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OYSTER DEPOSIT CHANGE

Sunday 23 February will see the final implementation of a significant change to the issuing arrangements for Oyster cards and for how the card deposit is handled in the future. This change was originally scheduled to take place a week earlier on Sunday 16 February, but implementation was delayed very late in the day, due to an issue with the deployment of changes needed to handle Oyster online transactions.

As we have previously reported in earlier editions of TRU, software changes were made to all of our POMs prior to the Christmas break, in readiness for the change. We were however, prevented from providing the full details until the change had been finally signed off and publicly announced.

The main change to POMs is that from Sunday 23 February all references on screens to 'Deposit' will change to 'card fee' for any card presented. More importantly, from Sunday 23 February any new Oyster card issued will be subject to a £5 card fee, rather than the current £5 refundable deposit. This brings the standard Oyster card in line with Visitor Oyster cards, Zip cards and other Oyster Photocards, all of which have a non-refundable card fee.

The significant difference with the change being implemented for Oyster cards is that holders will be eligible to have their £5 card fee refunded to them as a £5 PAYG credit after 12 months.

Further details of this change and a Q&A table are included in our [Oyster Explained](#) feature on Pages 8 & 9 of this edition.

One of the main drivers behind the change is to try to reduce 'card churn', the volume of cards we issue and cancel. Since 2003 around 120 million Oyster cards have been issued (that's an average of about 7 million per year) and a majority of these are only used for a short period before they are cancelled. In the last year, of approximately 9 million cards issued, only around 2 million were still in use after 4 weeks and less than a million were still being used after a year.

One important point to note, is that the arrangements for refunds on Oyster cards that were issued prior to the change on 23 February, will remain unchanged.

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We outline the final arrangements for the expansion of the range of bankcards accepted by our POMs.

Page 5 [£20 POLYMER NOTE](#)

We outline the main features of the new £20 note which enters circulation on 20 February.

Page 10 [REVIEW OF 2019](#)

We take our customary look back at the T&R events of 2019 and whether our plans were met?

Pages 12 [NOTE HANDLER UPGRADES](#)

We update you on current work to prepare our note accepting equipment for the new £20 note.

Page 13 [POM UPGRADES](#)

We provide details on some of the forthcoming changes being implemented on POMs.

JANUARY FARES REVISION

REVIEW!

JANUARY FARES REVISION REVIEWED

As is customary in our first TRU after a fares revision, we take a look back at what happened.



WHAT WENT WELL!

In a very similar vein to 2019, the implementation of the Fares Revision on Thursday 02 January 2020 went extremely well.



On the day of the actual revision, there were no reports of any devices not accepting their new fares tables and no devices required engineer attendance following the switch to the new fares.



WHAT DIDN'T GO SO WELL!

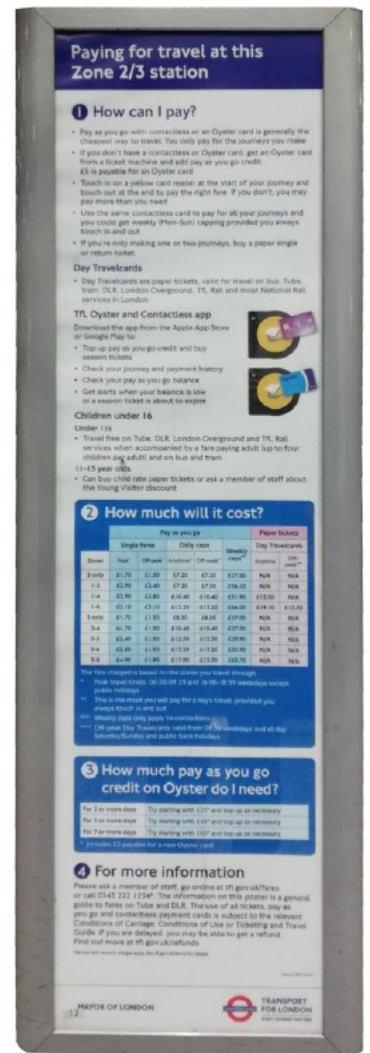
The only aspect of the fares revision that didn't go particularly well was the distribution of the new 2020 Fares Posters to stations. Unfortunately the switch to a new printer and distributor, led to a delay in the production and delivery of the new posters.

In an effort to ensure all LU stations received their posters before 02 January, a decision was taken to deliver the posters to a designated station on each area, rather than to each individual site.

A combination of failed or late deliveries and some of the boxes going astray after delivery, resulted in a number of stations (mainly in west and north west London), not having their new posters available for display on the day of the fares revision.

The number of sites without deliveries resulted in Cubic having to do a limited reprint of the posters, which were eventually delivered in mid-January.

Fortunately we were able to take advantage of this reprint to also obtain fares posters for 2 new ticket halls at Bond Street and Finsbury Park, which had not been added to last year's delivery schedule.



FARES POSTER REQUEST FORM

It is important to note that there are two different sizes of Fares poster, a tall narrow two column version and a wider three column version, which is a similar size to a standard poster frame.

If construction works at a station lead to changes to the size of the fares poster frame, it is essential that the T&R team are advised of this, so that the production and delivery schedules for the next fares revision are updated.

If posters are damaged or lost, the costs of reprinting will be charged to the appropriate area's costs centre.

Request for replacement posters should be submitted by the Area Manager or CSM using a form on the T&R section of the intranet or by [clicking here](#).

Part I – LU Ticket Vending Machines...

Q1) ...which of the following do these devices issue?

- A Fan-fold tickets
- B Roll stock tickets
- C Pre-cut tickets
- D Oyster cards
- E ITSO cards
- F Paper receipts



Ticketing & Revenue
T&R
Trivia

Answers on [Page 15](#)

(Multiple choice)

DISCOVER CARD ACCEPTANCE

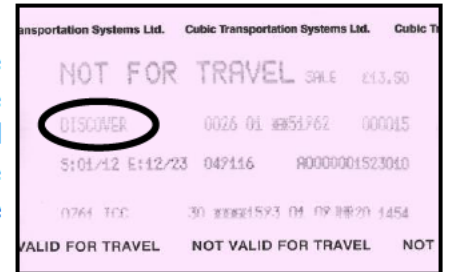
A Vanguard of the acceptance of Discover and Diners cards is currently underway on POMs at 4 locations:



VICTORIA (District)	BAKER STREET	HAMMERSMITH (D&P)	STRATFORD
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Devices at these stations now accept the enhanced range of bankcards and display the Discover and Diners logos to customers on the 'home' and 'payment' screens.

On Monday 03 February, we commenced a further remote upgrade of the bankcard acceptance software on all POMs in readiness for the network wide acceptance of the expanded range of bankcards. Devices will be upgraded during a two week period, at a rate of about 100 devices per night. Where possible we will aim to update all devices at a particular station on the same night.



There will be no immediate effect on devices, as the new software will not take effect until two further changes are implemented. On the morning of Friday 21 February, Barclaycard will implement a change to their card processing software to allow Diners and Discover card transactions to be authorised.



The Discover card was introduced in 1985 by the US retail giant Sears and was a hit with customers as it offered a higher than normal credit limit, no annual fee and cashback on purchases – unique at that time. In 2007 it became "Discover Financial".

In 2005 in a bid to increase worldwide acceptance the brand made a number of notable agreements with other international payment networks, such as Diners Club, JCB and UnionPay.

In 2015, due to the growth of Chinese card processor UnionPay, Discover became the most widely accepted credit card in the world and is currently the 4th largest credit card provider in the U.S. with over 44 million customers.

This will mean that customers will be able to use these cards to make purchases at LU stations, although at this point there will be no indication on devices that these cards are accepted.



The final element of the change will take place on the morning of Sunday 23 February, when a network wide base data update will change POM screens and result in the Diners and Discover logos being displayed on the 'home' and 'payment' screens as at the Vanguard stations.

DAMAGED COINS

During some recent discussions concerning the future cash processing arrangements under TfL's new banking contract, it was highlighted that bank rules around the acceptance of damaged and defaced coins have changed. Credit is now only given by banks on coins that can be validated by automatic checking/counting equipment similar to our own Cash Handling Device (CHD). If a coin is repeatedly rejected it will not be accepted by the bank and will be treated as invalid currency.

We are in the somewhat fortunate position, that since the closure of ticket offices, all of the coin we accept will already have gone through the validator in the POM before it is deposited into the CHD. As a result, most badly damaged coins will be rejected back to the customer.

Some coins may however get through and it may be necessary to try to deposit a coin into the CHD several times before it is accepted. If a coin is clearly damaged or bent, this is probably best avoided as it may cause a jam and potential damage to the CHD.

There are two changes to our existing procedures:

- Any coins that are repeatedly rejected should now be recorded as invalid currency and remitted in a counted cash multi-safe bag (clearly stating where the coin came from e.g. POM number, change delivery etc.) Damaged or dye stained notes should continue to be treated as 'valid currency'.
- If a customer presents a damaged or defaced coin which the POM will not accept, it should only be exchanged if the coin can be validated via the CHD.



T&R Book 3 Section 4.7 and T&R Book 4 Section 3 will be amended accordingly when these are next reissued.

BRITRAIL PASS GOES DIGITAL

In April 2017 a trial began to issue certain BritRail England M-Pass travel passes in digital format (or Mobile-Pass on smartphone). Although more than a couple of years ago, the decision was made to expand this to all passes in the BritRail range, starting in December 2019.

This includes all BritRail M-Passes across all England, Wales and Scotland, in addition to the paper-based BritRail passes that are still in use.

The M-Pass is issued outside the UK and needs to be purchased before arrival in the United Kingdom and is issued in two different formats; Consecutive days or a Flexible pass. The passes include a barcode which can be read on NR operated gatelines, but more details are available for a visual inspection by scrolling down the phone screen.

T&R Book 6, which already contains detail of the pilot version of this pass, will be updated shortly to reflect this change.



It is worth highlighting, that although Britrail Passes are **not valid** for travel on most LU services, they are valid on NR services that serve a number of our stations and on sections of LU where inter-availability of tickets exists between LU and NR services. Full details of where they are valid are outlined in T&R Book 6 – Ticket issuing and acceptance on behalf of other operators.

We have been made aware of a couple of recent customer complaints, where holders of Britrail Passes have been refused access at LU operated gatelines, where the customer should have been allowed access to travel on an NR service.

If you work at a station that is served by London Overground or other NR services, please make sure that you are aware of all of the requirements set out in T&R Book 6.

RAILCARD REMINDER

Another issue that has recently generated some customer correspondence and has been the subject of some discussions on online groups for rail users is the setting of discounts on Oyster for holders of NR Railcards.

This is a topic that we have previously covered in TRU, but we thought it was probably appropriate to cover this issue again and hopefully avoid further errors in customers being incorrectly refused, or having the wrong railcard discount applied to their Oyster card.



In the table below, we have summarised the various types of NR Railcard and which holders can have the NR Railcard discount set on their Oyster card and those for which the holder is not eligible for a discount on Oyster PAYG journeys.

One specific issue worth highlighting, is that holders of any Annual Gold Card are entitled to have the NR Railcard discount set on their Oyster card. This applies both to Annual Travelcards loaded on Oyster and to annual tickets loaded on ITSO or on magnetic tickets.

The annual ticket concerned does not necessarily have to be valid for travel on LU for the customer to qualify for the discount.

Please note that;

RAILCARDS VALID FOR DISCOUNT ON PAYG JOURNEYS		
16-25	✓	
SENIOR	✓	
HM FORCES	✓	
ANNUAL GOLDCARD	✓	
DISABLED PERSONS*	✓	
NETWORK		✗
FAMILY & FRIENDS		✗
TWO TOGETHER		✗
16-17 SAVER (not actually a Railcard)		✗

***holders of the Disabled Persons Railcard must have the Disabled Railcard discount set, rather than the standard NR Railcard discount. Otherwise, they will not be charged the correct fares for journeys they make.**

The Disabled Persons Railcard is not time restricted and holders are entitled to discounted PAYG fares at all times, whereas holders of other railcards only receive their discount on journeys where the reduced rate of PAYG applies.

NEW GATE READER STICKERS

The trial of a new gateline card reader sticker started at Kings Cross station on 19 December and will run until the end of February.

The new design sponsored by Google promotes the use of G Pay contactless payments and as well as being a prominent advert for the brand is also expected to better highlight the ease of using contactless payments to make journeys on LU.



Gone is the standard yellow background and “swoosh” logo which has been in place since the introduction of Oyster payments and in has come (1) the sponsored G Pay branding, (2) the contactless payment logo, (3) the range of card payment schemes and (4) the Oyster logo.

The sticker has been applied onto the current moulded panel on the E2 gates as shown above. Feedback from the trial will be evaluated and if successful the design is expected to be rolled out across the LU network in early March.

For the first 2 weeks of the launch a special promotional G Pay sticker will be applied at the following 5 gateway stations; Kings Cross, London Bridge, Stratford, Tottenham Court Road and Victoria – more information will be provided in the Hot Issues Bulletin in advance of the go-live date.

NEW £20 POLYMER NOTE

On Thursday 20 February 2020 (20.02.20) the Bank of England will release their much anticipated polymer £20 note. In this section we have produced the images of the note and highlighted a few of the security features.

The new note was originally announced in 22 April 2016, stating that it would feature the artist JMW Turner. The new note was unveiled on 10 October 2019 and since then retailers and equipment suppliers have been hard at work ensuring their devices are ready and equipped to accept the new design by the launch date.

The date for when the current note will cease to become legal tender will be announced later in the year.



1	Hologram	Text changes between ‘Twenty’ and ‘Pounds’ when tilted.
2	Transparent windows	Large window foil is blue / gold on front and silver on the back.
3	Queen’s portrait	Text ‘£20 Bank of England’ is printed twice around the edge. Smaller window in bottom corner.
4	Raised dots	In 3 clusters in the top corner to help visually impaired people identify the note’s value.
5	Ultra-violet number	The number ‘20’ appears in bright red and green against a dull background.
6	Foil patch	A round, purple foil patch contains the letter ‘T’.
7	JMW Turner artwork	A self-portrait and the Fighting Temeraire are two of the artist’s main works on the reverse.
8	JMW Turner Quote	Text ‘Light is therefore colour’ taken from a lecture Turner gave in 1818.
9	Micro-print	The note’s value is in tiny print below the Queen’s portrait and is visible with a magnifying glass.
10	Silver foil patch	Contains a 3D image of the coronation crown
11	Raised print	Text is raised on ‘Bank of England’ and over the smaller window in bottom right hand corner.



Got a ticketing and revenue related question, problem or simply noticed something you think your colleagues should know about?
Why not test the knowledge of Olly - our resident ticketing guru.



From: [REDACTED]
Sent: 01 August 2019 07:50
To: Ask Olly
Subject: Trainline App

Hi Olly,

I hope you are well. As technology advances, so does the way people purchase tickets for when they travel. Apps like Trainline are handy but unfortunately there are directing customers to West Brompton to collect their train tickets using there reference number.

Its very frustrating for staff and especially customers when we have to tell them this is an LU station and they have to go to a train station, even though the app gave them West Brompton as an option for collection.

Also customers are coming off trains with their tickets on these apps rather than a paper ticket. Is there anyway LU can be encouraged to have scanners on our gates like they have at places like London Waterloo?

Kind regards
[REDACTED]
[REDACTED]
[REDACTED]

Hi [REDACTED],

Apologies for the delay in getting back to you with a final answer regarding the query that you raised.

The Rail Delivery Group (RDG) have now come back to us and confirmed that West Brompton isn't offered as an option for the collection of rail tickets on the Trainline site. It could be that customers have just made the incorrect assumption that they can collect their ticket at West Brompton, rather being told this.

RDG have also confirmed that the availability of tickets in barcode format is not controlled by the individual operator issuing the ticket, but by a flag in the RDG system against the particular journey and ticket type, which determines whether a barcode ticket can be issued. Having made some checks on their system, they have not been able to find any journeys to West Brompton, for which a barcoded ticket can be issued. So if you or your colleagues do see any of these, it would be useful to note what the journey concerned and ticket type were so that we can follow this up again with RDG.

Regards
Olly Oyster

Hi [REDACTED],

We did look at replacing the current Secure Suite Log Book with an electronic version, but there were concerns over how this would be accessed in the event of an investigation being required. The book was redesigned a couple of years ago to dramatically reduce the amount of books and paper used.

The current Secure Suite Log Book and Key Registers also provide a continuous record of events that would not be immediately available if the information was recorded electronically in a fragmented manner.

We would also need to provide a paper version as a fall back in the event of a failure of the electronic version and the current Log Book also provides a back-up for recording safe audits and deposits in the event of a SAF failure.

Hope this answers your query.

Regards
Olly Oyster

From: [REDACTED]
Sent: 28 January 2020 16:26
To: Ask Olly
Subject: Secure Suite Log Book

Hello Olly,

My question is why are we still using a paper version of the Secure Suite Log Book? We should move further and bring something like an electronic log book. It will make life easier and save paper.

Regards
[REDACTED]
[REDACTED]
[REDACTED]



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2019-2020 PRIORITIES– PART 4

For the fourth of our 6-part series of articles focussing on some of the 2019/20 T&R priorities, this month we turn our attention to the subject of...

PAYG JOURNEY RESOLUTION

The resolution of incomplete journeys is an issue that we have previously highlighted in TRU a number of times.

Previous analysis of POM transactions has highlighted:

- *Higher than expected levels of cards having journeys resolved by staff*
- *Instances where the whole fare has been refunded and the customer has effectively been given a free journey*
- *Instances of 'Premium fares' charged on Heathrow and Gatwick Express Services being refunded at LU stations.*

In the last of these issues, the money for any incomplete journey is assigned to the Train Operator on whose station the journey originated or finished. However, if we then resolve this issue the money for this refund will then effectively be deducted from LU's revenue, even though we didn't receive the original payment.

For normal PAYG journeys the sum involved will be quite small, but on these train services where higher charges apply, we are talking about much larger sums.

One of the biggest areas that seems to cause confusion amongst frontline staff is whether they should resolve an incomplete journey or not?



Where some cases of journeys being resolved, when they shouldn't have been (as outlined in the three bullet points above) have been highlighted to those responsible, it seems to have led to a belief amongst some other staff that they are not able to resolve any journey.

One of the principle issues is confusion around trying to give 'good customer service' and the need to follow our own procedures. Inconsistent application of procedures, rather than giving good service actually causes problems for other staff who correctly apply the rules.

The criteria for the resolution of incomplete journeys are very clear and have not changed since they were agreed with the other Train Operating Companies (TOCs) when Oyster was expanded onto NR services. There are in fact only two reasons we should resolve an incomplete journey at less than the maximum fare:

1 A known incident – *station closure, power failure or serious service disruption where customers were either unable to validate at the start or end of their journey, or where their journey has exceeded the maximum journey time and they have incurred an incomplete journey, even though they have validated.*

or

2 A recent customer error at the station – *this would include cases such as a customer accidentally touching out on Oyster, even though they have a valid magnetic ticket covering their journey. In these cases, it has to have just happened and be visible – not something that happened at another station, or several weeks ago where there is no longer any evidence to confirm their story.*

In other circumstances, such as customers simply forgetting to touch-in or touch-out or instances where the customer claims to have used contactless payment for one part of their journey and Oyster for the other, the incomplete journey can be closed off on the POM, but the maximum charge should be left in place.

The customer should then be advised to contact the Customer Contact Centre or use their online account to claim a refund.



2019/20 PRIORITIES

~~Reducing Discrepancies~~

~~Failed Card replacements~~

~~Settings Discounts~~

PAYG Journey resolution

Gateline management

Ticketless travel

OYSTER EXPLAINED

In our Oyster Explained feature we often revisit topics that continue to cause confusion amongst readers and generate regular queries to our in-boxes. However, this month we break this habit and cover new ground in providing an explanation behind a forthcoming change to the Oyster card deposit.

OYSTER CARD DEPOSIT CHANGE

The implementation of this change is being achieved by changing the description of the 'deposit' to a 'card fee' on all POM and TOM screens and changing the way that the device software handles refunds.

- ✓ Oyster is a reusable smartcard you can use instead of paper tickets.
- ✓ Add credit to pay as you go and add a Travelcard/Bus & Tram Pass.
- ✓ There is a £5 card fee for each Oyster card. Keep it for future travel.
- ✓ You can also pay as you go with contactless - no need to add credit.

No change is actually being made to the configuration of the actual card, so the field previously used to record the card deposit will continue to show £5 but will in future be labelled as a card fee rather than a deposit.

As outlined in our lead article on Page 1, from Sunday 23 February 2020, the £5 deposit on newly issued Oyster cards will be re-labelled as a 'card fee'.



Cards issued prior to Sunday 23 February 2020 will also have the term 'card fee' displayed when they are interrogated, but importantly their £5 deposit (or £3 on some older cards) will continue to be refundable.

Handling of refunds

Once this change has been implemented, each time an Oyster card is presented to a POM for a refund, the device will check the date the card was issued and determine whether it is eligible for a refund of the deposit / card fee.

- If the card was issued before 23 February 2020, the customer will be offered a refund of their PAYG balance (up to the normal £10 limit) plus the card deposit.
- If the card was issued on or after 23 February 2020, the customer will be offered a refund of just their PAYG balance (up to the normal £10 limit).

FEBRUARY 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
←16	←17	←18	←19	←20	←21	←22	23→	24→	25→	26→	27→	28→	29→

oyster®
 CARD ISSUED **BEFORE** 23 FEBRUARY
 DEPOSIT = £5
 PAYG = £8
 REFUND DUE = £13
 Transport for London
Issued subject to conditions - see over

oyster®
 CARD ISSUED **AFTER** 23 FEBRUARY
 FEE = £5
 PAYG = £8
 REFUND DUE = £8
 Transport for London
Issued subject to conditions - see over

Failed and replacement cards

Under the new arrangements, if a customer's card is lost, stolen or fails and they are either sent a replacement card or they buy a new card and then link their old and new cards online to transfer their balance and any season ticket products, their new /replacement card will have an issue date after the 23 February. This will therefore mean that they will only be offered a refund of their PAYG balance (up to £10 maximum) if their new card is subsequently presented to a POM for a refund.



Back office processes should identify such cards where the customer would have previously been eligible to get a refund of their deposit and refund this to them.

Reimbursement of the card fee

One important feature of the change being implemented is that customers will be eligible to receive a refund of the £5 card fee paid after 23 February, if the card is retained for 12 months.

This is aimed at encouraging retention of Oyster cards by customers and discouraging the short term use and surrendering of cards, which contribute greatly to the large 'card churn' as outlined in our lead article on Page 1.

It will mean that customers that obtain a new Oyster card after 22 February and continue to use it, will be eligible to receive a £5 PAYG credit to their card via the Faster Universal Load (FUL) facility after a year. The exact details of how this will operate are currently still being finalised and further information on this will be published later in the year, along with guidance on what to advise customers if they have not received their expected refund.

For many customers, particularly those who are only visiting London for a short period, the use of contactless payment will offer the same fares as Oyster, but without the £5 cost of obtaining an Oyster card.

Question	Answer
What happens to cards that are already in circulation?	Cards issued before the change is implemented on 23 February will still have a refundable deposit.
Is this just a way of making £5 on each card we issue?	Other types of Oyster card already have a non-refundable charge. As part of this change, customers who retain their card will get a £5 PAYG credit after a year.
Will customers have to register their card to be eligible for a refund of their card fee?	Registration remains optional, but is recommended to protect the users card balance etc. If the card is not registered, the holder will not receive a notification when their card fee refund will be available for collection.
How will the customer receive their card fee refund?	After 12 months a £5 PAYG credit will be sent to the card via FUL. This can be collected from any gate or PVal if the card is used within the 4 day collection window.
What happens if a card issued before 23 February 2020 fails?	If the customer obtains a new card and links it online to their original, they will be refunded their original deposit. The new card will have a £5 fee and will be eligible for a refund of this if still used after a year. Under exceptional circumstances where a failed card is replaced by a member of staff, the customer does not pay for the new card and the £5 card fee will be recorded as Helpdesk Authorised and therefore not eligible for reimbursement after 12 months.



Part 2 – A new polymer £20 note is being issued by the Bank of England this month, but...

Q2) ...when was the current 'Adam Smith' paper £20 note first issued?

A 25 May 2001 B 14 September 2003

C 08 July 2005 D 13 March 2007



Ticketing & Revenue
T&R
Trivia

Answers on [Page 15](#)

2019 A review of the major T&R events of the year

Now that 2019 is behind us, it is time to look back across the year and see which of our good intentions came to fruition and which still remain to be fulfilled! Below we have listed a number of the issues we identified in December 2018 and outlined actually happened.

<p>1 SCU UPGRADE</p> <p><i>After a lot of preparatory work and an extended Vanguard, which started at East Putney in February and was extended to five other locations in May, the SCU upgrade project finally got underway in August. Rollout is continuing and is currently scheduled to be completed in early April. Feedback from users at stations that have already been upgraded, has been overwhelming positive and this project must rank as one of the T&R success stories of 2019.</i></p>	
<p>2 WEEKLY CAPPING ON OYSTER</p> <p><i>For the second year running, the promise of introducing weekly capping for Oyster users to match that already available to customers using contactless payments, was not delivered. We currently do not have a projected date for when this will happen. There have been contractual complications around revenue apportionment, which need to be agreed by all train operators and in the last year, priority has been given to the expansion of Oyster and contactless payment to destinations outside of the zonal area.</i></p>	
<p>3 OYSTER CHARITY BOX RELAUNCH</p> <p><i>Plans to relaunch the Oyster Charity Donation Box scheme at LU stations have been much slower than we would have hoped. The rebranded boxes are ready for installation, but deployment to the nominated locations has been delayed by the need to get minor works contractors to fit the boxes. On a more positive note, 2019 did finally see the introduction of Oyster collection boxes within Heathrow Airport and it is good to now see that initiative up and running.</i></p>	
<p>4 ELIZABETH LINE</p> <p><i>The original December 2018 opening date was postponed and the central section which includes a number of new ticket halls at LU stations, remains incomplete. Although we don't have a date for the line to fully open, 2019 did see the expansion of TfL Rail services westward to Reading in December, with the acceptance of PAYG for contactless payment users being implemented as part of the January 2020 Fares Revision.</i></p>	
<p>5 T&R MINOR PROJECTS BUDGET</p> <p><i>Although a small pot of funding was agreed for the current 2019-2020 financial year, spending it has been frustratingly difficult and most of the money will not actually be spent until the first quarter of 2020. Within the next couple of months, a couple of schemes to install additional gates at Chancery Lane and St Pauls and to install a new gateline and WAG at Watford are scheduled to go ahead. Another project using this funding will see the long awaited implementation of a change to POMs that will allow customers to top-up their PAYG and clear a negative balance when buying a season ticket. This change is due to be delivered at the end of March.</i></p>	
<p>6 BANK NOTE ACCEPTER REPLACEMENT</p> <p><i>Despite a successful trial at the start of 2019, our hope that we would see the start of a rollout of a new design of Note Handling Unit in our MFMs was not met. 2019 did see a decision on the selection of which of the three units that had been trialled, would be used. However, procurement, software integration and testing swallowed up most of 2019 and other projects were then in the queue ahead of this. Again there is a positive note, as outlined on Page 12, we are on the verge of the start of a vanguard of the new note unit.</i></p>	

But we may have achieved a few other things, including; expansions to PAYG acceptance, introduction of Express Validation for Apple Pay users, migration of Oyster and bankcard transactions onto a new routing and the introduction of a new process for escalating device performance issues.

TOM SOFTWARE

Following a pre Christmas Vanguard, a new version of TOM software was successfully deployed to all LU TOMs over a period of just under a week, starting on the night of Tuesday 14 January and with the final 50 devices being upgraded with the new software on the night of Monday 20 January.

Like the POM software upgrades which were deployed at the end of 2019, the new TOM software has been deployed to facilitate the change to the Oyster card deposit, which is covered in greater detail on Pages 1, 8 & 9 of this edition.

From Sunday 23 February, references to 'Deposit' on all of the TOM screens and on receipt printouts, will be changed to show 'card fee' for all Oyster cards, regardless of when they were issued. If a card is refunded on the TOM, the new refund rules will be applied and a refund of the card deposit/fee will only be offered if the card was issued prior to the 23 February 2020.

COMPLETED ✓



PNEUMATIC GATE SOFTWARE



In preparation for the start of the deployment of the new design of gate POD to pneumatic gates (as outlined below), a new version of pneumatic gate software was successfully deployed to all stations with the older pneumatic gates on Sunday 12 January.

This followed a successful Vanguard at Marble Arch and Queensway, which confirmed that the new software successfully handled the operation of both the new POD (installed on gates at Marble Arch) and the existing design of POD (initially at both sites but continuing at Queensway only).

COMPLETED ✓



GATE POD UPGRADES

Following on from the current Vanguards of the new E2 POD being deployed onto both E1 gates at Balham and the older Pneumatic (P) gates at Marble Arch, new software has now been deployed to all gates, allowing them to operate with either their traditional or the new E2 gate PODs.

Components to complete the rollout of the new POD across the network are currently being delivered to Cubic and the current plan is to start the deployment of the new PODs on E1 gate stations from early March. This is a month later than we originally planned.



The upgrade of E1 gates will continue for approximately 4 weeks, after which the installation teams will then switch over to upgrading pneumatic gates within Zone 1.

The pneumatic Gate upgrade also includes the replacement of the current Exit RTD, which includes a small customer display to show Oyster card details. As a result, the P-gates are being prioritised in the rollout due to the greater customer benefits from the improved POD displays.

Deployment on P-gates will not be able to start until the end of March, due to the longer lead times for some of the components required.

On completion of the upgrade of all of the Pneumatic gate sites, the installation teams will then switch back to complete the remaining E1 gates.

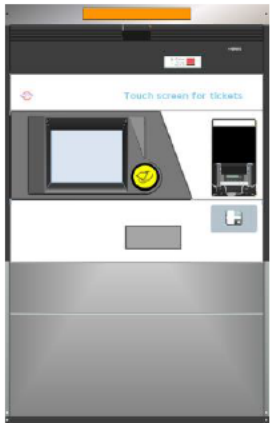
REVENUE PROJECTS

MFM POLYMER NOTE UPGRADES

The programme to prepare all of our devices ready for the acceptance of the new polymer £20 note when it is launched on Thursday 20 February, is now well underway.

We had initially planned to start these upgrades before Christmas, but the start of this work was delayed until after the fares revision, due to some issues with acceptance of notes on some of the equipment.

The first phase of work saw MFMs mainly within the central London area, which are fitted with Bank Note Acceptor (BNA) units, being upgraded with the new note set. This work was undertaken over two weeks between Monday 06 January and Friday 17 January and was undertaken during the day, to minimise the impact on customers and staff.



The installation teams then switched to night shifts to complete the remaining MFMs with BNA units, generally at stations in the outer zones, with these devices being updated between Sunday 19 January and Thursday 30 January. The upgrades went exceptionally smoothly with only 4 devices needing to be re-scheduled due to a mixture of staff non-availability and device problems.

The final phase of the MFM updates commenced on Monday 03 February, focussing on the remaining 100 machines fitted with Bank Note Recycler (BNR) units.

These devices also received an upgrade of the BNR firmware, as it was established that this was required before the new note set could be loaded to the BNR units. These MFMs were again upgraded during the day so that multiple devices at a location could be upgraded on the same day.

These particular upgrades did not go as smoothly as those on the BNA and a number of MFMs were found not to accept the full range of current notes, after the upgrades had been completed. Some of these devices then immediately recovered after being 'warm started' by Cubic, but a number required replacement of the whole BNR unit.

Following problems on the initial devices updated, a number of upgrades were deferred and will require a further visit to be arranged to complete the updating of these MFMs after completion of work on TVMs. These visits are likely to be completed in the week leading up to the launch of the new note.

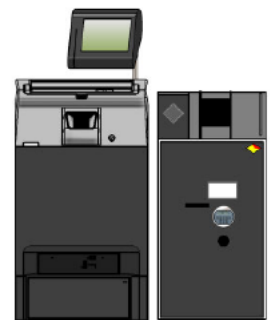
The final phase of the Cubic upgrade work will see a new set of note images loaded to the LU and RSLU TVMs during week commencing Monday 10 February. This represents the simplest of the 3 upgrade programmes and all of our machines should have received the new note set by Friday 14 February.

In parallel to the upgrades being undertaken by Cubic, Suzohapp engineers are completing a similar upgrade programme covering each of our Cash Handling Devices (CHDs). Some sites will have received a special visit from an engineer, whilst others will have had the new note sets loaded as part of an engineer visit to address a fault call. We expect all of the CHDs to have been upgraded in advance of the new £20 note coming into circulation.

From 20 February all devices should accept both the paper and polymer versions of the £20 note and this will continue until the date announced by the Bank of England for the current paper version of the £20 note to cease to be legal tender.

This would normally then trigger a further round of engineer visits to load a further note set to each device (this time excluding the paper £20 note). However, the forthcoming Vanguard of the new Suzohapp 'Bill to Bill' note unit which is being deployed to replace both the current BNA and BNR units, should hopefully allow this change to be implemented remotely, without the need for an engineer to visit site.

The Vanguard of the new unit is scheduled to commence in late February, with one unit being installed in one of the MFMs at Ashfield House, to help with the familiarisation of staff with the new equipment and the first operational unit being installed at Vauxhall (where the unit was previously trialled as part of the evaluation trials which took place in early 2019). Further information on the Vanguard of these new note units and the planned rollout will be included within TRU124.



FURTHER POM CHANGES

The POM software update deployed in December, prepared the way for the Oyster card deposit change outlined on Pages 1, 8 and 9 and the expansion of the range of bankcards accepted (as outlined on Page 3).



Implementation of the third and final element of the POM software changes included within this upgrade will see the addition of a facility for customers to donate their PAYG balance and card deposit (where applicable) to the Railway Children charity on all MFM's and on LU TVMs.

We had hoped to be able to start a Vanguard of this new facility at the end of February, but implementation of this cannot take place until after the Oyster card deposit change has been implemented. The delay to this means that the start of the Charity donation Vanguard will now commence on Sunday 08 March, when updated base data for the new POM screens will be downloaded to the following 4 Vanguard sites:

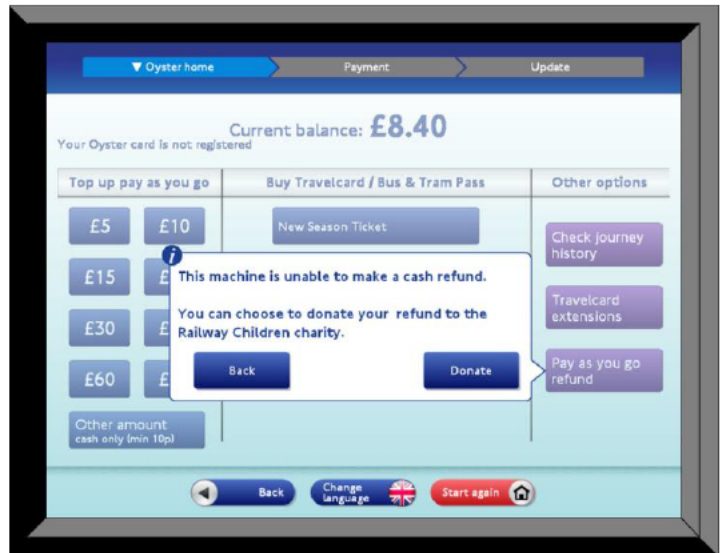
CANARY WHARF	PADDINGTON	STRATFORD	VICTORIA
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Once implemented, the devices at these locations will offer customers presenting a card to the POM for a refund, with two options. To either obtain a cash refund as now, or to donate their card balance and the deposit (where applicable) to the Railway Children charity. In instances where the device is not able to process a refund, such as when it is in 'exact money only' or has insufficient change to make a refund, the device will in future advise the customer that a refund is currently not available, but still offer them the opportunity of cancelling their card and donating the proceeds to charity.

In the two weeks following the start of the Vanguard, end to end testing will be undertaken to check that the new software is fully operational and that the transactions can be followed through to the central system to allow the Financial Services Centre to identify the amount to be donated to charity.

Once end to end testing of transactions has been completed, a further base data release on Sunday 22 March will see the facility applied to all other devices.

Like the current POM overpayment and Oyster Charity box schemes, the proceeds will be collated and donated to the charity at a date in the future. We hope to update you on progress on this initiative in the next TRU.



Part 3 – Police forces in London qualify for Free Travel on LU if they meet agreed requirements. Do you know...



Q3) ... which authority to travel documents the following police personnel must be in possession of?

Police Force	Officers	Police Oyster	Warrant Card	Contractor Pass
CITY OF LONDON	Police and Special Constable†			
BTP (London)	Police and Special Constable PCSO			
BTP (Secondment)	Police and authorised Civilian Staff			
BTP (non-London)	Police* (and recorded by gateline staff)			
ESSEX	Police and PCSO*			
HERTFORDSHIRE	Police and PCSO*			
KENT	Police and PCSO*			
METROPOLITAN	Police and Special Constable† PCSO*			
SURREY	Police and PCSO*			
THAMES VALLEY	Police and PCSO*			

* When on duty

Answers on Page 15

REVENUE PROJECTS

SCU UPGRADE

The rollout of the new SCU resumed after the fares revision and by the time this edition of TRU is published, we will have passed the landmark of 200 stations having now been fitted with the new style SCU.

The level of other projects being undertaken before and since the fares revision has meant that we fell slightly behind with the process of confirming the required gateline settings for each site, prior to the new SCU being installed.

As a result, a small number of stations have had their new SCUs installed but without the full range of gate array features being available. We have now almost caught up with these requests and would like to thank the areas who have responded very quickly to our recent requests for information on preferred gate settings.



200+

We will be arranging for the sites that do not currently have their Maximum Entry, Maximum Exit and Custom Entry / Exit settings configured, to have these remotely added to the SCU by Cubic, as soon as possible.

Some stations have embraced the new facilities enthusiastically and have identified ways in which the new functions can help them manage their gates more efficiently to meet varying customer flows and event traffic. On the other hand, we have had a number of stations with large gatelines that have confirmed that they never change the direction of their gates.

The reasons behind this may be partly historical, as changing several gates from entry to exit and then back, to cater for a surge in customers leaving the station for a very short period, was quite time consuming on the old SCU. However, the new facilities mean that gates can quickly be switched and returned to their previous mode with two simple button pushes.

We have also recently adjusted the SCU programme to allow a number of sites that had been missed or where a revisit was required due to cabling issues, to be rescheduled ahead of new sites.



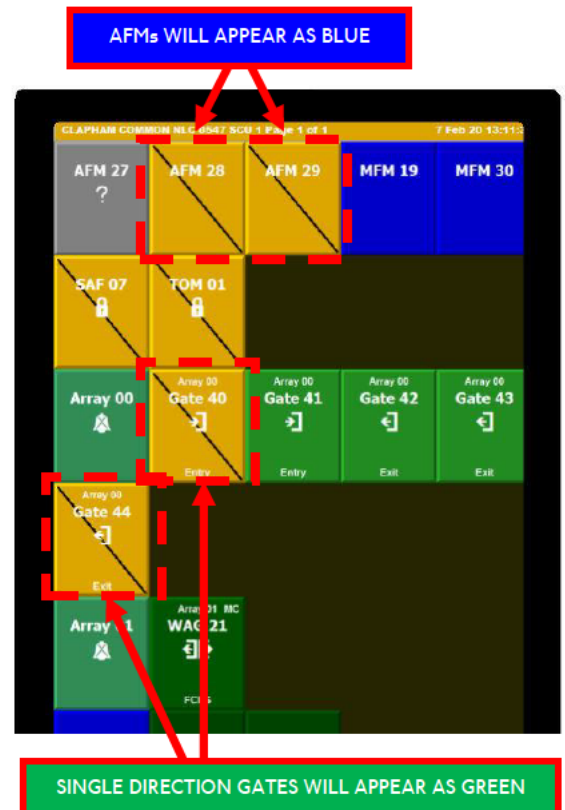
SCU SOFTWARE

An updated version of the SCU software is currently being tested at the Cubic System Test facility in Surrey and is scheduled to be deployed as a Vanguard to a small number of sites at the beginning of April, ahead of the planned deployment to all stations, hopefully around 4 weeks later.

The main aspects of the new SCU software is to rectify some issues that were identified early in the rollout and currently result in the SCU screen showing all AFMs and dedicated single direction Entry or Exit gates with amber buttons, indicating them as being in a degraded mode at all times.

The new software should result in these devices appearing as either blue (for AFMs) or Green (for gates) unless there is an actual fault or degraded mode condition.

The new software also resolves a defect identified during the installation set-up, where at larger sites which have multiple SCUs and a large number of devices, there is currently a limit on the number of device buttons that can be removed from the screen, which causes the SCU to reset itself and reinstate all of the device buttons, once it is exceeded.



PADDLE CONTROL SOFTWARE

The on-going Vanguard of revised paddle control software on E2 gates at Stratford (North), Euston Square and Embankment continues.

The gates at these stations were recently upgraded with an updated version of the software which allowed the WAGs at these locations to be added to the Vanguard.

Previously WAGs were excluded due to an issue that had been identified during testing of WAGs operating in First Come First Served (FCFS) mode. This had resulted in paddles potentially trying to open against a customer when an obstruction of the paddles was detected, rather than moving away from the obstruction.



This issue has now been rectified allowing all gates at the Vanguard locations to operate in the same way.

At the same time, the Vanguard was expanded with the addition of WAGs at St James Park, to increase the number of Vanguard WAGs operating in FCFS mode. The WAGs at either end of St James Park station are normally operating in FCFS mode, like the WAG at Euston Square.

Testing of a similar version of software for E1 gates is currently underway and a Vanguard of this should follow on shortly. The locations for this are yet to be confirmed.

E1 GATE BEAM LOGIC VANGUARD

One other long running gate upgrade Vanguard, involves a project to improve the reliability of the light beams which monitor customer movements through the walkway and control the closing of the gate paddles on E1 gates.

Last year Cubic undertook a number of separate trials, initially to relocate the fifth and final light beam and then to replace all of the beam units and eventually to install a new design of shroud around each of the beams to prevent dust ingress, which is the biggest cause of failures on these units.

Initial trials on around half of the walkways at Swiss Cottage and Paddington (Main) showed an improvement in gate performance, but when the vanguard was extended, some issues were identified with the reflective material used to bounce the beam back across the walkway.

Before changes are made across the E1 gate estate, a further vanguard of the final solution is to take place to confirm the results. Implementation is likely to be done in conjunction with Preventative Maintenance visits.

ANSWERS TO T&R TRIVIA

Pt.1 **A C D F** LU TVMs do not issue ITSO cards or roll stock tickets.

Pt.2 **D** 13 MARCH 2007

How did you do?

Pt.3	Police Force	Officers	Police Oyster	Warrant Card	Contractor Pass
	CITY OF LONDON	Police and Special Constable †	✓	✓	✗
	BTP (London)	Police, Special Constable and PCSO	✓	✓	✗
	BTP (Secondment)	Police and authorised Civilian Staff	✗	✗	✓
	BTP (non-London)	Police* (and recorded by gateline staff)	✗	✓	✗
	ESSEX	Police and PCSO*	✗	✓	✗
	HERTFORDSHIRE	Police and PCSO*	✗	✓	✗
	KENT	Police and PCSO*	✗	✓	✗
	METROPOLITAN	Police and Special Constable †	✓	✓	✗
		PCSO*	✗	✓	✗
	SURREY	Police and PCSO*	✗	✓	✗
	THAMES VALLEY	Police and PCSO*	✗	✓	✗

* When on duty
† Must use their Oyster card

...AND FINALLY!

TALLER PADDLE TRIAL

Further to the brief article included in [TRU122](#), we can now report that after some deliberation around the sites to be used for the proposed trial of a taller version of gate paddle (as illustrated to the right), it has recently been confirmed that this trial will take place at Stonebridge Park on the Bakerloo line.

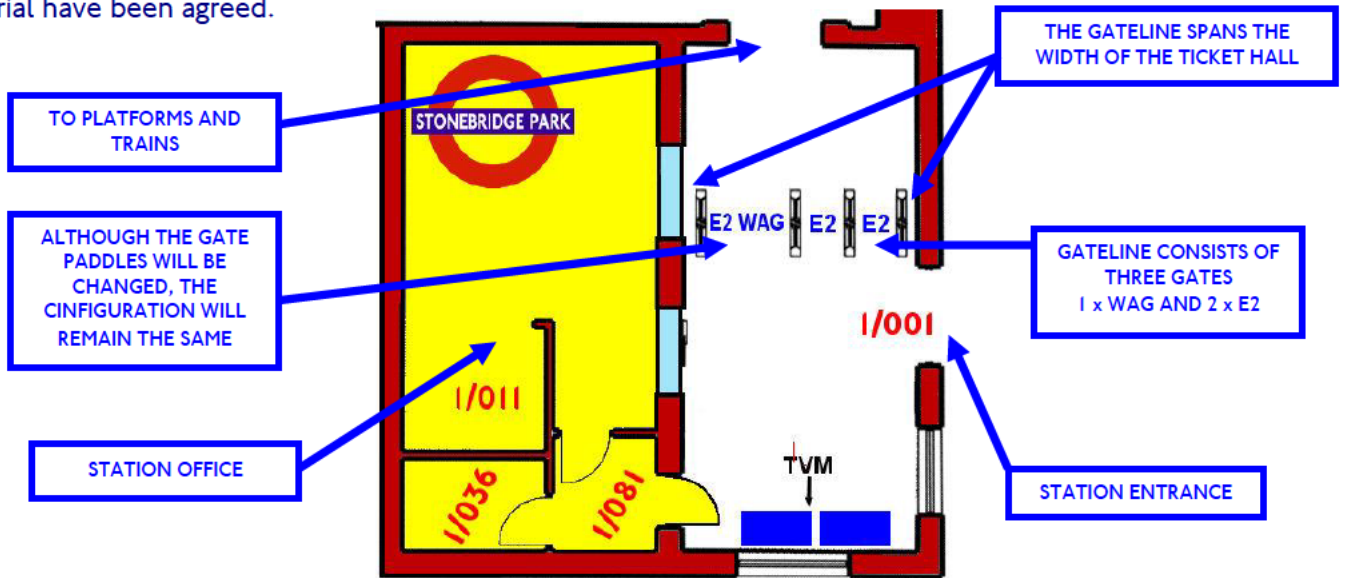
This particular station has been selected from a short list of three sites on the northern end of the Bakerloo line, all of which have small gatelines which stretch across the ticket hall, without the need for fixed glass panels to fill gaps between the gates and the ticket hall walls.



The paddles to be used for the forthcoming trial have now been ordered by Cubic and are of a design that has been used by them on the gates they have supplied to other Metro systems around the world.

The trial will evaluate the impact on customers, fare evasion and performance of the actual gates involved, since the taller paddles are heavier than the traditional design of paddle that they will replace.

We will update you further on this planned trial once installation arrangements and a confirmed start date for the trial have been agreed.



LOOKING AHEAD TO TRU124

Our next edition of TRU will be published in mid-March and will include:

- An update on the Vanguard of the Oyster card donation facility on POMs
- Further information on the Vanguard of the new MFM note handling unit
- Details of forthcoming changes to POM screens
- Updates on other current projects and T&R initiatives

Plus all of the latest T&R News stories, more of your letters to Olly and a selection of our other regular TRU features.

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