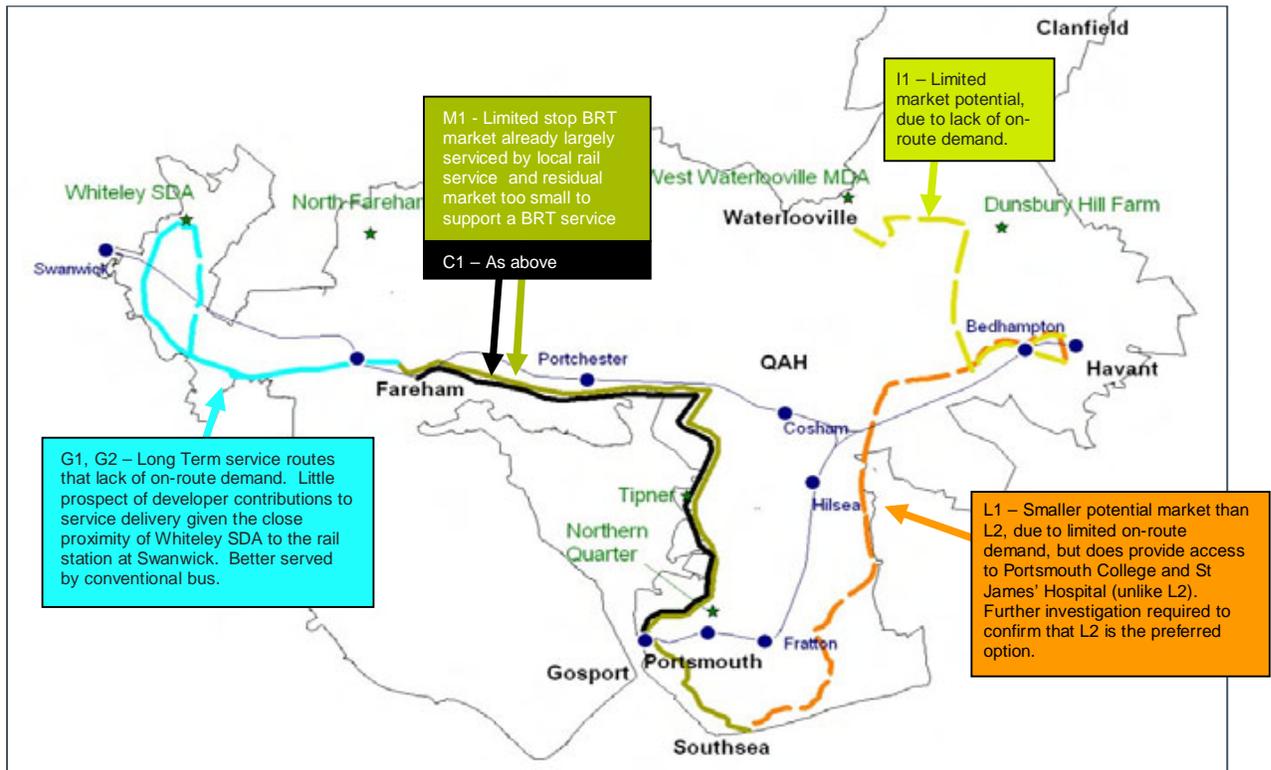


Figure 6. Less viable service routes considered and not included from the recommended BRT Wider Network Proposition

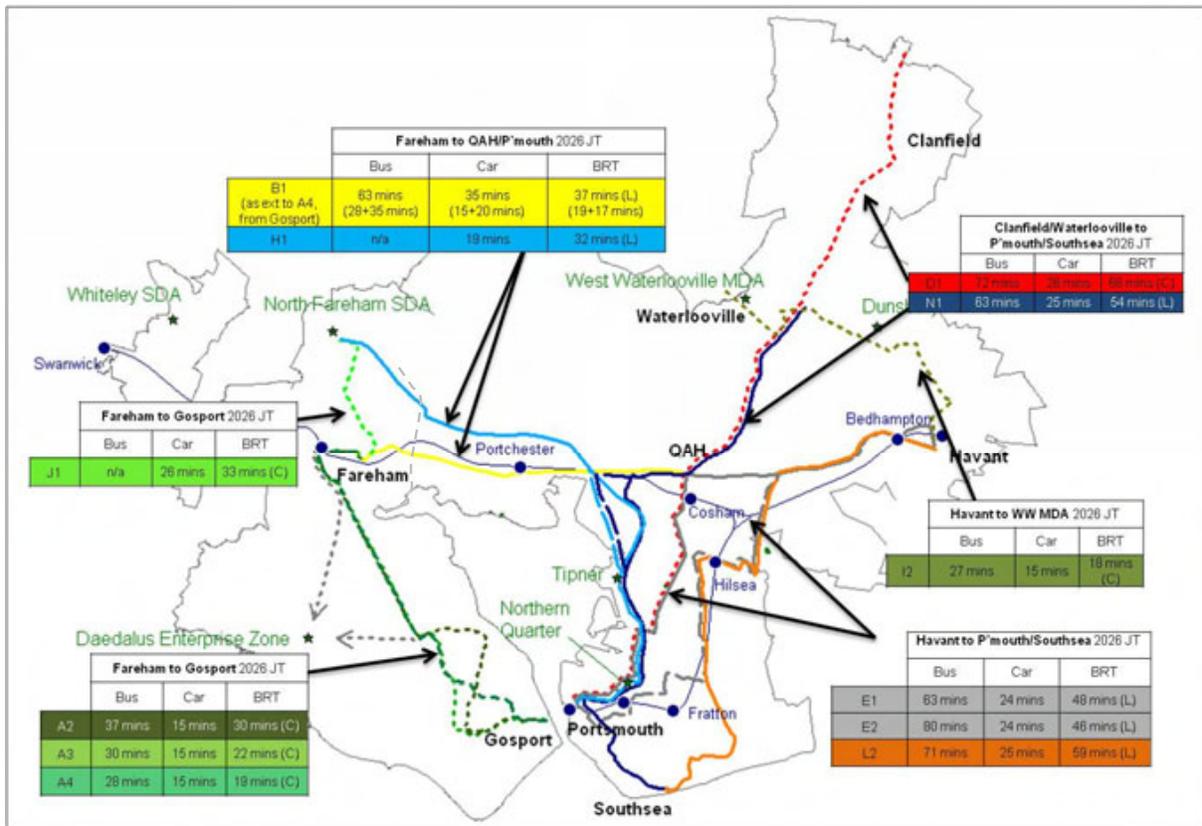


Benefits, Economic Value and the Strategic-level Business Case for the BRT Wider Network Proposition

Journey time improvements forecast to be delivered by the BRT Wider Network Proposition

Estimated journey time savings associated with the long term network are shown in Figure 7. It is this potential improvement in journey time, coupled to improved frequency of service and journey reliability that will underpin delivery of benefits from the BRT Wider Network Proposition.

Figure 7. Recommended BRT Wider Network Proposition: Long term (by 2026) – Comparative forecast journey times



Bus times are the current service provision in the corridor.

(C) = conventional stopping BRT service
(L) = limited stopping BRT service

Bus times are based on a Reference Case scenario, i.e. journey times for non-BRT existing bus services do not take into account the potential benefits of the proposed infrastructure priority measures. Similar, no account is taken of the potential journey time benefits for cars which might be associated with some measures.

It is apparent that initial forecasting suggests that the improvement in journey times over what would otherwise be offered by bus is between 15% and 30%. This is due a combination of operating a limited stop service, time savings through priority measures and in some cases the availability of a direct service, where previously a journey may have required an interchange. As a consequence, forecast bus times in 2026 become more competitive to those by car.

The potential economic value of the BRT Wider Network Proposition

The economic value of the development of a BRT network will manifest itself in a number of ways:

- the delivery of significant time and reliability savings to transport users enhancing transport economic efficiency in the sub-region;

- improved accessibility resulting in improved business productivity and efficiency with resulting increases in jobs; and
- improved and sustainable access to areas of development potential increasing the likelihood and potentially accelerating the progress of development, with the potential to enhance associated development value

The analysis herein attempts to measure the benefit derived from the improvement in transport accessibility that BRT would provide. In reality, transport is clearly only one of many factors that would influence job growth / creation. As such BRT should be viewed as an integral and complementary part of a wider and multi-faceted set of mutually supportive measures for the sub-region, such as training programmes and broader support for regeneration projects.

Economic value in improving Transport Economic Efficiency

With respect to the first two areas of economic value, initial testing of the BRT Wider Network Proposition using the Sub Regional Transport Model (SRTM) provides a means of indicating the scale of potential benefits that might be generated. An initial SRTM test of BRT has been used to derive an indication of potential economic benefits, though the results are preliminary and reflect a simplified specification of the BRT network.

Transport Economic Efficiency benefits are driven by journey time improvements that BRT services would provide. The value of benefits attributable to BRT services over a 60-year economic appraisal period using the DfT's standard TUBA methodology is approaching £100m PV, with an increase in annual PT trips of c.400,000 by 2026

It should be noted that this does not allow for journey time benefits to non-BRT services as a consequence of implementing BRT infrastructure measures as these have not been modelled in SRTM. These additional benefits could be very significant.

Economic value of jobs growth

As part of the consultation guidance within WebTAG¹, the DfT provides a dataset of GDP per worker, a measure of job productivity. This is only available at the NUTSIII level (higher tier local authority) so is only of use for a comparison between Portsmouth City and Hampshire County areas. This shows that productivity per job is not materially different across the study area. A weighted average job value of **£49,388** has therefore been used to estimate a total GDP value of the additional jobs projected by SRTM.

The SRTM run for the indicative future network looks at net job growth for each of 2019 and 2026. This is reported as **41 jobs** in 2019 and **52 jobs** in 2026, although this net figure reflects losses in some zones and larger gains in others, reflecting accessibility changes across the study area. The GDP value of these jobs would be:

- 2019: £2.62m
- 2025: £3.63m

If these new jobs are maintained as additional to what would otherwise be delivered over a 60 year appraisal period from 2019, and real GDP/job is expected to grow by 2% pa, then the discounted (NPV) GDP value of these new jobs is projected to be **£98.3m**. This employs WebTAG discount rates of 3.5% for the first 30 years and 3% thereafter, discounted back to a current 2012 base year.

Please note that this only relates to the GDP enhancement of the predicted additional jobs in the area, excluding directly generated jobs required by the bus operators to deliver and maintain the BRT services. The inclusion of these operational jobs would be consistent with DfT guidance on the preparation of Regeneration Reports. Furthermore, there will be additional productivity gains associated with existing jobs which have also not been assessed.

¹ Unit 3.5.14C: The Wider Impacts Sub-Objective - for consultation - September 2009.

Economic value in enhancing delivery and value of development

The third area of economic value is reflected in part by the 3rd party funding sources set out in this report. It is clear that the BRT network is closely aligned to and will enhance access to a number of the key development sites and growth hubs within the sub-region, most notably the developments proposed for Dunsbury Hill Farm, Tipner and the Northern Quarter in Portsmouth, potential redevelopment in Havant town centre, the North Fareham SDA and the West of Waterlooville MDA. In addition there is scope to develop services, taking advantage of BRT infrastructure to serve the Daedalus Enterprise Zone.

The North Fareham SDA, for example, is reliant in policy terms on providing the attractive sustainable transport option that BRT can provide if it is to come forward at the scale proposed. BRT is not a 'nice to have' here but crucial to whether the development happens at all.

The overall assessment of BRT's potential economic value

It is apparent from the initial analysis of potential economic benefits that the value of benefits is likely to be very substantial and will significantly outweigh the cost of the capital infrastructure identified for BRT, when considered on a like for like basis.

However, in order to robustly determine and present the potential overall economic value of BRT, further and more detailed assessment of the benefits and the whole-life costs that would be attributable to delivering the BRT Wider Network Proposition is required.

Initial assessment of the BRT Wider Network Proposition against the HM Treasury "5 Cases" Business Case Framework

Table 4 summarises the initial assessment of the performance of the recommended short, medium and long-term BRT Wider Network Propositions against the HM Treasury "Five Cases" business case assessment framework. This suggests that a robust overall business case could be demonstrated for the recommended BRT Wider Network Proposition identified, based on the available information at this time.

Table 3. Initial Assessment of BRT Wider Network Proposition against HM Treasury ‘Five-Cases’ Business Case Framework

	Short term	Medium term	Long term
<i>Cost of proposed infrastructure</i>	<i>£14.3 million (+ £1.2m general traffic measures)</i>	<i>£22.8 million (+ £16.4m general traffic measures)</i>	<i>£11.1 million (+ £13.1m general traffic measures)</i>
<i>Proposed BRT service routes</i>	<i>A2, A3, A4, B1, D1, N1, E1 or E2, L2</i>	<i>J1, K1 (or H1, if new access road between NFSDA and M27 is in place)</i>	<i>H1, I2b</i>
Strategic Case	<p>Strong – Particularly in terms of:</p> <ul style="list-style-type: none"> Improving the overall quality of public transport in the sub-region Opening up new opportunities for Gosport (A2,A3) Improving access to public health services at Queen Alexandra Hospital (N1, D1, E1, B1 ext to A routes); St Mary’s Hospital (E2,L2); Havant War Memorial Hospital (E1 or E2,L2), Gosport War Memorial Hospital (A2,A3); Brune Medical Centre, Gosport (A2,A3,A4); and Cosham Health Centre (D1,E1); as well as GP surgeries and other specialist health services. Improving air quality in Portsmouth City Centre (4 AQMAs) and Fareham (2 AQMAs at A32 gyratory and Portland Street). <p>Moderate – In terms of:</p> <ul style="list-style-type: none"> Facilitating development, regeneration and housing sites at Tipner (N1), Portsmouth City Centre / Northern Quarter (D1, N1, E1 or E2), Fareham Town Centre (B1, A2, A3), Gosport (A2, A3, A4). Improving access to tertiary education - provides access Portsmouth University (N1) and St Vincent College, Gosport (A4). 	<p>Strong – Particularly in terms of:</p> <ul style="list-style-type: none"> Enabling key strategic housing sites. Early commencement of Routes J1 and K1 would help unlock development potential at North Fareham SDA and increase the attractiveness of the development from the outset. Facilitating development and regeneration at Portsmouth City Centre / Northern Quarter (K1). Opening up new opportunities for Gosport (J1). Improving air quality in Portsmouth City Centre (4 AQMAs) and Fareham (2 AQMAs at A32 gyratory and Portland Street). 	<p>Strong – Particularly in terms of:</p> <ul style="list-style-type: none"> Enabling key strategic housing sites. Route H1 would provide fast access between North Fareham SDA and Portsmouth (Route H, replacing K), and access from West Waterlooville MDA to Havant and employment opportunities at Dunsbury Hill Farm (I2b). Facilitating development and regeneration at Tipner and Portsmouth City Centre / Northern Quarter (H1).
Value for Money Case	<p>Strong – Focuses on routes which have good market potential; do not compete significantly with rail; provide good access to services and facilities; create new direct journey opportunities which are not currently possible using existing bus services; and offer a genuine improvement in the relative competitiveness of public transport against car journey times. Includes those routes with the largest catchment populations, the largest number of working age residents (likely to pay full fare), and the largest number of one car households (car passengers represent a key market for BRT). Routes serve Portsmouth and Southsea (the biggest origins and destinations within the study area). Also have the potential to capture significant north-south movements from residential locations along the A3 corridor, and trips to/from important intermediate destinations such as Copnor Road.</p> <p>Potential impact of infrastructure on general traffic: neutral or positive.</p>	<p>Moderate – Modest market potential, particularly regarding the proposed extension to the A routes to North Fareham SDA (i.e. J1). However, both routes are important in unlocking development opportunities (see above).</p> <p>Potential impact of infrastructure on general traffic: neutral or positive.</p>	<p>Moderate – Modest market potential, but both routes are important in unlocking development opportunities (see above).</p> <p>Potential impact of infrastructure on general traffic: neutral or positive.</p>
Delivery Case	<p>Strong – No significant buildability or level of support challenges associated with infrastructure measures.</p>	<p>Strong – No significant buildability or level of support challenges associated with infrastructure measures.</p>	<p>Moderate - Some significant buildability challenges associated with infrastructure measures (but no show stoppers).</p>
Financial and Commercial Case	<p>Moderate – Proposed BRT routes have potential to be commercially viable, but limited scope for securing 3rd party contributions for infrastructure measures. Dependent on capital grants from central government and local authority funding sources. Some borrowing and/or additional contributions needed to address shortfall.</p>	<p>Strong – Good potential for SDA developer funding to support operational costs until SDA market matures. Good scope for securing 3rd party contributions for infrastructure measures. Estimated to account for over half of proposed spend. Some borrowing and/or additional contributions needed to address shortfall.</p>	<p>Strong – Good potential for SDA developer funding to support operational costs until SDA market matures. Good scope for securing 3rd party contributions for infrastructure measures. Estimated to account for approximately a third of proposed spend.</p>

Funding and Delivery

Ernst & Young, as part of the commission team, specifically examined potential funding routes, their applicability in the context of SEH BRT and potential models for funding and finance that could be considered. The focus of assessment has been on delivering a BRT capital spend programme

Sources of funding and applicability to the BRT network investment programme

There are a number of potential sources of funding available to fund the infrastructure measures. It is also likely over the period during which the schemes will be developed and business plans prepared, existing funding sources will cease to be available and new funding streams will arise. It is therefore essential that the list of sources is regularly reviewed and updated, and the funding mechanism for each scheme being taken forward is revisited prior to business case submission.

A long-list of funding sources was considered and an assessment made of their likely applicability in the context of BRT infrastructure programme and associated discussions with the local planning authorities on the potential for 3rd Party and other funding avenues.

Funding sources can be categorised as follows:

- Grant funding
- Borrowing
- Other authority sources

The most applicable routes and avenues identified for BRT under each category are summarised below.

Grant funding

Minor Works budget

Historically DfT has allocated this funding in support of small improvement schemes worth less than £5m. In light of the proposed changes to the local major transport schemes fund with power and responsibility being devolved to a local level, DfT has stated that they are currently re-considering the relevance of this fund going forward.

Regional Growth Fund

The Regional Growth Fund established by BIS has been set up to stimulate both economic growth and employment through the encouragement of private sector investment. The fund, accessible to businesses, has been put in place to facilitate economic growth through private sector means, and is targeted in particular at those areas reliant on public sector investment. This has been increased to £2.4bn and will be extended over 4 years to 2015 with a minimum threshold bid value of £1m.

To date there have been two phases of funding with 27 contracts signed in round 1, and 21 contracts signed in round 2 funding a variety of projects in areas and communities that were dependent on the public sector. Round 3 amounting to £1bn worth of funding opened in Feb 2012 with bids for funding due by mid-June 2012. Although not specifically targeted at transport schemes one local authority has been able to access funds to pursue transport improvements.

Growing Places Fund

The Growing Places Fund is a £500m initiative that has been established to target investment in infrastructure that would enable the development of other areas including commercial and housing, and which would lead to job creation. This fund is not ring-fenced and has the following three primary objectives:

- targeting investment direct into areas of constraint including infrastructure which would result in the delivery of housing and jobs and stimulate economic growth;
- enabling LEPs to prioritise and deliver their objectives; and
- establishing a revolving fund to allow for further reinvestment.

The initiative favours projects where funds can be re-invested and will drive economic activity, and not projects which are stand-alone, with capital allocation being used for capital projects only. Projects which have the necessary legal approvals including planning permission are expected to be prioritised in funding allocations. Funding would go directly to the lead Local Authority within the Local Enterprise Partnership (LEP) via a formula based on two variables: population and employed earnings. However the detailed form of this investment would be decided at a local level.

The contractual model proposed for investment recovery is for developers to use a percentage of the uplift in land value, or the revenues, to repay the initial funding outlay provided by the public sector. Variations on this model are expected depending on the contractual model used, with interest also being paid and potentially re-invested into other infrastructure projects. The delivery of infrastructure through a revolving fund model has been established in Cambridgeshire.

The application for funding closed in December 2011, with the allocation of funds being set by the end of financial year 2012. This funding is primarily for capital only with a small percentage available to be used as resource to manage the funding. The Solent LEP secured £18m of funding from this source.

Better Bus Scheme Fund

The £50m fund is targeted at increasing passengers and reducing carbon emissions, and is restricted to a maximum of 10 local authorities that can access grant funding with a maximum funding threshold of £5m. TfSH was successful in securing £4.4m funding from this source of which £1.1m is for specific BRT infrastructure works.

Borrowing

Prudential Borrowing

This is available exclusively to local authorities within the UK and is a loan through the public works loan board, accounting for over 75% of local government debt. Prudential Borrowing allows for long tenors to be achieved making it an attractive long term funding source to fund schemes not funded through grants or 3rd party contributions.

Other authority funding

Joint European Support for Sustainable Investment in City Areas (JESSICA)

This joint initiative is run by the European Commission and the European Investment Bank (EIB), in collaboration with the Council of Europe Development Bank (CEB) which seeks to provide funding for urban development, and has the ability to fund large projects through a mix of funding structures including equity, debt, and debt guarantees.

Community Infrastructure Levy (CIL)

The CIL was introduced in Spring 2011 by the Department for Communities and Local Government, and is a new levy which local authorities are able to raise on new real estate developments in their area, providing an alternative means of funding which local authorities can use to address the needs of those at a local level. This can include developments in infrastructure such as Primary Schools, with charges being derived based on the type and size of the development. The proceeds of this fund can be used widely across the local area - a proportion of the levy could be allocated to the BRT schemes although local authorities may wish to use the bulk of it to meet infrastructure requirements arising directly from additional residential stock being developed.

Indicative funding balance achievable for BRT network delivery

At this stage any view on funding balance is an “informed guess” but it does assist in giving confidence in how plausible it will be to deliver the investment programme from a funding perspective and the potential financial implications. The preliminary view on funding levels and likely balance is as follows:

- **Short Term (to 2016): £15m-£20m (2012 prices) of capital works.**
 - Largely low cost schemes <£1m with limited scope for 3rd party contributions.
 - A variety of Government sourced funding pots, be that major schemes, LTP block grant or sources such as the Better Buses Fund are likely to be the predominant means of funding.
- **Medium Term (2016-2020): c.£20m-£30m (2012 prices) of capital works.**
 - Number of works packages in excess of £1m and in some cases exceeding £5m.
 - There is significant scope for 3rd party (developer) contributions / CIL and this will be critical to delivery in some cases (Northern Quarter).
 - It is anticipated that a 50% Government sourced funding, 50% 3rd party funding balance might be achievable.
- **Long Term (2020-2026): c.£10m-£30m (2012 prices) of capital works (northern busway extension c.£20m of the £30m total).**
 - Anticipated that 3rd Party (Developer) contributions / CIL could account for 30% of funding required, with the remainder to be funded by Government sources.

Partnership arrangements and agreements are likely to be central to unlocking funding in a number of instances including: Fareham station multi-modal interchange, Rudmore Roundabout to Unicorn Road linked to the Northern Quarter redevelopment; and a new link from the A33 to J11 of the M27.

The success in securing funding via Government sources or 3rd party contributions / CIL will be central to determining any decisions on borrowing.

Initial financial assessment of a BRT infrastructure measures investment programme

Assumptions

The capital costs above have been modelled adopting the following general assumptions:

- inflation of 4% is assumed for each year;
- schemes are delivered in the short-term (Jan 2014 – Dec 2016), medium term (Jan 2017 – Dec 2020) and long-term (Jan 2021 – Dec 2026). The capital expenditure is the same in each of the years in these periods;
- additional capital expenditure of £1.5 million in total are assumed to be incurred in 2013, 2014 and 2015 to reflect legal and other advisory and professional fees;
- 3rd party funding is assumed on certain schemes where positive indications of the availability of funds has been received;
- additional funding from other sources is calculated as a percentage of the shortfall of capital expenditure and major/minor project funding and 3rd party contributions. The remaining shortfall is assumed to be funded via borrowing;
- further additional funding for debt servicing is required to make the program cash neutral in each year. This additional funding could be provided as a regular amount in each year; and
- major/minor projects and 3rd party funding are assumed to be indexed at the same rate as capital expenditure.

Debt is assumed to be available at 4.5% per annum and repayable on an annuity basis over 15 years. Three debt tranches are assumed relating to the short, medium and long-term dates set out previously.

Funding and finance profile

A number of scenarios were “modelled” to determine indicative funding and finance profiles. Figure 8 below presents the profile for Scenario 1 where full major project funding is assumed to be secured for those schemes assessed as “High”, 75% for those as “Moderate” and 0% for those assessed as “Poor” with respect to “Value”; this reflecting a need to establish a sound value for money case for Government sourced funding. The resultant funding gap is assumed to be funded by 50% borrowing and 50% contributions, with further additional funding required to make the program cash neutral.

The graph demonstrates that the bulk of capital grants required would be over the short and medium term, with an increase in 3rd party funding in the medium-term when compared to the short-term. Ongoing funding will be required until the debt is paid off in 2041.

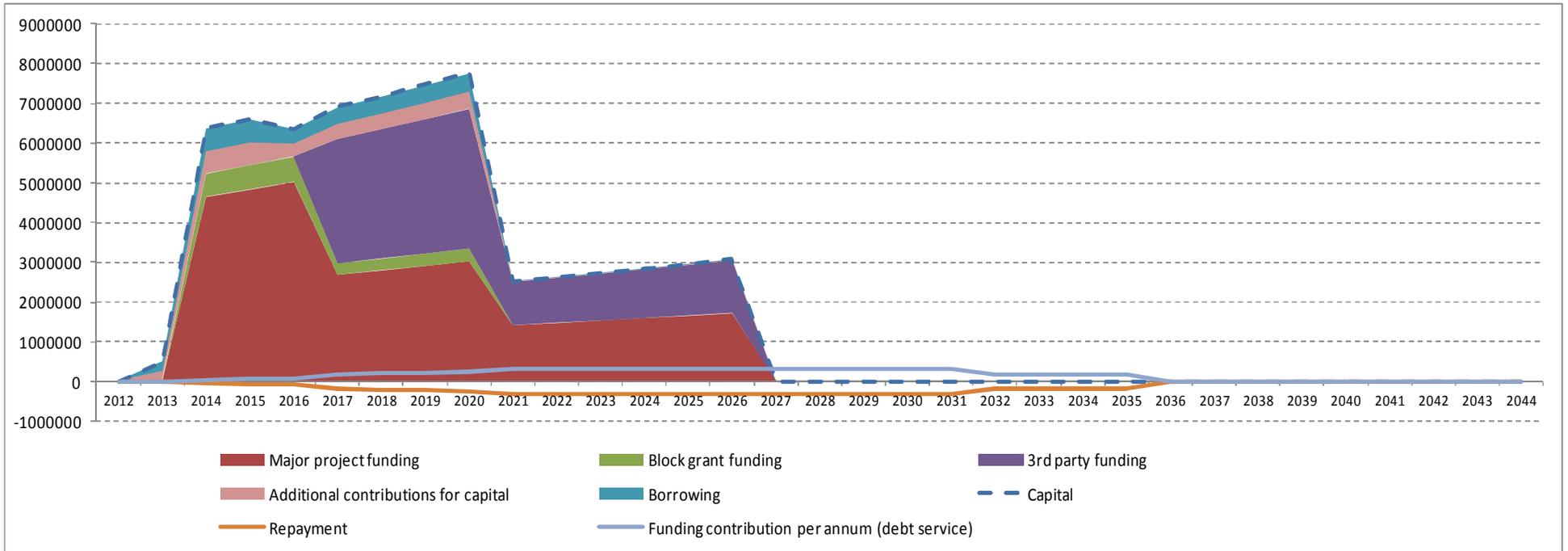
Varying the amount of grant funding has a direct impact on the amount of borrowing and the amount of 3rd party contributions required. An additional contribution (in addition to assumed 3rd party amounts allocated by infrastructure measure) would be required each year to make the schemes cash neutral. This additional contribution could be calculated as a set amount each year (assumed to be indexed) or as a varying amount per year depending on the cashflows in that year. The additional contributions for capital could be funded through:

- additional sources of grant funding, such as the regional growth fund, growing places fund, and European funding source;
- allocation of part of the Community Infrastructure Levy, Tax Incremental Financing or amounts raised through additional localised business rates. These streams are dependent on schemes being set up across the region;
- top-slice of the existing highways budget, or other Local Authority budget commitment; and / or
- developer and other 3rd party contributions not already identified or assumed.

The funding contributions for debt service could be funded through:

- operator contributions (as this would most likely be an ongoing funding stream);
- allocation of part of the Community Infrastructure Levy, Tax Incremental Financing or amounts raised through additional localised business rates. These streams are dependent on schemes being set up across the region;
- top-slice of the existing highways budget; and / or
- taxpayer contributions.

Figure 8. Indicative cost profile for “viable” infrastructure measures investment programme (Scenario 1)



Prospective devolution of DfT local major transport schemes and minor works budgets and potential structures for delivery

The Government announced the final schemes to be funded to the end of the current Spending Review period (2011/12 to 2014/15) in December 2011, and have embarked on a public consultation process in relation to how future funding is determined and allocated for schemes post 2015. The process closed on 2nd April 2012.

The primary thrust of the consultation proposes to devolve decisions regarding local major transport schemes away from central Government to those parties best placed to make informed decisions at a local level. The consultation proposes that a Local Transport Body (LTB) will be formed with funding allocated based upon the geographic area of the Local Enterprise Partnership (LEP) in which the body sits.

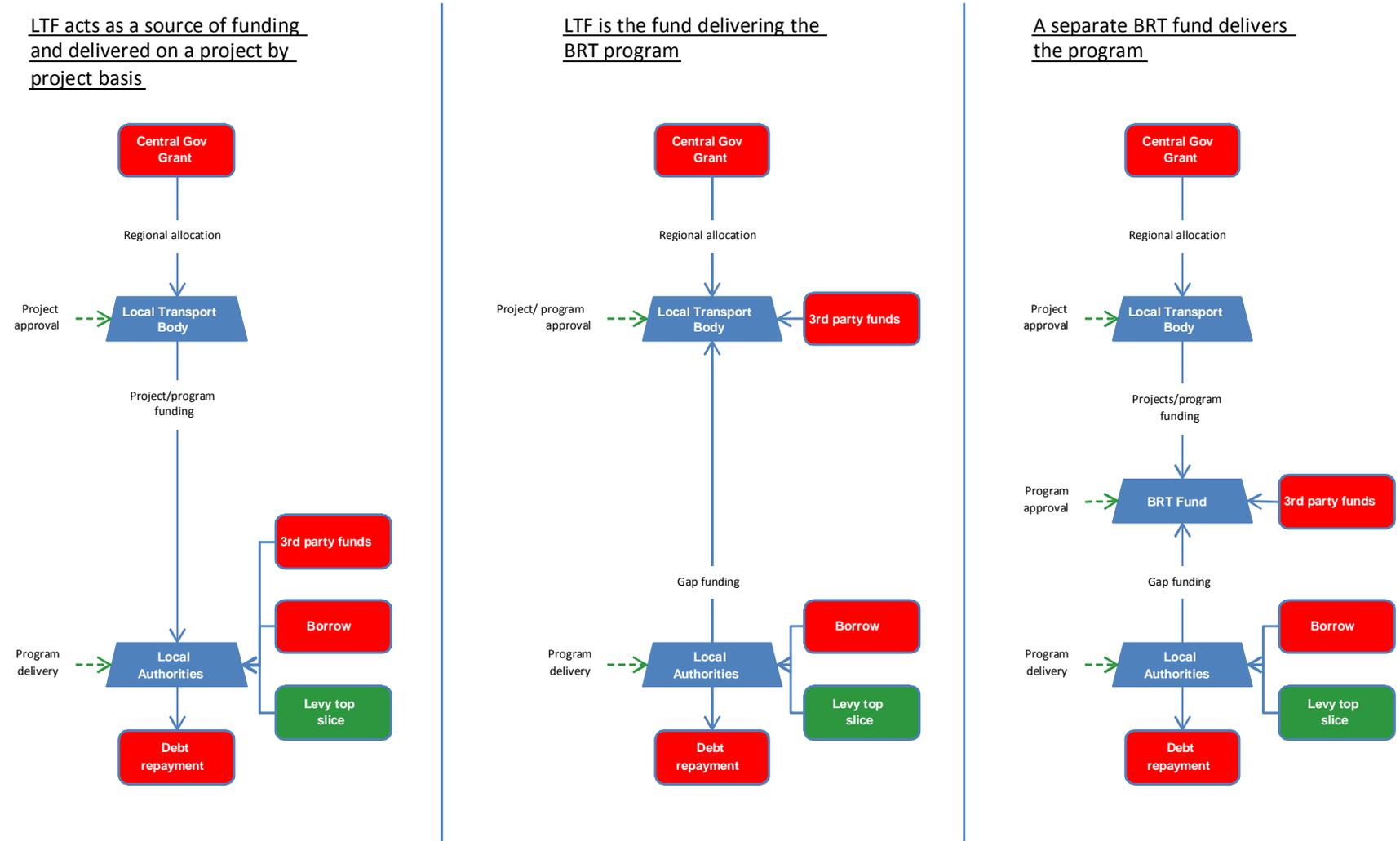
Three models have been proposed for the extent to which a LEP is involved in decision making at a local level:

- the LEP would be in a position of influence only, providing advice to the LTB on which investment would be suitable to encourage and achieve growth objectives specific to the area. The LTB would then decide independently of the LEP whether it would adopt its recommendations;
- the LEP would have equal accountability for decisions made by the LTB of which the LEP would be a member providing advice, with formal accountability sitting with the entire LTB; and
- the LEP would be the LTB and take responsibility for all aspects of decision making, including legal and financial decisions.

Budgets are intended to be determined by formula with draft allocations to Local Transport Bodies to be published by DfT in August 2012, along with the removal of the £5m local major scheme classification. Therefore funding can be allocated to any scheme regardless of size and may be prioritised if local needs require it. ***This means that the minor works budget may also be scrapped and funding placed with the Local Transport Body.***

Figure 9 presents a chart representing three models for how BRT investment funding might be administered and delivered in this context.

Figure 9. Three options for how BRT funding and delivery might be administered



Conclusions

The following conclusions can be drawn from the study:

- There is good potential within the South East Hampshire sub-region to deliver a programme of infrastructure measures which is affordable and would deliver real journey time benefits to conventional bus services, and enable development of a wider network of BRT services. **The total cost (with optimism bias) of schemes technically assessed as viable is estimated at £49.7 million (2012 prices) to year 2026. Costs are inclusive of optimism bias and are for infrastructure works only; they exclude any fleet or on-vehicle costs. Inclusion of the northern extension of the Phase 1A busway to Fareham Rail Station as an additional measure which has strong stakeholder and operator support, would add £18.8 million to the investment programme, increasing it to £68.5m.** A large proportion of the proposed infrastructure measures are costed at less than £1m and could be delivered quickly within existing highways powers and with negligible impacts on general traffic, land-use and the environment.
- **The proposed infrastructure measures would facilitate the introduction of BRT services (conventional or limited stop) across the sub-region.** The proposed Wider BRT Network includes the majority of routes identified in the outline vision (Figure 1), with the exception of routes between Fareham and Whiteley SDA; Fareham and Portsmouth / Southsea; Havant and Southsea (via Eastern Road); and Havant and West Waterlooville (via the A3(M)). These routes are already served by bus and/or rail services, and/or have low market potential.
- The scale of potential bus journey time savings on individual routes relates to a combination of influences: provision of a direct service route, implementation of viable priority measures and provision of conventional stopping BRT services, and / or savings associated with the provision of limited stop BRT services. The introduction of direct services would create new journey opportunities which are not currently possible using existing bus services, and could result in a genuine improvement in the relative competitiveness of public transport against car journey times. **The introduction of limited stop BRT services could result in a genuine improvement in the relative competitiveness of public transport against car journey times, for example, from 80 to 46 minutes by bus between Havant and Portsmouth (via Southsea, 2026 forecast AM peak journey times).**
- **The proposed short term network focuses on improving bus access between Portsmouth/Southsea and Havant and Waterlooville, as well as further enhancing the value and performance of Phase 1A routes between Gosport and Fareham.** The network performs well in a *strategic context*, in terms of improving the overall quality of public transport in the sub-region, and improving access to opportunities and services, particularly health care. It also scores well in terms of both the *value for money* and *deliverability* case, with routes catering for corridors with high market potential and an absence of significant implementation or level of support challenges associated with the proposed infrastructure measures, while also serving key development sites such as Tipner. However, while the proposed BRT routes have potential to be commercially viable, there is limited scope for securing 3rd party contributions for infrastructure measures.
- **The proposed medium and long term networks also perform well in a *strategic context*, in terms of contributing to the unlocking and enabling of key housing, employment, regeneration and development sites.** Analysis suggests these networks are likely to perform more modestly in terms of overall *value for money* (with more modest levels of market potential and journey time savings) but both networks are crucial in unlocking development and regeneration opportunities at North Fareham SDA, West Waterlooville MDA, Port Solent/Horsea Island and Tipner, Dunsbury Hill Farm, and the proposed Northern Quarter retail development in Portsmouth City Centre. In addition, there is a strong potential for SDA developer funding to support operational costs until markets mature, and considerable scope for securing 3rd party contributions for infrastructure measures.
- **A key factor in supporting the successful performance and maximising the benefits BRT can realise will be the extent to which its implementation is dovetailed with complimentary measures and policy instruments aimed at encouraging the use of public transport, and bus services in particular,** over the private car. Such measures and instruments have not, as yet, been factored into the assessment of demand and benefit potential of the Wider BRT Network Proposition.

- **The overall level of capital investment and phasing is at a level that suggests that securing the necessary funding to 2026 should be achievable.** The nature of the schemes in question suggests that Major/Minor public sector grant funding would be expected to be the primary source. The bulk of capital grant required would be over the short term; and would account for the majority of funding required to deliver short term measures. However, the prospect of devolution of both major and minor project funding to Local Transport Bodies could significantly alter how such funding is administered and prioritised. Other funding avenues such as the Growing Places Fund, Regional Growth Fund and Community Infrastructure Levy could all play an enabling role.
- **Initial analysis suggests that over half of the proposed capital expenditure in the medium term might to come from 3rd party sources, reflecting the strong relationship with development proposals. In the longer term, developer contributions might account for a third of the overall capital spend required.** Relatively small, but significant levels of borrowing and additional contributions may be needed to address shortfalls in both the short and medium term. If this were to prove necessary, on-going financing would be required to cover debt extending into the longer term.
- **Development of the above network proposition has involved engagement with local planning authorities and local bus operators,** who have indicated that they are generally supportive of the emerging Wider BRT Network Proposition.

Recommended immediate priorities for delivery of a wider BRT network

Table 4 presents an order of priority for a first tranche of implementation of BRT infrastructure measures and associated delivery of BRT service routes, based on the various criteria used to assess the viability and performance of the proposed infrastructure. Reviewing service opportunities against infrastructure, suggests that best value could be provided by implementing the measures in corridor-based packages, allowing a phased introduction of short-term service routes which would offer significant journey time benefits from the outset (Table 4).

Table 4. Recommended immediate priorities for wider BRT network delivery

Infrastructure measures	Cost, including OB	Enabled BRT Service Routes			
		A2, A3, A4	D1	N1	E1
Gosport to Fareham					
Gosport on road measures	£4,728,000	✓			
Fareham (BRT Phase 1A to Rail Station) - via Redlands Lane	£912,000	✓			
Fareham Rail Station / West St R'bout	£592,000	✓			
QAH Interchange					
QAH (Interchange between ZIP Corridor, east/west routes and QAH)	£149,000		✓	✓	✓
London Road to Portsmouth City Centre					
London Road (P'mouth)	£4,960,000		✓		✓
Rudmore R'bout to Unicorn Rd (not related to NQ)	£448,000		✓	✓	✓
Portsmouth City Centre to The Hard					
Unicorn Rd to The Hard	£275,200		✓		✓
Havant to Portsmouth / Southsea routes					
Rusty Cutter R'bout (Bedhampton Hill) to Havant Bus Station	£185,600				✓
Havant Bus Station	£224,000				✓
Southsea Pier	£128,000			✓	

There is a strong case for further enhancements on the Gosport to Fareham corridor (BRT service routes A2, A3 and A4), building on the introduction of the Eclipse service from April 2012 and the opening of the Phase

1A busway between Redlands Lane in Fareham and Tichbourne Way in Gosport. This would require £6.2 million of investment focused on:

- on-road enhancements on the three routes into Gosport Town Centre;
- layout and signal modifications at Redlands Lane / A27 The Ave to further increase westbound capacity, adding to recent improvements to the junction implemented by HCC; and
- partial or total signalisation of the West St / Fareham Station roundabout to transfer capacity to the A27.

In terms of expanding the BRT network further afield, four packages of measures, costing £6.4million, would enable the upgrade of the ZIP Corridor (Clanfield to The Hard) as a BRT service (D1), the introduction of the Waterlooville to Portsmouth as a limited stop service via the M275 (N1), and a Havant to Portsmouth service via QAH and London Road (E2). The packages of infrastructure measures required include:

- QAH Interchange – Improved interchange between ZIP Corridor, east/west routes and QAH (£0.1m);
- London Road to Portsmouth City Centre – London Road measures, and enhanced southbound bus lane on Mile End Road (£5.4m + £1.2m for associated public realm improvements on London Road);
- Portsmouth City Centre to The Hard – Upgrade and integration of pedestrian links between Portsmouth Harbour Rail Station, Gunwharf Quays, and The Hard Interchange (low cost measures focusing on wayfinding), Queen Street waiting and loading review, bus stop upgrades on Edinburgh Road and Commercial Road South, and Queen Street/Alfred Road junction timing review and introduction of SVD (£0.3m); and
- Havant to Portsmouth / Southsea improvements – Rusty Cutter Roundabout, Havant Bus Station, upgrade stops at Southsea pier (£0.5m).

The majority of these measures are identified previously in Table 1 and ranked as ‘priority 1’ measures, reflecting their high value, ease of delivery, and low or medium likelihood of attracting challenge or opposition. The London Road and Unicorn to the The Hard measures are more challenging to deliver, but would significantly enhance the attractiveness of both conventional and BRT services.

Next Steps

The key steps to be undertaken in further developing the proposals can be categorised into three streams:

- Stakeholder interaction.
- Delivery structure.
- Program development and funding.

Stakeholder interaction

Obtaining key stakeholder support is crucial to the delivery of the scheme. Stakeholders will need to be assessed for relative individual importance and discussions with them should be tailored to their influence and their interests.

Likely steps to be undertaken include:

- identify the full list of stakeholders, which is likely to include:
 - relevant county, district and borough councils – elected members, executives and finance teams;
 - Central Government, in particular the DfT;
 - The Local Transport Body (when established)
 - Solent LEP;
 - bus operators;
 - Network Rail;
 - local businesses and major employers;
 - developers;
 - QAH;
 - bus users;
 - the general public;
 - the media;
 - funders, including the PWLB and the relevant EU bodies; and

- existing highways maintenance providers.
- identify the interests and influence of each of the stakeholders to identify the strategy for entering discussions with each;
- develop a stakeholder engagement plan for each stakeholder; and
- commence (continue) dialogue.

In particular it will be important to:

- liaise with the DfT on the proposed changes to major project funding and to monitor the outcomes of the current consultation;
- obtain Council views on the proposition to establish a BRT fund and if agreed to proceed, set out the details of how this will work;
- determine the relationship with the Local Transport Body and understand its structure and processes (e.g. how funding will be allocated, what governance arrangements will be in place) and how it will interact with a BRT fund if such a fund is required as a separate entity, or with Local Authorities if not;
- discuss the proposals with the Solent LEP to obtain both support and identify sources of funding;
- continue to liaise with developers and other third parties to identify and confirm additional funds and to shape the development of the network;
- continue discussions with operators to gain support for the development of the network and to identify potential contributions to the capital and ongoing costs of providing the infrastructure;
- monitor European sources of funding as a new funding round and new funding opportunities are developed; and
- discuss with the Finance departments for the relevant Councils to establish the sources of funding available from, for example, the Community Infrastructure Levy, the Public Works Loan Board and other sources.

Delivery structure

Establishing which body will be responsible for delivering the program and the structure to do so will be essential. To achieve this each option must be fully explored and considered on its merits. This report assumes that the options for delivery will be either:

- delivery on a scheme-by-scheme basis by the relevant local authority (i.e. the traditional/corporate structure);
- delivery of the program through the Local Transport Body (competing for funding alongside other schemes) (variation on the fund structure); or
- delivery of the program through a dedicated BRT fund (variation on the fund structure).

Early resolution of this will be important to allow the development of scheme and funding options. However, given the current uncertainty around the future of major scheme funding and the options proposed around the level of involvement in a Local Transport Body of the LEP and other stakeholders, the determination of exactly what delivery body will be used may only be made after the DfT's proposals are clarified and LTBs are established.

Some of the steps that will need to be undertaken include:

- incorporate the results of the DfT's consultation on Major Projects Funding, and subsequent proposed changes, into the consideration of each of the delivery options;
- prepare a report on the different options, taking in to account stakeholder views and the DfT's proposed changes for submission to the relevant Councils; and
- develop the Governance arrangements which must be in place for the chosen delivery option.

Programme delivery and funding

The program will need to be developed further to be able to develop a firm funding strategy. The following steps are likely:

- further development of the schemes as a program of works with the aim of establishing a program with timings of works and detailed capital costs;

- further development the schemes to establish whether additional operating costs, for example for the subsidy of some bus operations, will be required once works are completed;
- development of a risk register and quantification of risks;
- drafting of business cases (and other as appropriate, depending on the Governance requirements of the Local Transport Body) and formal approval to proceed;
- determination of major or minor scheme funds to each of the schemes (probably through the Local Transport Body);
- development of a detailed financial model to support the scheme; and
- Ongoing liaison with developers and other third parties to identify and confirm additional funds.

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