

NICHES+ Champion City City of Worcester

Implementing Key Corridor Improvement Schemes, incorporating Innovative Bus Systems



The City and NICHES+

The project

NICHES+ is a FP7 co-ordination action aiming to network key actors actively engaged in developing **innovative urban transport concepts** and to facilitate the coordination of their activities across Europe. The project duration is from 2008-2011.

Worcester is a Champion City within the project that aims at implementing the concept of innovative bus systems, also known as buses with a high level of service (BHLS). This document summarises an **implementation scenario** that gives advice on how to realise the given concept in the specific context of the city. This also provides an example to other cities interested in the uptake of the measure.

The city

Worcester is one of the premier cathedral cities of England, its setting on the River Severn adds to its attraction and its role as a focal point for the regions rural communities give it a vibrancy and strong economic role within the region.

Worcester is situated some 48 km southwest of Birmingham, 47 km north of Gloucester, with an estimated population of 94,700 people with a wider Worcestershire population of 556,500.

Worcestershire **aims to be a 'selfcontained' county**, offering a wide range of service and amenities to its residents, reducing their need to 'outmigrate' in search of suitable employment or other opportunities.



The historic city centre of Worcester Photo: András Székely

The innovative concept

Worcestershire has proposed the implementation of a series of high quality Key Corridor of Improvement (KCI) schemes, which embrace the BHLS (Buses with a High Level of Service – Innovative Bus Systems) concept, providing benefits to all users. The corridors connect all major trip attractors (health, education, leisure, employment and retail facilities/services) and trip generators (residential areas) in the city.



The BHLS concept in France: BusWay in Nantes Photo: Peter Staelens



The Challenge

Access to the city centre has become car dominated in recent years, within a street pattern with negligible potential for capacity enhancement. The public realm across the city has begun to deteriorate; street clutter, reduced access to services and unfriendly pedestrian environments. Bus travel is increasingly frustrated by delay and unreliability caused by **traffic volumes and congestion** in the city centre.

Traffic congestion in Worcester is exacerbated by inappropriate use of the car for short distance local trips including use of key regional highway links, in particular the Southern Link. The congestion on this road is encouraging a proportion of cross-city traffic to re-assign on to the city centre highway network, with consequent adverse impacts on road conditions, accidents, air quality, journey times (by all modes), the local environment and overall accessibility.

Problem summary:

- Poor access across the City
- Increasing dependence on captive Bus Patronage
- Worsening Traffic Congestion
- Deterioration in air quality
- Car mode share too high (particularly for "within city" journeys)

When completed, the new system will provide a more user-friendly travelling experience in the City of Worcester, by significantly increasing interchange opportunities, improving accessibility to key locations and facilities, enhancing the public realm and making more efficient use of existing highway capacity. Additionally, this concept will act to make passenger transport services more reliable generating increased patronage and facilitating commercial operation of passenger transport networks.

Andy Baker Sustainable Transport Manager, Worcestershire County Council

The Vision

In the next 20 years, the City of Worcester could grow significantly. The City must embrace this change. The concept of Key Corridors of Improvement represent a strong, dynamic approach, along the main arterial routes into the City, which will empower the City of Worcester to respond to its changing fortunes in a way which will deliver lasting and farreaching benefits. The KCI's will improve the performance of the City's transport network as a whole. Particularly in terms of travel choice, journey times, reliability and financial sustainability.

- Improve accessibility
- Tackle congestion
- Improve road safety
- Improve air quality





'Le BusWay',

the BHLS concept in Nantes, France

France started in 2005 its own concept "Buses with a high level of service" (BHLS - Bus à Haut Niveau de Service) in order to improve sustainable and affordable mobility in urban areas. This system offers higher capacity within a similar use of space as light rail transit (LRT) or metro.

The City of Nantes is a conurbation with nearly 600,000 inhabitants. The socalled **BusWay**, launched in 2006, is 7 km long and 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 hours. The operation speed is between 21 and 23 km/h.

This bus system incorporated all the elements that made the tramway a success: a central dedicated lane, well designed and equipped stations, priority at intersections, high frequency and extended hours, ticket vending machines at stations, and park and ride facilities.

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'Metrobus',

the BRT System in Istanbul, Turkey

The Metrobus example is suitable for larger cities, that have to deal with huge passenger flows, where a really innovative, effective passenger friendly solution is required.

Istanbul has developed an innovative transportation strategy based around installing a Bus Rapid Transit (BRT) system on the key routes in the city. The Metrobus system is **sustainable**, **rapid**, **economical and modern**.

The **key features** of the Metrobus system include:

- special lanes reserved exclusively for buses,
- high speed travel along normally gridlocked traffic corridors, and
- high capacity bus stations, instead of traditional bus stops.

The system is also integrated with existing public transport, facilitating travel across the city.



Nantes BusWay Photo: Martin Rowe



The user needs

The key target group of users is the **general public**. People want to keep moving within the urban area, quickly and reliably, avoiding congestion, in a sustainable way, and in comfort, no matter what their journey purpose is.

Significant amounts of consultation have been undertaken in respect of the public's opinions regarding passenger transport, walking and cycling infrastructure and service provision.

The information has been gathered by interviewing members of the public and receiving comments from bus/ rail users and non-users over the last three years.

This has established that the City of Worcester's residents' broad requirements in respect of passenger transport are:

- A reliable and punctual service
- Quick journeys at peak times
- Good quality waiting facilities at bus stops, rail stations and interchanges
- Accurate information on bus and rail services
- Well trained and friendly drivers/staff
- Value for money
- Integrated fares and ticketing

The key stakeholders for implementation

The project was initiated and is managed by Worcestershire County Council.

The key local stakeholder groups are

- Worcester City Council
- Passenger Transport
 Operators
- Passenger Transport Users
- Worcestershire NHS (Providers of health facilities)
- Education and Skills Providers
- Employers
- Retailers
- Other relevant local interest groups

Further stakeholders, who are not members of the project team but influence the process are the "outside influencers", with different cooperation needs, for example:

• Police

Enforce the new traffic rules mainly at the launch of operation, but continuously afterwards as well.

• Press

Promote the service after the start in local press, radio and poster advertisements.



Worcester Buses inside: Attractive and comfortable to travel Photo: András Székely

The measure introduction

The measures will support the provision of a premium bus service (10 minute frequency, meeting the Worcestershire County Council Integrated Passenger Transport Strategy "Gold Standard") along the corridor, linking the new developments with the city centre and key employment, health and education facilities across the city, whilst also improving accessibility for existing residents and businesses along Newtown Road and Bromyard Road.

The schemes will meet the regional and national transport objectives of **providing a realistic alternative to the car**, in this case for journeys to/from and within the City of Worcester. This is achieved by improving passenger transport accessibility, journey times, reliability and quality of service (including bus stop infrastructure and information systems).

Barriers and Success Factors

The success and barrier factors for implementing a BHLS were identified through a PESTE analysis (political, economic, social, technological and environmental aspects).

Main success factors are:

- Accurate context and transferability analysis
- Surveys and communication/promotion
- Political will
- Available funding
- Strict enforcement

The **possible barriers** have been identified as:

- competition for space (car lobby)
- decision weaknesses

<image>

Construction works already underway on Newtown Road Photo: András Székely

The Key Issues for Implementation

The Implementable Measure



The measure justification

Research has shown that a high quality transport network is important in sustaining economic success in modern economies. The transport network secures connectivity between different parts of a country, as well as to the rest of the world: linking people to jobs; delivering products to markets; underpinning supply chains and logistics; and supporting domestic and international trade. The quality and comprehensiveness of the local transport network impacts on how it contributes towards an efficient and successful local economy.

A multi-modal transport modelling

approach was adopted to assess the impact of the West of Worcester (Bromyard Road) KCI scheme. This impact relates to the acceleration in the delivery of new housing and on existing users of the transport network. This modelling approach meets the requirements of the DfT in the provision of a robust supporting evidence of dependency via the use of transport modelling.

The results showed that the scheme will definitely bring valuable benefits in terms of reduced journey times, accidents, and health factors.

The first two corridors on the east and west of Worcester

Figure: Worcestershire County Council

The implementable measure

The City of Worcester was selected by the Department for Transport as one of three Sustainable Travel Demonstration Towns in April, 2004. Worcestershire County Council was awarded £3.52 (ca. 4.14 EUR) million to develop a five-year programme to showcase the role of soft measures (or 'Smarter Choices') in reducing traffic by promoting walking, cycling and passenger transport.

The main results of Choose How to Move campaign were really outstanding. Mode shift increased for walking by 19%, cycling 31%, public transport 24%, and single occupancy car use decreased by 13%.

The next step

It was subsequently proposed in the Worcester Transport Strategy and in the second Local Transport Plan to try and 'lock-in' these benefits through a series of improvements to a number of corridors across the city. The Key Corridors of Improvement have been developed to make extensive use of the BHLS (Buses offering a High Level of Service) concept. They also include improvements to walking, cycling and highway infrastructure. The KCI network will be integrated with a series of Park & Ride sites offering residents and visitors a viable alternative to car travel in and around the city. Delivery of the first two of these corridors, Newtown and Bromyard Roads are currently underway (see map below).



There are a **number of KCI schemes proposed** for the City of Worcester. The East of Worcester (Newtown Road, Outer) and West of Worcester (Bromyard Road) KCI Schemes are currently being built at the time of writing. The former has been funded through the Worcestershire LTP2, and the latter through a successful bid to the second round of the Community Infrastructure Fund (CIF2) for £3.5 million (ca. 4,1 EUR).

The West and East of Worcester KCI schemes consist of full inbound bus priority measures along Newtown Road from the M5 Motorway (East of the city) to the city centre, and along Bromyard road between Crown East Roundabout on the western edge of the city to Worcester Bridge in the city centre.

The long-term perspective

The long term vision is principally to implement all the seven corridors which exist in the Local Transport Plan.

The long-term success of the concept depends on various factors.

In order to secure the smooth operation of buses, **strict enforcement** should be taken into consideration.

The implementation of the other 5 corridors creates a network, which will result in a huge increase of benefits.

For higher passenger satisfaction, the system should be easy to use, which can be best provided by **integrated timetable and ticketing**.

Passenger **satisfaction shall be continuously monitored** in order to better sustain the quality, and to provide suitable characteristic (frequency, timetable, route etc.).

The finances

The principal element of **capital funding** for the West of Worcester (Bromyard Road) scheme is through the second round of the **Government's Community Infrastructure Fund** (CIF2). This has been supplemented with a number of council controlled funds, which are not reliant on third party commitments.

The principal aim of CIF2 is to support schemes that link the provision of transport infrastructure to the delivery of housing. Funding was available for schemes that are vital locally to unlocking large housing development sites, enabling the acceleration of housing development and improving the sustainability of major locations of housing growth.

The Newtown Road KCI was funded principally through the **County's Local Transport Plan 2 (LTP2)**. Capitally funded by the Government, the LTP2 was prepared and adopted by Worcestershire County Council in 2005 for a 5 year period and provides the local transport authority with an opportunity to set out studies of, and make recommendations to improve transport measures and provide for balanced use of roadspace and public transport integration.



Bus priority in a roundabout (Lorient) Photo: Peter Staelens



Individualised Travel Marketing (ITM)

was a key component of Worcester's "Choose how you move programme". Between 2005 and 2007, Worcestershire County Council delivered an ITM programme in which a total of 23,504 households in the city were offered personalised travel information and support in a series of five separate campaigns carried out in three stages.

This was the first part of the Council's **step by step approach** to influence the people to be more aware of sustainable and environment friendly modes of transport, and to convince them to use PT and soft modes rather than car. The process ended up and continued in LTP2 to sustain the results and benefits by implementing KCI-s.

The key issues during implementation, and preparation were:

- Effective communication towards politicians and the public
- Public consultations
- Complex and provident planning approach
- Smooth cooperation among stakeholders



Check list

The following check-list summarises key aspects for implementing Innovative Bus Systems and intends to give the reader advice on whether the concept is suitable for the own context.

Check list	
City size	No size restrictions. The actual scope and importance of the measures and network will be dependent on the city size.
Key conditions for imple- mentation	 Integration into the existing local transport network Promotion Attractive image
Resources	Relatively high cost of implementation (for infrastructure and vehicles) but cheaper than a similar tramway/light rail. Operating costs are lower too.
Implemen- tation time	2-3 years (approvals and constructing infrastructure for BRT takes time).
Stake- holders involved	 Local authority Transport authority Bus manufacturers Bus operators System provider
Undesirable secondary effects	Restrictions for car users /parking along the corridor (infrastructure).

For further details on how to implement the innovative bus systems concept please see the NICHES+ Guidelines for implementers (available from www.niches-transport.org).

Public relations, Worcester 'Choose how you move' Campaign Photo: Worcestershire County Council



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The more detailed **full version of the Implementation Scenario** for Worcester is available on the NICHES+ website.

Photo on title page

Photo 1 (Nantes BusWay): François Rambaud, Photo 2 (Worcester Cathedral): Worcestershire County Council

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Further information on NICHES+

www.niches-transport.org www.osmose-os.org

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