9 TRAIN-TAXI AND FEEDER BUS SERVICES

9.1 THE KEY ISSUES ADDRESSED BY THIS CASE STUDY

The train-taxi (T-T) concept focuses upon a system developed within the UK in response to the government's 1998 Transport White Paper that focused upon integrated public transport. One of the themes developed within this paper was helping both business and leisure travellers to take the train (for long and especially inter-regional journeys) instead of the car by providing information that would help these travellers to overcome a key barrier – 'those final few miles", i.e. access and egress to and from the train station from their homes and to their destinations. It is this theme that this case study will focus upon. As such additional concepts to the UK T-T will also be considered given their ability to overcome the barrier of 'those final few miles'.

The additional concepts included are the Dutch version of T-T that provide specific demand-responsive transport (DRT) services, rather than a purely information one as with the UK T-T which provides travellers with information on taxi services serving UK rail, tram and underground stations. The initial concept was first introduced in 1989 by Nederlandse Spoorwegen (NS) (Dutch Railways) as a pilot scheme, with the general aim of offering train travellers an alternative means of accessing the train station or continuing their onward journey from the train station via taxi. A further concept that has been included is a recent UK development called Plusbus (www.plusbus.com). This offers an optional ticketing add-on when purchasing a train ticket which allows a train traveller unlimited travel on the buses serving the urban area around both the travellers' origin & destination train station area, on the day of travel.

A number of specific key topics that will be addressed by the case study, these are:

- **Legal and organisational arrangements**
  - the provision of up to date information on taxi services serving main line stations, as in the UK T-T concept
  - the revenue and ticketing agreements in place between Plusbus operators and train operators
  - agreements in place between Dutch T-T taxi companies and external organisations that subsidise the T-T services
- **Integrated ticketing and pricing**
  - the integrated ticketing aspects of the Plusbus scheme that have managed to integrate two separate modes (bus and train operators) successfully
  - the ability of the taxi operators to offer a seamless Dutch T-T service with several companies providing the same service at the same price
  - the integrated ticketing aspects of the Dutch T-T service which allows train users to purchase a T-T ticket for onward travel
- **Information & marketing**
  - how have these three separate concepts been marketed to the traveller?
- **Integration of public transport services**
  - three very different approaches to the integration of public transport services across the three concepts being examined
- **Business cases**
  - how cost effective are the three approaches, can they be transferred to other countries relatively simply and efficiently?

9.2 General Description of the Case Study

9.2.1 Overview

This case study is unique in that three separate concepts have been brought together to form a single case study. As such the depth of information may not always be as 'deep' as the other case studies given the amount of material to review.

As noted earlier, this case study focuses upon how business and leisure travellers can be persuaded to take the train rather than the car for long and intermediate journeys. In particular, this case study focuses upon one key barrier that prevent this, namely the difficulty in accessing and egressing train stations as part of a journey, particularly the destination station, which tends to be unfamiliar to the traveller; particularly so when making business or leisure trips. It can manifest itself as a number of separate issues which, when taken together, may result in the traveller opting to travel by car rather than train. Amongst these are the following, which result in the traveller feeling uncertain about:

- What public transport options there are to travel to the origin train station?
- How to navigate to the origin train station?
- How much public transport will cost to travel to the origin station?
- How to navigate to a destination from the destination station and back again?
- What public transport options there are to travel to the destination from the destination station and back again?
- How much public transport will cost to travel to the destination and back again?

Together, or in part, they combine to produce a powerful barrier that may prevent travellers from choosing to travel by train over the car. Several scenarios can be imagined that produce uncertainty for the traveller when travelling. Three such scenarios are presented for the outward leg of a journey:

- Scenario 1 – *Stage 1* – Home to familiar train station; *Stage 2* – Familiar train station to familiar train station; Stage 3 – Familiar train station to familiar destination.
- Scenario 2 – *Stage 1* - Home to a familiar train station; *Stage 2* - Familiar train station to unfamiliar train station; *Stage 3* – Unfamiliar train station to unfamiliar destination.
- Scenario 3 – *Stage 1* – Home to unfamiliar train station; *Stage 2* – Unfamiliar station to unfamiliar train station; Stage 3 – Unfamiliar train station to unfamiliar destination.

Clearly scenario 3 provides the most uncertainty for a traveller and is most likely to result in that traveller avoiding travelling by train, although this will vary according to the level of uncertainty that a person is able to accommodate. The sources of uncertainty have been broadly outlined above but it is not the purpose of this case study to highlight them to the n^{th} degree. There is however a certain irony in the fact that whilst a traveller may prefer to travel by train for the main leg of their journey (50+ miles) the uncertainty surrounding the first and especially the last legs (both of which may only be a 2 to 3 miles) of their journey may be enough to prevent them travelling by train and instead travel by a more familiar mode such as car. The UK government's 1998 Transport White Paper termed this barrier, 'those final few miles' and, as noted earlier, is the focus of this case study and the three very different specific solutions that have been identified as helping to overcome it.

The three existing solutions have already been briefly described above: (1) UK T-T; (2) Dutch T-T and (3) Plusbus. They differ in terms of the solution each provide to overcoming the 'final few miles' (FFM) barrier. UK T-T focuses on providing the traveller with travel information for the access and, particularly, the egress part of their journey by listing information on taxi facilities available at the train station or, alternatively, taxi firms who serve the train station. A more 'hands-on' approach is taken by the Dutch version of T-T in that a specific DRT service is provided to the traveller which reduces the cost of taxi travel given that journeys are shared both to and from the train station and the fact that services are subsidised by local authorities. Finally, Plusbus offers an integrated ticketing solution with an optional ticket add-on to the traveller's train ticket that allows the traveller unlimited bus travel within the urban area of the train station they choose it to apply to.

9.2.2 Geographic Coverage

The three solutions highlighted are addressing the same problem from very different approaches. In terms of geographical scope there is a certain bias towards the UK with the UK T-T scheme and Plusbus, but the Dutch T-T solution can be found in a number of European countries but clearly with a particularly strong presence in the Netherlands where the concept first began in the late 1980s.

9.3 SPECIFIC CHARACTERISTICS OF THE CASE STUDY

9.3.1 Modes and Infrastructure Involved

In this case study train can be considered as a passive mode since it has no interplay with the other modes as such. Train provides the main leg of the journey, whereas the focus in this case study is on the access and egress legs that are provided by non-rail modes, particularly taxi and bus services.

In the case of bus, no additional links are being provided to the train stations; instead the existing, largely commercially run services are continuing to operate a normal schedule. The same can be said of the UK T-T scheme, with taxi services operating on a normal, commercial basis. The Dutch T-T scheme is different however since they operate a specific DRT service that has been introduced for the purposes of providing links to and from train stations.

In terms of specific infrastructure links and nodes these do not apply to bus and UK T-T services which are run on existing road links and provide normal access to stations on a commercial basis. This largely holds true for the Dutch T-T although train stations will have specific taxi stands and call facilities for the taxis that would not otherwise have been built in the absence of the scheme.

9.3.2 Intermodal and Interconnection Opportunities

The intermodal connections in this case study are very much focussed upon: (1) train and taxi; and (2) train and bus; although other rail based modes (tram, metro and underground) are also included. The interconnection opportunities vary according to the concept under consideration. The Plusbus concept is valid for bus services operating in 276 British and 13 Northern Irish towns and is valid for the main bus operators in each of these towns. In addition, Plusbus allows travel on the tram systems in four English towns - Birmingham, Nottingham, Sheffield and Wolverhampton. This provides for comprehensive coverage across the UK and reflects the current location of train stations, with a particular focus on urban areas.

The UK T-T concept is even more widespread, providing information on taxi services for all the train, tram, metro and underground stations in Great Britain. The original Dutch T-T concept is more limited with only 38 train stations being served by T-T services in 2007. This is a large fall compared with the scheme's coverage in the mid-90s which saw 111 stations benefiting from the concept. It is worth noting however that comparable DRT services such as Regio Taxis (RG) have expanded to take over some of the services operated by T-T.

9.3.3 Stakeholders Involved

The stakeholders involved in the three concepts under consideration vary widely. With regards to Plusbus, key financial backing has come from Britain's five largest public transport companies – FirstGroup (www.firstgroup.com), Go-Ahead (www.go-ahead.com), National Express (www.nationalexpress.com), Stagecoach (www.stagecoachbus.com) and Trans-Dev (www.transdevplc.co.uk) – who operate a mix of bus and train services within their public transport portfolios. Their involvement in the Plusbus scheme should therefore come as no surprise since they have an interest in promoting both train and bus travel and so offering a product like Plusbus, that is complementary to both train and bus, makes strong commercial sense.

Other backers of the scheme include National Rail (www.nationalrail.co.uk) and the Confederation of Passenger Travel UK (CPT - www.cpt-uk.org). The latter is funded by bus, coach and light rail companies operating in Great Britain with a remit to promote travel by these modes and to lobby

government on issues related to the public transport industry. The former is operated by the Association of Train Operating Companies (ATOC - www.atoc.org) and provides a crucial information service to train passengers via its rail journey planner and fares software.

A further tranche of tacit support has come from the rail industry in general with the majority of Train Operating Companies (TOC) agreeing to offer Plusbus to customers either when they purchase their tickets at the station or if they purchase via the internet.

In terms of the UK T-T scheme the initial stakeholders included the Department for Transport as part of its "Transport Direct" vision with financial support from the Strategic Rail Authority and the National Express Group plc. The scheme is now supported financially by the passenger rail industry and other commercial licensees. From an informational perspective a total of 23 different data are integrated as part of the T-T scheme and additional reliance is placed upon individual taxi companies to provide up to date information on the stations they serve.

The Dutch T-T scheme has a much more complex history of stakeholders. Initially, the original scheme in 1989 was jointly funded by NS and the Dutch Ministry of Transport. Collaboration was agreed with the Nederlandse Samenwerkin Taxibedrijven (NST[16]) who agreed to implement a standard tariff for the taxi service. The stakeholders have changed over time until, today, the key stakeholders are a number of local governments (who provide financial support for the scheme), NS (who provides marketing support) and private taxi companies (who agree to operate the service with a set of fixed tariffs).

9.3.4 Current Cohesiveness of Multi-modal Networks

The current cohesiveness of the Plusbus scheme would appear to be relatively strong. There is strong support for the concept from the key operators who provide the bulk of the bus services that the Plusbus scheme. Importantly these same operators also provide a high number of rail services within the UK. Outside of the five key operators the scheme has support from the rail industry at various levels (TOC and ATOC) with ticketing arrangements in place that ensure Plusbus can be purchased at all mainline train stations, via the internet and via the telephone. The result is a scheme that operates in 289 UK towns (see figure 9.1) and one that is easily accessible to people.

The UK T-T concept has a similarly strong cohesion with regards the key stakeholders it engages with and the information that it is able to disseminate as a result. The T-T database:

- lists all the train, metro, tram and underground stations in Great Britain
- shows whether each station has a taxi rank or cab office
- lists up to three local taxi or cab firms serving each station
- indicates those that are believed to offer wheelchair-accessible vehicles

As part of its dissemination practices the T-T concept makes the information it has gathered available to a number of other organisations and journey planning websites and systems including:

- telephone callers to National Rail Enquiries on 08457 48 49 50
- users of "NRE on the web" at www.nationalrail.co.uk
- passenger rail industry computer systems and websites
- commercial journey planning computer systems
- users of the Transport Direct web portal at www.transportdirect.info

By doing this it is able to maximise the exposure the concept receives and the impact it makes to the general traveller.

[16] Dutch Association of Co-operating Taxi Companies

With regards to the Dutch T-T concept, as has already been noted that the extent of the network has dramatically reduced since its 'heyday' in the mid-90s; however where it still operates there is a strong level of cohesion between the main stakeholders and a good level of service. The one concern to note is the stability of the current arrangements. Since the service is subsidised by local government it will always be subject to budgetary influences and in addition to the co-operation of taxi companies to operate their services at a set tariff.

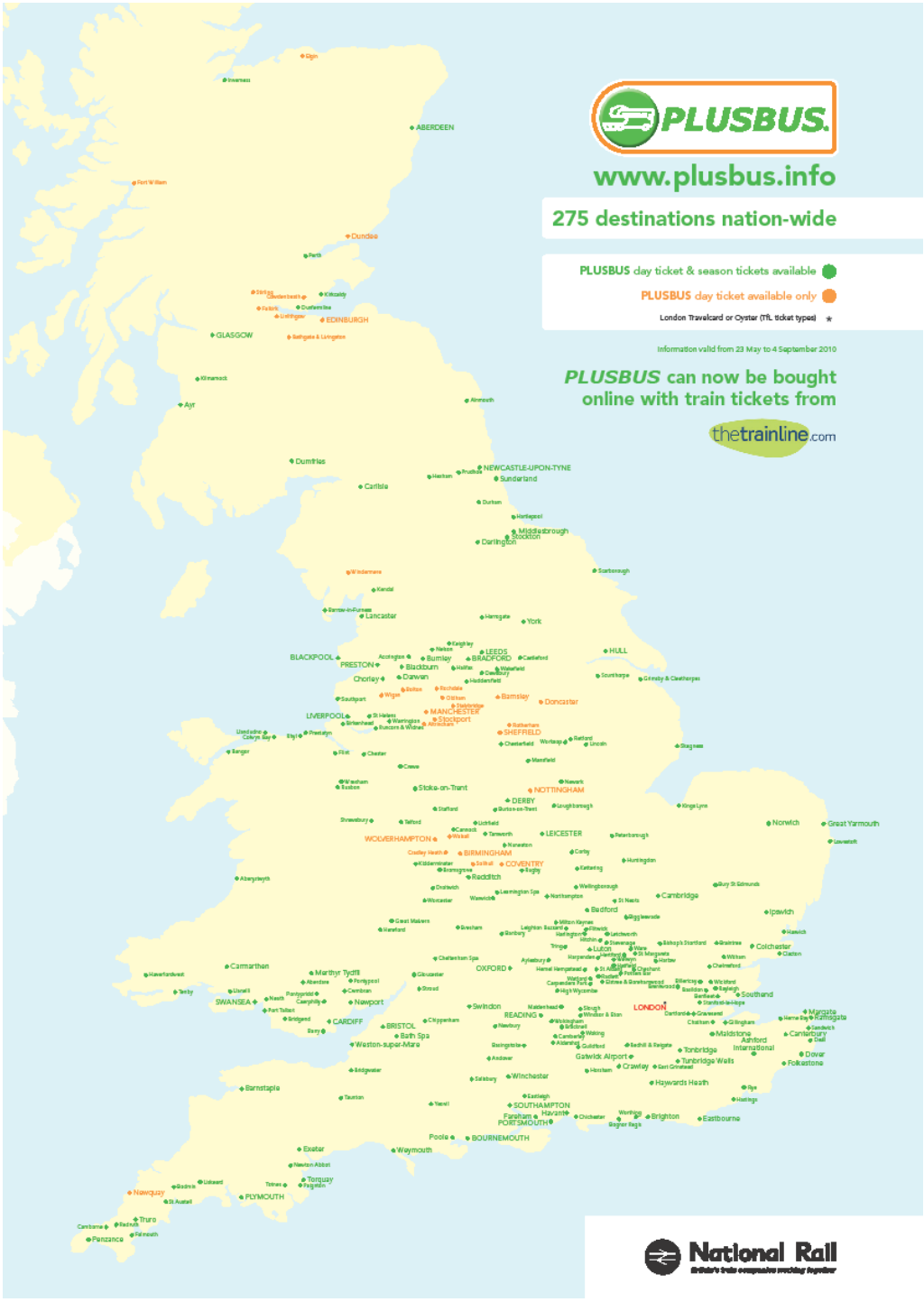

Figure 9-1 Plusbus network in Great Britain

9.4 SOLUTIONS ALREADY IN PLACE

9.4.1 Overview

This section now outlines the solutions that are relevant to the three concepts under consideration in this case study. Before doing that each of the three concepts is outlined in greater detail.

9.4.2 UK Train-Taxi

The Train-Taxi (T-T) concept focuses upon a concept developed within the UK in response to the government's 1998 Transport White Paper that focused upon integrated public transport. One of the themes developed within this paper was helping both business and leisure travellers to take the train (for long and especially inter-regional journeys) instead of the car by providing information that would help these travellers to overcome a key barrier – 'those final few miles", i.e. access and egress to and from the train station from their homes and to their destinations.

The T-T concept has attempted to overcome the key 'final few miles' barrier by creating an accessible database of information with regards the taxi services available at and serving the UK's train stations. Potential passengers can now obtain the following information for all train, metro, tram and underground station in Great Britain:

- Whether each station has a taxi rank of taxi office
- Contact details of up to three local taxi firms serving each station
- Whether these firms offer wheelchair – accessible vehicles

The key aim therefore of the T-T concept is to provide comprehensive information to potential passengers that remove the uncertainty about where taxi's can be caught or booked from. In addition an attempt has been made to ensure that this information is as accessible as possible. As such the information can be accessed by various means including:

- the national rail website – www.nationalrail.co.uk/passenger_services/traintaxi.html
- train operating company websites
- journey planning systems and websites
- transport Direct website – www.transportdirect.info

The T-T concept was initially launched in February 2002 as a pilot project operating under the Rail Passenger Partnership (RPP) scheme, funded jointly by the Strategic Rail Authority and the National Express Group Plc. It is currently funded by the passenger rail industry and other commercial licensees.

The T-T concept website is www.traintaxi.co.uk and an example of an enquiry for Leeds train stations as it appears on the website is shown in Figure 9.2.

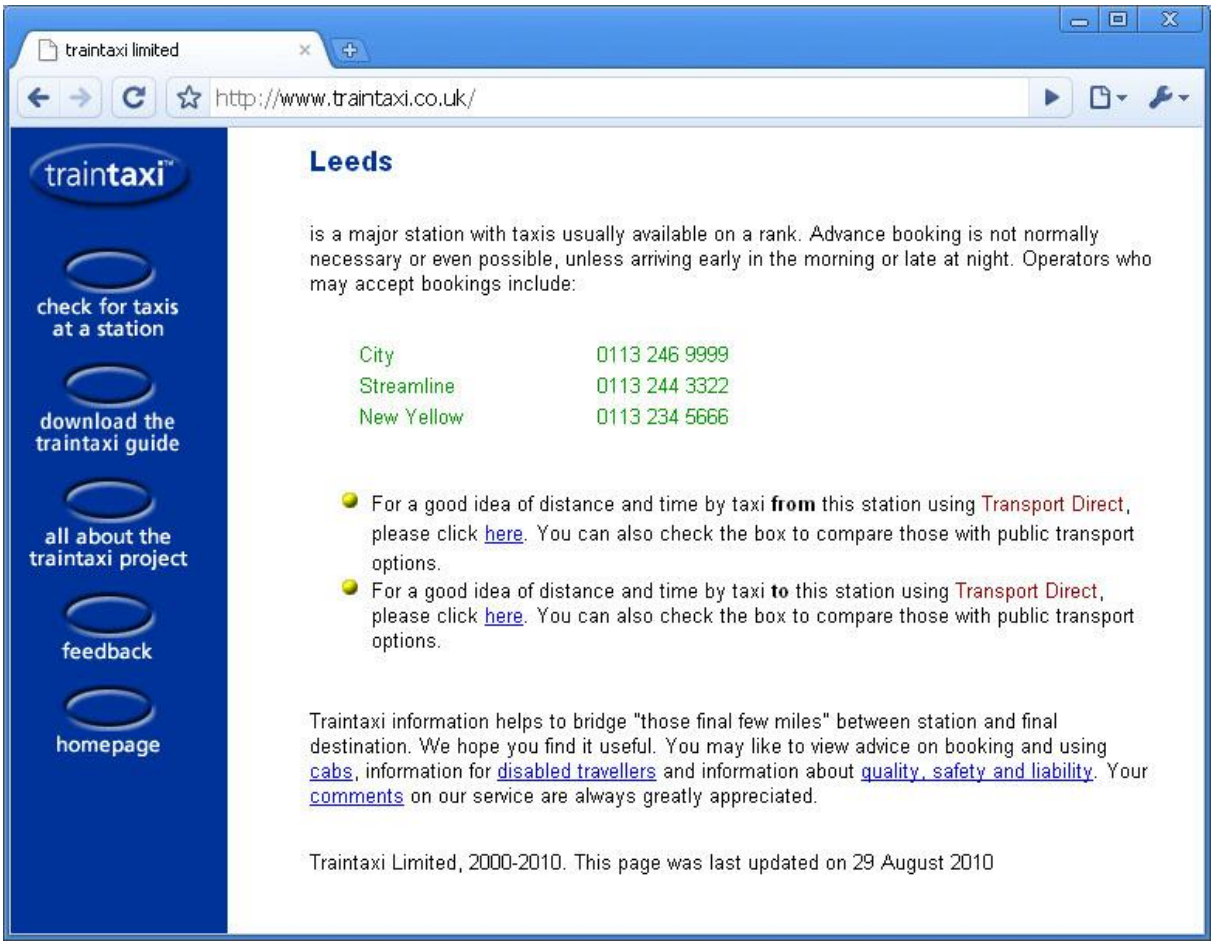

Figure 9-2 Enquiry for Leeds station from www.traintaxi.co.uk

As part of the assessment process in selecting the INTERCONNECT case studies the Train-Taxi concept was ranked 16th, covering 6 of 19 topics and mainly qualified due to the topic “context conditions for intermodality” dealt by this case study not being covered by many others, especially its focus upon overcoming the ‘final few miles’. In addition this case study was the only one amongst the top 30 that dealt explicitly with the mode “taxi”.

The key areas covered by the concept were:

- legal and organisational arrangements;
- business case;
- integration of (public) transport services;
- context conditions for intermodality;
- stakeholder co-operation;
- changing behaviour

Strangely the Task 3.6 theme of Information and Marketing is not amongst that list and a strong case for its inclusion could be made.

9.4.3 Dutch Train-Taxi

The Dutch T-T scheme is very different from the UK T-T concept in that it provides a specific Demand Responsive Transport (DRT) service rather than an information service. The concept was first introduced in 1989 by Nederlandse Spoorwegen (NS) (Dutch Railways) as a pilot scheme, with the general aim of offering train travellers an alternative means of access the train station or continuing their onward journey from it. In this sense it was also attempting to overcome the barrier of 'those final few miles' as identified in the UK. More specifically the aims were to:

1) *To provide DRT for individuals accessing/egressing train stations;*
2) *To provide frequent taxi services from and to train stations; and*
3) *To increase the number of passengers using trains by providing better access to train stations.*

Mott (2008a)

The current service has not changed significantly since 1989 (although it now operates from fewer train stations) and in essence offers a shared taxi service to and from specific train stations for passengers who are able to pre-book or wait at the train station for a shared ride with other passengers.

For train passengers egressing the train station a T-T ticket can be purchased at the same time as their train tickets or separately (either at counters or vending machines). Upon disembarking from their train passengers head to the T-T stand outside the station. Normally, there will be a taxi waiting and the taxi will wait for up to 15 minutes for other passengers to join (a maximum of 4 passengers can be carried at any one time). The driver will then decide on the best route to transport people. If not taxis are at the stand then passenger can speak to a commercial taxi operator via an intercom who will send a T-T to the stand (the average waiting time is around 10 minutes).

A telephone booking can be made for train passengers accessing the train station from home; however this must be at least one hour before travelling.

The scheme currently extends for a distance of 8 kms around train stations and the cost of a ticket is fixed regardless of how far a person is travelling, i.e. in 2008 it stood at € 3.13 per traveller. In terms of hours of operation the T-T service normally operates between the times of the first and last train service that call in at the train station, although some stations provide a 24 hour service.

The original scheme was jointly funded by NS and the Dutch Ministry of Transport, who provided € 5.08 million. Collaboration was also obtained from the Nederlandse Samenwerkin Taxibedrijven BV (NST)[17] who agreed to implement a standard tariff. In 1991 an initial assessment led to the scheme being introduced in 60 cities and 200 municipalities. This saw around 2 million users of the scheme and in 1993 the scheme was expanding to further resulting in 111 stations being covered and around 3 million users. A subsidiary of NS took over the management of the scheme following the initial pilot, Transvision and acted as a co-ordinator between NS, taxi companies and passengers.

Privatisation of NS in 2002 led to them withdrawing funding for the scheme and Transvision approached Dutch provinces to seek financial assistance as well as the Dutch Ministry of Transport for state subsidy. This led to a rationalisation of the T-T services with the closure of 'inefficient' services where an authority was not willing to provide funding. As a result the scheme covered only 62 of the original 111 stations by 2004 which also saw Transvision withdraw from managing the T-T service.
In 2007 only 38 stations operated T-T services organised by private taxi services with funding from local government and marketing support from NS. The dedicated service they provide is increasing being taken on by other DRT services, such as RegioTaxis (RG), which provide much wider regional services in a number of Dutch Provinces (Mott, 2008b).

The provinces argue that, '*…this arrangement allows them to reduce operating costs through contracting one company to provide shared taxi services across the full range of passenger requirements, rather than just travel to and from rail stations*.' Mott (2008a). Whilst for other provinces

[17] Dutch Association of Co-operating Taxi Companies

the train-taxi service (as a commercially run service) does not align itself with their policy of developing community and voluntary run DRT services.

9.4.4 Plusbus

Plusbus (www.Plusbus.com) is a recent UK development that offers an optional add-on when purchasing a train ticket. The add-on is in effect a discounted[18] bus pass (similar to a travel card) which allows a train traveller unlimited travel on the buses serving the urban area around both the travellers' origin[19] & destination train station area, on the day of travel.

The scheme is supported, crucially, by Britain's five largest public transport companies – FirstGroup (www.firstgroup.com), Go-Ahead (www.go-ahead.com), National Express (www.nationalexpress.com), Stagecoach (www.stagecoachbus.com) and Trans-Dev (www.transdevplc.co.uk) – who operate a mix of bus and train services within their public transport portfolios. Their involvement in the Plusbus scheme should come as no surprise since they have an interest in promoting both train and bus travel. Offering a product like Plusbus, that is complementary to both train and bus, makes strong commercial sense. Other tacit support has come from Train Operating Companies and from industry bodies in both the rail and bus sectors.

The Plusbus concept has been rolled out to 276 towns in Great Britain (see Figure 9.1 – with another five towns to join in September 2010) and to 13 towns in Northern Ireland. In addition Plusbus can also be used to travel by tram in Birmingham, Nottingham, Sheffield and Wolverhampton. The main urban area not covered by Plusbus is Greater London.

The ticket add on can be purchased either over the counter at all train stations, via the internet and via the phone. The promoters of the concept have promoted it on several fronts:

- Save time - buy tickets for your complete journey, no rush hour driving, no hunting for car park spaces
- Great value - exclusive, discount price bus travel
- Save money - Railcard holders save one-third off, no car parking costs
- Go anywhere - unlimited bus travel around town
- More flexible - travel on all participating buses
- Reduce hassle - no need to keep change for fares

In addition to offering single and day return Plusbus tickets, the promoters of the scheme also offer a Plusbus season ticket for 7 days, monthly, 3 monthly and yearly time periods which are aimed at the commuting market. Plusbus claims that in nearly all cases a Plusbus ticket will be cheaper than the equivalent bus ticket bought on the day. A sample of Plusbus ticket prices is shown in Table 9.1 and a further discount of a third is available for travellers who hold the following rail cards:

- 16-25 Railcard
- Disabled Persons Railcard
- Family & Friends Railcard (online purchase not available)
- HM Forces Railcard
- Network Railcard (or Gold Card)
- Senior Railcard

The scheme has proven to be highly successful since its launch with substantial growth, as illustrated by the sales figures for the last 2 years with 280,357 Plusbus tickets being sold in 2008/09 and expected sales in 2009/10 of 475,500 tickets. Of these around 70% are day tickets (principally

[18] Compared with the price if only travelling by bus.
[19] Separate Plusbus tickets must be bought for the origin and destination urban areas.

business and leisure) and 30% are season tickets (commuters) with a heavy bias towards weekly and monthly tickets. The reasons for such strong sales growth is credited to:

- the national availability of Plusbus tickets
- greater availability of season tickets for commuters (85% of schemes now offer these)
- better promotion of Plusbus by themselves and also by train companies (through more advertising posters at train stations, more information on websites, in customer newsletters and onboard magazines etc)
- online retailing of Plusbus day tickets (which started august 2009 and now accounts for 20% of all day ticket sales)
- advertising in newspapers e.g. 'metro'[20]
- word of mouth - existing customers telling their friends, family and work colleagues about Plusbus

Table 9-1 Sample of Plusbus ticket prices

Destinations	day ticket	7-day season	1-month season
Aberdeen	£2.60	£16	£58
Basingstoke	£2.50	£9	£33
Bath Spa	£3.50	£15.80	£53.70
Birmingham	£2.20	-	-
Bournemouth	£3	£14	£40
Bradford	£3	£15	£58
Brighton	£2	£9	£30
Bristol	£3.50	£15.80	£53.70
Cambridge	£2.70	£9.50	£38
Cardiff	£2.50	£10	£38
Chester	£2	£9	£34
Coventry	£2.20	-	-
Derby	£3	£12	£40
Durham	£2.30	£11.50	£45
Edinburgh	£3	-	-
Exeter	£2.50	£9	£30
Glasgow	£3.20	£12.50	£48
Guildford	£2.70	£12.50	£43
Halifax	£3	£15	£58
Hull	£2.80	£7	£26
Ipswich	£2.50	£15	£55
Leeds	£3	£15	£58
Leicester	£3	£12	£35
Liverpool	£3	£11.50	£44
Luton	£2.20	£10	£35
Manchester	£3.30	-	-
Milton Keynes	£2	£9	£33
Newcastle	£2.30	£10.40	£41.60
Norwich	£2.50	£15	£55
Nottingham	£2.70	-	-

[20] A free national newspaper available at most railway stations.

Oxford	£3	£13	£37
Peterborough	£2.70	£9.50	£38
Plymouth	£3.20	£14	£45
Portsmouth	£2.70	£11.50	£40
Reading	£3	£13	£45
Sheffield	£3.50	-	-
Slough	£2.90	£12	£48
Southampton	£2.30	£11	£37
Swansea	£2.50	£12	£46
Swindon	£2.50	£11	£39
Wrexham	£1.50	£8.20	£31
Wolverhampton	£2.20	-	-
Worcester	£3	£9.50	£35
York	£3	£12	£40

9.4.5 Solutions for "the Last Few Miles"

Taken together all three concepts outlined above have, in different ways, addressed the barrier, highlighted earlier, of 'the last few miles'. The two taxi-train services described are very different concepts. The UK concept of T-T focusing upon providing information to the current and would be train travelling in an attempt to reduce uncertainty about their travel options for travelling to and from the train station. The Dutch concept on the other hand provides a dedicated taxi service for getting to and from the train station that is modelled on DRT type services. From a cost perspective the Dutch concept requires considerably more resources than the UK concept and, indeed, it is this factor that has led to a relatively dramatic decline in the T-T services since their introduction in 1989.

In terms of improving the interconnection between train and taxi, the UK concept appears to achieve this by reducing information and uncertainty barriers. In contrast the Dutch concept improves interconnection by offering an integrated ticket and by reducing the cost of making a taxi journey; however at the same time the Dutch concept increases the generalised costs associated with making a train-taxi journey by imposing a wait time at the station for T-T users (taxi share) and similarly a delay for those accessing the train station (i.e. several people will be picked up by the taxi en route to the train station). It is perhaps no surprise that the Dutch T-T concept has and continues to decline in importance whilst the UK T-T concept is maintaining its importance.

The Plusbus concept is different to the two taxi concepts with the focus very much on providing a discounted integrated ticket that offers national coverage and ensuring that the concept is well promoted and relatively easy to purchase. The estimated 70% growth in sales in the last year suggests that the concept is becoming increasingly popular and which will continue to expand.

9.5 SOLUTIONS REPRESENTED BY TRAIN-TAXI AND PLUSBUS

9.5.1 Intermodal Agreements

As noted in the INTERCONNECT draft toolkit these, '*refer to agreements that take place, or could take place, within the existing competitive boundaries set by legislation (i.e. in relation to anti-trust/anti-competitive practices)*.' Such an agreement is in place for the Plusbus concept as covered by our case study. Specifically, the agreement covers the joint ticketing arrangement between train and bus operators which forms the basis for the Plusbus concept. The Plusbus add-on is purchased at the same time as a train ticket. The revenue for both parts of the journey is therefore collected by the train operator before the bus portion is redistributed to the specific bus operator(s) that it relates to.

Problems addressed

Intermodal agreements help co-ordinate the redistribution of revenues to the many operating partners who are involved in Plusbus. The ability to do this in an efficient and fair manner is key for the continued operation of the Plusbus scheme. It allows the traveller to purchase a Plusbus add on at any train station or via the internet and over the phone.

Performance against main toolkit criteria

Cost

The organisation in charge of the Plusbus scheme (Journey Solutions Partnership - JSP) was unwilling to release details of what costs were incurred but it is likely that costs will include management time, operational costs (i.e. selling the ticket) and revenues forgone (i.e. shared with other operators).

Technical feasibility

There is no evidence that technical feasibility poses any problems.

Financial feasibility

JSP were unwilling to release details about the financial details of the scheme but is it envisaged that the continued growth in the scheme would indicate that the costs involved are relatively low and so financially the scheme is feasible.

Organisational/legal feasibility

JSP were unwilling to release details about the organisational/legal feasibility of the scheme. It is likely that the initial agreement was relatively straightforward to draw up since train and bus are not competing. More problematic may have been the agreement between bus operators in urban areas where strong competition exists. Experience with other forms of agreement (Quality Bus Partnerships and Quality Contracts) may, however, have aided this process.

Acceptance by users

No evidence is available to assess this but as the agreement appears to benefit users without imposing any costs it is assumed that they would be in favour of it.

Other aspects of political acceptability

Since Plusbus is a complementary scheme that is tackling the 'last few miles', a barrier identified in the UK government's 1998 White Paper, as such the intermodal agreements are thought to have generated a favourable opinion from politicians.

Impact on users' door to door travel time; Impact on users' door to door travel cost and initial impact on comfort or convenience

No evidence is available to assess this.

Users' safety; Personal security; Region's prestige; Access for people on low incomes; Access for people with physical disabilities and other Impacts

No direct impact.

Mode shift, congestion and GHG emission

No direct impact.

Transferability of findings

In principle there is nothing to prevent similar agreements in other countries, especially since the organisational/legal feasibility should be easier in countries that operate within a more co-ordinated and concentrated ownership that the UK.

9.5.2 Franchising/Tendering/Concessioning

In the draft toolkit this is referred to as allowing, '*…operators to compete for the permission to operate a service*'. A form of this is employed in the Dutch T-T concept whereby local government have in place agreements with private taxi services to provide services to and from train stations for a set tariff per person (in 2008 this was £ 3.13 per passenger) with a maximum of four passengers per trip.

Problems addressed

This is a useful solution since local government has neither the ability nor the desire to operate a taxi service, whilst the free market has no desire to run the service as specified by local governments but does have the ability to operate a taxi service, and at a lower cost than the government. By tendering the taxi services to private taxi firms the local governments are able to, in effect, procure the taxi services they desire at the lowest possible cost.

Performance against main toolkit criteria

Cost

No specific costs of the tendering process itself have been obtained but costs will be occurred in terms of management time drawing up the tender specification itself, assessing the tender and then on-going monitoring of the scheme. Whilst not insignificant it is likely that these costs will be only a small percentage of the actual operational costs of the scheme costs.

Technical feasibility

There is no evidence that technical feasibility poses any problems.

Financial feasibility

The financial feasibility of the scheme is reliant on local government funding and is therefore subject to the vagaries of budgetary controls. The possible impacts that this may have upon the scheme were demonstrated in 2002 when the then principal sponsor NS was privatised and had to withdrawal its support for the scheme. This led a major rationalisation of the service with nearly 50% of the services being closed on the basis that they were inefficient and, as such, local authorities were not prepared to fund them.

Organisational/legal feasibility

The concept is feasible because there are sufficient private taxi firms to provide competition for the tendering process. If no such competition occurred then the costs associated with the scheme may rise to an unacceptable level.

Acceptance by users

No evidence is available to assess this but as the agreement appears to benefit users without imposing any costs (albeit directly) it is assumed that they are in favour of it.

Other aspects of political acceptability

It would appear that political acceptability of the scheme is closely linked to the financial feasibility. Some politicians may argue that the market already provides a similar solution in the form of private taxi services so why the need to fund a parallel service. Others will argue that by providing T-T services they are able to attain model shift by overcoming the barrier of the 'final few miles' for car

users and/or reducing overall congestion for those existing train users who would otherwise travel on their own in a taxi.

Impact on users' door to door travel time

No direct impact.

Impact on users' door to door travel cost

The fixed tariff agreed as part of the tendering process results in cheaper taxi travel for those travellers who would alternatively use a private taxi by themselves. It is not clear what the implications are for other users.

Initial impact on comfort or convenience; Users' safety; Personal security; Region's prestige; Access for people on low incomes; Access for people with physical disabilities and other impacts

No direct impact.

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Mode shift, congestion and GHG emission

No direct impact.

Transferability of findings

The majority of countries have experience of franchising/tendering/concessioning and so, in principle, there is nothing to prevent similar agreements in other countries.

9.5.3 Simple Tariff

This solution is discussed in the draft toolkit and it is noted that, '*There are myriads of fares depending on zones, special discounts, modes used, distance, travel time etc. Often this makes a choice of best options a hideous task and prevents potential customers from using the system'*. It is therefore important that the user is faced with as simple a tariff as possible. This is the case with two of the schemes under consideration within this case study. The Dutch T-T scheme provides taxi services to and from the train station for a fixed tariff per trip, whilst the Plusbus scheme offers a one day travel card for use on any bus service within a specific urban area.

Problems addressed

A simple tariff helps users to understand the costs they faced when trying to understand travel options and as such helps them to make the most efficient choice. It also provides users with certainty about how much they will have to pay when making a journey by a certain type of model

Performance against main toolkit criteria

Cost

There might have been some management costs associated with setting up the pricing of the travel cards for the various Plusbus schemes and in negotiating the fixed tariff rate for the Dutch T-T scheme; however, the tariffs for the two new structures were not replacing existing pricing structure and so the cost of implementing them will have not been significant.

Technical feasibility

There is no evidence that technical feasibility poses any problems.

Financial feasibility

The fixed tariffs offered by the Dutch T-T scheme are made possible by financial subsidy from local government. No such support is provided with the Plusbus scheme. It is not clear however what level

of cost coverage is being achieved by the private bus companies that offer the ticket, especially as the tickets are discounted; however the fact that the scheme is growing would seem to indicate that at least the marginal costs are being covered if not the average costs.

Organisational/legal feasibility

For the Plusbus concept the ability to organise a simple tariff structure is likely to have involved a significant effort. Unfortunately, JSP were unable to explain how the different organisations interacted and the framework that was in place. It can be surmised however that the organisational/legal feasibility is likely to have been less of an issue in those urban areas were just a single bus operator operated or was the dominant service provider. In other areas were two or more companies operated this will probably have been less feasible, with the effort required to have brokered a deal dependent upon whether a locally negotiated travel card was in existence already.

The Dutch T-T scheme is likely to have faced fewer problems when tendering out its services to private companies, however, there might have been complex negotiations when setting the initial tariff.

Acceptance by users

Acceptance by users will have been high since it removes uncertainty without imposing a cost on them. The fact that Plusbus is forecasting a 70% rise for the last year in the number of tickets bought would signify that the concept is being positively received by users.

Other aspects of political acceptability

No direct impact.

Impact on users' door to door travel time

At one level both concepts are likely to save time, as there is no need to find out tariff information before travelling. At another level it is likely that T-T will increase travel time for the user considerably since the user might have to: (1) wait on a T-T taxi to arrive at the stand (average waiting time can be 10 minutes); (2) wait for other users to join the trip (a maximum of 15 minutes); (3) they might have to take a longer route to their destination if other passengers are being taken to their destination first.

Impact on users' door to door travel cost

This will differ depending upon the trips being made by the user. For the user who might only make a single short trip by bus then the cost of a Plusbus ticket may be more than the return bus ticket they require. In this case the user is paying a premium for reducing their uncertainty and transaction costs. At the other extremity if a user is making several journeys within the urban area or a particularly long trip then the simple Plusbus tariff is likely to reduce their travel costs. The overall assessment is also made more difficult by the fact that many Plusbus tariffs are discounted vis a vis the normal local travel card tariff.

The Dutch T-T tariff is likely to reduce the financial cost associated with a taxi trip because it is set at a level lower than parallel private taxi services. This will particularly be the case for longer journeys. If it is not the case for shorter journeys then the user travelling by T-T is either making a non-rational journey (i.e. they should be using the parallel private taxi service) or they have altruistic reasons for using the T-T (i.e. want to taxi share to be 'greener').

Initial impact on comfort or convenience; Users' safety; Personal security; Region's prestige; Access for people on low incomes; Access for people with physical disabilities and other Impacts

No direct impact.

Mode shift, congestion and GHG emission

May encourage longer distance trips to be taken either by bus (Plusbus) or by a shared taxi (T-T) and so reduce congestion and GHG emissions.

Transferability of findings

The majority of countries have experience of simple tariffs so in principle this is a transferable concept.

9.5.4 An Integrated Ticketing Scheme for Public Transport & Rail

In the draft toolkit this is referred to as a ticket that, '*Allows a person to make a journey that involves transfers within or between Rail and bus transport modes with a single ticket that is valid for the complete journey*'. This, in a nutshell, is a description of the Plusbus ticket.

Problems addressed

The ability to purchase the Plusbus ticket avoids the user having to purchase separate tickets for their journey. This reduces transaction costs at the point of interchange by avoiding any confusion as to what ticket they need to purchase and where to purchase it.

Performance against main toolkit criteria

Cost

JSP were unable to provide information on the cost of the Plusbus ticket but as the Plusbus ticket is generated at the same time and as part of a train ticket it is estimated that the costs are not significant.

Technical and financial feasibility

There is no evidence that technical feasibility or financial feasibility poses any problems.

Organisational/legal feasibility

The Plusbus scheme requires close co-operation between the various stakeholders (train and bus companies) in order to be a success. Indications are that because the companies involved have a significant level of combined train and bus operations that this close co-operation has been successfully fostered.

Acceptance by users

As noted earlier, acceptance by users appears to have been high with a forecast 70% rise in Plusbus ticket sales for the last year, a sign that the concept is being positively received by users.

Other aspects of political acceptability

As noted earlier, Plusbus is a complementary scheme that is perceived to be help tackling the 'last few miles', a barrier identified in the UK government's 1998 White Paper, as such the Plusbus ticket is thought to have generated a favourable opinion from politicians

Impact on users' door to door travel time

Plusbus is likely to save time, as no need to find out tariff information before travelling. There may also be some marginal travel time savings from reduced boarding time at the interchange location.

Impact on users' door to door travel cost

JSP claim substantial savings for users who are switching to travelling by bus rather than car/taxi in terms of reduced car parking costs and taxi fares. There is no clear evidence to suggest that this is the case for users who have switched from making their total journey by car to now making it by train and bus.

Initial impact on comfort or convenience

By reducing the level of uncertainty about the connecting leg of the journey Plusbus may eliminate an element of anxiety for the user and so make the travel experience more comfortable.

Users' safety; Personal security; Region's prestige; Access for people on low incomes; Access for people with physical disabilities and other impacts

No impact.

Mode shift, congestion and GHG emission

No direct impact but clearly Plusbus may effect mode shift (away from car/taxi) and so reduce congestion and GHG emissions.

Transferability of findings

The majority of countries have experience of integrated ticketing and so, in principle, there is nothing to prevent similar ticketing in other countries.

9.5.5 Uniform Branding and Marketing across Operators

In the draft toolkit this is referred to as, '*Incorporation of the services provided by distinct yet complementary operators within the umbrella of a single brand, marketing strategy and information channel*'. From the case study view this relates strongly with the Plusbus concept which is a brand which is distinct from any of the operators who support it and which is marketed independently of any operator via the company responsible for day to day operations, JSP.

Problems addressed

Marketing is used at an individual company level to distinguish operators and their services from one another. This leads to an increase in the complexity experienced by the user when making travel choices. The introduction of a uniform brand like Plusbus reduces the complexity that would have been created if every bus operator would have had its own train-bus integrated ticket. In addition the ability to market Plusbus as a single brand means that the marketing message for this relatively new product is not diluted and economies of marketing costs can be achieved.

Performance against main toolkit criteria

Cost

JSP were unable to provide us with specific information but clearly there will costs in marketing the concept. Likewise there will be costs associated with the provision of joint information and ticketing services. Fortunately these costs are shared across operators. In addition there is the opportunity to advertise Plusbus with each individual operators own literature and adverts since the Plusbus brand is a generic one that provides opportunities for operators across a wide range of urban markets.

Technical feasibility

There is no evidence that technical feasibility poses any problems.

Financial feasibility

The financial feasibility of the Plusbus scheme is reliant on the scheme generating additional demand to the counter factual. Evidence to date would suggest that the scheme is increasing in popularity with an estimated 70% increase in ticket sales within the last calendar year. It should be noted however that some of this increase may well be accounted for by abstraction from existing passengers who used the bus before the advent of Plusbus.

Organisational/legal feasibility

As a general rule there is a danger of opposition to uniform branding/marketing from individual companies who see their own marketing strategy and branding as a key asset and a way to differentiate themselves from potential competitors. However, indications are that because the companies involved have a significant level of combined train and bus operations that Plusbus is not perceived as a threat to individual companies but rather as a positive. As such successful co-operation has been fostered.

Acceptance by users

No evidence is available to assess this but as the agreement appears to benefit users without imposing any costs (albeit directly) it is assumed that they are in favour of it.

Other aspects of political acceptability

As noted earlier, Plusbus is a complementary scheme that is perceived to be help tackling the 'last few miles', a barrier identified in the UK government's 1998 White Paper, as such the Plusbus scheme and the uniform branding that accompanies it is thought to have generated a favourable opinion from politicians.

Impact on users' door to door travel time and users' door to door travel cost

No direct impact.

Initial impact on comfort or convenience

By reducing the level of uncertainty about the connecting leg of the journey Plusbus may eliminate an element of anxiety for the user and so make the travel experience more comfortable.

Users' safety; Personal security; Region's prestige; Access for people on low incomes; Access for people with physical disabilities and other impacts

No direct impact.

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Mode shift, congestion and GHG emission

No direct impact but clearly Plusbus may effect mode shift (away from car/taxi) and so reduce congestion and GHG emissions.

Transferability of findings

The majority of countries have experience of uniform branding and marketing across operators and so, in principle, there is nothing to prevent similar agreements in other countries.

9.5.6 Effective Marketing of Connecting Services – Pre-Trip

In the draft toolkit this is referred to as the, '*Improved marketing of connecting services through the operator of the main leg of the journey. This would usually involve marketing and providing journey planning information about connecting services at the booking or trip planning stages. This may involve setting up some form of partnership between the main operator/relevant travel agents and those providing connecting services*'. The UK T-T concept fits into this solution as does the Plusbus scheme and so both are considered under this solution.

Problems addressed

Since multi-modal connecting services are not usually provided by the same operator there can be significant difficulties in obtaining relevant information from just one information source (i.e. the operator of the main leg) about all legs of the journey.

Performance against main toolkit criteria

Cost

JSP were unable to provide us with specific information but clearly there will costs in marketing the concept. Likewise there will be costs associated with the provision of joint information and ticketing services. Fortunately these costs are shared across operators. In addition there is the opportunity to advertise Plusbus with each individual operators own literature and adverts since the Plusbus brand is a generic one that provides opportunities for operators across a wide range of urban markets.

With regards to the UK T-T concept, it proved difficult to obtain any cost information but like the Plusbus there will be marketing costs plus the operational costs of updating the information and managing the site. Unlike Plusbus, the UK T-T scheme is purely an information website so there are not costs related to ticketing etc. Like Plusbus the UK T-T scheme is supported by a number of operators (mainly from the rail industry) and so there is an opportunity for cross promotion on the websites and other promotional material as put out by individual train operating companies and rail industry bodies (i.e. ATOC).

Technical feasibility

There is no evidence that technical feasibility poses any problems.

Financial feasibility

The financial feasibility of the Plusbus scheme is reliant on the scheme generating additional demand to the counter factual. Evidence to date would suggest that the scheme is increasing in popularity with an estimated 70% increase in ticket sales within the last calendar year. It should be noted however that some of this increase may well be accounted for by abstraction from existing passengers who used the bus before the advent of Plusbus.

The low costs envisaged for the operation of the UK T-T concept mean that it's financial feasibility is quite high. The scheme has been in existence since 2002 and has continued to expand the information it provides to include underground stations and trams suggesting that the concept is proving successful.

Organisational/legal feasibility

As a general rule there is a danger of opposition to uniform branding/marketing from individual companies who see their own marketing strategy and branding as a key asset and a way to differentiate themselves from potential competitors. However, indications are that because the companies involved have a significant level of combined train and bus operations that Plusbus is not perceived as a threat to individual companies but rather as a positive. As such successful co-operation has been fostered.

The same issue does not arrive for UK T-T since the initiative is being supported and funded mainly by the train companies rather than private taxi firms. As such there is no conflict of interest.

Acceptance by users

No evidence is available to assess this but as both the agreements appears to benefit users without imposing any costs (albeit directly) it is assumed that users are generally in favour of them.

Other aspects of political acceptability

Both Plusbus & UK T-T are complementary schemes which are perceived to be helping tackle the 'last few miles', a barrier identified in the UK government's 1998 White Paper. As such the marketing of both schemes it is thought to have generated a favourable opinion from politicians.

Impact on users' door to door travel time

Plusbus is likely to save time, as it eradicates the need to find out tariff information before travelling. There may also be some marginal travel time savings from reduced boarding time at the interchange location.

UK T-T will likewise save time by providing information to users about where to find the taxi rank at a station and/or by providing them with the information about how to order a taxi when they arrive at the station or whilst on the train shortly before arriving at the station.

Impact on users' door to door travel cost

Pre-trip information widens the options available to travellers enabling them to assess which travel option will be the cheapest. As such this may result in direct reductions in door to door travel costs.

Initial impact on comfort or convenience

By reducing the level of uncertainty about the connecting leg of the journey both Plusbus and UK T-T may eliminate an element of anxiety for the user and so make the travel experience more comfortable. By providing information and certainty they may also make the physical effort of interchanging more convenient.

Users' safety; Personal security; Region's prestige and access for people on low incomes

No direct impact

Access for people with physical disabilities

These solutions are likely to provide benefit via the reduction in cognitive and affective effort required for information acquisition. Whilst this is the case for travellers in general it is particularly so for travellers with physical disabilities. It is still felt however that, with regards Plusbus,, further information needs to be made available in advance of travel to reduce the cognitive and affective effort further still (i.e. where to catch bus services from, what time bus services depart etc.). Furthermore this information needs to be easily accessed.

Mode shift, congestion and GHG emission

No direct impact but clearly Plusbus may affect mode shift (away from car/taxi) and so reduce congestion and GHG emissions. Conversely UK T-T may affect mode shift in some users towards taxi rather than the bus for their access/egress legs but at the same time may affect mode shift (away from the car) so it is difficult to make a determined assessment either way.

Transferability of findings

In principle, there is nothing to prevent similar agreements in other countries.

9.6 PROBLEMS STILL TO BE SOLVED

In this section some of the key problems that currently exist with regards to the case study are outlined and discussed under a number of headings.

9.6.1 Timetabling & Links & Interchanges

Whilst this is not an issue for the UK and Dutch T-T concepts it remains a concern for the Plusbus scheme. Clearly, the scheme is successful in reducing the users' uncertainty about how much the fare will be when travelling by bus however, the scheme does not reduce the users' uncertainty about whether there will be a service that they wish to catch at the train station or in proximity to the train station; what time it departs; how frequently it departs and how long it will take to get to their destination.

These are important gaps that need to be addressed. Ideally the train station should be located in a single public transport interchange which also incorporates connecting bus services. Failing that, different levels of interchange should be envisaged with bus services/links that take the train user to key destinations within the urban area and/or to the main bus interchange to improve connectivity between train and bus.

At the same time an element of co-ordination between train and bus timetables would lead to a reduction in the time spent interchanging and assist in making the train-bus journey more attractive to the existing user who tends to travel by taxi or the car user that currently makes his/her whole journey by car.

9.6.2 Ticketing

One of the key elements of Plusbus and the Dutch T-T scheme is the ability to purchase an integrated ticket for train-bus with regards the former and train-taxi with regards the latter. This provides great benefits for the user in terms of saving transaction costs at each stage of the journey and removing the need to carry cash to pay for onward travel.

Both systems currently work well and the Plusbus scheme has the added advantage that it can be used on some tram systems as well. Clearly, both schemes would benefit from a larger uptake in the concept across their respective countries to ensure that network coverage was at it greatest. Fortunately for Plusbus there are signs that this is happening with around 270 urban areas now taking part and more in the pipeline. Unfortunately for the Dutch T-T scheme appears to be in decline as local authorities reassess their spending priorities.

9.6.3 Information and Marketing

Whilst Plusbus provides links to journey planning software web sites on its own web site there is still a lack of specific information informing the traveller where exactly to catch the bus from. This occurs during both the pre-trip and at the wayside and adds another barrier to making an interconnecting journey. The UK T-T concept has made providing information on where to find taxi ranks at stations a particular feature of its website and Plusbus would be much improved if it could add this feature to its website. In addition it would be beneficial if train operators were able to market and provide the same information about connecting bus services on their web sites and in and around train stations.

9.7 POTENTIAL SOLUTIONS

9.7.1 Overview

The potential solutions with regards this case study focus upon improving links between train stations and general bus lines and ensuring the effective marketing and provision of information both pre-trip and at the wayside.

9.7.2 Link into General Bus Lines

Problems addressed

This provides public transport connectivity between the train station and general bus services; as such it overcomes the lack of access to public transport that can exist between a train station and the urban bus services within its locality.

Performance against main toolkit criteria

Cost

These will vary from train station to train station and will depend upon the current layout of the train station (i.e. can bus services easily be rerouted to the train station without major infrastructure work or

realignment of traffic signals and rights of way) and the current service pattern of the bus companies (i.e. can services easily be rerouted to the train station). Assuming neither of these is a major issue then the cost of providing a link into general bus lines will tend towards the low side and will tend to be focused upon the operating side, i.e. additional fuel, driver costs etc.

Technical feasibility

There is no evidence that technical feasibility poses any problems.

Financial feasibility

Difficult to assess since it depends upon the cost implications as discussed earlier. If these outweigh any additional income from new passengers then any new links will have to be subsidised either by train operators or government.

Organisational/legal feasibility

Since a bus link will in most cases provide a complimentary service to the train operators then there is no reason why, in practice, separate organisations cannot work together to organise such a service (assuming that the company providing the bus link is not financially penalised for providing the service).

Acceptance by users

Acceptance by new train station users can be assumed to be positive. This may not be the case however for existing users who might face longer journey times vis a vis the current situation if existing services are being diverted to the train station.

Other aspects of political acceptability

This is assumed not to be an issue.

Impact on users' door to door travel time

For existing users it is envisaged that door to door travel time will increase with existing services being diverted to serve the train station. This may be offset to some extent if additional service frequencies are operated that connect the train station thus increasing service frequencies and reducing headways. For new train station users it is difficult to assess the impact on journey time but for those who used taxi previously then these costs are likely to increase.

Impact on users' door to door travel cost

This is unlikely to impact upon current users. For new train station users it is likely that the cost will reduce vis a vis the cost of using the car/taxi.

Initial impact on comfort or convenience

It is likely that for new train station users this will reduce if they would previously have travelled by car/taxi.

Users' safety

Unlikely to have an impact, although accident rates associated with bus services are lower than those associated with car/taxi.

Personal security and region's prestige

No direct impact

Access for people on low incomes

This is likely to improve the access to and from the train station as bus services are likely to be cheaper than using the car or train but not always the case if travelling as a group.

Access for people with physical disabilities

This is difficult to assess since for the majority of people with major physical disabilities the car/taxi provides a much better transport alternative than bus. For those with minor physical disabilities who can use a bus then like the general population a new bus link will provide better access.

Other Impacts

No direct impact.

Mode shift, congestion and GHG emission

Given new bus links are likely to affect a modal shift from car/taxi to bus then this would be deemed to reduce congestion and GHG emissions.

9.7.3 Effecting Marketing of Connecting Services – Pre-trip & Wayside

Problems addressed

As noted above, clearly, the Plusbus scheme is successful in reducing the users' uncertainty about how much the fare will be when travelling by bus however much uncertainty still remains for the would be user with a number of issues remaining:

- Will there be a service that they wish to catch at the train station or in proximity to the train station?
- What time will it depart?
- Where will it departs from?
- How frequently it will depart? and,
- How long it will take to get to their destination?

Improving the information at both the pre-trip level and wayside level is problematic. With regards to the pre-trip marketing most users will have booked their Plusbus ticket whilst booking the main leg of their journey (train) with a train operator. Since the connecting bus services will usually be provided by a different operator there is likely to be significant difficulties in obtaining the relevant information at the booking stage with regards to the relevant bus services that are available. From a train operators' perspective because they don't have this information to hand and also because they probably don't see if as their job to provide such information and are busy focussed on marketing their own services. From a bus operators' perspective may the resources may not exist to market the new services specifically. Alternatively they may be reluctant to compromise their own brand image by allowing it to be diluted by association with a joint venture with another operator or group of operators.

A further set of problems is encountered at the wayside level. As noted in the draft toolkit "*The impact of incorrect or unclear information, combined with the high degree of uncertainty involved, contribute to a significant increase in the cognitive and affective efforts expended by passengers. Yet the fact that it is at stations that multiple transport providers come together makes the provision of effective and adequate information a major challenge".* An additional problem presents itself in the fact that many passengers do not seek information on bus services prior to making their journey so are reliant on relevant information and well marketed services to make the optimal journey selection at the train station. As with pre-trip information, operators of different services may have problems in terms of co-ordinating their efforts into producing a coherent marketing message for passengers due to resources, availability of information and branding priorities.

Performance against main toolkit criteria

Cost

It is difficult to assess this but it is estimated that they would not be significant. The main costs associated with pre-trip information would be associated with the collating of information that is currently not on existing journey planner websites like Transport Direct and maintaining this information in an up to date manner. Other costs would be associated with the additional marketing of this information on train operators (main leg) websites and literature.

With regards to wayside information the costs are likely to be more significant as they will impact upon a large number of individual stations. The largest costs will be associated with complete re-designs of the information strategy at train stations. This may include new signage, new information screens and new staffed information points.

Technical feasibility

There should be no significant technical feasibility issues here.

Financial feasibility

This is difficult to assess without figures on how the impact on demand would be and without knowing what the exact costs would be. At this stage it might be prudent to assume that the growth in demand as a result of these measures alone may not cover the cost of their implementation.

Organisational/legal feasibility

The efforts made in introducing the Plusbus concept so successfully would suggest that the organisational & legal feasibility of the scheme is strong and that this should help with addressing any hurdles that may exist in relation to the pre-trip and wayside marketing.

Acceptance by users

Acceptance by users is assumed.

Other aspects of political acceptability

This is assumed not to be an issue.

Impact on users' door to door travel time

These types of measures are likely to have a considerable impact upon user's door to door travel time by reducing user's uncertainty and effort (in terms of time) when connecting between their main mode and bus.

Impact on users' door to door travel cost

By ensuring that travellers' have the best possible information available to them at both the pre-trip and wayside sections of their journey this may persuade travellers' to switch to the Plusbus concept and so save costs by switching away from car/taxi to bus. For current Plusbus users' there will be no monetary cost differences to their journeys.

Initial impact on comfort or convenience

There is likely to be reduced uncertainty and so anxiety for travellers so making their travel experience more enjoyable and convenient.

Users' safety; Personal security; Region's prestige and access for people on low incomes

No direct impact.

Access for people with physical disabilities

These solutions are likely to provide benefit via the reduction in cognitive and affective effort required for information acquisition. Whilst this is the case for travellers in general it is particularly so for travellers with physical disabilities.

Mode shift, congestion and GHG emission

Maybe some small benefits in the form of reduced congestion and GHG emissions as some traveller's move away from car\taxi to Plusbus.

9.8 SUMMARY OF CONCLUSIONS

This case study has focused upon three concepts that have tried to overcome a key barrier to train travel identified as 'those final few miles', i.e. access and egress to and from train stations. The three concepts are: (1) The UK Train-Taxi concept which provides detailed information about taxi services serving UK train and underground stations; (2) A Dutch version of Train-Taxi that provides a specific Demand Responsive Transport (DRT) service rather than a purely information one as with the UK T-T; (3) The final concept considered was a UK development called Plusbus (www.Plusbus.com). This offers an optional ticketing add-on when purchasing a train ticket which allows a train traveller unlimited travel on the buses serving the urban area around both the travellers' origin & destination train station area, on the day of travel, or for regular commuters a season ticket.

Each of the concepts offers different solutions to the 'final few miles' barrier and as such a wide number of solutions as identified by the draft toolkit have been utilised. These are:

- Intermodal Agreements
- Franchising/Tendering/Concessioning
- Simple Tariff
- An Integrated Ticketing Scheme in Public Transport
- The Uniform Branding and Marketing Across Operators
- Effective Marketing of Connecting Services – Pre-Trip

Each concept would appear to have met with some initial success and to an extent subsequent success also. The UK T-T concept has a purely information role. The database it has constructed and continues to maintain provides input into a number of travel planning websites such as Transport Direct. It is difficult to assess the impact of its own website without access to statistics on the traffic the site has generated but it would appear that the concept provides a useful service at relatively low cost.

The Dutch T-T concept is much more of a 'hands on' solution than the UK T-T concept, providing a demand responsive taxi service for a fixed tariff to and from train stations. The concept enjoyed an initial period of successful that saw 111 train stations being served in 1994; however the service suffered from budgetary pressures following the withdrawal of support from the national rail operator (NS) which meant reliance on funding shifted to local authorities. The latter were unable to maintain funding in all regions meaning that by 2007 T-T services were reduced to only 38 train stations – a victim of the high cost of the service.

The decline of the Dutch T-T concept has been mirrored by the growth experienced by the Plusbus concept in the UK. The concept has been rolled out into 276 towns in Britain with a substantial growth in tickets experienced, particularly in the last two years with 280,357 Plusbus tickets being sold in 2008/09 and expected sales in 2009/10 of 475,500. The concept exists without state subsidy and is a purely commercial concept and so unlike the Dutch T-T scheme is not subject to the financial vagaries that appear to have impacted so strongly upon it.

Despite the successes a number of problems still exist and these can be outlined under three key headings as below.

Timetabling & links & interchanges

Whilst this is not an issue for the UK and Dutch train-taxi concepts it remains a concern for the Plusbus scheme. Clearly, the scheme is successful in reducing the users' uncertainty about how much the fare will be when travelling by bus however, the scheme does not reduce the users' uncertainty about whether there will be a service that they wish to catch at the train station or in proximity to the train station; what time it departs; how frequently it departs and how long it will take to get to their destination.

These are important gaps that need to be addressed. Ideally the train station should be located in a single public transport interchange which also incorporates connecting bus services. Failing that, different levels of interchange should be envisaged with bus services/links that take the train user to key destinations within the urban area and/or to the main bus interchange to improve connectivity between train and bus.

At the same time an element of co-ordination between train and bus timetables would lead to a reduction in the time spent interchanging and assist in making the train-bus journey more attractive to the existing user who tends to travel by taxi or the car user that currently makes his/her whole journey by car.

Ticketing

One of the key elements of Plusbus and the Dutch T-T scheme is the ability to purchase an integrated ticket for train-bus with regards the former and train-taxi with regards the latter. This provides great benefits for the user in terms of saving transaction costs at each stage of the journey and removing the need to carry cash to pay for onward travel.

Both systems currently work well and the Plusbus scheme has the added advantage that it can be used on some tram systems as well. Clearly, both schemes would benefit from a larger uptake in the concept across their respective countries to ensure that network coverage was at it greatest. Fortunately for Plusbus there are signs that this is happening with around 270 urban areas now taking part and more in the pipeline. Unfortunately for the Dutch T-T scheme appears to be in decline as local authorities reassess their spending priorities.

Information and marketing

Whilst Plusbus provides links to journey planning software web sites on its own web site there is still a lack of specific information informing the traveller where exactly to catch the bus from. This occurs during both the pre-trip and at the wayside and adds another barrier to making an interconnecting journey. The UK T-T concept has made providing information on where to find taxi ranks at stations a particular feature of its website and Plusbus would be much improved if it could add this feature to its website. In addition it would be beneficial if train operators were able to market and provide the same information about connecting bus services on their web sites and in and around train stations.

None of the problems identified above are insurmountable and three sets of existing solutions have been identified, from those listed in the draft toolkit , that may help overcome the issues raised. These are: (1) Link into General Bus Lines ; (2) Effective Marketing of Connecting Services – Pre-Trip: and (3) Effective Marketing of Connecting Services – Wayside. The first solution provides the physical linkages to affect access and egress from train stations whilst the last two provide more detailed information about the services themselves. This information will help reduce the uncertainty that travellers' might face when considering using bus to access and egress train stations and as such is a key lever in overcoming the barrier of those 'final few miles' as identified in introduction to this case study.