

11TH CONFERENCE ON COMPETITION AND OWNERSHIP IN LAND PASSENGER TRANSPORT

Delft University of Technology (The Netherlands)
20-25 September 2009

BUSES WITH HIGH LEVEL OF SERVICE (BHLS) – OPERATIONAL, REGULATORY AND CONTRACTUAL DIMENSIONS

Brendan Finn
ETTS Ltd., Ireland
etts@indigo.ie

Odile Heddebaut,
INRETS, France
odile.heddebaut@inrets.fr

Sebastien Rabuel
CERTU, France
sebastien.rabuel@developpement-durable.gouv.fr

David van der Spek,
Stadsregio Amsterdam, Netherlands
d.vanderspek@stadsregioamsterdam.nl

Colin Brader,
Integrated Transport Planning, UK
brader@itpworld.net

ABSTRACT

Buses with High Level of Service (BHLS) is an emerging term in Europe for higher quality bus services in urban areas, based on a combination of better operating environment, high quality vehicles, upgraded infrastructure, improved customer services, marketing, image and a systemic approach. BHLS is not the same product as Bus Rapid Transit (BRT), although there are many features in common. The primary objective of BHLS is to uplift the quality of the bus mode rather than to provide the mass transit function. Many European cities have extreme limitations in available road width, BHLS aims to get the maximum capacity and quality within the available space.

This paper reports the findings of an EU COST Action on BHLS, which includes practitioners and researchers from 14 EU countries. It presents BHLS practice, a set of 5 Case Studies (France, Netherlands, Ireland, Spain and Sweden, and operational characteristics of BHLS systems in Europe. A review of procurement and contractual aspects indicates that BHLS has been implemented within existing regulations, procedures, contract structures and performance parameters.

Information on the COST TU603 action on BHLS can be obtained at www.bhls.eu

CONCEPT OF BHLS

Buses with High Level of Service (BHLS) is an emerging term in Europe for higher quality bus services in urban areas. The term originated in France to describe advanced bus systems which are more comprehensive and effective than traditional priority measures, although it is reflective of bus improvement schemes carried out in many European countries. This section briefly presents BHLS.

Developing the quality and image of the bus

Bus services in European cities are typically regarded as the lowest layer of the public transport hierarchy, even though they are an essential element of the transport supply. In many cities they are the primary public transport modes. Even in cities such as London more people are carried on buses than on the Underground. Despite their contribution to the urban transport supply, the public perception is typically negative or neutral towards bus. Public opinion readily supports proposals to implement tramway, and is sceptical or downright hostile to bus-based options even when they are shown to offer equal functionality at lower public cost and quicker implementation time.

The negative perception of the bus can be related to three distinct perceptions, each of which has a fair measure of truth to them:

- 1) Failure to change with the times: Bus networks have not adapted well to changing urban travel patterns. There has been a lack of innovation in service types and to more adaptive services using modern vehicles. The bus has been left behind.
- 2) Deteriorating quality: Buses have suffered badly from traffic congestion, making them unreliable and slow, whilst also increasing their costs and subsidy needs. Also, it must be admitted that many bus companies have failed to modernise their management and operational methods.
- 3) Low customer service: Buses have gained a reputation for poor customer service, unfriendly staff, lack of customer support, insufficient and poorly maintained facilities, and a general lack of 'image'.

These are generalisations, and they are not always fair, but the stark fact is that many of the existing and potential bus customers hold such perceptions and it influences their choices.

Of at least equal importance is that such perceptions are also held by policy-makers, transport planners and decision-takers. As a result, bus is not taken seriously as a primary transport mode of choice, and even in planning it is treated as the "complementary" mode. While major investments are proposed for rail-based systems and enthusiastically supported by city leaders, bus-based proposals are summarily dismissed and are only grudgingly accepted as temporary measures until the desired tram project can be implemented.

It is clear that both the quality and the image of the bus need to be radically improved, and that these are highly inter-related. Visible quality improvements are needed in order to improve the image. But image and confidence in the bus must be improved to get the political and financial support for the measures required to improve quality. Chicken and egg!

Across Europe, a number of city authorities have recognised the potential and the importance of the bus as a key mode of transport. They recognise that many of their citizens are daily or

occasional users of the bus services, and that it impacts on their quality of life. Some cities have also recognised that even where they already have rail-based mass-transit modes, their goal of an excellent integrated transport network requires that all elements are excellent.

BHLS is a generic term for a wide range of approaches in Europe which reposition the bus.

BHLS in Brief

BHLS is based on a combination of better operating environment, high quality vehicles, upgraded infrastructure, improved customer services, marketing, image and overall coordination and a systemic approach. It goes beyond individual measures such as bus priority or advanced passenger information, and takes a holistic approach to improving and repositioning the bus product. In a number of cases, especially in France, improvements are also made to the host environment so that BHLS is part of a more general 'urbanism'.

It is important to stress that BHLS is not the same transportation product as Bus Rapid Transit (BRT). It does not have the aims of mass transit or rapid transit, although there are many features in common. Many European cities already have extensive metro and/or tram networks to deliver the mass transit function, so BHLS is intended to uplift the bus mode which is acting as complementary to the rail-based services. Capacity increases normally result from the improvements, but they are not the primary objective. Further, many European cities have extreme limitations in road width, so insertion of BRT is not an option without major works. BHLS aims to get the optimal combination of capacity and quality within the available space. BHLS also allows the possibility to share the street space with other users when needed.

Range of solutions for advanced bus services

BHLS covers a wide range of elements which are combined to offer a higher quality bus service. The measures include:

- Dedicated bus roads
- Extensive / continuous bus priority lanes, optionally with some segregation measures
- Short bus-only links to avoid congested junctions
- Through-cuts at roundabouts
- Priority at traffic signals (gating, first-level priority, early green)
- Minor road/lane redesign to give advantage to bus
- Inverse lay-bys to ensure bus remains in priority position
- Network redesign
- Increased service levels, extended hours of operation, night services
- Advanced operations management and control (ITS-based)
- Physical, electronic or optical guidance
- Advanced and integrated ticketing and tariffing
- Advanced and real-time passenger information
- High-quality bus shelters
- Park'n'ride facilities
- High quality buses
- Branding, marketing and repositioning of the bus product
- Improved customer support services
- Driver training and customer-skills development

- Promotions and incentives to try the services
- Upgrade of the host urban / street-scape

Whilst few BHLS systems have every one of the above features, all BHLS will have many of them. They are often ‘flagship’ projects which implement innovative aspects which will later be implemented more widely as they prove their effectiveness and gain public acceptance.

COST TU603 Action

The EU COST Program (Co-operation on Science and Technology) has initiated an action on BHLS. The COST TU603 action – Bus with High Level of Service - brings together practitioners and researchers from 14 European countries to share knowledge and experience of BHLS. The action was launched in 2008 and will continue through to end-2010.

COST TU603 is organised around Working Groups to share technical knowledge, as well as site visits to directly experience and understand the innovative techniques which they can consider to use in future BHLS systems. COST TU603 has four working groups:

- Infrastructure
- Vehicles
- Operations
- Social, Economic Conditions and Networking (source of the current paper)

Information about COST TU603 and reference documents can be obtained at www.bhls.eu

BHLS PRACTICE IN EUROPE

This section presents the practice of BHLS in Europe. First, it presents a brief overview of BHLS in Europe, then provides some details and images from 5 Case Studies. The object of this section is to illustrate the diversity of contexts, technical solutions, and innovation in European BHLS. This is also relevant to the later section of this paper which considers the variances in practice in regulatory and contractual aspects.

Extent of BHLS in Europe

An overview of the main BHLS implementations in Europe is shown in Table 1 below.

COUNTRY	CITIES WITH BHLS
England	Cambridge, Leeds
France	Lille, Lorient, Lyons, Nantes, Paris, Rennes, Rouen, Toulouse
Germany	Essen, Hamburg
Ireland	Cork*, Dublin
Italy	Brescia*, Pisa, Prato
Netherlands	Alkmaar, Almere, Amsterdam, Eindhoven, Twente, Utrecht
Spain	Castellon*, Madrid
Sweden	Gothenburg, Jönköping, Lund, Stockholm

* In preparation

Table 1: Overview of main BHLS implementation in Europe

Case Study 1: Busway in Nantes, France

Nantes Métropole is a conurbation located in the west of France, with nearly 600,000 inhabitants. 3 tramway lines have been re-introduced since the 1980s. Line 4 of the network is the BusWay, a dedicated lane which entered into service on 6th November 2006. A decision was taken by Nantes Métropole to implement Busway rather than additional tramway. The 7 km long Busway has 15 stations. It connects the ring road to the centre of Nantes in less than 20 minutes, with a frequency of 4 minutes at peak times and operational speed of 20 km/hour.

Line 4 is a bus system which took the elements that made the tramway a success - dedicated lane, well designed and equipped stations, priority at intersections, high frequency and extended hours, 4 park-and-ride facilities - and applied them to a bus-based system. The operator Semitan and the urban authority Nantes Métropole are the main stakeholders.



Four specific characteristics of the Nantes Busway are worth highlighting:

- High degree of reserved way allowing higher speed operation
- Tram-style stations and passenger facilities
- High-specification vehicles
- High attention to integration of the Busway in the urban scape, especially in the City Centre

Other features of the Nantes Busway include:

- Real-time information at stops and in the vehicle
- Diffused lighting within the vehicles
- Articulated buses using CNG
- Priority at traffic signals
- Ticket-selling machines at stations
- Tapered granite kerbstones for easier docking with designated stop point
- Demarcated boarding point for people of reduced mobility and wheelchair users

After a year of operation, Nantes Busway was carrying 25,000 passengers per day.



Case Study 2: Zuidtangent, Netherlands

BHLS in Netherlands is implemented mostly in the smaller cities, while the mass transit in the larger cities is provided by rail-based modes of Metro, tram, and commuter rail. Two schemes can be classified as regional, being those of Amsterdam-Pumerol and of Zuidtangent. Two schemes take place in Provincial towns (Alkmaar, Twente), and a further three in medium-sized towns (Almere, Eindhoven, Utrecht).

Zuidtangent commenced operation in 2002. Buses run on dedicated lanes between Haarlem and Schiphol Airport (24 km, of which 1.8 km in tunnel). Bus routes continue to Amsterdam Zuidoost using Amsterdam's southern orbital motorway and other public roads, with priority at traffic signals (additional 17 km). It is close to BRT in terms of the degree of operational conditions and operating speeds (35 km/hr). Stop spacing is relatively high, with average just under 2 km. Total investment in Zuidtangent has been €270 million.



Zuidtangent supports the regional and peri-urban bus services rather than those in the urban areas. Services are provided using normal buses (standard and articulated), which are operated by Connexxion under their normal bus service contracts. Intervals are 6-8 minutes in the peak hour. From December 2007, service coverage has been made 24/7.

The network and ticketing is integrated in the normal way with the rest of the passenger transport network. The Zuidtangent routes connect with other bus routes, and there are several connections with the heavy rail network. Real-time passenger information is provided at all bus stops on the Zuidtangent.

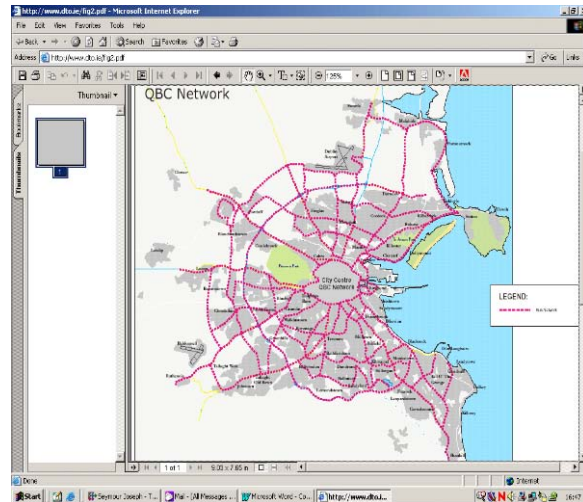
Among the other feature of Zuidtangent:

- Dwell times at stops has been minimised by horizontal boarding, close docking, and elimination of ticket control on entry
- Zuidtangent has strong, consistent and unique branding. None of the design elements (e.g. stop and shelter design) are used elsewhere in the public transport network
- Buses are Euro 5 emission levels. They are normal production models which can be used anywhere else in the network, thus eliminating resale risk from the operator
- Ridership is 40,000 daily. Ridership growth has been 10-15% annually.

Case Study 3: Quality Bus Corridors in Dublin, Ireland

Bus is the main passenger transportation mode in Dublin, but it faces serious degradation due to traffic congestion. Since 2000, a program of Quality Bus Corridors (QBCs) has been under implementation. The QBCs form a network of radial and circumferential routes for the urban area of Dublin. The total program goal is to develop 400 km of QBC, of which 200 km has already been implemented.

A dedicated Quality Bus Network Office has been established with Dublin City Council. The QBN Office plans, designs, procures and manages the implementation of the QBC infrastructure. The QBN Office also carries out extensive public consultation to take care of concerns of citizens, businesses and community leaders.



As illustration of the scale of the effort, the total budget for 2008 was €35 million, with the following program:

- 10 schemes became operational
- 10 schemes under construction
- 12 at Detailed Design /Tender
- 6 at Public Consultation
- Approx 20 at Concept/Feasibility

The typical Quality Bus Corridor consists of extensive bus lane and other priority measures along primary bus axes. Some priority is also provided at junctions, although full integration of priority at traffic signals is yet implemented (anticipated 2010).



Bus services are provided by Dublin Bus, the state-owned operator which has a *de facto* monopoly on bus services in Dublin City. Services on the Stillorgan Road QBC operate at intervals of less than one minute and carry more than 4,000 passengers in the peak hour.

Major investment in ITS will result in the implement of smart card ticketing, real-time passenger information and advanced operations management during 2009-2011.



Case Study 4: Bus-VAO in Madrid, Spain

Bus-VAO in Madrid is one of the most radical, innovative and effective BHLS implementations in Europe. “VAO” (*Vehículo de Alto Ocupación*) is the Spanish for “High Occupancy Vehicle”.

The Bus-VAO operates on the inter-urban artery A-6 which enters Madrid from the North West, for a distance of 16 km to the Bus Terminal and Metro Interchange at Moncloa in Madrid City. Bus and HOVs are permitted to use two central lanes of a six-lane highway. The lanes operate in tidal flow mode, both lanes inbound in the morning, outbound in the evening.



The Bus-VAO is used by both inter-urban and urban buses. There are three dedicated entry points for buses and HOVs, and the vehicles then have free flow on the dedicated lanes. Large, high-visibility Variable Message Signs indicate the access points to the lanes, the vehicles types permitted to use it, as well as the directional information. At present, HOV is defined as 2 or more persons, and the system operates freely. If the flow becomes encumbered, the authorities would consider changing the number of people required for HOV status.



The results of Bus-VAO have been spectacular. The two Bus-VAO lanes carry 33,000 people in the peak period, compared to 18,000 people in the four general traffic lanes. In simple terms, half the number of lanes carry twice as many people. This impressive outcome has strongly influenced both Madrid City and the Ministry of Transport (each has different responsibility for the access roads to Madrid) to develop a major investment program for the deployment of Bus-VAO or equivalent schemes on most of the main roads into Madrid.

From the bus operator and bus passengers’ perspective, the results have also been spectacular. In the peak period, Bus-VAO is used by 251 buses on 21 routes, and the journey time for the 16 km length of Bus-VAO is just 13.8 minutes. On arrival at Moncloa Interchange, passengers have direct access to Madrid Metro as well as a wide range of urban and interurban bus services.

Case Study 5: Lundalänken in Lund, Sweden

Lund is a small city of about 100,000 inhabitants in South-West Sweden. However, it has unusual characteristics. It has a university population of about 42,000 students and employees, and it is less than one hour from Copenhagen by high-speed train over Øresund Bridge. Lund has developed a science park to exploit its knowledge and research assets, and has appreciated that sustainable mobility based on excellent public transport and non-motorised travel is also a key asset.

Lundalänken - “the Lund link”- is a prioritised bus link from Lund central station through the biggest working area in the region where among others the Hospital, the University, the science park Ideon, new residential areas and the development area Brunshög are located. The link is 6 km long and is used both by local green buses (contracted by Lund City) and regional yellow buses (contracted by Skanetrafik, the regional public transport authority).



Lundalänken operates on a mix of dedicated roads, dedicated lanes, and bus priority lanes. To the east of the city, dedicated lanes have been allocated in the new growth areas. In the Science Park area, an existing road has been converted to bus-only road with provision for local access. In the University area, a 600-metre dedicated road has been constructed to provide the necessary continuity for Lundalänken.



In other respects, Lundalänken is an ordinary bus service. The strength of Lundalänken lies in its simplicity – by giving reasonable operating conditions, ordinary buses can perform to the highest standards of travel speed, reliability and comfort.

Lundalänken also has an interesting dimension in terms of urban development. The outer end of Lundalänken serves the eastern periphery of the city for which development plans have been prepared but is currently agricultural land. By advance provision of a high quality transport service, this future development land (which has been acquired by the City) has higher development value and is likely to have a much higher public transport mode share from the outset.



TECHNICAL PERFORMANCE OF BHLS

BHLS in Europe is generally not designed as a mass transit facility, and the emphasis is typically on improving the quality, reliability, image and public acceptance of the bus. In this sense, European BHLS is different from BRT which is primarily designed as mass-transit with high capacity and high performance. It is important to note that the technical performance of European BHLS reflects the role allocated to it within the transportation hierarchy. Higher capacity and throughput could be achieved if BHLS was tasked to do so.

This section focuses on transportation capacity offered by BHLS in current European practice. This sample indicates four key aspects:

- 1) Peak capacity and daily carryings are comparable to many tram systems, albeit at the lower- to medium end of the scale
- 2) Commercial speed and frequency are equal to or exceed that of European street tramways
- 3) Seating ratio at peak is medium to high
- 4) Investment cost per kilometre of facility is low and quite affordable

CITY	LENGTH OF PRIORITY (KM) (TOTAL LENGTH)	COMMERCIAL SPEED (KM/HOUR)	DAILY PASSENGER THROUGHPUT (PX/DAY)	ACTUAL MAXIMUM PASSENGER THROUGHPUT (PPHPD)	MAXIMUM VEHICLE THROUGHPUT (VEH/HOUR)	INVESTMENT COST (€/KM)	SEATING RATIO AT PEAK (%)
Dublin	12.0	20.0	23,700	c.4,500	40	4.5	84%
Gothenburg	7.5 (16.5)		25,000		12 – 20		
Lund	6.0	18.0			12	3.3	c. 60%
Hamburg	4.0 (14.8)	15.9	60,000		15	1.9	53%
Zuidtangent	24.0 (41.0)	35.0	40,000		10	11.25	
Rouen	7.9 (29.8)	17.5	45,000	2,500	up to 30	5.5	
Nantes	6.9	21.0	25,000	1,450	17	7.5	34%
Prato (Blue line)	6.1 (16.5)	18.8			8.5		
Paris	19.5	23.0	66,000	2,500	17	7.1 – 7.5	
Lisbon	3.9 (4.8)		27,000		30		38 – 62%
<i>Range</i>	3.9 – 24.0	15.9 – 35.0	25,000 – 66,000	1,450 – 4 500	12 – 40	1.9 – 11.25	34 – 84%

- 1) All BHLS cases are based on the WPI templates of COST TU603 action, which relate to specific schemes
- 2) Data refers to the specific BHLS scheme described in the template; the sites may have other BHLS lines with different characteristics.

Table 2: Operational Characteristics of selected BHLS systems in Europe

REGULATORY AND PROCUREMENT ASPECTS OF BHLS

This section presents the regulatory and procurement practices for BHLS. It is primarily interested in how the planning, procurement, contracts, quality, payments, management or any other institutional and organisational dimension of BHLS is different from how it is done for normal bus services in the same city.

The main reason that we need to understand this issue is to know in advance whether BHLS can be implemented within the existing frameworks, or whether the success of proposals is dependent on our ability to change or adjust the framework to permit implementation.

We prepared a relevant questionnaire which was completed (at least partially) by organisers of BHLS in 7 European countries. We anticipated that we would find one of three scenarios:

- 1) That there are differences in the procurement, negotiation or contracting processes compared to the other bus services in the city;
- 2) That there are no differences in the procurement processes or contract structure, but differences in the contract, quality and/or payment details;
- 3) That there are neither process nor detail differences in any of the relevant dimensions.

Any of the three was considered to be a valuable result to advance our understanding of the organisation of BHLS. It would also be considered a valuable result if found that there was no single outcome and that there were differences in practice along Member States.

In general, the outcome was scenario (3) – i.e. that in most cases there are neither process nor detail differences between BHLS and other bus services.

Regulation and procurement of urban bus services

We use a generalised definitions framework as shown in Table 3 below, accepting that there are differences in interpretation and practice among EU Member States. This refers specifically to the urban bus market, although in some cases it is also applicable to regional and local bus services.

TERM	DEFINITION
Regulation	The framework and conditions under which interested Operators may enter the market of provision of bus services. In almost all EU Member States, the urban bus market is regulated so that there is either a public monopoly or Operators require route-specific permits. The exception is the UK (outside London, which uses controlled competition) where the market is deregulated and Operators can offer what services they wish at the price they choose.
Procurement	Within a regulated bus market (almost all of EU), the mechanism through which Operators are invited and/or selected to operate routes planned or authorised by the Transport Authority or Regulator. In Public Monopolies, the issue does not arise. In other contexts, Competitive Tendering is the most common method used.
Contract or Agreement	The formal agreement between the Transport Authority or Regulator and the Operator for the provision of the bus services. Usually describes the service, any requirements about how it is to be operated, and any financial aspects.

Quality/service parameter	Specific requirements about the service contained in the Contract/Agreement. Factors typically include quantity of service, reliability of service, vehicle quality, customer care, safe driving, etc. Service standards and targets are usually defined, and actual performance may result in bonus or penalty.
Payment	Reimbursement to the Operator for provision of the bus service, including any bonus/penalty, reimbursement for free/reduced rate passengers, and share of any integrated payment system.

Table 3: Working definitions for regulation and procurement

Procurement of bus services in the studied cities

The Procurement practices for BHLS are presented in Table 4 below.

	FR	DE	IE	IT	NL	SE	UK
WHAT IS THE BASIC MODEL OF BUS SERVICE PROVISION IN MAJOR URBAN AREAS?							
What is the Basic Model of Bus Service provision in Major Urban Areas?	Delegated Management	Public Monopoly	Public Monopoly	Controlled Competition	Controlled Competition	Controlled Competition	Deregulation
At which level of Government is the primary authority for urban bus services?	Commune/ Agglomeration	City	National	Provincial	Regional	Regional	Not applicable
In practice, what is the unit of delegation or contract?	Network	Network	Network			Route cluster	Route

Table 4: Summary of Regulatory and Procurement practices for BHLS in Europe

This shows a high level of diversity of:

- a) regulatory frameworks, covering the full span of Public Monopoly, Delegated Management, Controlled Competition through to Deregulation
- b) responsible level of Government, covering the span of national, regional and urban
- c) unit of procurement, covering the span from entire network though to individual routes

The summary information is necessarily a simplification which aims to characterise the main urban bus supply. Even in Public Monopolies (e.g. Ireland, Spain) it is possible for other operators to receive a licence to provide complementary services, usually on the periphery where the public company has not traditionally operated.

While this show diversity of BHLS practice, it also means that any observed convergence can be taken as a general principle of BHLS practice in Europe.

Planning and Design of BHLS

The responsibility for planning and design of the primary elements of the infrastructure, transport services and customer-facing services is shown in Table 5 below.

	FR	DE	IE	IT	NL	SE	UK
WHICH ENTITY HAS PRIMARY RESPONSIBILITY FOR PLANNING AND DESIGN OF THE FOLLOWING ITEMS?							
BHLS Infrastructure	City	City Govt. or <i>verkehrsverbund</i>	City	Regional or City Govt.	Regional or City Govt.	Regional or City Govt.	City
BHLS Bus Priority Measures	City	City Govt. or <i>verkehrsverbund</i>	City *	Regional or City Govt.	Regional or City Govt.	Regional or City Govt.	City
Bus network and routes	City	City Govt. or <i>verkehrsverbund</i>	Public Operator	Regional or City Govt.	Regional Govt.	Regional or City Govt.	Operator
Routes operating on the BHLS	City	City Govt. or <i>verkehrsverbund</i>	Public Operator	Regional or City Govt.	Regional Govt.	Regional or City Govt.	Operator
Vehicles specifications on the BHLS routes	City	City Govt. or <i>verkehrsverbund</i>	Public Operator	Regional or City Govt.	Regional Govt.	Regional or City Govt.	City and Operator
Timetables on BHLS routes	City or Operator	City Govt. or <i>verkehrsverbund</i>	Public Operator	Regional or City Govt.	Regional Govt.	Regional or City Govt.	Operator
Quality standards on BHLS routes	City	City Govt. or <i>verkehrsverbund</i>	Public Operator	Regional or City Govt.	Regional Govt.	Regional or City Govt.	City and Operator
Customer care and staff training	Operator	Operator	Public Operator	Operator	Operator	Operator	Operator
Tariffs, ticket types, prices	City.	City Govt. or <i>verkehrsverbund</i>	Public Operator **	Regional or City Govt.	National and Regional Govt.	Regional or City Govt.	Operator
Ticketing system	City	City Govt. or <i>verkehrsverbund</i>	Public Operator	Regional or City Govt.	National and Regional Govt.	Regional or City Govt.	Operator
Passenger information	City	City Govt. or <i>verkehrsverbund</i>	Public Operator	Regional or City Govt.	Regional Govt. and Operator	Regional or City Govt.	City and Operator

* Also requires approval from police

** Subject to approval of national Government

Table 5: Primary responsibility for design and planning of BHLS elements

The intention had been to highlight cells in Table 5 above where the responsibility for ***planning and design*** for BHLS infrastructure and services was different compared to the practice for the rest of the bus network. We make the following observations:

- a) Responsibility for various functions differs only moderately among countries
- b) There is no difference in planning and design practice for BHLS compared to other bus services
- c) The exception is the UK (not including London), where bus services are deregulated and the City normally has a very limited role. For special projects, there are possibilities for the City and Operators to work together.

Note that the responsibilities refer to the Institutional level, where the same institution has responsibility for the functions for the BHLS and for the other bus services. In practice, dedicated offices or project teams are established for BHLS implementation. For example, a

Quality Bus Network Office was established within Dublin City Council to implement the QBC network (see Case Study 3 above).

Financing of the BHLS elements

The responsibility for financing the primary elements of the infrastructure, transport services and customer-facing services is shown in Table 6 below.

	FR	DE	IE	IT	NL	SE	UK
WHICH ENTITY HAS PRIMARY RESPONSIBILITY FOR FINANCING THE FOLLOWING ITEMS?							
BHLS capital costs – running way	City	City	City	City	National, Regional or City Govt.	City	City
BHLS capital costs – bus stops and shelters	City	City	City	City	Regional or City Govt.	City	City
BHLS capital costs – priority at traffic signals	City	City	City	City	Regional or City Govt.	City	City
BHLS infrastructure maintenance	City	City	City	City	Regional or City Govt.	City	City
Vehicles used on BHLS routes	City or Operator	Operator	Operator	Operator	Regional Govt. or Operator	Operator	Operator
Ticketing technology	City	Operator	Public Operator	Operator	Operator	City and Operator	Operator
Passenger information technology	City	City	Public Operator	City	Regional Govt. or Operator	City	Operator
Passenger information upkeep and mgt.	City	City	Public Operator	City	Operator	City	City and Operator
Customer care training	Operator	Operator	Public Operator	Operator	Operator	Operator	Operator
Customer helpdesk	City	City	Public Operator		Operator	City	

Table 6: Primary responsibility for financing BHLS elements

The intention had been to highlight cells in Table 6 above where the responsibility for **financing** aspects of the BHLS infrastructure and services was different compared to the practice for the rest of the bus network. We make the following observations:

- a) Responsibility for financing aspects of BHLS differs only moderately among countries
- b) There is no difference in financing BHLS compared to other bus services

As with the planning and design aspects in the previous sub-section, this refers to the Institutional level. In practice, specific project budgets are put in place for the BHLS. For example, the Quality Bus Network Office in Dublin has a dedicated budget line under Transport 21; the Nantes Busway had a dedicated project implementation budget. This is considered normal practice for special projects and is not a peculiar feature of BHLS.

The source of the financing for the infrastructure is shown in Table 7 below.

	FR	DE	IE	IT	NL	ES	SE	UK
FINANCIAL MATTERS								
Is BHLS design and implementation from by the same budget allocation as other PT infrastructure and services?			Not directly		Yes		Yes?	
Are BHLS bus services financed from the same budget allocation as other bus services?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Do operators pay for use of the BHLS infrastructure?	No	No	No	No	No	No	No	No

Table 7: Financial sources for BHLS

We were unable to gain a full set of replies to answer the first (and perhaps the most important) question. From the very limited response, we find a potential variance in practice between BHLS and other bus services. However, there are insufficient replies to give any useful guidance and we can only state that this needs further investigation (we will attempt to have more data by the time of the Thredbo 11 presentation).

For the other two questions, we find unanimous practice:

- 1) The bus services operating on the BHLS are funded from the same budget allocation as other bus services
- 2) Operators are not charged for using the BHLS infrastructure

Organisation of the Bus Services operating on the BHLS

Attributes of the organisation of the bus services operating on the BHLS are presented in Table 8 below.

	IE	IT	NL	SE
ORGANISATION OF THE BHLS SERVICES				
Are the BHLS bus services managed and controlled in the same way as other bus services?	Yes	Yes	Yes	Yes
Are BHLS bus services procured /licenced in the same way as basic bus services?	Yes	Yes	Yes	Yes
Are the same performance and quality parameters used?	Yes	Yes	Yes	Yes
Are the same target values used?	Yes	Yes	No. For the first 6 years, Zuidtangent operated under the same concession and conditions as other buses. On contract renewal in 2007, the same performance parameters were used with higher standards/target values. Special penalties also apply.	Yes

Table 8: Organisation of BHLS

Again, we were unable to get a comprehensive set of answers to these key questions (we will aim to do so for the presentation in Delft).

The initial indication from this limited sample indicates the following:

- BHLS services are managed and controlled in the same way as non-BHLS services, although some specific operational procedures may be different
- BHLS bus services are procured or licenced in the same way, using the same procedures. We are aware that the vehicle specification may be different for the BHLS routes in some cases, but they are still procured within the general procurement procedures and usually as part of a broader urban bus services contract.
- The performance and quality parameters used are the same for BHLS and non-BHLS services. This is an unexpected outcome, but it would appear to also be the case in France, Germany and Spain (we will attempt to confirm before Thredbo 11).
- Even more surprising is that the **target values** for these parameters are not different for BHLS and non-BHLS services. The identified exception is the Zuidtangent in Netherlands where the performance requirements were raised in the repeat contract.

We speculate (although we do not yet have any supporting evidence) that BHLS is implemented within the existing requirements because the actual outcome is uncertain and operators would be unwilling to take financial penalty risk for problems in an innovative scheme. After a period of problem-solving and confidence-building in which the BHLS is shown to be advantageous and reliable, the performance standards can be raised.

Adjustments to Contracts for implementation of BHLS

The final issue was whether adjustments were required to the existing standard Contracts or other Agreements when BHLS is implemented. The responses are presented in Table 9 below.

	IE *	NL	SE	UK
All bus services operate under normal contract, no difference was required for the introduction of the BHLS	✓	✓	✓	-
All bus services operate under normal contract, an adjustment was made to the contract for the introduction of BHLS	-	-	-	-
A different contract was necessary for the BHLS services	-	-	-	-
A separate agreement has been made for certain matters relating to the BHLS (e.g. use of infrastructure), but no change was made to the basic contract for those bus services	-	-	-	-
There is normally no contract for the provision of bus services, but an agreement was made with operators about the use of the BHLS infrastructure	-	-	-	✓
There is no formal agreement, operators use the BHLS system at their own discretion	-	-	-	-

* Public Monopoly, no individual route or area contracts.

Table 9: Contract Amendments required for BHLS services

The general finding (from the limited response) is that contractual changes have not been required to implement these BHLS systems, subject to the following observations:

- 1) It is assumed that annexes/schedules to Contracts may have been modified – e.g. route specifications, volume of service, number and type of vehicle – within the existing and normal provisions for service modifications
- 2) Our understanding is that in some cases the quantum of payment has been increased. However, this has been within the provisions of the original Contract
- 3) In the case of Zuidtangent in Netherlands (case study 2 above) the target values for service performance were increased at Contract renewal.

The sample is insufficient to be able to determine whether:

- a) BHLS can always be implemented within the provisions of the existing Contracts; or
- b) BHLS implementation to date has been cautious and has avoided Contractual change until the concept is proven and the impacts fully understood.

CONCLUSIONS AND FINDINGS

When this enquiry was launched, the initial expectation was that the implementation of BHLS would require changes to the frameworks, procurements and contracts.

The preliminary findings indicate that:

- this initial expectation was incorrect
- the BHLS systems have been implemented within the existing frameworks, using standard procurement procedures, and without any requirement for changes to the standard Contracts
- Contract annexes and specifications (and associated payment levels) may have been modified, but this has been done within the normal provisions for service adjustment

We propose two conclusions:

- 1) Institutional, regulatory, procurement and contractual dimensions are NOT a barrier to implementation of BHLS
- 2) Despite a high level of variance in regulatory frameworks among European countries, there is broad similarity in allocation of functions and in responsibility for funding the elements of BHLS.

We propose two speculations (based on extremely limited evidence):

- 1) The implementers of BHLS deliberately work within existing frameworks. This allows BHLS to be demonstrated and shown to have interesting benefits and impacts, while avoiding controversy or contractual arguments
- 2) When BHLS has been proven and the decision-takers and operators are convinced, the relevant elements of the contract and performance can then be adapted.

Photo credits:

All photographs Brendan Finn except:

Case Study 2, photograph extracted from presentation by David van der Spek

Case Study 3, 2nd image extracted from presentation by Ciaran de Burca