

ASSESSING RESPONSES TO DEMANDS FOR TRANSPORT

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Abstract

A number of opportunities in recent years to represent private sector clients as a transport planner during the planning process have demonstrated that the current planning framework in Scotland entitles local authorities to secure financial contributions towards measures they deem necessary to mitigate the effects of, or complement a development.

In certain cases, local authorities have specified conditions which require “public transport improvements” to be introduced to a local area in conjunction with the opening of a development such as a large employment centre or a food retail outlet. It may be the case that the requirement for public transport improvements results from the perception that the introduction of a new bus route, or the extension of an existing route is, in all cases desirable. However, if introduced without the correct level of consideration, public transport improvements of this nature can be damaging to existing services, potentially duplicating provision, or abstracting passengers.

Research undertaken by Aberdeenshire Council ¹ suggests that there are examples where the introduction of Demand Responsive Transport (DRT) in place of scheduled fixed route bus operations has led to an increase in ridership. As required, the introduction of a bespoke DRT service can be tailored to satisfy not only an individual’s A to B travel demand, but also, the selection of an appropriate vehicle type can open up access to public transport for users who may be marginalised by more conventional public transport operations. Additionally, it is recognised that a common barrier to the implementation of demand responsive transport is that of securing funding sources, and the fact that funding is commonly only available for short periods of time.

This paper seeks to discuss examples of DRT application in Scotland to support the idea that DRT has a place as part of the Scottish public transport hierarchy. Further discussion will then determine whether the implementation of a bespoke DRT service rather than fixed route bus routes in conjunction with new developments would have any potential to deliver a higher value service that better meets the specific travel and mobility demands of local people who access, or would like to access those developments, potentially at a lower implementation cost.

Ultimately, this paper hopes to consider whether there any future revision to planning guidelines should require practitioners to consider the implementation of DRT during the planning stages of future developments.

1 - Introduction

The motivation for writing this paper arose as a result of the author's attendance at the Demand Responsive Transport (DRT) conference, held in Edinburgh during November 2008.² Throughout the conference, various speakers spoke in detail about various examples of DRT in Scotland and throughout the UK as a whole. Whilst it was clear that the application of DRT varies widely across local authority boundaries, it was apparent that one recurring theme was that of funding.

When first researching this paper, it was the intention to make reference to specific case studies using examples of previous project experience. However it was considered that there was more merit in a general analysis of traditional approaches to securing public transport improvements along with more bespoke approaches. Ultimately, the purpose of this paper is to consider the question of whether there is scope in any future revision of planning or transport assessment guidelines to place a greater emphasis on the delivery and application of DRT and the benefits it can return when correctly applied.

This paper sets out to provide a background to the need for DRT and examples of its application in the UK before discussing how the current planning system provides an opportunity for local authorities to secure public transport improvements as a result of new developments such as food retail outlets, large employment centres and residential master plans. The paper then seeks to highlight the fact that existing frameworks make it hard to finance DRT schemes, and that as a result, a potentially successful public transport concept is not applied as comprehensively as it could be. Ultimately, the paper will conclude by questioning whether future revisions to planning guidance should require local authorities and practitioners alike to consider the opportunity to use Section 75 funding to deliver DRT schemes which may better satisfy policy objectives of promoting social inclusion and reducing car dependency.

It should be noted that the views and opinions expressed hereafter are those of the author rather than those of SIAS or any of the company's clients.

2 - Background

A study undertaken by the RAC Foundation in 2007³ concluded that despite a general increase in congestion levels, fuel costs and an increasingly vocal green lobby, Britain remains a “car dependent nation”. According to the study report, half of the UK population do not use the bus at all on the basis that they do not consider it to be an attractive option. Commonly cited factors leading to dissatisfaction with buses and bus services include the perception that buses are unable to offer the same level of comfort as the private car, that they are unreliable and that they are unable to meet the specific travel demands of all users. Mindful of this, bus operators, along with local and national government continue to explore new and innovative approaches to delivering bus based public transport.

Current planning legislation places an increasing emphasis on introducing measures which can prompt a reduction in personal car use, promoting measures to encourage the use of sustainable travel modes and encouraging greater personal mobility. The European Commission’s Directorate for Transport defines Demand Responsive Transport as:

“...an advanced, user-oriented form of public transport characterised by flexible routing and scheduling of small/medium vehicles operating in shared-ride mode between pick-up and drop-off locations according to passenger needs”.

In simple terms therefore, there is an argument to suggest that where it is applied correctly, DRT could, in certain cases be seen as an effective means of countering the perception that public transport is either unattractive or does not meet with user specific requirements. For example, where DRT services are geared towards commuters or business travellers, the additional space and comfort provided may appeal to traditional car users. Equally, a bespoke DRT service aimed more at users of community transport which has specially trained staff and additional accessibility features may appeal to members of the community who find it hard to access conventional public transport.

Perhaps a common misconception is that DRT is solely aimed at community transport, tailored towards specific user groups who for a variety of reasons may not be able to access more conventional forms of public transport. The definition provided above clearly demonstrates that DRT literally represents a diversion from fixed route services, but the principle is equally as applicable in an urban and inter-urban context as it is in a rural sense.

Who Uses DRT?

The exact manner in which DRT is applied varies according to the market at which it is aimed. The purpose of this exercise is not to discuss the merits of respective applications, as each has its place when applied in the appropriate manner. Various distinct types of DRT are as follows:

- Community transport: usually geared towards members of the community who have mobility or health related considerations which mean they may be more reliant on assistance and specialist facilities. Such services would typically be operated with accessible vehicles and are likely to be reliant on a level of subsidy.
- Postbus/rural operations: invariably low frequency services, perhaps serving distinct parts of a larger catchment on different days of the week. Such services may fulfil a multi-purpose role, perhaps delivering goods to remote communities, or operating as combined school bus and public transport vehicles.
- Urban/inter-urban operations: usually complement the wider public transport system or are aimed at commuters who may otherwise be traditional car users. In an urban/inter-urban context, DRT services are likely to operate at a higher frequency, and may provide additional features which “set them aside” from conventional bus operations.
- Luxury/Transfer Services: Such services are likely to be associated with travel to and from an airport or transport terminal, and would typically compete for group or business travellers and the share of the market that may otherwise travel by taxi. Typically, these “premium” services would be operated with a strong brand image with an emphasis on customer service and comfort.

The broad categories listed above highlight that the concept of DRT has many applications with a variety of user types. It is also apparent that the means by which these services are funded varies widely. Details are provided in the following section of examples of where DRT has been introduced in the UK in recent years.

3 - Examples of DRT in the UK

Recent examples of UK based DRT applications include a variety of innovative schemes, led by both local authorities and established public transport providers who fully understand the dynamics of passenger demand in their respective operating areas. Schemes aimed at commuters and business travellers such as the Stagecoach Fife Taxibus, the Lothian Buses operated Edinburgh Shuttle and the London Airport Dot-to-dot operation all serve as examples of attempts to explore an alternative means of providing public transport in an urban area, for the general travelling public. The approach adopted for each of these services was similar; they each operated between fixed start and end locations with permissible deviations, followed a committed timetable and fare structure and in all cases, they offered passengers the flexibility to be collected or dropped-off at a location of their choice provided it was within a specified catchment.

The Review of Demand Responsive Transport in Scotland study ⁴, published by The Scottish Government in May 2006 gives details of DRT schemes in operation at that time. Selected examples are provided below of a range of initiatives which have been adopted in Scotland in the recent past, demonstrating that the principle of DRT can be applied in a variety of contexts, whether rural or urban.

Yellow Taxibus (Stagecoach Fife)

The Yellow Taxibus DRT scheme was introduced by Stagecoach Fife in 2003, providing a timetabled service between Dunfermline and Edinburgh using minibuses which could collect and drop-off passengers at a variable location, provided it was within a specified catchment. The service was marketed as an alternative to the car, ostensibly for people commuting between Dunfermline and Edinburgh.

After a two-year trial, Stagecoach Fife announced that the Yellow Taxibus service would end ⁵. Although the service had been judged to be loss-making, user feedback suggested that it had been a popular concept, particularly with lone female travellers. High customer satisfaction ratings relating to comfort, reliability, value-for-money, service frequency and customer service were all cited by Stagecoach as reasons why the company believed there to be merit in DRT. In a press statement at the time, Stagecoach made it clear that the company believed the concept could work with public sector support.

Edinburgh Shuttle (Lothian Buses)

Edinburgh Shuttle was introduced in December 2006 to provide a DRT service between central Edinburgh and Edinburgh Airport. As with the Yellow Taxibus, the Edinburgh Shuttle offered fixed-rate fares and offered passengers the chance to be collected or dropped-off at their front door. Despite growing what was described as an “impressive customer base” ⁶ Lothian Buses has stated that passenger growth figures had not reached

expectations, and on the basis that the service did not fit within the core business the decision was taken to deregister the operation in Spring 2009.

Aberdeenshire A2B (Aberdeenshire Council)

Aberdeenshire Council ⁷ along with a number of project partners introduced the A2B DRT brand to various towns throughout the council area from July 2004 onwards with the stated aim to:

“...demonstrate how the practical co-ordination of rural transport services can be achieved through a managed approach to the development of DRT”.

The A2B scheme is composed of a total of 12 flexible services using 13 accessible vehicles which provide a door to door service to its customers. A2B was introduced after an extensive period of stakeholder consultation, and in the period since its inception, there have been at least eleven service revisions, demonstrating that Aberdeenshire Council has shown a willingness to respond to user feedback. The varied geography and demographic composition of the Aberdeenshire Council area provided the opportunity to introduce a number of DRT approaches. The full range of services offered varies by time of day and the type of vehicle operated, and according to the varied demographic make-up of the council area, the services have been developed in a bespoke manner to cater for different user profiles and markets.

Elements of the central Buchan A2B scheme were introduced as a replacement for a conventional supported bus service. Perhaps due to a lack of confidence in the principle of DRT services, the general public initially expressed concerns about the “loss” of their bus service.

Passenger ridership data collected by Aberdeenshire Council showed that in the two years prior to the conversion of fixed route bus services 485/486, there was an evident trend of decline in weekly passenger loadings, with an average of 345 passengers per week in 2003/4 and an average of 322 passengers per week in 2004/5. Upon the conversion of the services from conventional fixed route services to DRT the trend of decline continued with an average of only 248 passengers using the service each week during 2005/6. However, during the period 2006/7 to 2008/9 average weekly passenger loadings increased from 395 to 443.

On the basis of information provided by Aberdeenshire Council it is not possible to attribute the reversal in patronage decline to one specific intervention, however it is stated by Aberdeenshire Council that the following elements are noteworthy:

- extensive stakeholder consultation
- partnership working
- innovative approach
- application of locally specific solution
- communication and marketing
- continual monitoring and review, with adjustments as necessary

It is not unreasonable to assume that the evident increase in patronage growth can in part be attributed to the increased awareness of the DRT routes that will have resulted from increased marketing and promotion of the initiative. In addition, it would seem reasonable to assume that another contributory factor is the increased accessibility of the DRT service, which can be pre-booked and can better serve the needs of individual passengers, and in particular the needs of passengers who have mobility impairments, or those who cannot typically access conventional public transport systems.

The examples given above of applications of DRT in Scotland demonstrate that there is recognition by operators and local authorities alike that DRT has its place as part of a modern public transport system. Equally, they demonstrate that there is willingness by practitioners to embrace new ideas and promote innovative schemes, with a view to better understanding their feasibility and longer term merit within the context of the wider public transport framework.

A common factor in each of the examples given above is that the establishment of a strong brand image coupled with a high profile marketing strategy from the outset was a key factor in raising the profile of the respective DRT initiatives.

4 - Funding DRT

The Innovations in Demand Responsive Transport study⁸ undertaken by the Department for Transport highlights the distinction between various levels of financial performance of DRT. In many cases, DRT operates with high levels of subsidy, potentially meaning that on a passenger by passenger basis, the subsidy per head is considerable. Where this is the case, it is appropriate to consider the cost per head in the context of the benefit afforded to that individual as a result of being able to make a trip using DRT. For example, without the service, an individual may be unable to access employment opportunities, healthcare appointments or social events and as a result becomes – or continues to be – socially excluded. A wider consideration of all the costs concerned in such an example may well highlight that passenger subsidies deliver good value for money.

This paper has not researched the means by which DRT services are funded in any degree of detail, but rather draws on a number of points made by speakers during the Demand Responsive Transport Conference held in November 2007. It was highlighted that in many cases, it is hard to make DRT financially viable, and that there will always be examples of services which deliver very meaningful benefits to their users, but operate without even coming close to covering their costs.

There is a threat to DRT services which operate with financial support, usually from a local authority, that as other services and departments compete for funding, the budget available to support DRT either diminishes or is removed altogether. Where this is the case, passengers who have become reliant on the DRT service potentially stand to lose a vital lifeline, compromising their ability to access employment, healthcare and so on.

Typically, funding for non-commercial DRT services would be allocated for a set number of years, allowing for a reassessment of the costs and patronage numbers before awarding further funding. It was stated at the DRT conference in November that the periods over which local authorities are prepared to commit funding towards DRT services have become shorter in recent years, often with commitments made on an annual basis rather than for two or three years which may have been more likely in the past.

As a result, certain marginal routes or initiatives may continually find themselves at risk of losing their funding, potentially requiring a reduction in the level of service that can be provided, or the complete withdrawal of the facility. As stated above, for those passengers who become reliant on DRT, what may be considered to be a cost saving, or where funds are judged to deliver a better return elsewhere, the loss of a DRT facility would almost certainly impact significantly on their way of life.

5 - Planning Experiences

Prior to the introduction of the Scottish Government “Transport Assessment and Implementation: A Guide” document in August 2005⁹, the traditional approach by transport planners was to determine the number of vehicle trips that would be associated with a development, and identify suitable mitigation measures to ensure that the delivery of the development would not lead to additional queuing and delay on the adjoining road network. Under existing legislation, it is necessary to consider the transportation impacts and opportunities associated with most types of development at an early stage in the planning process to determine the trip-making characteristics of people who will live, work, study or visit the development; shifting the focus from vehicle impacts to person trips, and placing a greater emphasis on accessibility and sustainability.

A comprehensive transportation assessment exercise should consider the internal “red line” layout of a site and its function, whilst also considering how the development integrates with adjoining transport infrastructure. Where there is a clear need for junction capacity improvements or alterations to the road layout, details will be provided of how these will relate to the completed development and what the resulting impact on general traffic will be. In general, the cost of physical measures which are necessary to accommodate the development would be met by the developer, in conjunction with the relevant planning authority which should ensure that there is no net detriment to the local road infrastructure as a whole.

When working through the development application process, it has become increasingly more common for local authorities to specify a range of “off-site” measures when specifying the necessary planning conditions required for a successful application. Typically, the costs of delivering such measures are met by the developer who enters into a Section 75 agreement with the relevant local planning authority. In the author’s experience of working within a project team supporting applications for large scale commercial and food retail developments, it has often been the case that planning conditions are set to ensure that perceived dis-benefits of a development are not allowed to manifest themselves. For example, given the example of a mixed use development on the outskirts of a Scottish town, it was perceived by the local community that there was a real threat to the existing town centre, which it was considered may suffer the effects of a downturn in shopper activity. This concern was addressed in part by the imposition of a planning condition which required the payment by the developer of a six figure sum of money which would be used by the local authority to upgrade aspects of the town centre, making it an attractive place to spend time, potentially reducing the likelihood that shoppers would completely turn their backs on it.

Similar approaches are typically adopted by local authorities who seek to ensure that the accessibility of facilities such as food stores, large scale employment centres and edge of centre residential developments can be made to be less car dependent, and more accessible by a range of sustainable travel modes. Typically examples may include the establishment

of or upgrading of pedestrian and cycle links, the provision of controlled pedestrian crossing facilities, measures to promote road safety and so on.

Section 75 agreements conditions are also imposed by local authorities as a means of securing extensions or improvements to existing public transport services, or as the basis for introducing altogether new routes, geared at improving the accessibility of a proposed development, with the objective that car use associated with that development can be reduced.

In the author's experience, it is not unusual for local planning authority transportation officers to specify that large sums of money – often six figure sums - are paid by a developer towards “public transport improvements” associated with proposed developments. On the basis that public transport improvements could constitute any number of possible measures the wording of such a condition is vague, and potentially results in a less than effective set of measures being implemented. In the majority of cases, the nature of said “public transport improvements” would be considered to involve the adjustment in some way to an existing bus route, or the inception of a new route, potentially bringing a catchment not currently served by public transport to within “striking distance” of the proposed new development. Measures such as these are well intentioned, and are consistent with familiar transportation policy objectives such as increasing the level of public transport provision available to users of a proposed development, or to ensure that people can access the facility without necessarily having to use a car do so.

Returning to the question posed in the introduction to this paper, with the above example in mind, it would seem reasonable to question whether the use of developer funding to secure the application of fixed route bus services is, in ALL cases the most effective manner in which to satisfy the policy objectives of reducing social exclusion. Given the challenges faced by local authorities and public transport operators to win over the large proportion of trip makers who do not consider public transport to be a viable travel option, is the use of private sector funding to secure bus routes, which potentially duplicate existing provision and abstract passengers from routes which already operate with subsidy, the most effective use of that money?

Furthermore, when considering the difficulties faced by some DRT operators in securing funding for certain routes, is there scope for considering whether a more bespoke application of the planning framework could return more effective benefits to non-car owning members of the public who find it difficult to use conventional public transport?

6 - An alternative approach?

This paper has not set out to suggest that existing applications of Section 75 agreements are ineffective, rather it has sought to raise the question of whether the planning framework could be used to better focus where developer secured funding could be spent in the future. With a requirement to *consider* the introduction of DRT services in place of conventional fixed route bus services, local authority officers and transport planners could consider whether the application of such an approach could, at a local level, introduce something new and innovative, which would go further in terms of satisfying familiar policy objectives.

Given the example of a food store development, using developer funding to secure the introduction of a DRT service could be used as an effective means of reaching certain members of the local community who may not have the option to use a conventional bus service. When considering the potential that the daily operating costs of a DRT route could be less than those of a fixed route bus service, funding secured by the developer could go further, whilst possibly also making more of a difference to members of the local community.

In addition, funding need not necessarily be allocated to cover the costs of the vehicle operation; it could potentially be used to provide better quality marketing information to raise the profile of an existing service, or to implement better quality booking facilities or planning and monitoring systems, which would serve to make the facility more robust and credible. Developer secured funding could also be used to ensure that sufficient resources were allocated to enforce quality control across the service, boosting user comfort and confidence.

Funds could also be used for the purpose of marketing an existing or newly introduced DRT service, coupled with appropriate research allowing the retailer or operator to target the most likely passenger groups.

7 - Conclusion

Prompted by the author's attendance at the Demand Responsive Transport Conference in Edinburgh in November 2008, this paper set out to discuss the potential that there may be scope in using the planning framework as a means of securing funding for existing or new DRT services in Scotland. Examples have been provided of where the principle of DRT has been applied in the past, demonstrating that the principle can be applied in both a rural and an urban context.

Drawing on points made in relation to the funding of DRT schemes by various speakers at the conference, this paper then proceeded to highlight that a common threat to DRT schemes in Scotland was that of funding. It is generally well accepted that DRT has its place in the public transport hierarchy in Scotland, and that it can be one of the most effective means of satisfying a range of policy objectives relating to accessibility and social inclusion.

Examples are given of how the planning system in Scotland provides the opportunity for local authorities to secure developer funding to aid with the delivery of measures to mitigate the effects of, or complement, development; on the basis of project experience of the author, it seems reasonable to question the value for money that this mechanism delivers.

The paper has discussed whether, with a greater emphasis on considering DRT during the planning stages of development, there is an opportunity to use developer funding either to support existing examples of DRT, or to establish meaningful schemes which can be used to increase the general accessibility of developments, whilst providing the opportunity to cater for those members of the community who do not have access to a car and who do not consider conventional public transport to be a viable option.

Even if developer funding is not used to fund actual vehicles for DRT services, it would seem sensible to consider whether there is an opportunity for such funding to support the marketing of local DRT applications, or to train additional staff members to make an existing service more effective.

Notes

¹ Refers to research presented in “Aberdeenshire A2B: An example of good practice?” by Richard McKenzie of Aberdeenshire Council at the Demand Responsive Transport conference held in Edinburgh on 19 November 2008.

² The Demand Responsive Transport “Connecting People and Places” conference was a one-day event held in Edinburgh where various speakers presented evidence of different applications of DRT in the UK.

³ Refers to the 2008/09 Road File Bulletin prepared by the RAC Foundation

⁴ The review of Demand Responsive Transport study was prepared by Derek Halden Consultancy, The TAS Partnership and the University of Aberdeen.

⁵ Refers to a press statement issued by Stagecoach Fife in September 2005.

⁶ Refers to a quote printed in The Scotsman Newspaper in March 2009

⁷ Refers to research presented in “Aberdeenshire A2B: An example of good practice?” by Richard McKenzie of Aberdeenshire Council at the Demand Responsive Transport conference held in Edinburgh on 19 November 2008.

⁸ Refers to research presented in “Aberdeenshire A2B: An example of good practice?” by Richard McKenzie of Aberdeenshire Council at the Demand Responsive Transport conference held in Edinburgh on 19 November 2008.

⁹ Refers to the “Intermode: Innovations in Demand Responsive Transport” full report prepared by the Department for Transport and Greater Manchester Passenger Transport Executive in June 2004.

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