
NORTH EAST SMART TRANSPORT TICKETING INITIATIVE

Responsible Cabinet Member - Councillor David Lyonette, Transport Portfolio

Responsible Director – Richard Alty, Assistant Chief Executive (Regeneration)

SUMMARY REPORT

Purpose of the Report

1. To inform Cabinet on work taking place regionally to develop and implement smart public transport ticketing for the North East of England and to seek Cabinet approval for the use of additional funding recently made available through the Regional Funding Allocation (RFA) to contribute to financing the project.

Summary

2. £10m of capital funding has been top-sliced from the North East Regional Funding Allocation pot to the Region's Integrated Transport (IT) Blocks for the delivery of a Smart Ticketing Scheme for the North East.
3. The £10M has been allocated on a pro-rata basis to local authorities in the north east region on the understanding that each Transport Authority will pool the allocations in order to deliver the scheme at a regional level. Darlington has consequently received an additional sum of £441,406 in capital funding, paid in full into the IT Block Allocation in October 2009 for this project. Whilst the funding is not technically ring fenced there is a strong expectation that it will be used to fund the regional smart ticketing initiative.
4. It has been proposed that the additional IT Block funding received by each north east local authority is pooled to form a single funding pot to be managed by the Tyne and Wear Integrated Transport Authority acting as the accountable body. The Chair of the Tyne and Wear ITA would provide periodic progress updates to North East Leaders and be accountable to them for overall delivery of the Smart Ticketing Scheme.
5. It is proposed that the Smart Ticketing project is managed through a Partnership Board comprising of nominated representatives for each local authority with a formal reporting link between the Smart Ticketing Partnership Board and the Association of North East Councils, Council Leaders Board.
6. Nexus is currently acting as the programme sponsor for the regional smart card, and has funded the development of a business case by MVA consultancy. This will detail capital costs for development of the smart card infrastructure and identify revenue costs and potential efficiency savings.

7. Anticipated timescales for the smart ticketing are for implementation to commence in 2010 with all north east bus and metro operations covered by the scheme by 2013.
8. As a partner in the 'Boosting Advanced Public Transport Systems' (BAPTS) project, funded through the North West Europe Interreg IVB Programme Darlington has secured an additional sum of up to 270,000 Euros to invest in smart ticketing. This funding must be matched at a minimum rate of 55.6% and is available up until December 2011. Cabinet considered a report on the BAPTS project on 7 October 2008.

Recommendations

9. It is recommended that:
 - (a) Members approve the release of £441,406 of additional RFA capital grant to support the development and implementation of the regional smart ticketing project, and
 - (b) Subject to the finalisation of governance arrangements described in this report, this funding to be held at a regional level by a single accountable organisation, for example this might be the Tyne and Wear Integrated Transport Authority.
 - (c) Officers work with local authority partners and public transport operators to develop governance structure for the regional smart ticketing project.
 - (d) A further report is brought to Cabinet in due course on the detailed business case for Darlington and whether smart ticketing could be extended to include additional transactions such as leisure and recreation.

Reasons

10. The recommendation is supported as:
 - (a) Plans for Smart Ticketing in the North East are very much in line with government objectives for the development of smart and integrated ticketing – as outlined in the consultation paper, 'Developing a strategy for smart and integrated ticketing'.

'Our vision for public transport in England is of universal coverage of smart ticketing infrastructure, supported by integrated and innovative ticket products which can be purchased easily and quickly, leading to a significantly improved travelling experience for the passenger'.
 - (b) Innovative use of smart ticketing has the potential to support the economic competitiveness of the north east, reduce carbon emissions and promote greater equality of opportunity for all citizens. The development of smart ticketing is gathering pace across the UK, with products in operation or development in Scotland, the North West, Yorkshire and London. As a region the North East can ill afford to fall behind in the use of this technology.
 - (c) There are substantial efficiency and cost saving benefits to be made in implementing a regional smart ticketing initiative in comparison to a local or sub-regional scheme.

- (d) At this stage the Council is not making a firm commitment to participating in the operation of the regional smart ticketing scheme. This decision will be the subject of a future report detailing the full business case including revenue costs and potential efficiency savings from participating in the regional scheme.

Richard Alty
Assistant Chief Executive (Regeneration)

Background Papers

- (i) Developing a strategy for smart and integrated ticketing (August 2009, DfT)
- (ii) Draft report from the Tyne and Wear Integrated Transport Authority and the Director General of Nexus to the Association of North East Councils (September 2009)
- (iii) One Darlington: Perfectly Placed

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S17 Crime and Disorder	It is considered that through a reduction in cash handling smart ticketing could contribute to the reduction of crime and disorder.
Health and Well Being	Innovative use of smart media has the potential to encourage citizens to adopt a healthier lifestyle.
Sustainability	Smart ticketing has the potential to improve the range and types of public transport ticket available, encouraging greater use of public transport thereby helping to reduce transport related carbon emissions from private motorised transport.
Diversity	Smart ticketing products can help to promote greater equality for all citizens.
Wards Affected	Smart ticketing products will be available to residents of all wards.
Groups Affected	All public transport users will have access to smart ticketing products.
Budget and Policy Framework	This report does not recommend a change to the Council budget or policy framework.
Key Decision	This is not a key decision.
Urgent Decision	This report does not require an urgent decision.
One Darlington: Perfectly Placed	The implementation of Smart ticketing will contribute to: Prosperous Darlington, through improving access to Darlington. Greener Darlington by encouraging travel by public transport. Safer Darlington by reducing the need for public transport users and operators to handle cash.
Efficiency	Development and implementation of smart ticketing as a regional initiative has substantial efficiency and cost saving benefits in comparison to a local or sub-regional scheme. It is proposed that revenue costs of operating the regional scheme are shared across the north east with the potential for local authorities to make a number of efficiency savings against other areas of work dependent upon gathering public transport information, most notably the operation of concessionary fares schemes.

MAIN REPORT

Introduction

11. Smart Ticketing is a long-standing goal of North East Local Authorities, both to make public transport easier to use, and to link up transport and wider public services making them more accessible to customers.
12. Central Government is currently consulting on the development of a strategy for 'smart and integrated ticketing'. In the consultation document, the Department for Transport sets out its vision as follows: 'Our vision for public transport in England is of universal coverage of smart ticketing infrastructure, supported by integrated and innovative ticket products which can be purchased easily and quickly, leading to a significantly improved travelling experience for the passenger'.

Background to Smart Ticketing

13. Since 2001 a number of UK regions and local authorities have worked with transport operators to introduce smart public transport ticketing, the best known example being the Oyster Card, introduced to London in 2003. Other schemes in development include the YORCARD, in South and West Yorkshire, a Mersey Travel Card and an extension of the existing Bolton Citizen card to include public transport ticketing. All existing and future smart ticketing schemes are expected to migrate to the ITSO (Integrated Transport Smartcard Organisation) standard specification, allowing the potential for a card holder in one part of the UK to use their card for travel by public transport in another region.
14. It is important to note that the ITSO standard is in place to provide the technological framework for interoperability, the provision of a fully integrated service within and between geographical areas will be subject to agreement between the partners in the smart ticketing scheme.
15. Although most smart ticketing systems currently use a plastic card with an embedded microchip, as technology evolves, smartcards may be replaced by other electronic devices that can store information and be read by a reader; notably mobile phones and USB devices.
16. A transport smartcard is a credit-card sized plastic card, containing an embedded microchip that stores information about the user's travel entitlements.
17. The traveller typically buys travel products in advance, which are then added to the microchip on the smartcard. When the traveller boards a public transport vehicle, or enters a station, instead of purchasing or displaying a ticket, they must present their smartcard to a machine (reader) that checks their entitlement to travel.
18. Most public transport smartcards are 'contactless' meaning that no physical connection is needed between the smartcard and the reader – instead the traveller can place the smartcard within the vicinity of the reader.
19. Some Smart Ticketing schemes allow travellers to add 'stored value' to their transport smartcard. This allows them to pay electronically for travel each time they swipe their card rather than having to pre-purchase travel products.

20. In order to send and receive ITSO messages, transport operators need to have access to a collection point for them. This is known as a Host Operating System (HOPS). A HOPS is a complex specialist piece of IT equipment, and so in some cases transport operators and local authorities may choose not to own and maintain their own HOPS; instead there are a number of companies who lease space on a HOPS that they provide as a managed service. A local example in operation is Sunderland City Council's use of a HOPS provided by thetrainline.com, for a youth leisure product.
21. ITSO has a security system with its own unique keys that are stored on a chip known as an ITSO Secure Access Module (SAM) which is placed in all ITSO devices so that they can encrypt and decipher all messages. This is the same principle as the SIM chip in mobile phones, which encrypts telephone conversations so that no one else can listen in.
22. ITSO does not cover the definition of back office systems for accounting and reconciliation; the setting of prices or fare conditions; and rules over what fare products can be loaded onto what cards. The determination of ticket prices and rules of use are commercial decisions taken by transport operators entirely outside of the ITSO environment.
23. Smartcards are already used widely by many businesses and councils to make it easier for customers to access services, and to build a closer relationship with the customer that helps the design of future services and rewards loyalty. It is possible for multiple applications to be stored on a single smartcard, and some products such as 'stored value' can be made available for non-transport uses.

Smart Ticketing in the North East – Objectives and Outcomes

24. The core objective of the north east smart card initiative (NESTI) is to design and build a fully accessible ITSO standard multi-modal Smart Ticketing scheme that provides significant benefits for public transport customers in the North East, maximising usage of existing resource and achieving the best possible value for money.
25. The principal intended output of the programme is a Smart Ticketing infrastructure that will enable transport operators to launch Smart Ticketing products or integrate their own schemes with a wider regional environment. This infrastructure is made up of ITSO devices (ticket machines on bus and at Metro stations, validators at Metro stations, on-bus ticket machines, and access to a common ITSO HOPS either directly or through multi HOPS communications), and legal and commercial agreements that will allow regional smart products to be sold and used.
26. Nexus is the programme sponsor for the regional smart card, and is providing programme management for and has funded development of the business case.

Benefits to the North East and to Darlington

27. Under the English National Concessionary Travel Scheme, approximately 350,000 ITSO smartcards have already been issued to older and disabled people across the North East (21,000 in Darlington). However in the absence of a standard ITSO smart card infrastructure across the region, the cards are currently used only as flash-passes within the North East.

28. The Association of North East Councils, in its Green Manifesto, supports Smart Ticketing as a means of 'increasing access, usage and encouraging behavioural and cultural change' towards public transport, and of achieving the goal of a region-wide concessionary fare scheme for young people.
29. When fully implemented NESTI would see all buses and Tyne and Wear Metro stations in the north east region equipped with smartcard devices, and smartcard issuing machines installed in appropriate sales points throughout the region. A retailing website would be available to those customers wishing to service their smartcard using the internet, and customer telephone support would be provided. Customers would be able to load their regular travel products onto smartcards, and a 'pay as you go' system (known as an e-purse) would be accepted by transport operators across the region as an alternative to cash payment.
30. In the longer term Smartcards operating within the NESTI environment would be available for Local Authority wider use (eg accessing library books or paying for school meals) as well as for travel on public transport, subject to applicable Local Authority schemes being technically compatible with the NESTI system and appropriate agreements and standards being put in place.
31. Over the longer term the smart ticketing framework could open up opportunities for Darlington Borough Council and its partners to introduce a range of local applications, for example:
 - (a) Payment mechanism for car parking.
 - (b) Payment mechanism for local authority services, for example leisure activities or schools meals.
 - (c) Loyalty scheme used to incentivise use of local shops and services.
 - (d) Incentive scheme to encourage more 'greener' and healthier lifestyles.
 - (e) Access control for staff to buildings or to car parks.
 - (f) Operation of cycle parking.
 - (g) Mechanism for payment of council tax or other bills.
32. These additional features could be delivered either through adding functionality to the regional smart card system or through a local management system. In both cases the additional functions could be loaded onto existing smart media (e.g. cards or mobile phones), however there would be an additional cost to developing and running the extra functions.
33. There is the potential to work alongside Smart Ticketing schemes from national rail companies as they develop Smart Ticketing in their own right, and any other third party organisations (eg football clubs, universities, car clubs, retailers) subject to appropriate commercial agreements being put in place.

Why Develop Smart Ticketing at a Regional Level?

34. Cross-boundary travel makes sub-area or city region schemes of limited value to both travellers and transport operators.
35. The relatively small size of the North East's population would reduce benefits of scale if separate schemes were developed for each sub-region. There is an opportunity to share resources amongst ANEC members which will deliver significant savings compared to separate sub-regional schemes.
36. ITSO Smart Ticketing schemes are under development in all areas adjoining the North East; a North East scheme will introduce the base technology to the region. With appropriate development and commercial and contractual agreement between the different parties, this provides the framework to realise continuous ticketing arrangements both within the North East and outside it.

Governance of the Smart Ticketing Initiative

37. It is proposed that a formal Partnership Board be established made up of senior officers representing Local Authorities as follows:
 - (a) Tyne and Wear Authorities: representation from the Tyne and Wear Integrated Transport Authority (ITA) and Nexus;
 - (b) Tees Valley Authorities: representation from the Tees Valley Joint Strategy Unit;
 - (c) Durham County Council; and
 - (d) Northumberland County Council.
38. Note that transport operators would not be represented on the Partnership Board. All decisions relating to scheme design, partnerships and contractual arrangements with third parties, and use of funding, would be through formal approval by the local authorities' members of the Partnership Board.
39. Once the programme is complete and the scheme delivered, the Partnership Board would consider the future requirement for its continued existence, either in its current form or as a successor body. Some form of oversight of continued scheme operations may be needed. It has been proposed that the Tyne and Wear ITA acts as 'Lead Authority' within the Partnership Board, with responsibility for entering into partnerships and contractual arrangements with third parties on behalf of the Partnership Board, and managing scheme funding.
40. Under direction from the Tyne and Wear ITA, Nexus has used its own resources to develop the smart ticketing programme as far as producing a business case. Consequently Nexus has a programme manager in place, and established links with transport operators, suppliers and other scheme partners. It has therefore been proposed that Nexus continues to act as Programme Manager, with the Director of Strategy as senior officer accountable for programme delivery to the Partnership Board.

41. It has been proposed that an appropriate partnership and grant funding arrangement be put in place between Nexus and the Partnership Board, taking account of Nexus's multiple roles as Programme Manager, owner of Tyne and Wear Metro, and supplier (of Smart Ticketing services to the Partnership Board).

Involvement of Public Transport Operators

42. It is proposed that engagement with public transport operators will take place through a Stakeholder Board. Outcomes of this engagement to be put to the Partnership Board as appropriate.
43. Formal participation of bus operators will be secured by means of a 'Heads of Terms' agreement providing grant funding for the part purchase of smart enabled ticket machines in return for participation in the scheme. It is intended that the provision of grant funding to operators will lever in significant capital funding from the operators' own budget allocations.
44. The smart card system would open up the opportunity for a wider range of commercial fares and types of public transport ticket. The types of ticket available would remain within the control of the public transport operators.

Outline of costs

45. The headline capital costs of the regional smart ticketing scheme are:

(a) Bus equipment	2,163,000
(b) Bus, ticket project management	56,980
(c) Ticket offices / sales system	747,534
(d) Back Office	1,714,670
(e) Tyne and Wear Metro	2,544,939
(f) Project Management	1,133,129
(g) Integration	566,564
(h) Contingency	1,445,425
Total	10,372,241

46. Operating costs are currently being estimated as the business case is developed, gross costs (excluding any efficiency savings) are expected to be in the region of £500-750K spread across the region. Apportionment of these costs has yet to be agreed, it is likely to be on the basis of passenger transactions, resulting in an estimated contribution from Darlington of between £20-£30K.
47. Some or all of this cost could be met through efficiency savings on concessionary travel administration, savings on passenger surveys and data analysis or by passing a small charge

onto fare paying passengers.

48. At this stage the Council is not making a firm commitment to participating in the operation of the regional smart ticketing scheme. This decision will be the subject of a future report detailing revenue costs and potential efficiency savings from participating in the regional scheme.

Capital Funding

49. This is a regional initiative agreed in principle by the Association of North East Councils. (ANEC) In order for the scheme to work at a regional level the regional funding needs to be allocated to each of the Transport Authorities and for them to pool this resource back to the project under the governance arrangements explained. Without this arrangement the project would not be able to progress. The allocation of the £10m of capital funding transferred from the RFA is as follows:
 - (a) Tyne and Wear Authorities £5.40m in total
 - (b) Tees Valley Authorities £2.20m in total
 - (c) Northumberland £0.90m
 - (d) Durham £1.50m
50. Additionally, up to £780k has been confirmed by the Tyne and Wear Integrated Transport Authority from Tyne and Wear Authorities' Integrated Transport Blocks in 2010/11.

Risks

51. Risks in taking part in the regional smart ticketing scheme include:
 - (a) Public transport operators don't participate. This cannot be ruled out, however all of the large bus operating companies in the North East are involved in smart ticketing programmes elsewhere in the UK and have indicated their support for the North East smart ticketing initiative (NESTI).
 - (b) Slow uptake of the tickets by the public. There are already 350,000 smart cards in circulation throughout the North East (the concessionary bus passes). The rate of uptake of the smart ticketing by none concessionary card holders will to some extent depend upon the range and the type of ticket products available. In London 10 Million Oyster smart cards were issued in the first 4 years of operation.
 - (c) Technological failures. Much of the challenge associated with the introduction of smart ticketing lies not so much in the technology itself as in the business processes and with the agreements necessary to allocate costs, payments and liabilities. Minimum operational standards will be specified in the contractual arrangements with the smart ticketing suppliers.
 - (d) Capital cost increases. The capital budget for the NESTI project includes a contingency of £1.44M, around 14% of the cost estimate. The level of Darlington's exposure to costs increase will need to be addressed within the formal governance agreement and

subsequent contractual arrangements, to be agreed in advance of the Councils formal commitment to the NESTI project.

- (e) Revenue costs not matched by savings. The NESTI project aims to avoid any additional net revenue costs to the Council, through efficiency savings and if necessary a small fee for each transaction made using the smart ticketing system.

52. Risks in not taking part in the regional smart ticketing scheme include:

- (a) Loss of competitive advantage to neighbouring areas with smart ticketing. Smart ticketing initiatives are either in operation or in development throughout much of the UK. Should Darlington fall behind in the use of this technology, there is a risk that it could reduce Darlington's attractiveness as a place to visit or in which to do business.
- (b) Reputation amongst other North East Local Authorities. This may impact on future partnership projects.
- (c) Poor reputation with public transport users unable to use smart ticket products in Darlington.
- (d) Future requirement to fund smart ticketing technology outside of the regional programme. If at later date Darlington decided to adopt smart ticketing, costs in procuring a system and the associated infrastructure just for Darlington are likely to be higher.

Outcome of Consultation

53. Consultation with public transport operators is taking place on an ongoing basis at a regional level facilitated through the NESTI working group.

54. Consultation with transport operators, passengers and the general public on the detailed design and operation of the smart ticketing will take place as an integral part of the development of the scheme.

55. The Town Centre Board was consulted on the project and interested in the opportunities it might provide for businesses.