



BELFAST RAPID TRANSIT

Highlights from the Outline Business Case



September 2012

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INTRODUCTION AND BACKGROUND

*The Department for Regional Development is planning a major transport project to address current and future transport needs in the Belfast Metropolitan Area. The project, **Belfast Rapid Transit (BRT)**, will provide fast and reliable services and a high quality passenger experience connecting East Belfast, West Belfast and Titanic Quarter via Belfast city centre.*

The concept of a rapid transit system for Belfast has been high on the agenda within the strategic development plans of Northern Ireland for some time.

In April 2008 the Department for Regional Development produced a Strategic Outline Case confirming that a bus-based rapid transit system for the routes under consideration would have a much stronger economic case than a light rail option. The Strategic Outline Case also confirmed that a bus-based system has the potential to be economically and financially viable for Belfast and represent value for money. It recommended a pilot network of three routes:

- **CITI** - connecting Belfast city centre with Titanic Quarter
- **EWAY** - connecting Belfast city centre with East Belfast
- **WWAY** - connecting Belfast city centre with West Belfast

In November 2008, the Executive Committee endorsed the decision to progress the BRT project.

The route options considered as part of the Outline Business Case were largely based on the Strategic Outline Case recommendations. Some additional route options were also considered due to:



- The changed economic climate, which has impacted on the level of private development and the potential for developer contributions
- The opportunity and need to integrate with other government regeneration initiatives and other public transport services
- Significant public objection to the use of certain routes
- The need for a phased implementation approach taking account of the current financial situation and the need to make best use of existing assets

The Outline Business Case for BRT was completed in June 2012. This document provides a summary of the process to date as well as the aspirations, key findings and recommendations for the BRT project moving forward.

CHARACTERISTICS OF BELFAST RAPID TRANSIT



The development of the standards for the BRT project has been driven by:

- Local transport policies
- Customer quality expectations
- Worldwide experience of bus rapid transit systems

There are a number of key principles underlying the development of the standards:

- A strong Belfast focused brand image that delivers a clear identity for BRT
- High quality in all aspects of the BRT system including the fixed infrastructure, vehicles, operations and customer services
- High standards of reliability with punctual service operation and predictable journey times
- Integration with other modes of transport including bus, rail and taxi services, the private car, cycling and walking
- Delivery of a complete system

Services

BRT will provide fast and reliable services connecting East and West Belfast, Titanic Quarter and key locations of economic and social activity in the city centre and along the BRT corridors. Subject to demand, services will operate between 06:00 and 23:30. On weekends services will start slightly later in the mornings and operate later at nights.

Day time services will operate at maximum intervals of 10 minutes with peak services operating at 5 to 8 minute intervals depending on the route demand. Early morning and late evening services will operate at maximum intervals of 20 minutes and services will be tailored to meet times of peak demand such as major sporting or other entertainment events.

In order to provide shorter, reliable journey times BRT halts will be at a target minimum distance of 400 metres apart, except where there are key locations of high demand closer together.

Existing public transport services, Metro and taxis, on the BRT corridors will be reorganised to provide feeder and/or complementary services with appropriate interchange facilities and co-ordinated service schedules.



Vehicles

The BRT vehicles will be a key part of the system image. They will have a strong identity and high quality appearance that is easily distinguishable from other public transport vehicles.

The BRT vehicles will provide a high quality environment for passengers in terms of comfort, space, security and on-board information. Internally they will have the feel and appearance of a modern tram or light rail type vehicle.

The BRT vehicles will provide accessible level boarding for people with reduced mobility and parents with buggies and a mix of standing and seating areas with good legroom. They will have multiple double-width doors and adequate circulation room to enable rapid access and egress to minimise delays at halts.



The vehicle interiors will be constructed using high quality materials and the engines will utilise the latest fuel efficient technologies emitting low noise, low vibration and low levels of pollutants. BRT vehicles will have onboard information screens providing real time journey information and visual and audible next halt and destination announcements. Free on-board Wi-Fi will also be provided.

The BRT vehicles will be equipped with CCTV for both passenger safety and bus lane enforcement.



Halts and Interchanges

The BRT halts will also form a key part of the system image and will be distinct and of a high quality. The halts will provide shelter, security and travel information as well as enabling quick and easy access to the vehicles.

Larger interchange halts will be provided at key locations such as the city centre and at the park and ride sites that will be located in East and West Belfast. The park and ride sites will each accommodate approximately 500 vehicles and will enable easy and convenient interchange between private cars and public transport. Secure cycle parking facilities will be provided at the park and ride sites and at other halts along the routes, where appropriate.

Running Ways

The lanes which the BRT vehicles will use are known as running ways. These will consist of both dedicated bus lanes and mixed traffic lanes.

The daily operational hours of the bus lanes will generally be 07:00 to 19:00 hours. In order to provide priority and journey time reliability for BRT vehicles it will be necessary to remove and/or relocate on-street parking that affects the running ways. Existing lay-by parking will generally be retained and short-term parking restrictions will be introduced to discourage all day parking and encourage the turnover of parking spaces. There will be strict enforcement of parking and moving offences in the running ways to ensure journey time reliability for the BRT system.

Optimum priority will be given to BRT vehicles at signalised junctions to ensure reliable journey times. Turning movements will be banned at some locations to assist the flow of traffic along the BRT corridors. Running way lanes will generally be 3 metres wide and will be resurfaced where necessary and maintained to ensure a high quality ride.



Fares and Fare Collection

BRT fares will be comparable with existing public transport fares on the routes and concessionary fares will apply as they do to other forms of public transport throughout Belfast.

Payment systems and tariffs will be designed to encourage cashless payment. Tickets will be purchased prior to boarding to minimise waiting times at halts and will be integrated with other forms of public transport, where possible, to enable seamless interchange.

Intelligent Transport Systems

Intelligent Transport Systems (ITS) will enable various users to be better informed and make safer, more coordinated, and 'smarter' use of transport networks.

ITS on the BRT project will include:

- Accurate pre-trip and real time journey information via on-board displays and through internet and mobile phone services
- Audio announcements for visually impaired users
- Automatic vehicle location system and signal control systems designed to give priority for BRT vehicles at signalised junctions

Branding and Customer Service

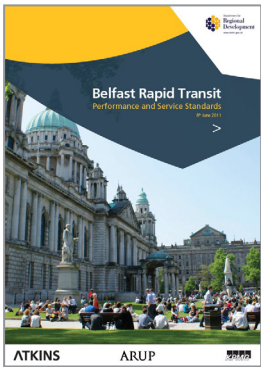
A key part of the successful delivery of high quality transit systems is the development of a strong brand image.

The BRT brand will be applied to all aspects of the system including travel information, halts, vehicles and signage. High quality customer service will be a key objective of the system.



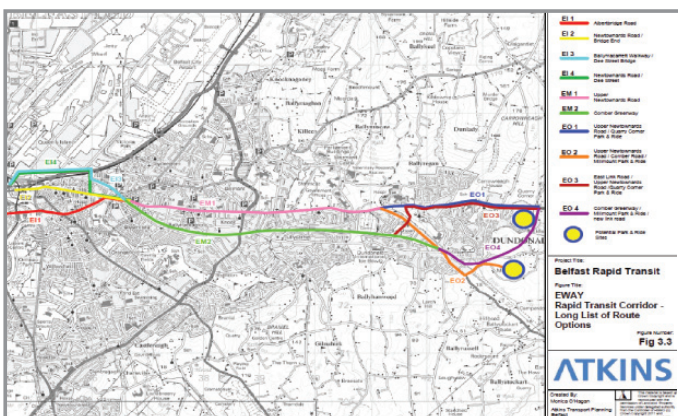
OPTIONS ASSESSMENT AND OUTLINE BUSINESS CASE PROCESS

Following on from the route identification process undertaken during the Strategic Outline Case and the subsequent need to assess some other alternatives, there was a need to short-list options for detailed consideration in the Outline Business Case. The identification of options for analysis in the Outline Business Case involved the following key stages:

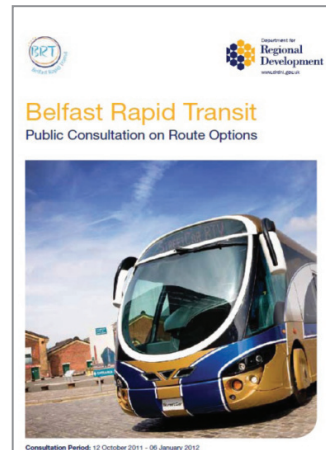


- A set of **Performance and Service Standards** was prepared to define the expected characteristics of BRT. These guided the design of the physical and operational characteristics of the BRT system and assisted in the process of comparing options to assess the degree to which the alternative route options could meet the standards.

- A detailed **Route Audit** was undertaken, focusing on the identification of practical solutions for BRT which would maximise the use of existing assets and deliver value for money. The route audit process involved an extensive analysis of land-use activity, parking and loading issues, physical constraints and existing traffic conditions along the routes.



- Following the Route Audit, a detailed qualitative **Options Assessment** process considered how each of the routes could meet key criteria. This included assessing how the routes contributed to meeting the scheme objectives and the Performance and Service Standards as well as their expected impact on economic growth, the environment, accessibility and community well-being. The assessment also considered the expected costs, commercial viability, value for money, implementation timetable, practical feasibility of delivery and key risks associated with the routes, and their public acceptability.



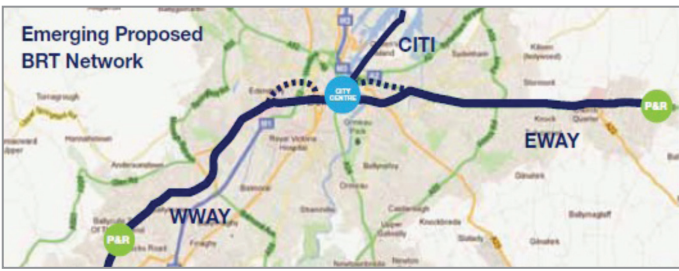
- An extensive, three month **Public Consultation** exercise on the route options was launched by the Minister for Regional Development and the Lord Mayor of Belfast in October 2011. Public exhibitions, with staff available to discuss the project and provide information,

were held at venues in east, west and central Belfast. Extensive engagement also took place with many key stakeholder groups including Belfast, Castlereagh and Lisburn Councils. A draft Equality Impact Assessment (EQIA) was consulted on at the same time as the route options. A report on the findings from the public consultation process, along with the final EQIA, was published in April 2012.

- The Outline Business Case involved detailed analysis of the shortlisted options that were derived from the Options Assessment process. These options were identified as the:

Preferred Option - a high quality bus-based rapid transit system operating on the following network:

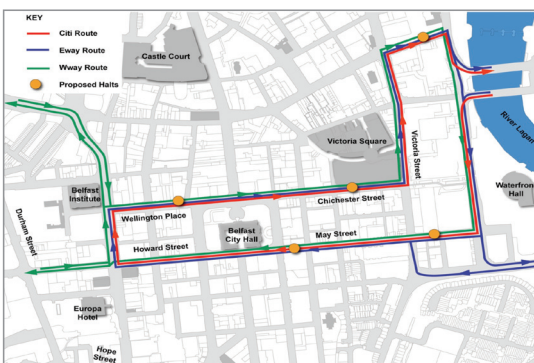
> **CITI** route from Queen Elizabeth Bridge along Queen's Quay and Queen's Road to Titanic Quarter and returning to the city centre via Queen's Road, Queen's Quay, Station Street, Bridge End and Queen's Bridge.



> **EWAY** route from the city centre along Albertbridge Road and Upper Newtownards Road and terminating at a park and ride site in Dundonald.

> **WWAY** route along Grosvenor Road, Falls Road, Andersonstown Road, Stewartstown Road and terminating at a park and ride site near Dairy Farm and/or McKinstry Road Roundabout.

All three routes will connect with a circulatory route in the core of the city centre that is being delivered by the Belfast on the Move Project and consists of Oxford Street, May Street, Howard Street, Fisherwick Place, College Square East, Wellington Place, Chichester Street, Victoria Street, Custom House Square and Donegal Quay.



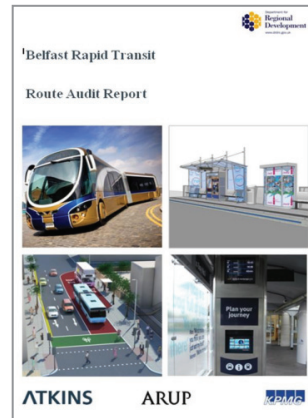
Next Best Option - a high quality bus-based rapid transit system including the same elements as the Preferred Option and operating on the same network with the following exceptions:

> The inner EWAY rapid transit route would split between Albertbridge Road and Newtownards Road at the Hollywood Arches or alternatively just run on the Newtownards Road to Bridge End and the city centre.

> The inner WWAY rapid transit route would split along Grosvenor Road and Divis Street / lower Falls Road or alternatively just run along Divis Street / lower Falls Road.

Lower Cost Option – a bus-based public transport system operating on the same network as the Preferred Option but without the majority of the quality aspects that would be expected to accompany a high quality rapid transit system.

In line with recommended guidance from the Department of Finance and Personnel and the Department for Transport, the Outline Business Case considered the following 5 cases:



1. **Strategic Case** – this analysed the need for the project, how the proposals aligned with existing policies and strategies and how they met the project objectives.

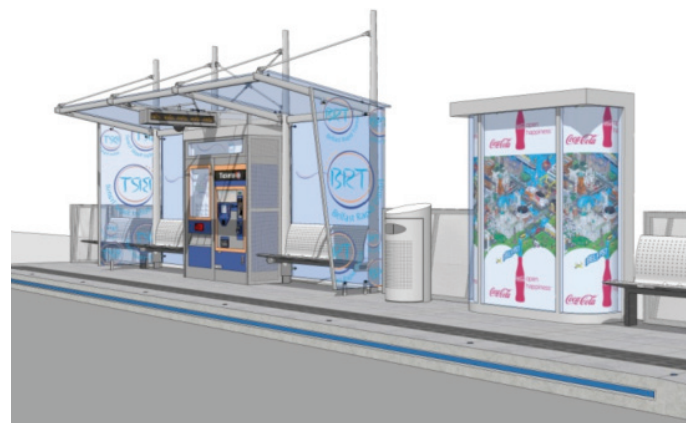
2. **Economic Case** – an economic appraisal of the options was undertaken to determine the Benefit

to Cost Ratio of the proposals, to establish if they represented value for money and to assess the environmental and social impacts. It also considered the benefits and disbenefits associated with the Next Best Option and the Lower Cost Option.

3. **Financial Case** – this considered how the proposals could be financed and funded.

4. **Commercial Case** – this considered the potential procurement options for the BRT vehicles, infrastructure and service operator.

5. **Management Case** – this established appropriate project governance arrangements and implementation plans.





KEY FINDINGS AND RECOMMENDATIONS

Key findings

Economics

1. The Preferred Option for BRT fits well with the relevant strategies and policies for Northern Ireland and Belfast. It also meets the overall project objectives which emphasise the need to promote economic growth, regeneration, equity, integration, modal shift to more sustainable forms of travel and provision of a symbolic public transport system capable of supporting Belfast's role as the major economic driver for the region.
2. The economic appraisal established that the Preferred Option had a Benefit to Cost Ratio of 3.4, representing a high value for money project.
3. The Benefit to Cost Ratio for the Next Best Option also represents high value for money with a Benefit to Cost Ratio of 3.1.
4. Due to reduced service quality and lower journey time savings, the Lower Cost Option represents poor value for money with a Benefit to Cost Ratio below zero.
5. The total project cost estimate, based on completion in the 2017/18 financial year, is £98.5 millions.
6. Due to the lack of potential for private investment in the project, the vast majority of the project costs will have to be funded by the Department.
7. The Department funding the purchase of the BRT vehicles, which are then operated and maintained by the operator, is likely to represent the best value for money.
8. Whilst BRT is expected to become income generative on an annual basis, the investment costs are not expected to be recovered within the 60 year assessment period. The BRT project therefore represents a long-term investment in Belfast's transport system.
9. BRT is expected to produce economic benefits by increasing public transport journey time reliability and facilitating sustainable regeneration.

Travel

10. Public transport patronage is predicted to increase on the BRT corridors by 3.3 million trips per year within 10 years of the system becoming operational. This equates to an increase in public transport trips of between 43% and 75% depending on the corridor.

11. The modal share of public transport on the BRT corridors is predicted to increase by approximately 8%.

12. Public transport journey times on the BRT corridors are forecast to reduce by up to 30%.

13. The introduction of additional bus lanes and bus priority measures is forecast to result in a 20% reduction in traffic volumes on the EWAY and WWAY routes. Approximately half of this reduction is due to modal shift to public transport with the other half due to traffic dispersing to other routes.

14. Following a settling in period for the BRT system, it is forecast that there will be an average increase in journey times for general traffic along the corridors of approximately 8%. General traffic on some sections of the routes will experience journey time increases of approximately 40%, particularly in the period immediately after implementation.

Social and Environmental

15. The BRT system is predicted to lead to a slight beneficial impact on air quality and carbon emissions.

16. BRT infrastructure improvements at road collision cluster sites are expected to improve road safety.

17. The introduction of BRT will promote increased physical activity among new public transport users.

18. BRT will lead to an improved and more accessible public transport system which will have positive impacts on all section 75 groups. In a small number of cases, the proposals may have a negative impact on people with mobility problems due to the reduced number of public transport stops along the BRT corridors.

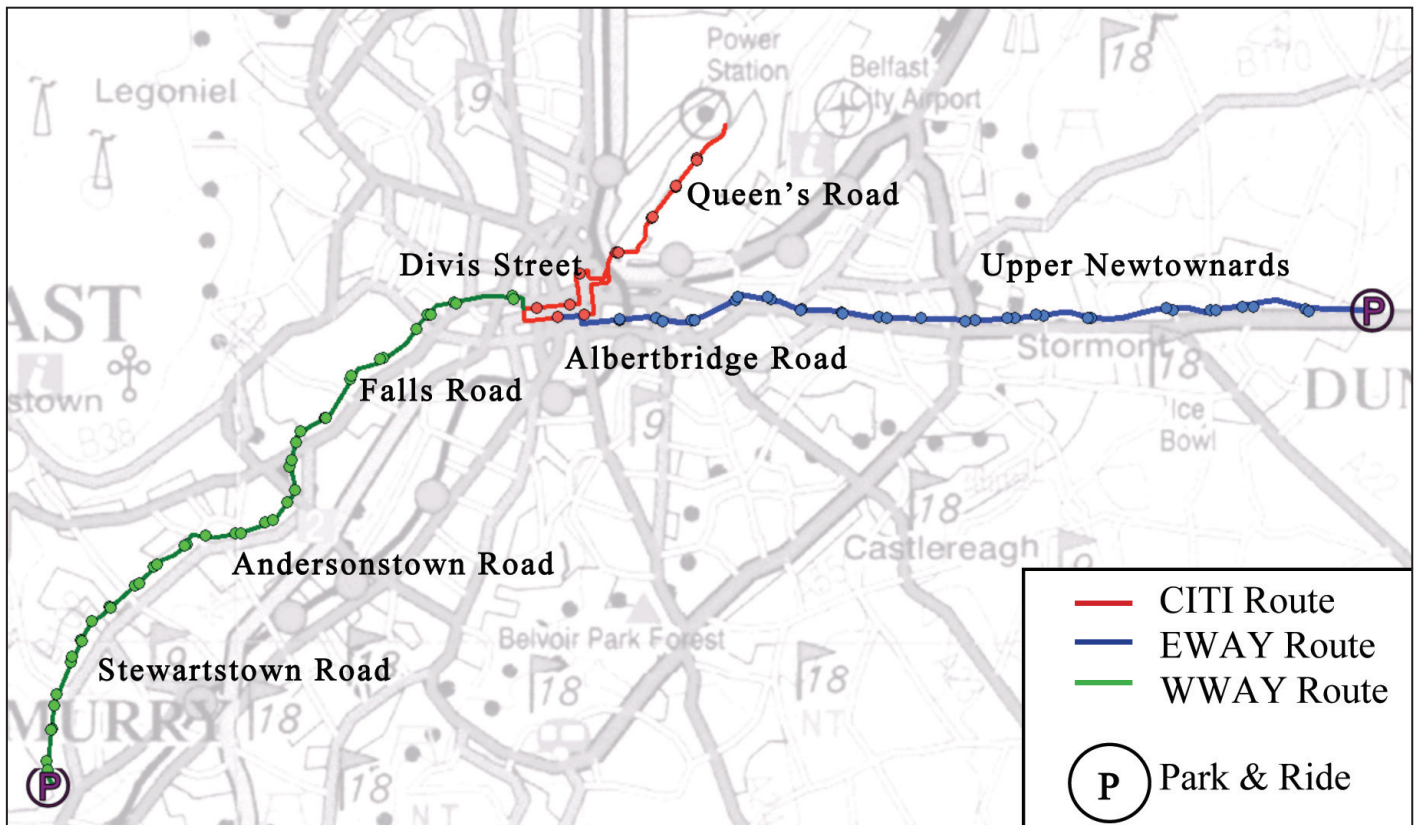
Project Delivery and Operation

19. The design, procurement, construction supervision and maintenance of the BRT infrastructure are closely aligned to the duties currently undertaken by the Department's Roads Service. It is therefore expected that value for money is most likely to be achieved by delivering the majority of these services in-house.

20. A contract for the provision and maintenance of the shelters and associated infrastructure for the BRT halts should be procured. The contract should be for a period of 10 to 15 years and it should offer the rights to advertise at the halts.

21. A Soft Market Sounding exercise was undertaken to enable the Department to understand more about supplier markets without prejudice to future procurement exercises. This exercise identified reluctance from private sector operators to assume the risks of operating BRT on routes which will be shared with other forms of public transport including taxis, Ulsterbus and some residual Metro services. Due to the inherent additional risks for a new incoming operator, a direct award to Translink is likely to represent the best option available for service procurement. This is contingent upon the Department being satisfied that Translink can meet the performance and efficiency targets for a directly awarded contract and Translink being appointed under a true net cost contract whereby it is held fully accountable for the patronage of BRT.

22. A direct award of service operations to Translink would bring benefits in terms of integration with other public transport services and the potential for the early involvement of the operator in the infrastructure and vehicle design and procurement.



Routes

23. There is broad public support for the BRT routes, although the Next Best Option routing in West Belfast, using the lower Falls Road and Divis Street rather than Grosvenor Road, was favoured by respondents to the public consultation exercise. Initial assessments indicated minimal differences between the two route options in terms of meeting the objectives for the project, with the decision to run along Grosvenor Road made on the basis that there was a major new public transport hub proposed on Grosvenor Road near to Durham Street. However, the delivery timeframes for that initiative are uncertain in the current economic climate and the use of the lower section of Falls Road and Divis Street enhances access to additional destinations including regeneration sites, and areas of employment, recreation, tourism and local retailing.

24. The Outline Business Case concluded that the **Recommended Routes** for BRT are as follows:

> **CITI** route from Queen Elizabeth Bridge along Queen's Quay and Queen's Road to Titanic Quarter and returning to the city centre via Queen's Road, Queen's Quay, Station Street, Bridge End and Queen's Bridge.

> **EWAY** route from the city centre along Albertbridge Road and Upper Newtownards Road and terminating at a park and ride site in Dundonald.

> **WWAY** route along Divis Street, Falls Road, Andersonstown Road, Stewartstown Road and terminating at a park and ride site near Dairy Farm and/or McKinstry Road Roundabout.

All three routes will connect with a circulatory route and common interchange halts in the core of the city centre that is being delivered by the Belfast on the Move Project and consists of Oxford Street, May Street, Howard Street, Fisherwick Place, College Square East, Wellington Place, Chichester Street, Victoria Street, Custom House Square and Donegal Quay.



Recommendations

As a result of the findings from the Outline Business Case, the Department recommends:

- The introduction of a high quality, bus-based rapid transit system operating on the Recommended Routes detailed above.
- The delivery of the majority of the design and infrastructure works for BRT via the existing expertise within the Department's Roads Service.
- The award of the operating contract for BRT to Translink, subject to clarification on performance and contractual issues.

The Outline Business Case has concluded that the proposals represent a high value for money project which aligns well with the relevant strategies and policies in addition to meeting the key objectives for the project.

In keeping with the approach on the project to date, the Department intends to continue consulting extensively with the public and key stakeholder groups as the detailed design and implementation of the BRT project progresses.

CONTACT

This document is available on the Department's website at www.drdni.gov.uk under the Belfast Rapid Transit link.

This publication can also be made available, on request, in large print, Braille, and audio alternative formats. Please contact us to discuss your requirements.

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