

PROJECT ORPHEUS

**Options for Corridors Considered
Unsuitable as Metro Extensions During
Phase 1A of Project Orpheus**

Final Report

May 2003

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1. OVERVIEW

- 1.1 This note is intended to summarise the information collected, and conclusions drawn, during the Phase 1A Option Sifting stage of Project Orpheus. An update will also be produced at the end of Phase 1B. It is intended to inform future scheme development within the Local Transport Plan (LTP) process.
- 1.2 A total of twenty-nine corridors were examined during the initial stages of Project Orpheus to establish their potential suitability for Metro Extensions. These corridors were developed from strategic travel markets identified by stakeholders. Recommendations for each of the corridors/routes are summarised in Table 1.1, showing the stage within the sifting process at which the conclusions were drawn. At the end of Phase 1A, a total of 18 corridors/routes (out of the total of 29) were considered unsuitable as Metro extensions, as follows:
- **13** corridors at the end of the Phase 1A Corridor Selection (3, 4, 7, 11, 13, 14, 16, 17, 18, 20, 24, 27 and 29)
 - **5** routes at the end of the Phase 1a Route Selection (10, 15, 22, 25 and 26)
- 1.3 This leaves eleven routes to go forward as possible Metro extensions (1, 2, 5, 6, 8, 9, 12, 19, 21, 23 and 28) to be evaluated in more detail during Phase 1B.
- 1.4 Many of the 18 corridors/routes rejected as Metro Extensions have the potential to become key public transport corridors using modes other than LRT. The Orpheus consultancy team recommends that public transport improvements be developed further as parallel studies in the context of delivering the LTP objectives and strategies.
- 1.5 It should be emphasised that the note discusses options with the underlying assumption that public transport needs improving on all of the key public transport corridors identified. The transport case for the suggested options, encompassing indicators such as value for money, has not yet been assessed.

Options for Corridors Considered Unsuitable as Metro Extensions During Phase 1A of Project Orpheus

TABLE 1.1 SUMMARY OF RECOMMENDATIONS AT THE END OF PHASE 1A

Strategic Travel Market	Corridor	Phase 1A Corridor Selection	Phase 1A Route Selection	Into Phase 1B Sift	Possible way forward
A) Sunderland urban area	1 Sunderland-Seaham via coast			•	Orpheus
	2 Sunderland-Ryhope via Doxford Park			•	Orpheus
	3 Sunderland-Seaham via Houghton	•			Superoute subject to partnership agreement
B) Sunderland – Washington corridor	4 Sunderland-Washington via Doxford Park	•			Superoute subject to partnership agreement (note partly included in Orpheus Corridor 2)
	5 Sunderland - South Hylton-Washington			•	Orpheus
	6 Sunderland-Southwick – Washington			•	Orpheus
C) Washington area	7 Washington- Chester-le-Street	•			Superoute subject to partnership agreement
D) Washington – Gateshead/ Newcastle corridor	8 Washington- Gateshead via Wrekenton			•	Orpheus
	9 Washington Gateshead via Team Valley			•	Orpheus
	10 Washington-Gateshead via Pelaw		•		Metro Complementary Route
	11 Washington-Gateshead via Usworth	•			Existing Superoute link to Heworth
E) South Shields interurban corridors	15 South Shields-Washington		•		Metro Complementary Route (build on recommendations of Coalfields Job Link study)
	12 South Shields-Sunderland via Boldon			•	Orpheus
F) South Shields urban area	13 South Shields-Marsden	•			Superoute subject to partnership agreement
	14 West Harton-Marsden	•			Superoute subject to partnership agreement
G) Rural Gateshead to Gateshead/ Newcastle	16 Stanley – Metro Centre	•			Superoute subject to partnership agreement
	17 Rowlands Gill-Metro Centre	•			Superoute subject to partnership agreement
	18 Prudhoe-Gateshead	•			Rail enhancements on Tyne Valley Line
H) W. Gateshead urban area	19 Metro Centre Gateshead			•	Orpheus (possible link to Route 21)
I) Outer Newcastle	20 Metro Centre –Airport	•			Superoute subject to partnership agreement
J) Inner Newcastle	21 Newcastle –Denton			•	Orpheus (with possible extensions to Walbottle/MetroCentre)
	28 Walker area			•	Orpheus
	29 Link between 28 and 23	•			Superoute subject to partnership agreement
K) Newcastle Great Park Routes	22 Newcastle –Airport via Great North Park		•		Metro Complementary Route – alignment in Great North Park protected
	24 Airport-North Shields	•			Superoute subject to partnership agreement and corridor 26 development
L) Cramlington/ Killingworth to Newcastle	23 Four Lane Ends –Cramlington			•	Orpheus
M) Ashington to Newcastle	25 Ashington-Newcastle		•		Possible rail enhancements to Ashington, Blyth & Tyne route
N) North Tyneside routes	26 Stephenson's Link		•		Metro Complementary Route to commence 2004
	27 Newcastle-Whitley Bay	•			Superoute subject to partnership agreement
Totals		13	5	11	

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2. NOTES ON THE 13 CORRIDORS REJECTED AT THE END OF THE PHASE 1A CORRIDOR SELECTION PROCESS

2.1 These recommendations take into account the Superoute (Phase One) network which is currently being implemented (see Figure 2.1). Superoutes aim to deliver frequent, high quality services along key routes offering:

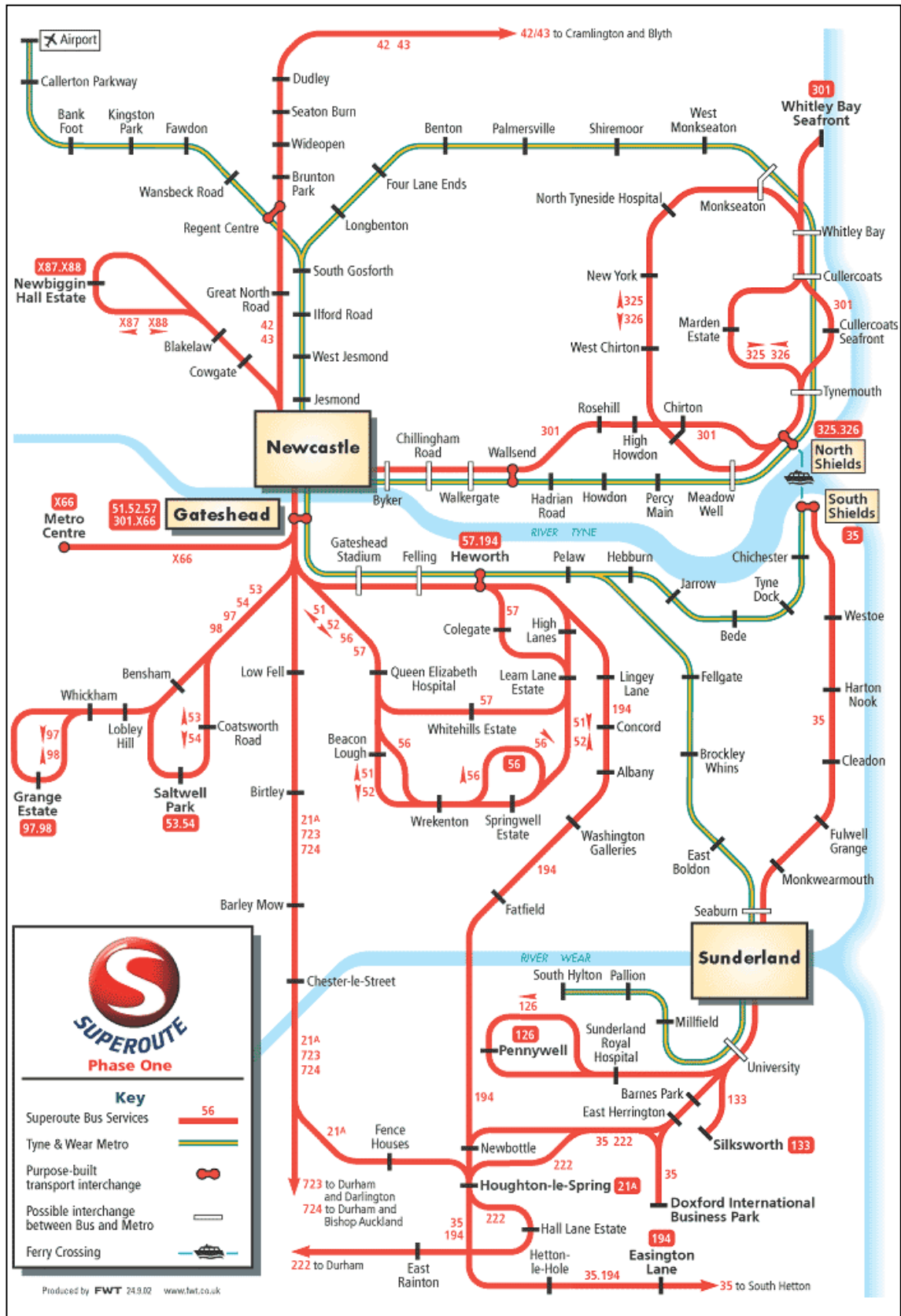
- frequent services – 7am until midnight 7 days a week (9am Saturdays, 9.30am Sundays);
- quicker journeys – bus priority measures are being implemented along routes;
- quality vehicles – low floor, ‘Easy Access’ vehicles which are simple for people with wheelchairs and buggies to use. Superoute buses are all under 7 years old and will be compliant with Euro II emissions standards by 2004;
- high quality infrastructure – aim to repair bus stops and shelters within 5 days and have modern shelters at 90% of stops by 2006;
- good information – bus timetables will not change more than once a year and up to date timetables will be displayed at every bus stop.

2.2 Over the past few years, NEXUS have been developing the concept of Metro Complimentary Routes on some key public transport corridors. These studies have been included in the consideration of suitable route improvements. They are seen as a clearly defined upgrade to existing services with a more significant infrastructure cost to enable a higher degree of segregation and interchange to:

- Provide fast limited stop branded services with quality interchange and halt facilities linking key centres;
- State of the art accessible vehicles;
- Dedicated routes with a high degree of segregation, priority over other traffic and the perceived permanence of railway systems;
- Fully disability friendly;
- Halts and interchanges which are safe and secure, have real time passenger information systems and ticketing systems comparable with Metro;
- Focused park and ride connections.

Options for Corridors Considered Unsuitable as Metro Extensions During Phase 1A of Project Orpheus

FIGURE 2.1 THE SUPERROUTE NETWORK – PHASE 1



Corridor 3: Sunderland – Seaham via Houghton-Le-Spring

Conclusion from the Corridor Selection Table	
Recommendation	Not recommended as an LRT corridor. Alternative to Corridor 1 & 2 Quality bus route recommended, Possibility of some segregated bus way but limited opportunity for bus priority on existing highway system. Link with Metro/LRT in Sunderland and heavy rail/LRT in Seaham.
Reasons	High cost and difficulties accessing Metro at Sunderland Seaham & Sunderland better linked by rail (currently 2tph in AM peak) (Corridor 1) Sunderland to Doxford Park picked up by Corridor 2 Improving the bus services linking Hetton-le-Hole and Houghton-le-Spring to Sunderland would assist the current problems of social exclusion. Possibility of introducing priority measures/segregation in corridor. This bus option could be in place quickly to cater for expanding local population.

- 2.3 The Sunderland to Doxford Park section forms part of Corridor 2. Corridor 1 provides a link between Seaham and Sunderland which would parallel the existing heavy rail route. As a result, only the section of Corridor 3 serving Houghton-le-Spring, Hetton-le-Hole and Murton is not covered by Corridors 1 or 2, both of which have been taken forward for more detailed analysis during Phase 1A.
- 2.4 There is limited congestion through these three towns at peak periods and therefore the provision of bus priority measures are unlikely to have a significant impact on running times or reliability. It is recommended that a Quality Bus partnership be considered which could encompass services linking the three towns with the centres of Seaham and Sunderland and integrated with nodes on the future Orpheus network.
- 2.5 These links are partially served by two Superoutes:
- Superoute 35: South Hetton - Easington Lane – Hetton-le-Hole – Houghton-le-Spring – Doxford Park - Sunderland - South Shields
 - Superoute 222: Durham – Houghton-le-Spring – Sunderland;
- 2.6 Future expansion of the Superoute network could link into the rail station at Seaham and via the new retail and leisure development at Dalton Park in Murton.
- 2.7 Further work should focus on:
- Development of the quality infrastructure and priority elements of Superoutes 35 and 222
 - Examine the feasibility of a Quality Bus partnership on routes from Seaham to Hetton-le-Hole via Murton and integration/interchange with Superoute 35, as part of a overall network improvement. Given the semi-rural nature of the route but potential for regeneration, the service frequency and bus stop quality may be improved over a period of time to make it cost effective.

Corridor 4: Sunderland – Washington via Doxford Park

Conclusion from the Corridor Selection Table	
Recommendation	<p>Not recommended as an LRT corridor.</p> <p>Improved local bus service access an option for consideration</p> <p>Corridors 5 & 6 serve a similar function, but perform better. Recommend a combination of Quality Bus Route and possibly Guided Bus (along the dual carriageway section)</p>
Reasons	<p>High cost - longer route than 5 or 6 and through lower population densities.</p> <p>Significant new structure across River Wear required.</p> <p>Journey time not competitive with existing bus link.</p> <p>Social inclusion key motivation for linking Washington to Sunderland, but Corridors 5 & 6 better address social exclusion and form a more direct service into Sunderland.</p>

- 2.8 The Sunderland to Doxford Park section of this corridor forms part of Corridor 2. More fundamentally, Corridors 5 and 6 provide for the strategic ‘missing’ link between Sunderland and Washington and these routes have been retained and taken forward for more detailed analysis during Phase 1A.
- 2.9 The alignment of any bus based system would be more indirect than a cross-country LRT route. The section through New Herrington and Shiney Row would use the B1286. This is single carriageway road with limited opportunity for traffic management based priority measures but possibility for marginal widening for bus lanes or laybys on some stretches. However, the Corridor 4 between New Herrington and Washington, via Washington Highway, can use this four-lane carriageway, which provides potential for the provision of guided bus or dedicated bus lanes, although with implications for peak hour highway capacity. This section of the Corridor is not easily accessed from residential areas so no bus stopping facilities are envisaged. Therefore, this route will only be suitable if a non-stop section of guideway provides for local patterns of demand. However considering the overall route, the expense of the guided bus infrastructure may not be viable for the journey time saving achieved due to the potential slow run times on the remainder of the route.
- 2.10 The Superoute network really does not provide for links between Sunderland and Doxford Park and on to Washington. Users are required to travel on Superoute 194 between Washington Galleries and Houghton-le-Spring, and then interchange to catch either the Superoute 222 direct to Sunderland or the Superoute 35 to go via Doxford Park.
- 2.11 Further work should focus on:
- The practicality and viability of achieving segregation and priority on the Shiney Row to Doxford Section
 - The viability of a through route against the provision of a more local bus link interchanging with Superoutes 222 and 35, and interchange facilities.
 - The viability of priority alignment for bus on Washington Highway.

Corridor 7: Washington – Chester-le-Street

Conclusion from the Corridor Selection Table	
Recommendation	Not recommended as an LRT corridor. To be taken forward as possible extension to Corridor 10. Recommendations include a segregated busway along the disused railway line and Quality Bus routes into Chester le Street (with bus priority where possible).
Reasons	Serves few key public facilities Chester-le-Street served by heavy rail to/from Durham/Newcastle. Low demand between Chester-le-Street and Washington Relatively low levels of social and economic deprivation Difficult to cross A1 and relatively little advantage over bus option Improved bus services could be taken forward which could link Chester-le-Street and Birtley and Birtley and Washington.

- 2.12 Washington and Chester-le-Street could be linked by a segregated busway running for 3km east-west between North Road/Durham Road and the Washington Highway, taking the route of the former railway. This link is currently used as a cycle route and footway and careful consideration would have to be given to retaining the uses within the design and the overall environmental impact.
- 2.13 The Washington Highway is a dual carriageway route which could incorporate bus lanes or guided bus. This would offer a fast link between the former rail route and the centre of Washington at the Galleries Bus Station. North Road is a wide single carriageway route for the majority of this length, with significant frontage access. However on some stretches bus lanes could be provided and together with priority measures at junctions. Within Chester-le-Street there are a number of semi-pedestrianised areas which incorporate buses and which could act as a terminus to the bus link.
- 2.14 Washington and Chester-le-Street are poorly linked on the Superoute network. Users would have to change at either Gateshead or Houghton-le-Spring.
- 2.15 Further work should focus on:
- The feasibility of a bus way along the old railway line and the connections to the highway at each end. This would include providing for the pedestrian and cycle routes and the impact on adjacent residential areas.
 - The practicality of bus priority measures along North Road into Chester-le-Street town centre.

Corridor 11: Washington – Gateshead via Usworth

Conclusion from the Corridor Selection Table	
Recommendation	Not recommended as an LRT corridor. Alternative to Corridor 10 Recommend a Quality Bus Route from Heworth as a more appropriate technology.
Reasons	Alternative to Corridor 10 (via Pelaw) Journey times faster via Corridor 10 Corridor 10 enables interchange with Corridor 6, flexibility to route via the Strategic Site and interchange with the Leamside Line and a new station (with P&R) on outskirts of Washington.

- 2.16 Corridors 8 and 10 have been identified as having potential to provide an LRT link between Washington and Gateshead. In the longer term, pursuing Corridor 11 as a parallel bus link would only be an option if it serves local needs rather than strategic needs. In the short term, it might be an option for a bus link in advance of the implementation of Orpheus.
- 2.17 This link is poorly served by the Superoute network at present. Superoute 194 links Washington to Heworth with a maximum 20 minute frequency service. Users would have to either interchange with Metro at Heworth or take the Superoute 57 north to Gateshead/Newcastle, which has a maximum 10 minute frequency.
- 2.18 In general, the route would use local access roads with only limited potential for bus priority measures along Northumberland Way, where traffic congestion can create problems at key junctions during peak periods
- 2.19 Further work should focus on:
- The viability of a new bus link before any Orpheus routes are implemented. The route assessment needs to maximise priority and the potential interchange with other local services;
 - Evaluation of interchange facilities (and potential penalties) with the Superoute network.

Corridor 13: South Shields to Marsden

Conclusion from the Corridor Selection Table	
Recommendation	Not recommended as an LRT corridor. Recommend that access improvements to South Shields and neighbouring Metro stations be examined from wider residential catchment. There is limited opportunity for bus innovation, but Quality Bus Initiatives should be introduced where possible.
Reasons	Potentially-severe environmental impacts Does not serve major transport flow, but rather links residential areas Difficult to provide through services to areas beyond South Shields Much of catchment already served by Metro

Options for Corridors Considered Unsuitable as Metro Extensions During Phase 1A of Project Orpheus

- 2.20 The proposed route provides a local bus connection to the town centre along local roads. There is a potential for improved bus priority through bus gates and lanes on the approaches to the town centre, together with improved boarding, passenger information and shelter facilities and the use of quality low floor vehicles. However significant lengths of bus lane or bus way are limited, except along the Coast Road, where there may be potential environmental impacts.
- 2.21 Further work should focus on:
- The viability of integrating a new route into the existing bus network on the basis of a quality initiative approach and relatively close headway service;
 - Improving priority access for buses on the approach to the town centre.

Corridor 14: West Harton to Marsden

Conclusion from the Corridor Selection Table	
Recommendation	Not recommended as an LRT corridor. Recommend a Quality Bus Route with priority (where possible) to link in with the bus route recommended for Corridor 13.
Reasons	Only full street running alignment possible, thus the benefits of LRT and likely to be less than a bus-based system

- 2.22 There are a number of local bus services which penetrate the residential areas within South Shields and which serve local movements. There is limited possibility to provide bus priority along these residential streets, but they are not particularly congested. Additionally allowance has to be made for parking and servicing, leading to relatively poor journey times at times. It is suggested that local improvements to the existing services and facilities are considered to promote further use of these routes. This route is not picked up by either the first or second phase of the Superoute network.
- 2.23 Measures to be considered could involve revising the traffic management network locally to focus key traffic flows away from bus routes. At Harton, it may be possible to create a degree of segregation through local bus ways in verges and through the existing development areas.
- 2.24 Further work should focus on:
- A route study to examine the degree to which improved journey times could be achieved and the potential economic benefits.

Corridor 16: Stanley – MetroCentre

Conclusion from the Corridor Selection Table	
Recommendation	Not recommended as an LRT corridor. Bus priority measures not likely to be required
Reasons	High cost and likely low demand Major alignment problems due to topography New bus services could link Whickham and the MetroCentre/Gateshead and Stanley and the MetroCentre/Gateshead (which could be introduced as part of the redevelopment of Stanley bus station, access to Gateshead via Centrelink busway)

- 2.25 The routes between Stanley and the MetroCentre via either Whickham or Lobley Hill are low standard single carriageway routes that provides few opportunities for the provision of bus priority. There are also no realistic opportunities for the provision of off road routes due to the topography of the area. Any such facilities may be expensive and are unlikely to be cost effective. Additionally there is little adjacent development for most of the route between Stanley and Whickham. In any case, the level of existing traffic flow is unlikely to justify segregated bus way facilities.
- 2.26 It is therefore recommended that a Quality Bus partnership approach is considered for residential areas. This could include the provision of accessible shelters, passenger information systems and dedicated low floor buses.
- 2.27 Improving the quality of life for the former mining community of Stanley is a priority for the County Council. The ward of South Stanley is ranked as the 160th most deprived ward out of a total of over 8,000 wards nationwide. A recent study for English Partnerships and Derwentside District Council found that:
- action was needed to maintain the vitality and viability of the town centre.
 - the lack of commercial attractiveness of many bus routes for journeys to work means that the district is served by a relatively weak public transport service
 - there is a particular need to enhance public transport provision to major employment sites, such as Tanfield Lea Industrial Estates.
- 2.28 Measures suggested by the consultants include relocation of the bus station to make it more accessible from the town centre, improved priority for buses on the town centre approaches and upgraded public transport services. The latter solution may not be simple: an enhanced bus service to Gateshead/Newcastle must be viewed as a ‘two way road’ and thus may do little to maintain the vitality and viability of the town centre.
- 2.29 Further work should focus on:
- The viability of a new limited stop bus link, taking account of the economic viability of the area and potential patronage.
 - Evaluation of possible new central town centre bus station, possibly integrated with development.

- Improvement to the local bus network to improve interchange with out of area services.

Corridor 17: Rowlands Gill - MetroCentre

Conclusion from the Corridor Selection Table	
Recommendation	Not recommended as an LRT corridor. Suggest investigating the potential for a segregated busway along the disused rail line, but environmental concerns would need to be addressed.
Reasons	High cost & low demand Potential major environmental impact Structural & land issues in crossing A1 and adjacent commercial area Problems linking to Gateshead Metro New bus services proposed to link Rowlands Gill and the MetroCentre/Gateshead , access to Gateshead via Centrelink busway

- 2.30 A dismantled railway line runs between Rowlands Gill and the MetroCentre adjacent to the River Derwent. This is currently used as a leisure trail (and is part of the coast to coast - C2C - national cycle route) which passes through Derwent Walk Country Park and alongside Thornley Woodland Centre
- 2.31 This route could provide an opportunity for a segregated bus link between the two areas, which would link Rowlands Gill to the MetroCentre as well as the existing rail network and possible future Orpheus routes to the MetroCentre. This could provide a relatively high-speed link between the two areas with limited interaction with any congestion on the parallel road network. However, the potential impact on the environment and existing use as C2C cycle route, the safety interface with other modes and the low population densities along its length means that this corridor has been deemed unsuitable for LRT and will create some of the same problems for bus based technology..
- 2.32 The Superoute network does not serve Rowlands Gill. The low population densities and the high levels of car ownership in the local area may not provide sufficient patronage for this corridor to become a Superoute network. However, officers at Gateshead Council have identified this as a strategic travel market that needs addressing, so it is our recommendation that the route should be examination further as a quality corridor.
- 2.33 Further work should focus on:
- The viability of a new relatively frequent Lockhaugh Road (A694) service, together with traffic management based priority measures at key junctions between the outskirts of Blaydon and the MetroCentre.

Corridor 18: Prudhoe – Gateshead

Conclusion from the Corridor Selection Table	
Recommendation	Not recommended as an LRT corridor. Main access provided by existing rail route, and improvements to rail services and additional stopping services would make better use of existing rail facilities. This route is already a Quality Bus route.
Reasons	High cost & low demand long journey times Parallel heavy rail service Bus route could access Gateshead via Centrelink busway.

- 2.34 Prudhoe is served by a heavy rail line which provides an hourly service (2tph in am peak, 3tph in the pm peak) to Newcastle City Centre via Wylam and the MetroCentre. However, there is no direct rail link between Prudhoe and Gateshead. However there is the potential of interchange to the limited stop bus from MetroCentre to Gateshead.
- 2.35 The Superoute network does not extend out to Prudhoe. The major residential population between the two areas is Crawcrook. Crawcrook is well served by a Quality Bus route, with high Quality Buses, shelters and passenger information systems. Park and ride makes use of these bus services and operate from the west of Crawcrook.
- 2.36 Further work should focus on:
- The potential for extending the bus service to Prudhoe to establish acceptable journey times, balance with local accessibility;
 - Potential for improving rail/bus interchange at the MetroCentre it terms of timetabling, fare regimes etc.

Corridor 20: MetroCentre – Newcastle Airport

Conclusion from the Corridor Selection Table	
Recommendation	Not recommended as an LRT corridor. Recommend a Quality Bus Route to Kingston park only (Option C) with bus priorities..
Reasons	Alternatively, consider partial (cross river) extensions of Corridor 21

- 2.37 The southern end of this between Scotswood and the MetroCentre has been combined with Route 21 providing potential for a link between St James and the MetroCentre.
- 2.38 The northern part of the route through Denton, Cowgate and up to Kingston Park is located on wide single and dual carriageway roads that have significant opportunities for localised bus priority measures to enable buses to avoid the significant congestion that can occur.

Options for Corridors Considered Unsuitable as Metro Extensions During Phase 1A of Project Orpheus

- 2.39 A Quality Bus Route should be considered connecting the MetroCentre to Kingston Park, via the Scotswood Bridge. This would enable interchange with the existing Metro and rail services and any potential Orpheus routes at either end of the route. The route should include bus priority where time saving benefits can be obtained, together with accessible bus stops with passenger information and liveried route specific buses.
- 2.40 Further work should focus on:
- The potential for a Quality Bus route and the viability of a number of traffic management and minor highway measures to improve priority and segregation, especially at key junctions. A significant proportion of this route is the subject to congestion at peak periods.
 - Assessing the interchange improvements required with Metro, heavy rail and other key bus services.

Corridor 24: Airport – North Shields

Conclusion from the Corridor Selection Table	
Recommendation	Not recommended as an LRT corridor. Recommend that Corridor 26 (Stephenson’s Link) be retained as a truncated version of Corridor 24. Potential for a Quality Bus route to Great North Park should also be investigated.
Reasons	High cost & low demand 3 major new bridge crossings East- west route to airport already served by Metro Low levels of social and economic deprivation Anticipate that despite growth sites the demand for orbital movements will be low Bus service connecting Metro to Great Park to be in place for 12 years as part of the agreement with developers

- 2.41 The southern end of this route will be served by the Stephenson’s Link Quality Bus route. It has already been taken forward for more detailed analysis as Corridor 26.
- 2.42 This route is seen by officers at North Tyneside as an extension of the jobslink which will be provided by the Stephenson’s Link. Great North Park and the expansion of the Airport are seen as key employment opportunities for the residents of North Tyneside. A Quality Bus route between the end of Stephenson’s Link at Backworth and the Airport via Killingworth would be well supported locally. Improved services to the Airport (and airport-related employment sites) will need to take into account the travel patterns and timing of airport workers, often dominated by shift patterns.
- 2.43 Phase 1 of the Superoute network does not serve this corridor. The length of this route is significant and generally uses local roads to ensure accessibility. It will therefore be essential that the alignment is considered for priority measures to ensure reasonable journey times and service reliability. The northern section of Corridor 24 should be considered for Phase 2 of the Superoute network, to coincide with the expansion of Great North Park.

2.44 Further work should focus on:

- Establishing the viability of a dedicated northern orbital service and defining the traffic management priority measures which could be adopted;
- The introduction of a Quality Bus route may need to include specific branding to establish the importance of this ‘access to jobs’ service.

Corridor 27: Newcastle – Whitley Bay

Conclusion from the Corridor Selection Table	
Recommendation	Not recommended as an LRT corridor. Recommend that improvements in access to existing South Tyne Loop Metro stations from catchments south and north of the Coast Road be examined. Also recommend a that a Quality Bus Route be introduced.
Reasons	Severe topographical and technical issues in achieving segregation Parallels existing South Tyne Loop of Metro Journey times likely to be significantly lower than existing Metro if segregation cannot be achieved Any segregation will significantly reduce capacity on a major road of regional strategic importance

2.45 Corridor 27 parallels the existing North Tyne Loop of the Metro network between Newcastle City Centre and the coast. The corridor follows the Coast Road, a dual carriageway which runs to Whitley Bay equidistant between the northern and the southern lines of the Loop.

2.46 The Coast Road is a busy bus corridor and is heavily congested at peak times. Local bus services using the route loop on and off the dual carriageway to penetrate the adjacent residential areas, which face away from the road.

2.47 Phase 1 of the Superoute network does not serve this corridor but the Coast Road could be considered for Phase 2 of the Superoute network. A Quality Bus route will provide the infrastructure for a fast and reliable public transport service. It will require quality interchange facilities with local bus feeder services at limited locations just of the Coast Road. Additional consideration will need to be given to releasing existing road space on the Coast Road for bus priority/lanes to ensure service reliability and speed. Retaining a bus based system offers flexibility of service which is needed on this route to be able to penetrate the surrounding residential areas.

2.48 Further work should focus on:

- Establishing the viability of a limited stop bus service along the Coast Road including priority and segregation measures
- Assessing the level of accessibility required into local residential areas and interchange with local bus services. This would include junction priority controls to loop off and on to the Coast Road.

Corridor 29: Four Lane Ends to Byker

Conclusion from the Corridor Selection Table	
Recommendation	Not recommended as an LRT corridor. Recommend that improvements in access to Hospital/Longbenton employment area from existing Metro be examined. A Quality Bus Route should be introduced where possible (but limited opportunities as congested route)
Reasons	Duplicates existing Metro Journey time from Newcastle to Four Lane Ends very uncompetitive (35-45 mins compared to 11 via Metro) Access to Longbenton catchment recommended for examination of enhancements to existing system.

- 2.49 Corridor 29 links the Bus/Metro interchange at Four Lane Ends (which is to be redeveloped during 2003) and the Metro station at Byker. The corridor makes use of the congested Benton Road and Chillingham Road. These routes are well served by existing bus based public transport, but it is generally slow and unreliable due to the congested conditions. There are limited opportunities for additional bus priority along this route without removing on-street parking and servicing ,and the widened footways through the retail areas.
- 2.50 Phase 1 of the Superoute network does not serve this corridor. The possibility of providing bus priority (perhaps as Phase 2 of the network) should however be considered in more detail as it would greatly improve the movement of buses in this area if it can be achieved on a comprehensive basis. However there are major layout problems and the need of local residents are important and an area wide approach would appear to be appropriate..
- 2.51 At present, the number 62 bus service is timetabled to take 12 minutes to travel from Byker to Four Lane Ends. The direct Metro anticlockwise on the North Tyneside Loop via the Coast is scheduled to take 32 minutes. Taking the North Tyneside Loop clockwise, changing at Monument, is scheduled to take 28 minutes.
- 2.52 Further work should focus on:
- A relatively wide-ranging evaluation of the local traffic network between Four Lane Ends and Byker is required to establish the degree of bus priority measures, and removal of through traffic, which would improve the reliability and speed oif services. This could include bus-only sections and bus priority at signalised junctions.

3. NOTES ON THE 5 CORRIDORS REJECTED AT THE END OF THE PHASE 1A ROUTE SELECTION PROCESS

Route 10: Washington - Gateshead via Pelaw

- 3.1 Route 10 heads east out of Washington along the Sunderland Highway for approximately 2km where it heads north parallel to the A195 then east along Glover Road until it reaches the Leamside Line. The route either continues up the Leamside line or arcs through a proposed Strategic Employment Site up to Pelaw Metro Station. The alignment then follows the Metro line to Gateshead Metro Interchange.
- 3.2 The route has been rejected because of its uncompetitive journey times and low market share. Additionally there are issues over LRT/heavy rail integration on the Leamside line. However, the route could run through the proposed Strategic Site north of Nissan and therefore, is similar to the previously rejected Corridor 11. The development of Route 10 for a bus-based system would have to provide for local and business needs rather than a fast link between the Washington and Gateshead areas.
- 3.3 As described previously, Superoute service 194 (operated by Go Wear) provides a quick route from Washington to the centre of Gateshead. Another alternative to a LRT scheme would be to provide improvements to the existing bus services from Washington to Gateshead that run through the residential areas and potentially through the new Strategic Site. A Quality Bus route could improve bus stop facilities, passenger information and provide low floor buses with specific branded livery. These services should be aimed at serving the local residents with connections to the local Metro stations, retail and leisure areas as well as current and future places of work.
- 3.4 In this context, potential future heavy rail services on the Leamside line, with the potential for a new station and park and ride facility adjacent to Sunderland Highway, could provide the key element of a convenient and fast link to Newcastle.
- 3.5 Bus journeys from Washington to Gateshead via the Strategic Site can be made by either a direct bus journey or by use of bus and Metro. Existing bus services from the Nissan site (which is the nearest existing stop to the Strategic Site) to Gateshead Metro Interchange (188, 187) operate with a 34 minute journey time. Other services require the use of two buses or an interchange at Sunderland, Pelaw or Heworth Metro Stations. The 185 bus service operates between Washington & Sunderland via Nissan.
- 3.6 The future masterplan for the strategic site or its specific location in relation to the Nissan site has not yet been established. As such, a bus based technology would allow the flexibility to maximise penetration of the site, and thus accessibility. This could be done by creating a standalone bus service or via a new Superoute service.
- 3.7 Further work should focus on:
- Establishing the options for a significantly upgraded bus/Metro and heavy rail network to serve Washington, the Strategic Site and regional links through a corridor wide study, with the potential for MCR technology;

- Developing proposals for quality public transport services to the Strategic Site as the site plans become more developed.

Route 15: South Shields - Washington

- 3.8 Route 15 has been rejected due to the fairly dispersed market and poor economic benefit and operating ratios. The route uses Metro alignment between South Shields and Tyne Dock Metro stations. It is envisaged that the route would utilise the link between South Shields and Sunderland (as for Route 12) and then run south west to Boldon Colliery, the proposed Strategic Site, Nissan, and along the Sunderland Highway to Washington Galleries.
- 3.9 The primary patronage potential between Boldon Colliery and Washington is Nissan and the proposed Strategic Site. If the Strategic Site is to be well served by public transport then a dedicated Quality Bus route (similar to Route 10) with high Quality Buses, shelters and passenger information systems will be required from Washington via the Sunderland Highway and Strategic Site to South Shields. Alternatively a bus route could follow the route of Superroute 194 to Heworth Metro station. Such route alignments would require bus priority measures at junctions and on key links to maximise service reliability and minimise journey times.
- 3.10 Existing bus services which could be improved to provide further Quality Bus routes are the X50 or the 551 which provide an hourly service between Washington and Sunderland via Tyne Dock and Chichester and have journey times of 30-40 minutes. Bus services do not pass through the Nissan or Strategic Sites but there is the potential for a route change so that these areas may be served more directly served.
- 3.11 Further work should focus on:
- Considering the improvement and integration of the Superroute and existing bus services serving the corridor to provide Quality Bus standards, reliability of services and improved journey time, where possible.
 - Consider the integration with the Washington to Gateshead via Pelaw corridor study (Route 10).
 - Developing proposals for quality public transport services to the Strategic Site as the site plans become more developed.

Route 22 – Newcastle City Centre – Great North Park / Airport.

- 3.12 This alignment connects with the existing Airport Metro Line just south of the airport Metro terminus and continues as a segregated alignment through the area to be developed as Great North Park (GNP) for employment and residential uses. The route heads south from NGP across the A1(M) and around Bent Hill to join Metro Line at Wansbeck Road which it follows to Newcastle City Centre.
- 3.13 Route 22 has been rejected due to disproportionately high costs, reduced flexibility of service and a difficult alignment.
- 3.14 There are clear alternative public transport options for Route 22 to the Airport and/or the GNP development. Metro runs from Newcastle City Centre direct to the Airport.

Bus services between Newcastle and the Airport consist of services 76, 77, 79, 808 which offer a 10 to 60 minute frequency and journey times of 20 to 25 minutes. As such, the Airport is relatively well served. Rail services could be introduced from the ECML, but this would be dependant on sharing tracks with Metro services.

- 3.15 The GNP development is to be served by a dedicated bus service for twelve years. This service will be supported by the developer with the hope that it will be a commercial service by the end of the supported period. There will be significant opportunities in and around NGP for bus priority measures to enable buses to avoid the congestion that may occur at peak times. Priority measures would be in addition to a Quality Bus package, which would include accessible bus stops with passenger information and liveried route-specific buses.
- 3.16 Further work should focus on:
- Working with the GNP developer on enhance bus services to the City Centre, considering a range of priority measures around and within the protected public transport corridor within GNP and at key junctions.

Route 25 - Ashington – Newcastle via Backworth

- 3.17 Route 25 currently exists as a heavy rail freight route between Ashington and the ECML at Benton. The route has been rejected because the long length of the route, the dispersed settlements and the difficulty of penetrating the urban areas of Blyth and Ashington. This makes the route inappropriate for LRT. This is borne out by the large cost:benefit ratio.
- 3.18 There are currently no passenger rail services from Ashington to Newcastle. However the feasibility of implementing a heavy rail service has been examined. This is seen as a definite possibility at a cost of around £50 million. This service would prove a link to Blyth, Ashington and intermediate areas with interchange with Metro at Backworth and Newcastle Central station. An suburban railway approach is also more suitable to serve relatively widely spaced settlements.
- 3.19 At the moment, there is a bus service (X31) which runs from Ashington to Newcastle Haymarket Bus Station. In addition, Superoutes 42 and 43 run from Newcastle to Cramlington and on to Blyth. Enhanced bus stop facilities, passenger information, livery and reliability could be provided to help develop a fast and reliable service for both of these routes. Further work should focus on:
- The heavy rail passenger link to Ashington is considered the most appropriate and further studies should concentrate on its viability. The possible extension of the Superoute 42 and 43 to Ashington should also be considered.

Route 26 – Stephenson’s Link

- 3.20 Route 26 follows either the proposed Stephenson’s Link bus corridor or the old railway line from Backworth Metro Station to the Royal Quays (a protected public transport corridor) to link with the new ferry terminal on the north bank of the Tyne.

- 3.21 This route has been rejected because the Stephenson's Link will provide an enhanced bus-based alternative in a more cost effective way, and is planned to open in early 2004. The Stephenson's bus corridor will provide high quality integrated public transport to regeneration areas in North and South Tyneside providing interchange with the Metro, railway, (potentially) bus and ferry.

Options for Corridors Considered Unsuitable as Metro Extensions During Phase 1A of Project Orpheus

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Options for Corridors Considered Unsuitable as Metro Extensions During Phase 1A of Project Orpheus

CONTROL SHEET

Project/Proposal Name: PROJECT ORPHEUS

Document Title: Options for Corridors Considered Unsuitable as Metro Extensions During Phase 1A of Project Orpheus

Client Contract/Project Number:

Steer Davies Gleave Project/Proposal Number: 204884

Document Number: See footer

Originator: Hilary Crowther

Other Contributors: Richard McGarr and Peter Gross, Jacobs Consultancy

Review By: Print: Luke Miller

Sign:

ISSUE HISTORY

Issue No.	Date	Details
1	6 th May 2003	Final version, reporting to end of Phase 1B Sift
2	29 th May 2003	Final version, truncating the 6 th May report, reporting to the end of Phase 1A

DISTRIBUTION

Clients: Nexus

Consultant Team: Steer Davies Gleave, Ernst & Young and Jacobs Consultancy

Options for Corridors Considered Unsuitable as Metro Extensions During Phase 1A of Project Orpheus
