Leicester
City Council

**OVERVIEW AND SCRUTINY MANAGEMENT BOARD        4 DECEMBER 2008**

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**Report of the Regeneration and Transport Scrutiny Task Group Review of the effectiveness and operation of the star trak real time bus information system**

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## 1.        Purpose of report

1.1        To present the findings of the Task Group review of the operational effectiveness of the star trak real time bus timetable information system in Leicester.

1.2        To ask the Overview and Scrutiny Management Board to agree the recommendations set out in section 2 below.

## 2.        Recommendations

2.1        Short term recommendations

2.1.1        Amend the star trak website to ensure issues raised by the Campaign for Better Transport (CBT) are addressed – including overlapping text, search recognition for 'City Centre' - making it clear 6 and 8 digit codes can be used to gain text information and appropriate linkages to other useful travel websites

2.1.2        Prepare a work programme to ensure all bus stops have a single name and star trak code and work with appropriate agencies to ensure this is used to reduce confusion for passengers

2.1.3        Work with bus companies to ensure early departures from timing points cease and if the problem persists to report it to the Traffic Commissioner

2.1.4        Write to the Government to request that in the interests of bus passengers the Transport Commissioner should be able to use fleet management systems that are in place, such as star trak, when measuring the performance of bus companies, as they are more accurate than people with clip boards

2.1.5        Request that bus companies provide paper copies of timetables at bus stops so passengers can use these and star trak to plan journeys until confidence in the system has been restored

2.1.6 Bus timetables should be clear about which stops are timing points and which ones show approximate times as this causes confusion and difficulties for passengers and undermines the star trak system

2.1.7 Provide support for Bus Companies to gain the technical expertise required to ensure the effective running of the system should be continued

2.1.8 A simple explanation of the star trak system should be included at bus stops – including a 'what are the dots?' section. This should be done as a twin tracked approach to improving public confidence alongside:

- A one route at a time approach as exemplified by Arriva in Leicester.

- Ensuring a route is fully served by star trak and beginning a publicity campaign around improved service and information to increase bus usage

2.1.9 Request that the cabinet lead for Regeneration & transport continue to monitor the performance of the bus companies and that the Quality Bus Partnership (QBP) is engaged in delivering a high quality real time information service

2.1.10 Encourage First in Leicester and Arriva to make the improvements required to enable them to deliver the long term reliability of star trak service achieved by Kinchbus

2.1.11 To urge the Cabinet lead for R & T to write to Arriva and Firstbus to strongly encourage that they support staff locally to develop the reliability of star trak and desist from moving buses between areas which have different operating systems.

## 2.2 Medium term recommendations

2.2.1 Assess how long term support of bus companies and their star trak equipment can be achieved to ensure maximum reliability

2.2.2 Systematic expansion of the system should focus on evening services so people can get real-time text information, reducing the vulnerability of people waiting at bus stops and increasing the usage of evening services. This should be followed by coverage of Sunday services, which are less frequent.

2.2.3 Replace star trak signs on a rolling programme with new - generation signage with a two-way capacity (and is therefore self reporting of faults).

2.2.4 Support the rolling programme agreed by the Cabinet Lead to replace sign frontages with signs which have simpler

information displayed, reducing the need for costly changes whenever the bus companies altered routes. *(Causeway Lane signs are a good example of clearer, simpler timetable displays*).

2.2.5    Interrogate the accuracy of the information on the Traveline database in conjunction with bus companies and the County Council to ensure accuracy and consistency with the information on the star trak system and the bus companies' own information.

2.2.6    Encourage Arriva to build in a more substantial method of communication with bus drivers than an emergency mobile phone to allow for improved fleet management and therefore a better service for passengers.

**2.3    Long term recommendations**

2.3.1    Review the performance of star trak against improvements made and the impact on public confidence in the system

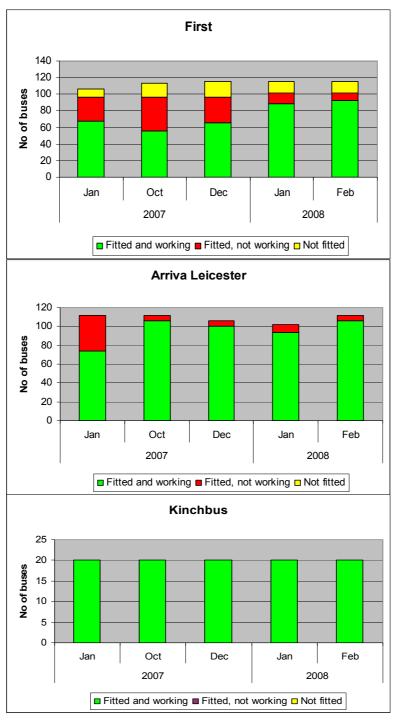2.3.2    To establish whether it is appropriate for star trak to be expanded onto every route in the city.

**3        How the Review was conducted and evidence provided**

3.1    The Overview and Scrutiny Management Board (OSMB) agreed In October 2007 to ask for an inquiry into what was described as the poor operational performance of the star trak real time bus information system.

3.2    The report to OSMB arose from an earlier report to the Audit Committee which looked at the resources used by the Council to operate the star trak system.

3.3    This issue was addressed separately by the Regeneration and Transport departmental management team, but the Task Group was asked to look at how well the system was operating in a wider sense. The relevant minutes may be found through the link: http://www.cabinet.leicester.gov.uk/ieListDocuments.asp?CId=427&MId=2053&Ver=4

3.4    Terms of reference of the Review agreed as follows were to:

3.4.1    Fully understand the positives of a real time bus information system

3.4.2    Examine the performance of the star trak system

3.4.3    Identify operating problems with star trak

3.4.4    Gain a snapshot of the public perspective of the star trak system.

3.4.5 Make recommendations for short, medium and long-term improvements to the system

3.4.6 Identify ways of improving public perception and usage of the system.

3.5 A glossary of terms used in this report is included in Appendix 1.

3.6 Meetings took place with staff in the Transport Systems team responsible for overseeing development and maintenance of the star trak system.

3.7 The meetings were either formal Task Group meetings or technical briefings. The Campaign for Better Transport (CBT) took part in these meetings, including technical briefings which were closed because of the sensitive technical, commercial and security nature of the systems being reviewed.

3.8 The main bus companies also attended a meeting to provide evidence and to answer questions.

3.9 The first formal meeting took place on 26th February 2008. Minutes of this meeting may be found through the link:

http://www.cabinet.leicester.gov.uk/ieListDocuments.asp?CId=430&MId=2231&Ver=4

3.10 David Wright, team leader for the star trak system, outlined the development of the system from its origins in 2000 to its present status with six local authorities, including Derby and Nottingham, and six bus operators being involved in the star trak partnership.

3.11 The meeting heard there had been a high number of complaints about what appeared to be problems with the system. These mainly involved a large number of "dots" on star trak displays at bus stops – providing no information on when a bus for a particular service might appear.

3.12 The task group was told there were significant numbers of problems with the system, but, in themes which were to run throughout the inquiry, was told that:

3.12.1 Many problems related to the operation, condition and indeed absence of star trak equipment on board buses

3.12.2 The way in which different bus operators maintained and operated the onboard equipment varied significantly, producing widely different levels of reliability from operator to operator.

3.12.3 Operators adopted different strategies in the way buses were deployed on routes which had been equipped with star trak displays at bus stops.

3.13    Members were told that in early 2007 there were high volumes of
        complaints about the information, or lack of information, being provided
        by star trak display signs.

3.14    A technical briefing from David Wright spelled out the historic problems,
        and the different approaches to them, by bus operators working in
        Leicester.  These are set out below.

**First**

No of buses (y-axis: 0 to 140)

Legend: Fitted and working (green), Fitted, not working (red), Not fitted (yellow)

X-axis: Jan, Oct, Dec (2007), Jan, Feb (2008)

**Arriva Leicester**

No of buses (y-axis: 0 to 120)

Legend: Fitted and working (green), Fitted, not working (red), Not fitted (yellow)

X-axis: Jan, Oct, Dec (2007), Jan, Feb (2008)

**Kinchbus**

No of buses (y-axis: 0 to 25)

Legend: Fitted and working (green), Fitted, not working (purple), Not fitted (yellow)

X-axis: Jan, Oct, Dec (2007), Jan, Feb (2008)

Source: Report to Task Group February 2008

3.15    The graphs showed that for both First and Arriva there were high levels of problems with reliability, operation and installation of on-board bus equipment.  These had been recognised and attempts had been made to deal with them.

3.16    For First Leicester the position at the point of reporting was that:

- 80% of buses are fitted and working
- Buses are not route branded and can be (and are) allocated to any route
- On any route there is a good chance of having a fitted and working bus
- There is no guarantee of a fitted and working bus on a particular route at a particular time.

3.17    For Arriva the position was that:

- 95% of buses are fitted and working
- Buses are generally route-branded and allocated accordingly
- On any route there is a good chance of having all buses fitted and working
- There is no guarantee of a fitted and working bus on a particular route at a particular time.

3.19    Members were told of the different strategies adopted by First and Arriva to improve the reliability and presence of star trak on their buses. They also noted the high level of performance by Kinchbus, which has a policy of dedicating a mechanic to the system and a commitment of repairing reported faults overnight.

3.20    (Members were told that in some European countries failure of real time information equipment on a bus is considered a health and safety issue and the bus is not released from the depot until faults were repaired).

3.21    For Kinch the position is that:

- All vehicles used on star trak routes fitted and working
- Vehicle faults generally repaired on the same day as they are reported.

3.22    A meeting on 24th April heard a presentation from Bernard Marriott and an additional report from Andy Brookes, both of the Campaign for Better Transport.  Mr Marriott said that CBT had deliberately not taken up the offer of a technical briefing on Star Trak at this point.

3.23    Mr Marriott said that while there were dozens of services and hundreds of stops, in reality bus users were interested in one stop and one service at any one time.

3.24    Principal features of presentation were that the star trak system:
- had never worked effectively in Leicester

- the database needed to provide accurate real time information, in terms of bus services and routes, bus stops and bus locations was not kept up to date.

3.25 Meanwhile printed timetables were often complicated, difficult to understand and sometimes out of date, with further confusion caused by different timetables for different operators on what was essentially the same routes.

3.26 In a separate presentation Andy Brookes outlined star trak readings from a specific stop sign in which he said the system was accurate in only 15% of services. David Wright asked for details of the stop and said the council would make its own observations.

3.27 Bus operators were asked at a meeting held on 12th June whether they considered the introduction and development of real time information helped to increase passenger numbers.

3.28 The responses were not consistent or unequivocal. Arriva told the meeting that it had invested £10m in new low-floor buses in the city over the past two years and it would be difficult to say what the separate effects of the investment and the passenger information system might be.

3.29 First told the same meeting it had no evidence either way about the effect on passenger numbers of the star trak system, though there had been a sense of greater confidence in reliability in services which the system might have helped to support.

3.30 Both operators said they had confidence in the system and said it probably offered more help to bus users out of normal travel hours (in the evening, for example), when they could be reasonably confident that a bus was going to turn up at a particular time and plan accordingly.

3.31 Security would be improved because a passenger would not have to wait for, say, 20 minutes at a possibly exposed bus stop for a bus but could come back to the stop much closer to the indicated departure time.

3.32 Timing of departures was also an issue for CBT and for members of the Task Group. There are bus stops, roughly 15 minutes apart, on routes which are described as timing points.

3.33 By national regulation, buses are obliged to leave these timing points no more than one minute before or five minutes after the published timetable time.

3.34 (The meeting on 2nd September was told that "the Traffic Commissioner, who regulates the bus industry and monitors operator performance, expects bus operators to achieve 95% of departures at timing points of between 1 minute early and 5 minutes late").

3.35    For other bus stops which are not timing points, the timetable offers no more than general guidance about when buses will leave.  Passengers are advised to turn up before the scheduled departure time.

3.36    Members were advised that the timing points regulatory regime was governed by the Traffic Commissioners.  Members felt the advisory nature of the timetable, and the significance of timing point stops, was not clear either to them or to passengers generally.

3.37    CBT said that buses routinely left timing point stops outside the allowed times, and additionally said that the "countdowns" for buses coming to bus stops was often inaccurate.

3.38    Members were told that star trak calculated arrival times based on estimates of traffic conditions and previous performance and that estimated arrival times could change because of updates from the bus on its position to the star trak computer system.

3.39    An officers' report on 2$^{nd}$ September also observed: "*With regards to star trak, it is expected that a bus will wait at a timing point and only depart when that stated time is reached.*

3.40    "*In some instances, it has been shown that buses have been leaving before their due time. When this occurs, the information presented on signs (as far as the general public is concerned) is incorrect.*

3.41    "*This scenario goes some way to explaining why users report seeing 1, 2 or 3 minutes displaying on a sign as the bus passes. This also has the added disadvantage of affecting all the signs downstream of the timing point stop as well as helping to undermine users' confidence in the system*".

3.42    (A great deal of data on times of bus arrivals at and departures from individual bus stops has been stored and is available to the bus operators to provide management and performance data).

3.43    Council staff did separate survey work and suggested that the CBT assessment of inaccurate timings was not fully justified by the information collected.  The survey suggested that almost ten per cent of services left early from timing points,

3.44    Details of the Council survey work were reported to the meeting on 2$^{nd}$ September and the comments in 3.34-3.36 above form part of that report.

## 4    Background and commentary

4.1    Star trak was introduced (report to meeting on 26$^{th}$ February 2008) in 2000 against a background of a need to reduce traffic congestion and reduce air pollution by promoting the increased use of buses.

4.2 It was supported by central government and local policies, including the Local Transport Plan. Government grants of almost £1m in 2003-2004 allowed for the expansion of routes within Leicester and the introduction of web-based services, texting and multi-route signboards.

4.3 The scheme was expanded to included routes in Nottinghamshire and Derbyshire. A partnership with Derby was followed by a agreement to provide star trak services in Nottingham.

4.4 Officers have stressed that any investment providing benefits outside the city council area have been provided by outside authorities and not subsidised by the council, though the city has gained benefits from that investment.

4.5 Service level agreements are now in place with:

Derby City Council                          Nottingham City Council
Derbyshire County Council                   Bus operators

4.6 Current partners in the star trak system are:

- Leicester City Council            Arriva Derby
- Leicestershire County Council     Arriva Leicester
- Nottingham City Council           First
- Nottinghamshire County Council    Kinchbus
- Derby City Council                Trentbarton
- Derbyshire County Council         NCT
                                    Centrebus

4.7 Almost 700 star trak display signs are now deployed on more than 40 routes, with equipment fitted to 410 buses (technical briefing: 26 February 2008).

4.8 At that briefing it was recognised that there had been problems which had led to some loss of confidence in the system. The main reason was the presence of a dot, or star, on bus stop star trak displays instead of information on when a particular bus service would turn up.

4.9 A second issue, which was explored as the inquiry progressed, was the perception that buses were leaving ahead of published times. This led the task group to look at the role of timing points and the powers available to enforce published timetables.

4.10 The Campaign for Better Transport also pointed to a number of discrepancies on the numbers used to text for information about when buses would arrive at a particular bus stop, difficulties about identifying the bus stop names and said the technology to identify and self-report faults on bus stop displays was not in place in the city.

4.11 Members were told that Leicester texting system had been the first in the country, and a national system introduced later using more digits to

had overlaid the local system, but that both the local and national numbers gave information for the relevant bus stop.

4.12 Members took on board the fact that many signs were ageing, some were not in good condition, at least cosmetically, that they did not self-report faults and that some names of stops were confusing or inconsistent.

4.13 Recommendations were framed with the understanding that:

4.13.1 An upgrade of signs at bus stops would be needed in the next few years

4.13.2 A great deal of management information was available to the bus operators (should they wish to access it) about the performance of their operations

4.13.3 Operators' vastly different approaches to the introduction and operation of star trak on bus routes, and maintenance of the on-board equipment, were the greatest variables in the performance of the system

4.13.4 Distinct and sharp differences existed between the council perception of the operation and that of the CBT. Key points of criticism of the system by CBT, and the detailed responses to them, are contained in Appendix 5 below.

4.13.5 Many of the recommendations are issues which are under the control of the bus operators and not the Council. However they have been set out as a clear direction for the operators. The Council should support at Cabinet Lead and senior management level the efforts by the star trak team in particular and the transport development team in general to improve the performance of star trak as part of a wider range of investments in and commitments to the development of services for those who use, or would consider using, public transport in the City.

**5      Departmental comments and financial implications**

5.1 The Department welcomes the findings of the review, and agrees that the findings represent a logical and sensible way forward.

5.2 It is noted that many of the recommendations relate either partly or wholly to the bus operators, and in those areas we will work with the operators to encourage them to incorporate the recommendations into their work programmes.

5.3 A programme of work for the areas to be addressed by the Department is currently being drawn up. Initial analysis suggests that most of the recommendations will not have a cost implication and can be handled within the scope of existing budgets. The exceptions to this are:

5.4      Short term recommendation 2.1.1

     5.5.1   This will require funding in the order of £5,000-£10,000.

5.5      Medium term recommendation 2.2.3

     5.5.2   This will require substantial capital funding, but is not envisaged to start for at least 2 years. Subject to the views of the Cabinet lead member for transportation, provision could be built into the 3rd Local Transport Plan.

5.6      Medium term recommendation 2.2.4

     5..6.1   A programme of work for this is underway and should be complete this financial year, with the £11,000 cost (as agreed by the Cabinet Lead) to be funded from star trak income.

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## 6      Legal implications

There are no legal implications contained within this report.

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**Appendices**

**Appendix 1**

A glossary of terms used in this review.

**Star trak**: the computerised satellite system system used to provide information to passengers waiting for bus services. Note the lower case for the star trak system name.

**Campaign for Better Transport (CBT)**: Formerly known as Transport 2000 – local representatives of the national organisation promoting green alternatives to transport problems

**Dots:** what show up on the star trak display at bus stops when, for a variety of reasons, the system cannot provide information about the service or particular bus.

**Timing point:** a bus stop on a route which has a specific time against it at which the bus is supposed to depart. The Traffic Commissioners use these as benchmarks to test operators' performance. Timing points are approximately 15 minutes apart on routes within the city.

**Appendix 2**

**What is star trak?**

It is a real time bus passenger information system that gives 'next bus' information. The information is provided to users in any of four ways:

**Signs at bus stops** at various locations along *star trak* routes, which give 'next bus' information using various types of signs.

- **Multi-route signs** - located in Leicester city centre, which gives passengers 'next bus' on all routes leaving the city centre. These signs can be used a multi-route terminus.

- **SMS -** All stops on *star trak* routes have plates which have a code associated with the stop. Passengers can text this code to a national number (84268) and receive 'next bus' information for their chosen stop
- **Website – allows** users to find their 'next bus.' All *star trak* routes appear on the website with other general information about the routes and the system.

Click on this link: http://www.star-trak.co.uk/ to see and use the star trak website.

The star trak system is made up of the following components:

- Bus location – using GPS technology to located the bus at all times along its route

- Intelligent traffic signal priority – to enable a late running bus to have priority through traffic signals
- Passenger information – bus stop signs, sms and website
- Bus fleet management – for the bus companies to keep track of their buses
- Electronic timetable database – the main part of the system, which says when the bus is on time or late.

(Faults can also be reported: see link http://www.leicester.gov.uk/your-council--services/transport--traffic/transport-systems/contact-tss).

## Appendix 3

### Extract from minutes of Task Group: 26 February 2008

1       It was reported that there were a number of signs showing a dot rather than a time, and the scheduled wait times were constantly changing. Officers stated that these issues were often caused by equipment fitted to buses, or by buses allocated to certain routes that were not fitted with star trak equipment.

1.2     A recovery strategy was put together in 2007 and locally First were working hard to clear faults on their buses. Arriva operate from a number of depots across the area and a number of electricians had been trained to deal with day to day faults, any hard to cure faults were dealt with by an area based electrician, the result being that Arriva had virtually cleared all faults.

2       The Task group were informed that with First Leicester some 80% of vehicles required for star trak routes were fitted with the necessary equipment, but because certain buses were not branded and could be used on any route it meant that certain buses without star trak equipment ended up on star trak routes.

3       With Arriva, all vehicles required for star trak routes were fitted with the necessary equipment, with 95% of vehicles having equipment fitted and working. Kinch Bus at Loughborough had 100% of their vehicles required for star trak fitted with the equipment and working.

3.2     It was questioned how many star trak routes were operational locally and it was stated that there were 24 operated by Arriva and 12 by First.

## Appendix 4

### Extract from minutes of meeting on 24 April 2008

1       Bernard Marriott, representing the CBT presented ' A View from the Bus Stop,' outlining the perspective of a potential bus user travelling to and from the City Centre from Western Park using information obtained on the bus stops on the route.

2       A number of issues included timetable leaflets and their general availability and the fact that timetables for just the Hinckley Road services amounted to some 28 pages.

3       Route information on several bus stops out of date and/or misleading

4       Timings of services at certain stops were "misleading"

5       No tracking of Park and Ride service since new operator (Veolia) started operating

6       Number of faulty signs

7       No shelter or raised kerb at St. Nicholas Circle

8       James Went Building was demolished but the stop still in place and on star trak system

9       Some vehicles display misleading 'on board' information

10      Council officers suggested that a number of the issues highlighted were the responsibility of bus operators and that the presentation should have reflected this. On the other hand the presentation indicated that a proportion of correct information was available, which should also have been reflected.

11      A member questioned who was responsible for naming individual bus stops and it was reported that the City Council was responsible and that information would be made available as to which section to contact.


12      The officers reported that a programme was soon to commence to reface a number star trak signs that currently displayed out of date bus service information.

## Appendix 5

Response to Leicester Campaign for Better Transport's presentation:
*Star trak* – The view from the bus stop

Briefing note for the Regeneration and Transport Task Group

## 1       Background

1.1     On 24 April 2008, the Leicester Campaign for Better Transport gave a presentation to the Regeneration and Transport Task Group.   This briefing note aims to inform Members of the issues behind the points raised, and what is being done to address them.

## 2       General

2.1     The presentation given by the Leicester Campaign for Better Transport gave a good view from a passenger perspective.  However, many of the issues raised were not directly *star trak* related and, in many cases, related wholly to the bus operators.

2.2 It should also be noted that *star trak* is now acting as a conduit of information from many other sources, outside the direct control of the Council, and inaccuracies in that information will therefore reflect on the *star trak* system.

**3 Inconsistency of bus stop names**

*3.1 Issue: Inconsistency of bus stop names on stops, flags, timetables, star trak etc.*

3.1.1 This is a known national problem, not just local. To address this, a common national database, NaPTAN, was set up a few years ago to uniquely define every bus stop in the UK. (See Appendix A below).

3.1.2 Defining unique bus stop names has always been a problem, and until NaPTAN was created, each bus operator and each local authority maintained their own database, often on paper. It was therefore an impossible job to keep everything aligned. *Star trak* was no exception, originally maintaining its own electronic stop database.

3.1.3 Now that NaPTAN is available and in use, most local authorities and bus operators are committed to using the data as their standard. The problem is, each 'user' may have their own opinion as to what each stop should be called.

3.1.4 Ultimately, the local authority has the final word as to the name of the bus stop, but in the interests of partnership working, all bus operators need to be involved if changes are proposed, as they may use the names in their publicity material.

3.1.5 What is required, therefore, is that the NaPTAN database is methodically checked, route by route, stop by stop, until every stop has a name which is both useful and acceptable to all parties. Clearly this is a mammoth undertaking and will not be accomplished in a short timescale.

*3.2 Current situation:*

*3.2.1 The public transport team are drawing up a program of work to address the issue. It is expected that, due to the enormity of the task, it will take about a year to complete.*

*3.2.2 In the meantime, the County has been asked to amend the minor inconsistencies raised by CBT, such as spelling errors.*

**4 Sign faces**

*4.1 Issue: Sign faces on star trak signs have coloured stars and/or 'other services' information that is out of date*

6.1.1 Showing real-time routes and details of other routes turned out to be a double edged sword, as it proved impossible to keep up

with the changes in routes.  Not only this, but changing the legends on the signs, especially with so many signs, is a significant undertaking.

6.1.2   If stickers are used to cover existing information, it looks poor and is prone to peeling (both from natural and human causes).

6.1.3   It is now practice to deploy *star trak* signs with only basic information on the screens;  no route information, no coloured stars showing *star trak* routes, and no information on other routes passing the stop.

6.1.4   All this should be available at the stop, leaving the *star trak* sign to just give out real-time information where available.  It is clear from CBT's presentation, however, that this is not the case.

6.1.5   In general, the bus operators produce the service information which either they or the City Council place in the information cases.

6.1.6   The City Council maintains the service numbers on the bus stop plates but, due to the large amount of network changes that have taken place over the last few years, resources have not been available to keep up.

6.1.7   *Current Situation:  Councillor Kitterick has agreed to commit £11k to migrate all the currently out of date signs to the new style basic front screen.*

6.1.8   *A programme of work is being developed for this with a view to completing as soon as possible.  However, it would not be prudent to start this work before the public transport team's review of stop names is underway.*

## 5      Star text codes

*5.1      Issue: SMS codes displayed on the metal plates at the bus stops do not match those given on the website*

5.1.1   When the *star text* SMS messaging service for real-time bus information was developed, it was the first system of its kind in the UK.  There was therefore no national standard on code conventions, so the *star trak* team worked with the SMS system supplier to define a convention using 6 character codes to uniquely define any bus stop.

5.1.2   These 6 character codes were then used on metal plates fitted at *star trak* served bus stops and, at the time, on the *star trak* web site too.

5.1.3   Following our lead, other authorities became interested in using SMS, and were proposing different coding conventions.  In

order to avoid national confusion and ambiguity, the Department for Transport developed an SMS coding convention for national use.

5.1.4 This standard was, in fact, based on what Leicester had already pioneered, except that 8 characters were used instead of our 6.

5.1.5 We therefore migrated our scheme to the national standard, but on the condition that the old 6 character codes previously used remained valid.

5.1.6 Thus, although the codes still displayed on the stops are 6 characters long and therefore different to those 8 character codes for the same stop now shown on the star trak website, they still give the same result, and will continue to do so indefinitely.

*5.2 Current Situation:*

*5.2.1 Councillor Kitterick has agreed that whilst it would be useful to remind visitors to the star trak website that both the 6 and the 8 character codes work, that there is no point in replacing any of the plates at the bus stops. The website developer has now been asked to add a reminder to the appropriate page.*

## 6 Signs giving out real times only

*6.1 Issue: Signs only give out real-time information, thereby missing non real time buses that may arrive earlier*

6.1.1 A decision was made by the Quality Bus Partnership at the start of the *star trak* project that signs should display real times only. This was to avoid any possible confusion between scheduled and real, and to avoid discrediting the real time information when buses on routes without *star trak* passed the bus stop at anything other than their scheduled time.

6.1.2 This approach has been shown to be the correct approach as many authorities who have used both real and scheduled time on the same sign have reported confusion.

6.1.3 Indeed, the signs in Nottingham (on our *star trak* system) do show real and scheduled time, and messages had to be displayed on the signs explaining that they were scheduled time only.

6.1.4 The feedback from passengers was that they assumed that if a display was electronic, it was real time rather than timetable time.

6.1.5   The situation in Leicester is that the signs were not designed to show scheduled time information, and indeed do not have sufficient characters to do so.

6.1.6   It was for this reason that early signs on the system had legends on their faces that showed the real-time routes in coloured stars, and details of other routes passing the sign also shown.

*6.2   Current Situation:*

*6.2.1   Councillor Kitterick has agreed that the star trak signs in Leicester should continue to give out real times only.*


## 7   Predicted times

*7.1   Issue: Some buses are predicted to arrive at stops early*

7.1.1 The whole idea of a real-time system is to inform passengers of the actual time that a bus will arrive.  CBT highlight a few cases where, using the *star trak* website, the bus is predicted to arrive early at stops.

7.1.2   This shows the value of the system, in that passengers are less likely to miss their bus.  It should be noted that 'early' is a relative concept, and there is nothing wrong with a bus passing a stop earlier than the published time, as long as the stop is not a published 'timing point', where the bus driver is required to stop and wait.

7.1.3   It is precisely for this reason that the County Council gives out advice on their Bus Map and Guide that you should ideally arrive at a bus stop 5 minutes before the due departure time.

## 8   Problems with the *star trak* website

*8.1   Issue: Texts on the star trak website map display are sometimes overlapping and thus difficult to read, list of nearby stops is not of any use.*

*8.2   Current Situation:  The issue with overlapping stop texts on the maps has been taken up with the website provider, likewise the list of other services passing the stop.  After internal discussion over its usefulness, the website provider has also been asked to remove the list of nearby stops facility.*

## 9   Destinations on website

*9.1   Issue: Inconsistent destinations on the star trak website*

9.1.1   Destinations on the *star trak* website are pulled from the traveline regional database and are thus not part of the *star trak*

database. The source of the destinations are the registrations that the bus operators make when starting or changing a route, and are therefore out of the control of the local authority.

9.1.2 The destinations are what the bus operators believe are the most informative texts for each route, taking into consideration the nature of the route.

9.1.3 It should be noted that the destinations are given at route level, ie, there is only one destination given for each direction of the route, not a destination for each service at each bus stop.

9.1.4 Thus it is entirely reasonable that the destination for a service starting in Braunstone is given as 'City Centre', whereas a service originating in, say, Nuneaton, gives a destination as Leicester.

## 10 Routes shown on *star trak* website

10.1 *Issue: Some bus stops on the star trak website have some routes serving the stop incorrect or missing*

10.1.1 The routes displayed are independent of *star trak*, being delivered to the site from the regional traveline database. If any errors are present here, then the traveline database needs changing. This is maintained by Leicestershire County Council.

10.2 *Current Situation: The errors highlighted by CBT have been passed to the County Council for action. These include the missing routes at Abbey Street, and the removal from the database of stops no longer present, such as St James Hotel and James Went Building.*

## 11 Campaign for Better Transport Survey

11.1 *Issue: "star trak doesn't work"*

11.1.1 At the end of their presentation, CBT presented the results of a survey carried out by Andy Brookes. CBT claimed that the survey showed that *star trak* was only working in 7 out of 40 cases, showing this information in a very quick breeze through his results. What was clear was that CBT only counted the system as working if the sign was showing 0 when the bus arrived.

11.1.2 The main point of note here is that it is perfectly within the tolerance of the system for a sign to be showing a 1 when the bus arrives, and there may indeed be cases when higher values are explainable and acceptable.

11.1.3 It is not clear how many such cases were noted in the survey. It should also be noted that there may have been faulty buses

passing the stop during the survey, resulting in dots and subsequently misleading results, as explained in a previous task group meeting.

11.1.4 The presented survey results cannot therefore be taken as representative of reality.

11.1.5  Andy Brookes was twice during his presentation of the survey at which stop the survey was taken but declined to answer.

11.1.6 He later gave the name of the bus stop, but was not prepared to pass over the data from the survey for the *star trak* team to inspect and act upon.

11.1.7 The *star trak* team has since carried out its own survey at the same stop.  The results are presented in Appendix B, and show that the system was working as expected in all but one case.  In this sample this equates to 97%.


David Wright: 28 May 2008


**Appendix A**

**Background to the NaPTAN Database**


The National Public Transport Access Node (NaPTAN) database is a UK nationwide system for uniquely identifying all the points of access to public transport in the UK. It is a core component of the UK national transport information infrastructure and is used by a number of other UK standards and information systems.

Every UK station, coach terminus, airport terminal, ferry terminal, bus stop, etc is allocated at least one identifier.

The NaPTAN scheme is a UK national *de facto* standard sponsored by the UK Department for Transport and supports both the public registration of bus timetables by the Vehicle and Operator Services Agency (VOSA), and the data collection for the Transport Direct Portal. NaPTAN includes on a related standard - the National Public Transport Gazetteer.

The NaPTAN database is maintained centrally under contract to the Department for Transport by Thales.

**Appendix B**

**1       Bus Stop Survey by the star trak Team**

1.1     Following the CBT presentation, the *star trak* team conducted their own survey at the same bus stop, in order to be able to ascertain whether a problem exists at that particular stop.

1.2     The survey took place on Friday 9 May 2008, between 08:55 and 10:45.  The full results follow this summary.

**2       Summary of results:**

2.1     During the survey time, 37 buses were observed passing the stop.  The results can be summarised as follows:

| Criteria | % age fulfilling criteria |
|---|---|
| CBT: 'The system is only working if the sign shows 0 on arrival or departure' | 57% |
| All buses passing the stop during the survey period, and with the sign showing 0 or 1 on arrival or departure | 68% |
| All buses passing the stop during the survey period that are fitted with working star trak equipment, and with the sign showing 0 or 1 on arrival or departure | 96% |
| For all buses passing the stop during the survey period, whether the central system and the sign worked as expected | 97% |

2.2     This backs up the information given by David Wright at his presentation to the Task Group

2.3     Of the buses passing the stop, 70% were equipped and working

2.4     Of those equipped and working, 96% were producing information within the expected tolerance of the system.

2.5     It is accepted that 70% of buses equipped and working is not acceptable, but this, as explained, is an issue with the bus operators, not the *star trak* system.  It is also accepted that, from a passenger point of view, a dot means the system is not working, and this is clearly an area where we must engage with the bus operators.

**Freemans Common D - B120401 - 269034038**
Observations 09/05/08 08.55 –
10.45

| | Time Bus Arrived | Route | Bus Number | Bus logged on? | Info on sign | | Other info |
| | | | | | Arrival | Departure | |
|---|---|---|---|---|---|---|---|
| 1 | 9.01 | 48 | 4754 | Yes | 1 | 0 | |
| 2 | 9.06 | 84 | 4708 | Yes | 0 | 0 | |
| 3 | 9.16 | 85 | 4746 | Yes | 0 | 0 | |
| 4 | 9.20 | 48 | 4766 | Yes | 1 | 0 | |
| 5 | 9.25 | 88A | 32064 | Yes | 0 | 0 | |
| 6 | 9.26 | 88 | 32058 | Yes | 0 | 0 | |
| 7 | 9.30 | 88 | 66305 | No | . | . | Dot bus |
| 8 | 9.31 | 85 | 4704 | No | . | . | Dot bus |
| 9 | 9.31 | 48 | 4771 | No | (8) | (8) | Dot bus running late, sign showed |
| 10 | 9.33 | 88A | 32071 | No | . | . | Dot bus |
| 11 | 9.33 | 88 | 66969 | No | (7) | (7) | Dot bus running late, sign showed |
| 12 | 9.41 | 88 | 66316 | Yes | 0 | 0 | |
| 13 | 9.42 | 48 | 4751 | Yes | 0 | 0 | |
| 14 | 9.48 | 85 | 4740 | Yes | 0 | 0 | |
| 15 | 9.51 | 88 | 32632 | No | . | . | Dot bus |
| 16 | 9.52 | 84A | 4709 | Yes | 1 | 1 | |
| 17 | 9.54 | 84 | 4702 | No | (15) | (15) | Dot bus running late, sign showed |
| 18 | 9.55 | 48 | 4765 | No | (13) | (13) | Dot bus running late, sign showed |
| 19 | 9.56 | 87 | 66972 | Yes | 0 | 0 | |
| 20 | 10.03 | 88A | 32053 | Yes | 1 | 0 | |
| 21 | 10.05 | 85 | 4735 | Yes | 0 | 0 | |
| 22 | 10.05 | 88A | 32648 | No | . | . | Dot bus |
| 23 | 10.06 | 87 | 66963 | Yes | 1 | 1 | |
| 24 | 10.09 | 84 | 4712 | Yes | 0 | 0 | |
| 25 | 10.15 | 48 | 4758 | Yes | 0 | 0 | |
| 26 | 10.15 | 88 | 32090 | Yes | 0 | 0 | |
| 27 | 10.15 | 88 | 32076 | Yes | 0 | 0 | |
| 28 | 10.20 | 85 | 4715 | Yes | 0 | . | Cleared down whilst bus at stop. |
| 29 | 10.21 | 88A | 32643 | Yes | 0 | 0 | |
| 30 | 10.24 | 87 | 66309 | Yes | 2 | 2 | Bus didn't stop |
| 31 | 10.25 | 48 | 4750 | Yes | 1 | 0 | |
| 32 | 10.28 | 85 | 4707 | No | . | . | Dot bus |
| 33 | 10.31 | 84 | 4713 | Yes | 0 | 0 | |
| 34 | 10.32 | 88A | 32066 | Yes | 0 | 11 | Cleared down whilst bus at stop - |
| 35 | 10.38 | 87 | 66975 | Yes | 1 | 1 | |
| 36 | 10.41 | 48 | 4760 | Yes | 1 | 1 | |
| 37 | 10.42 | 85 | | No | . | . | Dot bus |