

Transferability assessment of BHLS from Nantes to Worcester

Part 1.

Innovative Concept (IC)	Infrastructure for innovative bus systems	
Perspective and context	Implementation of BHLS systems in Worcester based on the example of the Nantes Busway	
Up-Scaling required ?	No up-scaling required for Worcester compared to Nantes. Both systems work on corridors of similar length with broadly similar numbers of passengers, buses and stops.	
Impacts and measures of success	Impacts on efficiency (capacity, journey time, congestion etc.)	Worcester is a historic city so can't provide segregated bus lanes everywhere as in Nantes. But BHLS buses use bus lanes where possible and receive priority at signals to avoid congested traffic, and provide more reliable journey times. Capacity can be similar to a tram.
	Impacts on Safety	Safer than a conventional bus courtesy of separation. Improved safety is also expected for cyclists and pedestrians.
	Impacts on environment (emissions, noise, visual intrusion etc.)	Environmental impacts are reduced as the vehicles have modern, low emission engines and there is less stationary traffic. Reduced traffic is also expected as a result of drivers leaving their cars in P&R sites where they are provided.
	Accessibility	Buses can dock more precisely, and with raised curbs can provide level floor access e.g. for wheel- and push-chairs. The route also can be flexible, as the vehicles are not track bounded.
	Vehicle occupancy	Expected to increase due to increased reliability and comfort and increased availability of P&R facilities, which should also help mode shift away from cars.
	Passenger waiting statistics	Buses run more reliably to schedules. Waiting times are more predictable.
	Trip statistics	Expected figures are available from a modelling exercise. Usage will be monitored to confirm benefits.
	Benefit : Cost Ratio (BCR) value	Forecasts are available from a modelling exercise and show that a BCR of at least 2:1 should be achieved. The figure will be confirmed after implementation.
	Multi-Criteria Analysis (MCA) results	MCA analysis has been undertaken and shows that BHLS perform well against a range of criteria.

Part 2.

Components	Characteristics of the components	Importance	Ease of achieving that level (support +2 to -2 constraint for transferability)	Comments, including contribution to successful implementation
Strategies and policies	Pollution reduction policy	high	+2	Major objective. Alternative to the car to promote mode shift and reduced traffic.
	Public transport policy	high	+2	Major objective. Provides attractive alternative to the private car with reliable service.
	Accessibility policy	high	+2	Major objective to provide accessible infrastructure to 'gold standard' to complement the BHLS system.
	Traffic management policy	high	0	Major objective. Bus lanes and priority at signals ensure BHLS offers a reliable service, but traffic needs managing to mitigate the loss of capacity.
	Land use policy	medium	+1	An objective to be addressed using P&R as a complementary concept in some cases.
	Sustainability	high	+2	Major objective. BHLS provides an alternative to car usage. And is a potentially sustainable mode of transport.
	Innovation policy	medium	+1	WCC are keen to be seen as innovators.
Services offered	High quality service	high	+2	High quality vehicles
	Frequent service	high	+2	Frequency and reliability of the service makes the system successful.
	Information services	high	+2	Real time information at stops and terminals
	Improved accessibility	high	+2	To WCC's 'gold standard' Including bus shelters, information systems, co-located pedestrian crossings, raised curbs and lighting.
	Parking	high	+1	P&R sites on some corridors to capture car drivers at the outer ends of the corridor, but bus lanes may take space from existing parking places.
Target population	General public	high	+2	The corridors are aimed particularly at visitors arriving by car, and in some cases to attract them to use P&R facilities and so help relieve congestion in the city. Visitors will include residents, commuters, shoppers and those travelling to school or to leisure facilities etc.
	Businesses	low	+1	Can expect to benefit from improved accessibility
	Former PT users	medium	+1	It is anticipated that by providing improved PT services some users lost to PT in recent years may be recovered.
Geographical area covered	Corridors	high	+2	The planned routes connect the suburbs with the city centre. Some tangential links are provided to include key sites, e.g. hospitals.
Finances	Capital costs of design, planning, implementation	medium	-1	Higher than a conventional bus system, but lower than a tram line.
	Running costs	medium	0	Not relevant, similar to any bus operation
	Revenues	medium	+2	Probably higher due to higher patronage than a conventional bus system
	Whole life costs	medium	0	Similar to any bus system
Human resources	Staff numbers required	low	0	Depends on the specific project, but there is not too much difference comparing to a conventional bus system.
	Skills and training required	low	0	Not relevant, similar to any bus operation
	Administrative support	medium	-1	Slightly higher to accommodate AVL and systems for bus priority and information at stops

Part 2. (next)

Components	Characteristics of the components	Importance	Ease of achieving that level (support +2 to -2 constraint for transferability)	Comments, including contribution to successful implementation
Stakeholders involvement	Users	high	-2	Difficult to include everyone's wishes in a project
	Operators involved	high	+1	Bus operators are generally highly interested in such a concept.
	Businesses affected	medium	-1	Improved transport conditions help businesses as well, although those on the corridor fear that bus lanes may remove some parking opportunities and they will lose custom as a result.
	Government	high	-1	Crucial: in terms of financing, permissions, licenses
	Taxi and PT operators, driver's unions	medium	0	Usually not relevant, but should be dealt with at conception phase
Legal or contractual requirements	Partnership agreements required	medium	0	Possibly between the County Council and the selected bus operating company to ensure a high standard is provided by both parties in maintaining the infrastructure and the buses.
	Licenses required	medium	0	A Traffic Regulation Order is required to give formal approval for providing the infrastructure ie bus lanes and priority at traffic signals. Some Compulsory Purchase Orders may be needed to provide space for necessary infrastructure.
	Contracts	medium	0	A contract is required between the County Council and the selected bus operating company to provide services on commercially viable routes, i.e. not requiring subsidy. The contract may also cover the requirements of a quality partnership agreement. Described above
Organisational or institutional aspects	Administrative structure	medium	-1	Better structured than a conventional bus system
	Procedures	medium	0	Not relevant
Technical requirements	Equipment and Tools	high	0	Higher (requires bus lanes together with AVL and systems for providing priority at traffic signals and real time bus information at stops etc.) but also higher efficiency than a normal bus system.
	Information/data	high	+2	Crucial to attract the passengers
	Ticketing /payment	medium	0	Integrated ticketing preferred
	Software	medium	0	Is required for the bus location and information system.
	Communications	medium	0	As above: between the buses and the control centre, and between the control centre and the bus stops/terminals as necessary to provide bus priority at signals and bus stop information services.
	Infrastructure	medium	-1	Buses, bus lanes, AVL equipment for location, priority at signals and bus information systems.
Implementation and management aspects	Security	low	0	Not relevant
Awareness and Communication	Publicity and public relations	medium	-1	BHLS is thought to be generally very acceptable except to a few affected user groups, i.e. residents and businesses on the corridors. Extensive public consultation is needed to win them over.
	Citizens involvement	medium	0	Special 'Consultation Officer' provided by Worcestershire County Council to identify stakeholders and prepare a campaign to inform and win acceptance.
	User communication	medium	0	Publicity material produced and disseminated to clarify advantages and answer anticipated issues, and meetings held with public and stakeholders.
Demographic issues	Male/female involvement	low	0	Not relevant
	Age distribution	medium	+2	Aging society, disabled and push chair users will be helped by improved accessibility measures to 'gold standard'.
Wider issues	Culture / lifestyle	low	+1	High quality buses should help improve public acceptability. Systems may also be capable of changing, transport behaviour.
	Climate	low	0	Not relevant
	Mobility patterns	medium	+1	Corridors aim to serve the main approaches and movements in and out of the city.
	Political	high	-1	Political support is necessary for a scheme to proceed. There is some risk here associated especially with public acceptance (see below).
	Topology	medium	0	Not relevant
	Public acceptance	high	0	Expected to be high generally but problems caused by particular groups ie residents, shop owners etc who fear that bus lanes and priority will impede traffic and lose them custom.
	Technology risk	medium	+1	Low. Technology proven and available
	Security	medium	+1	No special problems. Similar to any bus system
	Safety	medium	+1	No special problems for users, similar to other bus schemes, though users will experience improved accessibility to 'gold standard'. Should be safer for pedestrians and cyclists.