



Ticketing & Revenue Update



January & February 2022

Issue 136

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FULL SPEED AHEAD FOR MARCH FARES REVISION

Since our last edition of TRU, the date for the delayed January Fares Revision has been confirmed as being Tuesday 01 March 2022. This actually coincides with the anniversary of the date of the delayed main fares revision in 2021 and means that for the second year running our main fares changes will take place at the beginning of March rather than at the start of the year, as is normally the case.

It has also now been confirmed that the overall average fares increase across all the fares set by TfL will rise by 4.8%, (representing the July Retail Price Index figure of 3.8% + 1%).

 **4.8%**
Average



As in previous years, to achieve this average figure, certain fares will increase by more than this, whilst others may remain unchanged or rise by slightly less than this. This is mainly because fares have to be rounded to 5p or 10p denominations.

Although the overall extent of the fares increase had been confirmed by the Department of Transport (DfT), the detailed fares are still awaiting sign-off by the Mayor and City Hall.

So at the time of publication we are unfortunately unable to publish the detailed breakdown of the new fares that we had planned to include in this edition.

~~January~~ MARCH FARES REVISION

We have however included an overview of some of the changes on Page 2 inside.

As and when we get the “green light” we will publish detailed fares information within the Fares Revision Circular in the normal manner.

We are also planning to include more detail on fares within TRUI37, which we are aiming to publish towards the end of February.

KEY STORIES INSIDE

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An update on progress on an initiative to reduce the number of POMs in line with predicted demand.

JANUARY ~~March~~ FARES REVISION

Although just before Christmas, the DfT confirmed that the level of fares increases on National Rail services would be in line with the July RPI figure of 3.8%, it was only during the second week of January that the level of increase on TfL services was confirmed as being 4.8% (the July RPI figure + 1%).



Due to these very late decisions being made, the individual Train Operating Companies (TOCs) were unable to provide all of their detailed fare changes to TfL by the deadlines that are set for Cubic to be able to implement the changes.



As a result, we are unable to apply fare changes on Tuesday 01 March to wholly NR Single and Return tickets, or to through magnetic ticket prices to NR stations outside of London or make changes to PAYG charges for journeys outside of the numbered zonal area.

In the case of magnetic tickets, this will mean that the prices on our devices will not be able to be changed, although the comparable ticket bought from a NR station may increase.

The situation of our stations charging different prices to NR stations is not ideal, but at least we will be charging the lower fare and we should not therefore get too many complaints from customers. It is likely that this situation will continue until the next fares revision which should take place in May. However, due to the shortened preparation time, it now looks likely that these changes will be implemented on 12 June instead

Although the TfL fares changes are still being finalised, we have summarised in the table on the right some of the forthcoming changes which are to be included in the 01 March Fares Revision →.

LU PAYG fares will increase by between 10p and 30p
NR and NR+TfL PAYG charges will also increase
Entry and Exit charges will be revised in line with the above changes
Rail PAYG caps will increase
Travelcard season ticket prices will increase
Non-Travelcard, off-peak, will increase

Single / Return tickets for wholly NR journeys – No change
Single / Return tickets for through journeys to NR stations beyond Zone 6 – No change
Bus PAYG fare increased from £1.55 to £1.65
Bus Daily PAYG cap increased from £4.65 to £4.95
7 Day Bus & Tram Pass and Weekly cap increased from £21.90 to £23.20

A LU Single ticket price of £6.30 will apply within Zones 1-6 rather than the current 2-tier charges of £5.50 or £6.00. An impact of this will be that in nearly all cases the price of an extension ticket for the small number of magnetic season ticket holders will be the same cost as the fare for the whole journey.

They will therefore need to buy a Single ticket for the journey rather than using a combination of their season ticket and an Extension as they would have previously done.

The fares revision will also include some other changes including the advance loading of fares and base data to facilitate the introduction of the following, later in the year →.

More information on these changes will appear in future editions of TRU, as opening dates are confirmed.

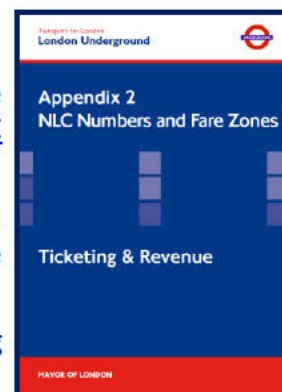
Luton DART service to Luton Airport
London Overground service to the new Barking Riverside station
Thames services to Barking Riverside Pier
Opening of a new Brent Cross West station on the Thameslink line between Cricklewood and Hendon

T&R BOOK APPENDIX 2

In preparation for the upcoming fares revision, work has already started on updating the T&R Books. The first of these to be published was [T&R Book Appendix 2 – NLC Numbers and Fare Zones](#), which was uploaded in the first week of February.

This particular document has changed significantly as it now includes Elizabeth line stations, new stations and River Piers within the London area and a logo to indicate whether the station is managed by a TfL or a TOC service.

As the Fares Revision Circular is also to be published shortly, ensure you keep checking the weekly Hot Issues Bulletin, which will provide details and a 'Platform' link.



G4S COLLECTION UPDATE

Many readers will be fully aware that since the move back to cash acceptance at LU stations in the summer, we have faced some major issues with G4S cash collections, due to some acute staff shortages within their London operations.

Since Christmas there has been a significant improvement in collection rates, particularly within the area covered by their Nine Elms branch, following the successful recruitment of new staff and a number of drivers being seconded in from other areas of the country to plug shortfalls in establishments.



Since the start of the year, G4S have resumed scheduling some recovery collections where a service is missed by them and we are continuing to provide them with a weekly list of priority locations that require collections to be completed. They now appear to be ensuring that sites do not suffer consecutive missed collections as happened at several of our larger stations at the end of 2021.

Although we are still seeing a small number of missed collections each day, G4S are now achieving between 80 and 90% of their schedule, whilst at the worst point of the crisis, this figure had often slipped below 50% on many days. We are hoping that this performance will continue to improve.

At the end of January, we made a number of changes to the collection schedules including the reinstatement of collections at a number of stations where the frequency had previously been reduced to once a week during the pandemic. We had previously seen the CHDs at these locations reaching capacity in the event of G4S failing to make one of their weekly collections. The increased frequency of collections at least gives us a little more capacity if a collection is missed for some reason.

As the frequency of G4S collections has improved, we have been able to focus a little more attention on the small number of collections that are now being missed. Whilst some of the failed services were clearly down to G4S issues, including some new staff perhaps not being familiar with our Cash Handling Devices, we are unfortunately seeing a number of missed or partial collections due to Lu staff issues.

Frustratingly this has included occasions where TSID card holders have not transferred notes into the collection sack after completion of a MFM service. As a result, the sack has been either empty or containing only a very small amount of notes when the custodian has signed on to the device.

LIMITED EDITION OYSTER CARD

Back in our October 2018 edition of [TRU112](#), we told you about the launch of a very limited run of 1500 Oyster cards to promote 10 designs of London Underground inspired trainers called 'Temper Run', which also coincided with the 15 anniversary of the Oyster card itself.

Customers purchasing these trainers at £80 per pair, received a special edition Oyster card, with £80 PAYG credit pre-loaded and a specially designed card wallet, all of which were only available from Adidas's flagship store on Oxford Street.

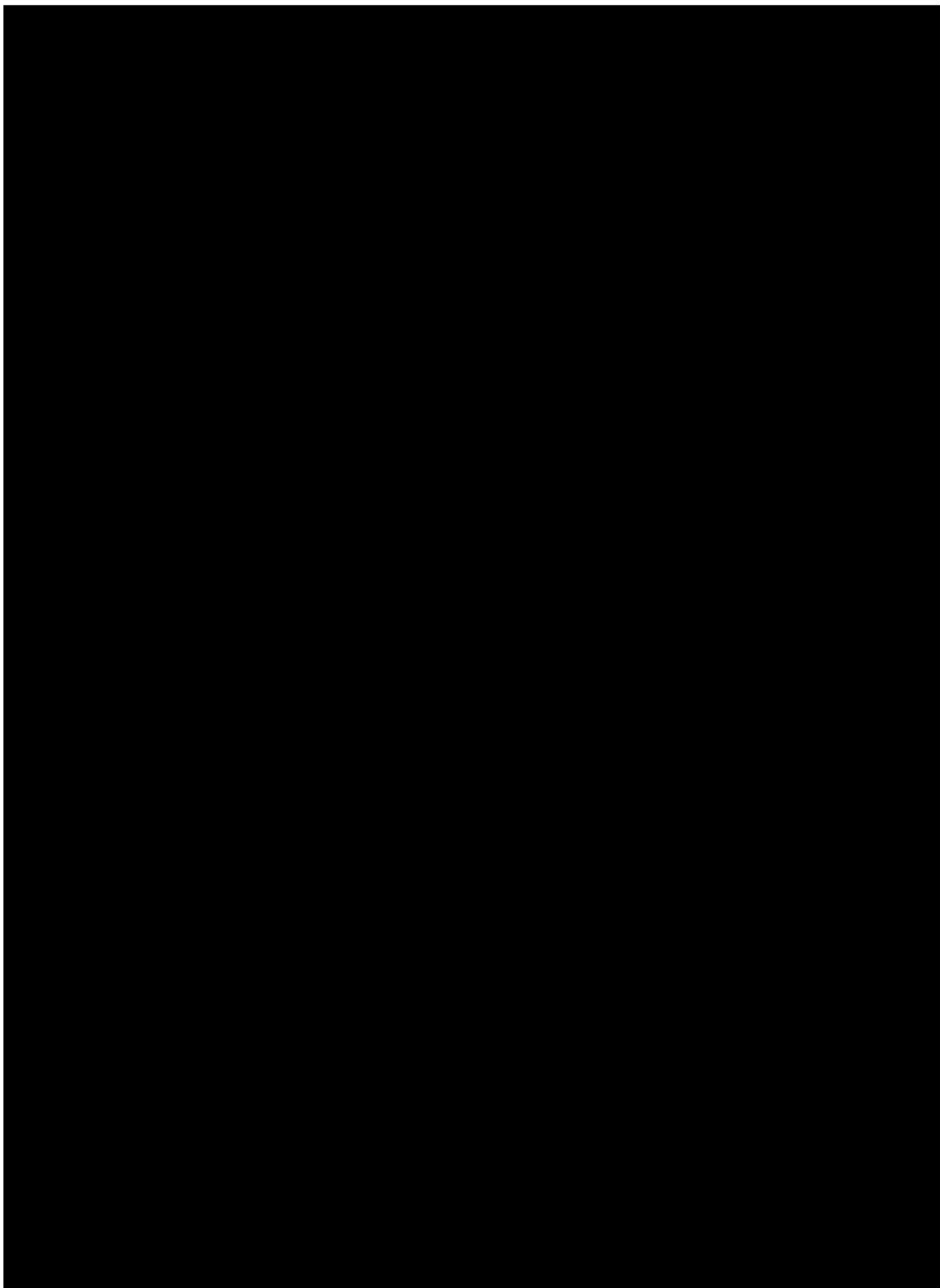
Demand for the product was overwhelming with customers queueing in the cold for hours, before quickly selling out.

This time around TfL and Adidas have joined forces with Arsenal Football Club and from Friday 21 January 1,000 limited edition Oyster cards will be given to customers as part of an in-store promotion.

The front of the Oyster card depicts two timelines of the LU station nearest the ground, which originally opened on 15 December 1906 as Gillespie Road, later renamed in October 1932 as Arsenal (Highbury Hill), with the suffix being dropped in the 1960's to its current name of Arsenal.



The cards are pre-loaded with £10 PAYG credit and except for the frontal design are identical to a standard retail adult Oyster card. The cards include the £5 cost of the card, card serial number range, adding PAYG and / or Travelcards and Bus & Tram Passes and are subject to standard TfL conditions of use, refunds and registration.



STRONG CUSTOMER AUTHENTICATION (SCA)

On Monday 14 March 2022, debit and credit card issuers will introduce an extra layer of security for online purchases and accounts from websites and apps called Strong Customer Authentication (SCA). Although it has been around for a while, the difference is that from this date it will be a mandatory requirement in the UK.

The main change that TfL customers with online accounts may notice, is that from this date they may be asked for two different pieces of information when buying products online, known as a "card challenge".

Card issuers will decide when and what they ask customers for, based on the information they hold on them, **not** the data TfL holds. This could be one of the methods shown on the right, of which the customer has previously provided details to their card issuer.

Information for customers:

- Ensure they are using the latest version of the TfL App
- Ensure their personal details are up to date
- Ensure they have access to their authentication device, such as phone or email
- Follow instructions from their card issuer and contact them should they fail
- They should contact their card issuer if they are concerned about the data being requested.

 Something you know

- Password
- Passphrase
- PIN
- Sequence
- Secret fact

 Something you own

- Mobile phone
- Wearable device
- Smart card
- Token
- Badge

 Something you are

- Fingerprint
- Facial features
- Voice patterns
- Iris format
- DNA signature

RAIL AID UPDATE

Rail Aid 2021 has wrapped up and the Railway Children charity wanted to say a huge thank you to everyone who participated in making this event such a great success and in no small part to LU and TfL!



In total, the rail industry raised over £716,000 in support of Rail Aid with over 100 companies taking part. All of the events and fundraising efforts will significantly help fill the financial hole the charity has witnessed, due to the Covid-19 pandemic as well as helping them provide support to vulnerable young people in India, East Africa and here in the UK.

As well as the promotion of the Oyster card donation scheme across regional and national press, TfL also ran the Emirates Airline festive cable car in December and for every festive cabin experience sold, a donation was made to Railway Children and the experience was enjoyed by people of all ages.

Dave Ellis, Railway Children Corporate Partnerships Manager told TRU:

"It's so uplifting to see the railway family come together once again in such a supportive and invaluable way. Although Rail Aid has run for the last 2 years due to the pandemic, the support from the industry within that time has also epitomised the support it has shown the charity since Railway Children were founded. We are incredibly proud of this, including all of our friends at all levels within LU and TfL whose support we always appreciate."



We hear that due to its huge and growing success, plans for Rail Aid 2022 are already being discussed, so keep checking the TRU for more information and details of events and how you can support them.

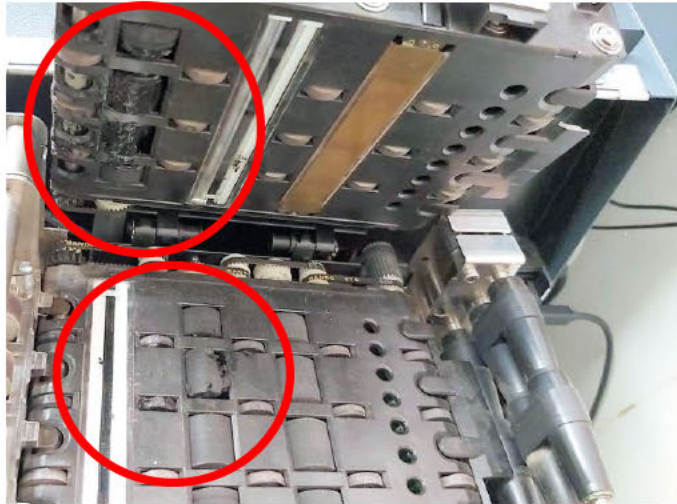


CHD UPDATE

Further to our article in [TRUI35](#), which outlined a couple of issues affecting our Cash Handling Devices we are pleased to be able to report that the backlog of devices awaiting the arrival of parts for their note handling units has now been cleared, although in doing so, Pay Complete have again had to use most of the last batch of units delivered from the manufacturers in Italy.



The level of failures of the unit within the note handlers remains a concern and within the last couple of weeks, further evidence has come to light, following the examination of some of the failed units which had been sent back to the manufacturers. The detailed examination of these units has led to the conclusion that some of the damage to rubber components as being attributed to the aggressive action of products such as chlorine, ozone-based sanitation materials or alcohol-based materials, which are typically used in sanitizing gel.



PayComplete

This theory would account for the sudden deterioration to components in a number of units once those stations went back to accepting cash and for failures at some higher volume sites which have continued to accept cash throughout the pandemic.

Encouragement of customers to use hand sanitising points when entering stations, would in many cases be followed by a transaction at a POM to purchase a ticket or top-up an Oyster card. If paid for using a bank note, there is a likelihood that traces of hand sanitiser may be transferred from the customer's hands onto the notes they are paying with. Now that notes are made of polymer, it is likely that residue from the gel will remain on the surface of the note, rather than being absorbed as may have happened with traditional paper notes.

Interestingly, we would probably have expected the initial impact of the chemicals within the gel to have affected components within the note handling mechanism of the MFM or TVM, more. In the case of coins, we have always seen that having already passed through one device, when deposited into the CHD we tend to have fewer issues with dirt and other materials building up within the coin unit than other outlets that the equipment is used in. However, Cubic have confirmed that the mechanisms used to move notes within the two different types of equipment use components made of different materials.

There is also the possibility that some transference may occur when notes are taken out of the note vault and placed in the CHD, if the member of staff undertaking the POM servicing has traces of the gel still on their hands. Discussions are continuing to take place between TfL and Pay Complete concerning this on-going issue, to reduce the length of time it is taking to resolve faults and possibly increase the stock holding of spares, as the issue appears not to be one that is going to go away quickly.

The other main issue currently affecting our CHDs, concerns a number of devices which are connected to the CHD back office via a fixed line IM connection. These sites are typically ones where the secure suit is deep underground or where the CHD is located in a newly constructed ticket hall often under large volumes of metal or concrete. We currently have a number of devices which are offline due to these connectivity issues and although the device should function as normal, it presents issues with getting data to and from the device.

Frustratingly it has proved difficult to resolve some of these connection issues, even though some of the lines had worked or being tested prior to them stopping working. Currently Pay Complete are making regular visits to these sites to upload data stored on the device and to download an updated version of the CHD user list which determines who is allowed to sign on to the CHD. The main impact for TSID card holders are that:

- You cannot change your CHD PIN on a device which is not online, you will have to use the default PIN
- If you have changed your PIN on another device, it may not have been updated on the offline CHD
- If you have received a new TSID card you may not be able to use the CHD immediately
- Remote resets or rectification of faults will not be available to engineers.

QUIZ OF THE YEAR (2021)

We normally include a quiz within our December TRU, to test your knowledge over the Christmas / New Year period. Unfortunately, last December we were a little pushed for time and could not include it within [TRU135](#). We have instead put together a quick test of your recollection of some of the main issues that we covered in editions of TRU during 2021.

As with previous years, we have some of the questions a little more cryptic. However, there are a couple that you should hopefully find a little bit easier? – Good Luck!

Q1	A lot of events were postponed due to Covid during 2021, but which major T&R event was delayed by 2 months in 2021?
Q2	Why did some customers benefit from a £5 refund from February 2021?
Q3	February and March 2021 saw the removal of 66 POMs from the network. What type of device was removed?
Q4	Which facility introduced as part of Fit for the Future Stations, finally bit the dust in April 2021?
Q5	Which LU station changed zone in May 2021?
Q6	A new version of what, was introduced in June 2021?
Q7	What returned to a large number of LU stations in summer 2021?
Q8	Changes were made to the Oyster system to accommodate which facility that was subsequently never launched?
Q9	Which facility was extended to Oyster users in September 2021?
Q10	Which of our suppliers changed their name again during 2021?
Q11	What facility celebrated generating £100K of income in December 2021?
Q12	And finally, at the end of 2021. What were customers required to pay for, that in previous years had been free?

Check how you have done and calculate your points score. The answers are on [Page 15](#).

SPECIAL FEATURE

T&R REVIEW OF 2021

In the first edition of TRU each year, we traditionally take a look back at the T&R events of the previous year and revisit some of the predictions set out by Olly Oyster in the previous December edition of TRU.

After 2020, many of us had hoped for a much better year in 2021, but it turned out to be anything but easy for many people and for some of us, a year best forgotten for various reasons.

Back in [TRU130](#) in December 2020, Olly outlined his vision for some of the things expected to happen in the year ahead, so below and opposite we have dusted off the 10 items he outlined and review what actually happened on each one during the last year



SO WHAT WAS OLLY'S 2021 VISION?

1 AN EARLY 2021 FARES REVISION

Much like the position we now find ourselves in during 2022, we started 2021 with a delayed fares revision, which eventually took place on 01 March.

The fares changes were successfully delivered with some fares seeing their first increase in 5 years, as a result of the end of the Mayor's fares freeze.



2 GATE POD UPGRADE

The rollout of the new design of Gate POD was completed as expected in Spring 2021, greatly improving the display of information to customers and staff.

However, some unexpected complications with single direction gates are currently still proving difficult to finally resolve



3 REPLACEMENT OF MANUAL GATES

We had hoped to complete this project early in 2021 and despite a number of delays most of the work was eventually completed during the year and the number of Manual Gates around the LU network was greatly reduced.

We however discovered a couple of \manual gates that had been overlooked in the original surveys and a couple of sites remain to be finally resolved.



4 MFM NOTE HANDLER REPLACEMENT

Having started this particular project way back in 2018, the events of 2020 had prevented progress and we approached 2021 with the expectation that we would made major progress in the year ahead. Unfortunately, a combination of the continuing impacts of Covid and uncertainty around cash acceptance on the network delayed a number of decisions being made. As a result we are still some way from completing the replacement of all of our MFM note handling units.

On a positive note, during 2021 we dis complete the replacement of units within all MFMs fitted with the previous Bank Note Recycler (BNR) units and upgraded devices fitted with Bank Note Acceptor (BNA) units at stations that had continued to accept cash through the pandemic.



5 CARD ONLY GATES

Despite the continued fall in the use of magnetic tickets, this is one that definitely gets the thumbs down with no progress made during the last year. Discussions have taken place between Cubic and TfL, but currently the costs of modifying some gates not to accept magnetic tickets and the potential maintenance savings that would be made do not provide a strong enough business case to complete the work in the current financial climate.



T&R REVIEW OF 2021 continued...

<p>6 FEWER POMS NEEDED</p> <p><i>The year started well with the first batch of QBM removals being successfully completed within the first few months of the year.</i></p> <p><i>Work to identify further potential reductions in the number of POMs was hampered like several other projects, by the combination of the impacts of Covid and uncertainty around cash acceptance. As a result, no further device removals took place until the start of 2022 with a second phase now underway.</i></p>	
<p>7 OYSTER WEEKLY CAPPING</p> <p><i>Well third time lucky for this one? This is possibly the longest running item on the list, having been included on Olly's wish list for 2019, 2020 and 2021. We are pleased to say that after a very long wait and several postponements Weekly Capping was finally launched for Rail PAYG users in September 2021!</i></p>	
<p>8 MAYORAL ELECTION</p> <p><i>We have given this one the thumbs down, not because Olly has anything against the result, but although the delayed election did take place in May, the hope that this would provide more certainty on fares policy hasn't really materialised.</i></p> <p><i>The impacts of Covid, lower customer numbers and reduced fares income have resulted in a well-publicised funding gap and the series of short term funding deals between TfL and the Department of Transport (DfT) have not delivered the certainty that had been hoped for and have resulted in another late fares revision in 2022.</i></p>	
<p>9 EXPANSION OF THE NETWORK</p> <p><i>This was another wish list item that we had been waiting a very long time for. We have given it the thumbs up as the network did see the opening of the Northern Line Extension and the two new stations at Nine Elms and Battersea Power Station.</i></p> <p><i>However, the original item had been about the planned opening of the Elizabeth line and although we saw the opening of the new Whitechapel and Moorgate (Met) ticket halls during 2021, we are still awaiting confirmation of when Elizabeth line trains will serve the central section of the line.</i></p>	
<p>10 A RETURN TO NORMALITY</p> <p><i>We embarked into 2021 with hope of a return to normality and the start of the rollout of a vaccine to help in the fight against Covid. Although there were some glimpses of 'normality' the emergence of variants, the need for boosters and the emergence of Omicron towards the end of the year, mean that we are still far from being back to normal.</i></p>	

In summary, in what has been another very difficult year, quite a bit of progress has been made on meeting Olly's aspirations for 2021. Five items got the thumbs up symbol and 5 have been given the thumbs down, but even on some of those significant progress was made during the year. There were also a number of items not included on Olly's wish list that came to fruition during 2021. Including the phase return of POMs to accepting cash payments, the deployment of measures to deter skimming devices being fitted to POMs and the expansion of a trial of a new type of gate paddle (covered in more detail on [Page 10](#)).

In our review undertaken last January in [TRUI31](#), we identified 4 items from the 2019 wish list which remained to be completed last January. We have since seen the implementation of Weekly Capping (as outlined above) and will hopefully see the completion of both the rollout of the new MFM Note Handling Units and the opening of the Elizabeth line during 2022!

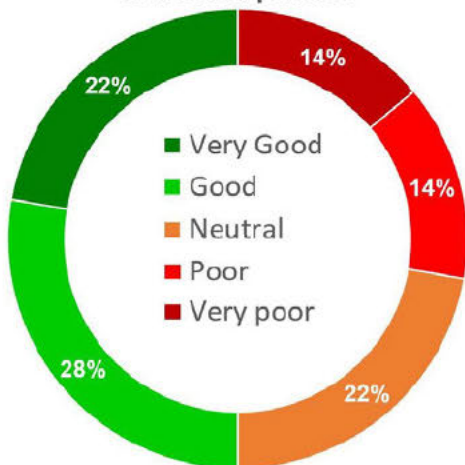
Here's to a successful 2022!

SPECIAL FEATURE

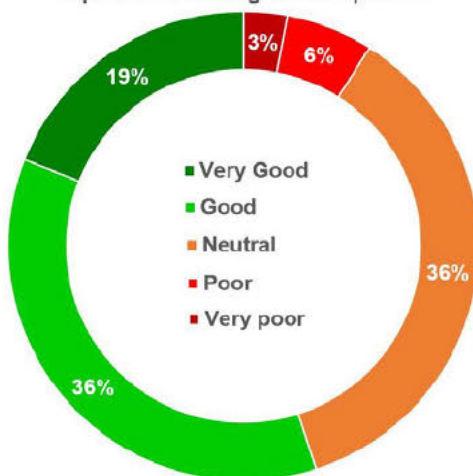
COMPOSITE PADDLE TRIAL

Trialling new equipment such as new parts and upgraded software is not that difficult but getting vital feedback from staff has often been a challenge. This was recently highlighted with the new Station Control Unit (SCU) where a Trial Event Log Book was provided to each station with a new SCU, but these weren't used as much as we would have hoped and then collecting them often proved difficult.

How do you rate the reliability of the new paddle?



How do you rate the customer experience of using the new paddle?



The approach this time around which has proved to be highly successful has been to send a Microsoft Forms link to staff at trial stations, which has a combination of set questions, and also provides space for staff to tell us about specific issues they have experienced.

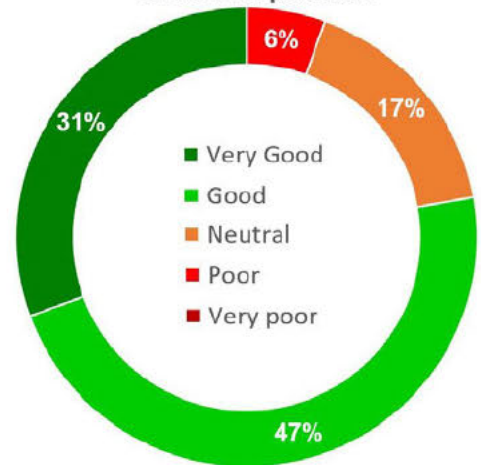
The responses received have been excellent and just a few of them have been reproduced here.

Next steps will be for the T&R Team to collate all of the data into a report, which will be shared with the project team in Cubic, to aid looking at next steps prior to a more widespread rollout.

A few of the aims of this particular upgrade were to produce a lighter, stronger and more robust gate paddle, which would help reduce maintenance costs to items of equipment such as the gate motors, but in conjunction with improved software would also help minimise the issues with customers getting trapped or hit by the paddles when opening and closing.

These aims appear to have very much been achieved, but staff have also highlighted perceptions of increased fare evasion, which as a consequence causes the gates to close down more often, requiring a reset. Luckily, gate data can be analysed to see how much of a consequence this has been, both for forced paddles and resets, which can then be factored into further improvements where necessary.

How do you rate the appearance of the new paddles?



Have you noticed any signs of wear or damage to the new paddle surface?



"The new paddles will hopefully lead to less motor wear"

"Paddle design is good"

"It looks better"

"Looks more modern"

"New design looks like it will wear better than the old rubber design"

"Paddles are much lighter and less likely to trap customers and cause injury"

"Fewer people getting stuff caught on gates and don't mark as easy as the old gates"

"Seem to break down less"

"Seem more durable"

"Look better and are stronger"

"Better durability and coverage along the gate"

"The carbon fibre looks quite high end"

"Not as many failures"

"Better"

The gates look better and allows customer to use them a bit more freely without resistance"

"Do not break down as much as the old ones"

"I would prefer perspex, as on the Newcastle Metro"

"No noticeable difference"

"Sturdy, but could be improved upon"

"Other than colour, I've not noticed any difference"

"Apart from looking fancier, they are not any better"

Your views matter

The T&R Team intend to issue more surveys of this type going forward as the views of the end-users are important, as is the feedback they receive from customers experiencing the equipment and what they like / don't like.

Surveys links will be sent by email to station staff at trial stations and are designed to be completed easily and quickly.

"The paddles are easier to push through than the old ones"

"Very easy for fare dodgers to bypass"

These gates being lighter are easier to push through and will likely cause more damage over a shorter period"

"Easier to double through"

"Too lightweight"

More easy to push open, which tends to take the gates out of service and require a hard reset"

"Fare evaders now push through all the gates and not just the WAG"

"The old paddles were harder to force open"

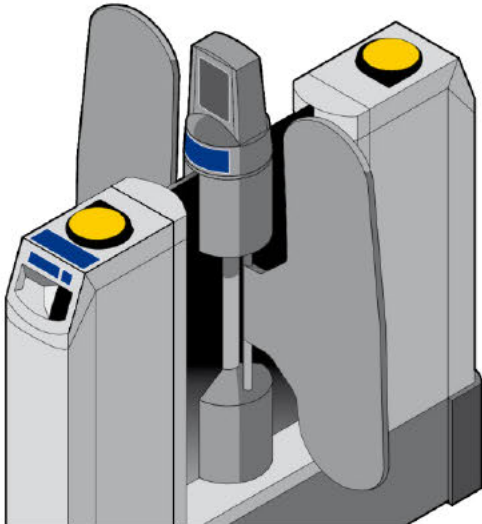
"Gates break down when forced open, causing them to reset (96E) preventing customers with kids / luggage from exiting quicker"

"This new paddle encourages a lot of anti-social behaviour and fare evasion at my stations"

"Easier to barge open when double-gating"

EI GATE UPGRADES - WHAT STARTS AT LONDON BRIDGE ENDS AT LONDON BRIDGE!

We haven't quite got to the point where we can unfurl the chequered flag to mark the completion of the EI gate upgrade programme, but the finishing line is now definitely in sight! Strangely for a network wide deployment of this nature and a little like a F1 Grand Prix, the start and finish will be pretty much in the same place.



Following on from a number of trials of different changes to the Beam Logic Unit (BLU), the current programme to implement two changes to our EI type gates, to improve the effectiveness and reliability of the light beams which monitor customers passing through each walkway and to implement new software to control the movement of the paddles, kicked off with upgrades to gates on the Northern and Jubilee line gatelines at London Bridge on 30 November 2020.

After a grand tour of the network, the last gates scheduled to receive this EI upgrade 14 months later, will be the gates at London Bridge (Borough High Street) ticket hall on Tuesday 15 February.

As we reported in [TRU135](#), the implementation of improvements to the Beam Logic Unit (BLU) has already resulted in an improvement in reliability and a significant reduction in the number of BLU related faults on our EI gates.

The implementation of the Paddle Control software, previously rolled out to the newer E2 gates and WAGs, should significantly reduce both the number of incidents where customers or their property get caught in the gates, whilst lessening the impact if this does happen.

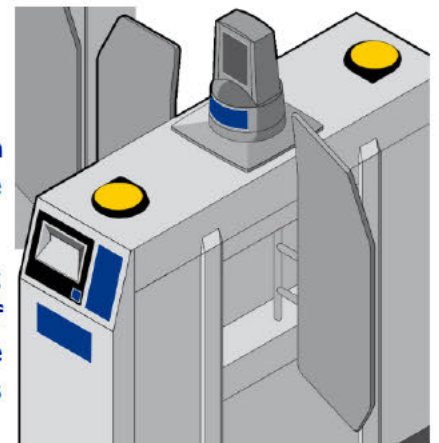
The new software also supports the implementation of the new design of gate paddle which is currently on trial at 9 of our stations and feedback from this trial is included on Page 10 (opposite).

The new design of paddle, although lighter than the traditional designs, does not have the 'soft edge' incorporated into the rubber coated paddle. So the software which changes the angle of the paddle when an obstruction is detected, means that any impact from the paddle is lessened.

WHAT NEXT?

Following the completion of the EI upgrade programme, attention will then turn to the implementation of a revised arrangement of light beams on the older pneumatic gates at stations in central London.

The pneumatic gate BLU upgrade has been on Vanguard at 3 locations; Pimlico, Bank (Central) and Waterloo (Main) since the end of October/beginning of November 2021. Initial results from these sites have been positive and it is therefore planned to commence the rollout of this modification to other stations with pneumatic gates.



This is scheduled to continue from the completion of the EI upgrades outlined above. This will hopefully commence on the night of Sunday 20 February and as there are significantly fewer stations that still have the older pneumatic gates, it is expected that we will be able to complete the deployment relatively quickly.

Stations will be advised in advance by email, of the planned dates for their gates to be upgraded, in the normal way. Information on device upgrades is also published in the 'Dates for Diary' section of the weekly T&R *Hot Issues Bulletin*.

This planned upgrade to the pneumatic gates, is in addition to a further planned upgrade to resolve a current issue with the Passenger Orientated Display (POD) on a number of single direction gates. This is outlined in more detail on Page 12 (overleaf) and is to be deployed separately to the BLU modifications outlined above.

REVENUE PROJECTS

PNEUMATIC GATE POD MODIFICATION

In [TRUI35](#), we reported on the planned Vanguard of a modification to the LCP software used on pneumatic gates, to resolve an issue that had prevented information from being displayed on both sides of the new gate PODs on a small number of single direction entry gates.

The new software was deployed to three Vanguard sites: Victoria (District), Bank (Monument) and Tower Hill, on the night of Thursday 06 January. Unfortunately, when the gates were reset the following morning an issue was fairly quickly identified at each of the sites which had resulted in the POD of these entry gates incorrectly displaying a “No Entry” message on the LCD display, even though the gate was in full service.



The missed message caused a degree of confusion amongst customers, particularly at Victoria and as a result, a decision was taken to revert all of these gates to the standard pneumatic gate LCP software on the night of Friday 07 January, whilst the cause of this issue was investigated and resolved.



At the time it looked as if our efforts to resolve one problem had in fact caused another and rather than progressing to the start of the planned rollout to other pneumatic gates at the start of February, it was a case of going back to the drawing board.

Subsequent investigations by Cubic and further testing at their System Test Facility in Salfords failed to recreate the issue or identify the cause of the fault seen on the three stations used for the Vanguard. It is now felt that this situation may have been caused by the instruction to station staff to perform a ‘soft reset’ (95E) on each of the gates, rather than undertaking a ‘hard reset’ (96E).

The plan now is to re-Vanguard the LCP software initially just at Bank (Monument), as this site has a larger number of gates, many of which are reversible and not affected by the change. This is scheduled to be completed on the night of Monday 21 February, with a Cubic installation engineer attending the site the following morning to perform a reset on each of the entry gates and then monitor whether information is then correctly displayed on both sides of the POD.

If all goes well with this initial site, we then plan to extend the Vanguard to Victoria (District) on the night of Tuesday 22 February, again with a Cubic installation engineer attending each site the following morning to check that the upgrades have been implemented correctly and PODs are displaying the correct information.

This should then pave the way for the LCP software to be rolled out to Tower Hill and then to other locations with single direction pneumatic gates during March.

TVM FIRMWARE UPDATE

In [TRUI35](#), we reported on a planned Vanguard of new firmware for the Note Handling Units (NHU) used in the TVM. Firstly, apologies that unfortunately, due to an error, the devices involved were not included in the article and the list of stations was not quite correct.

This new firmware was loaded during an engineer visit to 8 LU managed TVMs at Gunnersbury, Harrow & Wealdstone, Wembley Central and Whitechapel on Thursday 13 January.

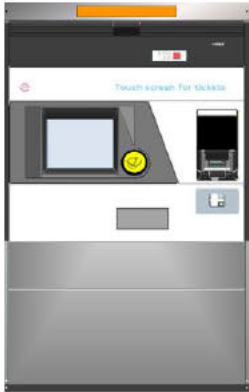
Following this Vanguard, Cubic will now be deploying the firmware to all other TVMs between Thursday 17 February and Wednesday 16 March. As with the Vanguard locations, the deployment will be undertaken during an engineer visit to each location during traffic hours, rather than being done at night. Stations affected will be notified in advance of the dates of their upgrades by email.



MFM NHU REPLACEMENT

At the time of publication of [TRU135](#), Cubic were in the process of extending a Vanguard of a new version of MFM Note Handler (NHU) firmware to 14 devices fitted with the new Pay Complete NHU working as a Bank Note Acceptor (BNA) unit.

WARREN STREET ARCHWAY	BETHNAL GREEN COLINDALE	MILE END DAGENHAM HEATHWAY	TURNPIKE LANE EAST HAM
ELEPHANT & CASTLE (Bak)	HARROW ON THE HILL TOOTING BROADWAY	LEYTON UPTON PARK	PIMLICO



The sites listed above had been selected as we had seen a high level of note jams and note handler faults on these particular devices. These devices were subsequently revisited at the end of January for a further modification to be completed.

This centred on the locking bin which secures the note handler back into the correct position after it has been rotated for servicing.

This further modification was identified by Cubic following concerns that some of the issues seen with the new units may have been caused by the NHU not being correctly aligned when it had been returned to the device after servicing activities had been undertaken by staff.

Following on from the upgrade of the 14 MFMs outlined above, both firmware and the alignment modification were also applied to MFM30 at Wood Green, which hadn't been included in the original batch of devices, but had seen a high level of issues report.

Following on from the Vanguard, on Wednesday 02 February, Cubic commenced the deployment of both changes to a further 21 MFMs that had previously been fitted with Pay Complete BNA units. This was scheduled to be undertaken during traffic hours, to minimise the impact on customers and staff, at a rate of 3 or 4 devices per day and was due to be completed within a week.

The 22nd device fitted with a Pay Complete unit at Elephant & Castle (Northern) was not upgraded as the ticket hall is currently closed. This device will be upgraded when it is given an overhaul before the ticket hall reopens.

The next stage of the programme will see the firmware and alignment modifications applied to the 100 MFMs that have the Pay Complete units fitted to operate as Bank Note Recycler units.

Although they appear not to have been affected as much as the BNA variant, we need to ensure that devices have common builds of firmware and hardware components. The mechanism that the NHU rotates on is the same in both types of MFM, so issues with alignment could potentially arise on devices fitted with BNR units.

All being well, it is planned to recommence the upgrading of the remaining MFMs with the old BNA units with the new Pay Complete version from the second week of March.

As before, this upgrade will be undertaken during engineering hours at a rate of 4 devices per night (20 per week, Sunday to Thursday nights).

With approximately 200 devices needing to be upgraded, this particular programme will take around 10 weeks to complete, after which all of the MFMs will have a common note handler and the same vaults on all devices.



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REVENUE PROJECTS

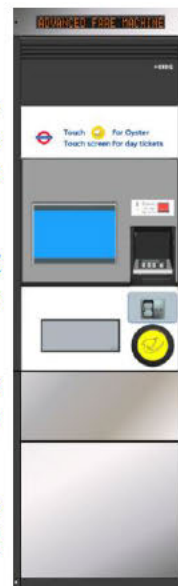
POM REDUCTION

As we outlined in [TRUI35](#), a second phase of the POM Reduction work has recently started, following the issuing of a variation to Cubic in December. This phase of work largely focusses on the removal of a further batch of QBMs, some of which were deferred from phase I when that was undertaken in March last year.

At the time of publication, we are about halfway through phase II, with a further 15 QBMs having been removed so far within this phase of work. This makes a total of 81 QBMs that have been removed to date, with a further 14 devices scheduled for removal in the next month.

At the conclusion of the programme, it will leave a small number of around 20 QBMs still in operation. A majority of these being free-standing devices in locations where they offer the only opportunity for customers to top-up their Oyster card.

The current order for additional blanking panels to complete the QBM removals outlined above will also include manufacture of bespoke panels for 3 stations, St Johns Wood, Belsize Park and Baker Street (Met) where the original panels installed by Cubic during Phase I, were not correct.



Phase II of this project also includes the removal of some redundant equipment from some stations, and the consolidation of POMs into a single location, at a number of locations where they are currently split into different arrays. Apart from savings in equipment and simplifying servicing and cash collection arrangements, this will free up space at several locations for other uses.

The first of the POM consolidation schemes commenced at Piccadilly Circus on the night of Monday 07 February and following completion of works there, further schemes will be undertaken at:

CHANCERY LANE

HOLBORN

WATERLOO (Main & Assist)

These schemes are slightly more complicated as in addition to the Cubic works, the POM consolidation will also require the relocation and reconfiguration of several cash Handling devices.

Providing all goes to plan (which it rarely does!), it is hoped that this batch of device removals and the consolidation of POMs will be completed before the end of March and the end of the current financial year.

Local consultation has recently taken place over a third phase focussing of the POM Reduction programme, which will see the mothballing on site, of 54 under used AFMs at various stations. The devices identified for mothballing are:

ACTON TOWN	ANGEL	ARCHWAY	BANK (Northern)
BARBICAN	BERMONDSEY	BRIXTON	CANADA WATER
CANNON STREET	CLAPHAM COMMON	CLAPHAM SOUTH	COLLIERS WOOD
EDGWARE ROAD (C&H)	EUSTON	FINCHLEY ROAD	GOODGE STREET
GREAT PORTLAND STREET	HAMMERSMITH D&P	HOLLOWAY ROAD	HOUNSLOW WEST
KENTISH TOWN	KNIGHTSBRIDGE (East)	LANCASTER GATE	LIVERPOOL STREET (Central)
LONDON BRIDGE (BHS)	MANOR HOUSE	MARYLEBONE	NOTTING HILL GATE
OLD STREET	PADDINGTON (Suburban)	SEVEN SISTERS (NR)	SHEPHERDS BUSH (Central)
SLOANE SQUARE	ST PAULS	STOCKWELL	TOOTING BROADWAY
TOWER HILL	TURNPIKE LANE	VAUXHALL	WALTHAMSTOW CENTRAL
WARREN STREET	WATERLOO (Colonnade)	WEST KENSINGTON	WOOD LANE

Work will include the isolation of these devices and the removal of some key components, such as the Chip & PIN unit (PED) and RTD and the installation of a panel over the front of the AFM to hide it from customer view.

The mothballing on site will allow for these units to be brought back into service if customer demand at any of the sites proves to exceed the predictions that the planners have modelled for the next 5 years or so.

The mothballing of devices is likely to follow on from the completion of the second phase of device removals.

SCU PROBLEMS

When we deployed the new PC based touchscreen SCU to stations across the LU network, it offered a number of new features and advantages over its 1987 vintage predecessor. These included the ability to update screen displays remotely and without the need to load new base data and to be able to set and update various gateline configurations to deal with differing traffic flows.

Unfortunately, since the completion of the rollout of the SCU, we have encountered a series of issues where individual devices have lost the ability for Cubic to access the device remotely to check or update it.

This first came to light following the initial Vanguard of the new SCU, when we needed to upgrade the software to resolve some issues identified, when it was discovered that it was not possible to remotely access certain devices to load the new software. This required engineer visits to the affected devices to reset them to make them 'discoverable' and allow remote access again.



Since the SCU software upgrade, we have become aware of a large number of SCUs which have subsequently lost the facility to be accessed remotely again. Most recently this has been encountered at a number of locations where Cubic have removed devices as part of the current POM Reduction works (see Page 14 opposite).

Investigations into this issue are currently pointing towards this being an issue that has been caused by updates to the Microsoft Windows platform that the SCU operates on.

Although we currently do not have a permanent solution to resolve this issue, an interim fix has been suggested that will get the device to regularly check whether it is set to be 'discoverable' or not and if it is found to be 'not discoverable' to automatically perform a reset to rectify this.

Apart from avoiding the need to send an engineer to site to reset each affected SCU, this workaround should greatly reduce instances of SCUs not being accessible.

The loss of the ability to remotely check devices has hampered our attempts to check that SCU displays are correct and we have had a couple of examples highlighted to the T&R team recently by staff at Victoria, which indicated that the layout of buttons, the configuration of gate arrays and the status colour of individual device buttons was incorrect. Happily, all these issues were quickly resolved by Cubic once they had been highlighted.

Please report any instances of issues with SCU displays to the T&R team and in particular if the Maximum Entry, Maximum Exit and Customer gateline settings are no longer configured correctly on the SCU.

T&R QUIZ OF THE YEAR ANSWERS

1	January Fares Revision
2	Cards bought with £5 non-refundable charge and used for 12 months
3	QBM
4	Device Monitoring App
5	Kennington (Zone 2 to ½)
6	£50 Note
7	Cash Acceptance
8	Hammersmith Ferry
9	Weekly Capping
10	Suzohapp to Pay Complete
11	POM Oyster Charity Donations
12	New Year's Eve Travel

How did you do?

KEEPING AN ON THE NEIGHBOURS

NATIONAL RAIL TICKETING

From time to time, in addition to explaining the detail behind ticketing changes which are taking place on the LU network, we also take a 'look over the fence' at what other train operators are doing within our 'Keeping an Eye on the Neighbours' feature. In previous editions of TRU we have covered barcoded ticketing initiatives and the introduction of ITSO format smartcards by various Train Operators (TOCs), as National Rail operators gradually move away from magnetic stripe format ticketing.



As the next stage of this move away from magnetics, on 17 November 2021, the Department for Transport (DfT) unveiled a £360 million investment plan to expand contactless payment PAYG ticketing to commuter services in the North and Midlands over the next three years, as part of a plan to reform and improve the overall customer experience of ticketing and fares across the National Rail network.

This announcement included plans for the expansion of the acceptance of contactless payment to around 700 stations outside of London and the south east, where contactless is already widely accepted. Around 400 stations in the North of England are likely to be the first to benefit from this plan, which will see other parts of the country obtain similar benefits to those already enjoyed by those living around London. This marks the first stage of the Government's investment in digital ticketing and forms part of the recently publicised 'Levelling Up' strategy.



In another move which is likely to further reduce the use of magnetic tickets in the future, we were recently made aware of the intention of Govia Thameslink Rail (GTR) to launch a trial of a barcode format season ticket called 'sTicket' at certain stations on their Thameslink line between Bedford and London.

An 'sTicket' is a season ticket, fulfilled as a barcode held on the customer's mobile device, rather than a traditional ticket.

Whilst barcode Single and Return tickets have existed across the NR network for some while, up until now a season ticket version hasn't been available. This new ticket is being developed in conjunction with Trainline and is aimed at offering better anti-fraud protection through a series of single use, bidirectional barcode coupons. One for each journey the customer makes.

GTR had requested the inclusion of both Farringdon and Kentish Town in the trial which was due to commence on Monday 7 February 2022. However, as our gates at these two stations do not have the facility to validate barcoded products and our gateline staff have no way of checking a barcode if it is presented to them for visual inspection, we have asked for these stations to be excluded from the trial.

It is possible that some barcoded products may be presented, particularly if a NR customer with a season ticket to St Pancras wishes to break their journey at Kentish Town.

LOOKING AHEAD TO TRU137

We are planning for our next edition of TRU to be published early in March, to provide the detail on the March Fares Revision changes that we have been unable to include in this edition. We will also be looking to include:

- A review of the implementation of the fares changes
- A preview of ticketing elements of the forthcoming Elizabeth line opening
- Updates on current ticketing projects

Plus other ticketing and revenue news stories and a selection of our other regular features.

