

TICKETING & REVENUE UPDATE

December 2016 issue £0:97

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As part of our round up of Fares Revision news and following the completion of a number of recent POM software changes, we outline plans to increase the maximum bankcard transaction limit on our POMs from the current £655 limit.

Page 4 STOCK ORDERING CHANGES

We outline some forthcoming changes to the way in which stations will order stocks of Transportation Sacks and items required for the CHD, which are due to be implemented in early January.

Page 5 T&R BOOK UPDATES

We provide a summary of main changes which will be included within updated versions of the T&R Books, which are due for publication and delivery towards the end of January 2017.

Pages 6 & 7 CHARITY PRESENTATIONS

In a 2-page spread, we report on the recent presentation of cheques to our nominated charities from customer overpayments on our POMs and also show how this money is being put to good use.

Pages 14 – 16 POM UPGRADES

It has been a busy few weeks, so we bring you an update on what has been happening in the run up to Christmas. Over 3 pages of the *Project Updates* section, we update you on the changes that have been implemented and provide details of some further changes being planned for the New Year.

FARES REVISION COUNTDOWN

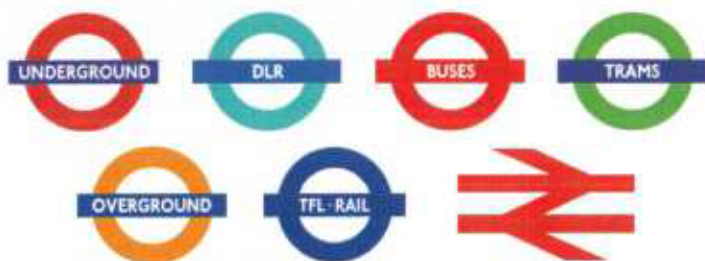
There are now not many days left before the main January Fares Revision, which this year will take place on Monday 02 January 2017.

ARE YOU READY FOR THE...

JANUARY FARES REVISION

Hopefully by now you will have seen the previous edition of TRU and the *Fares Revision Circular*, both of which included details of the changes planned.

In this edition we have also included some further information on changes on Pages 2 to 3 and a summary of the procedural changes incorporated into updated editions of the T&R Books on Page 5.



To test out if you are ready for the fares revision we have also included inside on Page 13, a festive quiz which might prepare you for some of the questions you may be asked.



Wishing a very Merry Christmas to all our readers

THIS PUBLICATION IS WRITTEN
AND COMPILED BY

JANUARY FARES REVISION

UPDATE!

ZONE 2-9 & 4-9 TRAVELCARDS AXED

One of the changes being implemented as part of the 02 January changes will see the withdrawal of the Zone 2-9 and Zone 4-9 versions of the Travelcard. Previously these had been priced the same as the Zone 2-9A and Zone 4-9A versions respectively.

Unfortunately there were a couple of instances of holders travelling to Watford Junction (Zone A) and having to pay an extension and one case where a customer requested to change their season to cover the additional zone, only to find that it was exactly the same price as the original ticket.

In future customers will only be offered the version with the greatest number of zones.

CHRISTMAS COLLECTION SCHEDULES

As we approach the holiday period, we have been finalising the cash collection schedules over the Christmas period. Traditionally we do not have any collections scheduled for either Christmas Day or Boxing Day and this year these days fall on Sunday and Monday.

We will also be cancelling collections on Sunday 01 January, but as we only have a small number of stations with Sunday collections, very few stations will be affected and all of these have plenty of other collections per week.

On the bank holiday Monday, there are a number of stations which have either a weekly or fortnightly collection and for these we will reschedule the collection to take place on the Wednesday instead, using the "recovery window" although on this occasion it will be a scheduled collection, which if unsuccessful should result in a further visit for a recovery collection on the Friday.

Stations which are due a Monday collection but have more than one collection per week, will just miss the Monday collection. If they are due to have change delivered, this will instead be delivered on the next collection that week.



- Prior to the Christmas, CSMs are requested to review their change requirements in order to meet customer demand over the festive period.
- Following the fares revision, CSMs are requested to review what denominations of coin they require to deal with new fares and ticket prices.
- Changes should be communicated by CSMs using the Change Delivery Request form available via the ticketing e-forms using the link supplied below:
<https://tflforms.onelondon.tfl.local/mfs/Login.aspx?CustomerName=RailUnderground>

NEW YEARS EVE FREE TRAVEL

At the time of writing there is currently no sponsor for New Year's Eve travel which allows customers to travel for free on TfL services (LU, LOROL, TfL Rail, DLR, Bus and Tram) from 23:45 hours on Saturday 31 December 2016 until 04:29 hours on Sunday 01 January 2017. However it is expected that the same plans and procedures will be in place as in previous years.

Full details for New Year's Eve Free Travel will be provided in Hot Issues Bulletin 51-16 which will be published on Friday 23 December 2016. However Station Staff are asked to ensure that the following criteria are adhered to during the free travel period;

- **Do not** power any gates down due to proximity to Fares Revision
- **Assure** any customers overcharged for their journey that they will receive an automatic refund.
- **Do Not** resolve any incomplete journeys occurring on night of Saturday 31 December as there is a danger of double refunds being paid out to customers.



Olly fans breathe easy – we wouldn't!

December 2016						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5					
11	12					
18	19					
25	26					

January 2017						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

JANUARY FARES REVISION

UPDATE!

FARES POSTERS

All stations should have received revised versions of the customer fares poster by 21 December 2016. It is important that these are stored safely until the fares revision, as replacement copies will be chargeable.

At the end of traffic hours on Sunday 01 January 2017, Station Supervisors must remove all existing fares posters and replace them with the new posters prior to start of traffic on Monday 02 January 2017.



STAFF FARES LISTS

Cubic no longer supply stations directly with A3 or A4 laminated Staff Fares Lists. Instead, these can be printed locally from a SharePoint site accessible to LU operational staff.

Fares lists are broken down by line and when the appropriate line is selected will show the current Areas and stations within each. Most stations will have two separate documents;

- the first starting SOO followed by the last 3 digits of the station NLC – containing fares to LU, DLR and other stations on the TfL fare scale for which "Station of Origin" tickets are issued
- the second starting SOD followed by the last 3 digits of the station NLC – containing fares NR stations for which "Point to Point" or "Station of Destination" tickets are issued.

The 2017 versions will be available from Friday 23 December and can be accessed via The link provided below;

<http://onelink.tfl.gov.uk/sites/oyster/Fares%20List/SitePages/Home.aspx>



Station staff can save fares lists to personal or shared drives or onto an iPad, making them useful for future reference.



POM BANKCARD LIMIT

Regular T&R Update readers will be aware that within recent POM upgrades we have included a change that removes the hard coding of the bankcard transaction limit, to allow us to change it more easily in the future. On devices that have now been upgraded, the limit has temporarily been maintained at the previous £655 figure, pending a move to a higher amount at a later date, once all devices have been upgraded.

The changes to Travelcard prices outlined within the Fares Revision Circular, means that some zonal combinations of Travelcard, which can currently be renewed on a POM and paid for with a bankcard, after 02 January, would be priced above the current £655 bankcard limit. As a result we have asked Cubic to increase the configurable bankcard transaction limit to £750 on all devices that have been upgraded not to have this restriction hard coded within the software. This will be applied to the current Bank Card Processor (BCP) from Monday 02 January.

As outlined in our Project Update feature on Pages 15 & 16, all AFMs and QBM's have now been upgraded, whilst all MFM's have already been completed during the recent polymer note and Oyster fraud upgrades.

Unfortunately we have since discovered that the common code software used to support the deployment of the PED Upgrade on MFM's and a couple of Vanguard AFM's (see Page 14) does not include the ability to increase the bankcard limit. As a result, it is likely that after the fares revision, devices with the new style PED will have a lower bankcard limit than other POM's.

Hopefully this situation will be rectified early in 2017, with the release of updated POM software incorporating a higher bankcard limit.



ORDER! ORDER!

Since the launch of the e-form for ordering ticketing consumables was launched on the iPad earlier in the year, we have been looking at ways that we might be able to improve this facility and streamline other ordering processes that required staff to use other means of obtaining stock.

From Monday 02 January, two further areas of stock will be integrated into the order form.

SCANCOIN CHD SUPPLIES



Collection sacks and receipt rolls are currently supplied by Scancoin and are ordered by staff ringing the Scancoin Helpdesk.

Now that we have installed CHDs across the whole network, call volumes have steadily increased, so it seems sensible to try and reduce the number of calls by redirecting requests for stock away from the phone line.

From Monday 09 January 2017 these items can be requested straight from your iPad.



G4S TRANSPORTATION SACKS



Traditionally Cash Transportation Sacks have always been supplied on demand by the custodian, who either kept a supply on their vehicle, or arranged for them to be delivered on the next visit. This worked very well when we had dedicated security vehicles for the LU contract and when all stations were serviced from one G4S depot.

Successive changes now mean that we no longer have a dedicated LU vehicle, whilst for the last couple of years G4S have split the workload of servicing all of our stations between a number of their local depots.

This has obvious advantages, but one of the main downsides is that vehicles from some of the outlying depots do not carry stocks of Transportation Sacks. Recently this has caused us problems at stations at both the north end of the Metropolitan line and the south end of the Northern line.

As a result, a decision has been made to also integrate the ordering of Transportation Sacks onto the iPad from Monday 09 January 2017.

Whilst on the subject of the ticketing consumables e-form, it is probably worth highlighting that although one form is now used for ordering most ticketing & revenue related items, once your request is submitted, the order is automatically routed to one of a number of destinations.

Some requests will go straight to the appropriate suppliers, some will come to the T&R team for processing, whilst any orders that need to be processed via SAP will go straight to your cover group administrator.

Some examples of items that go through SAP include;

BULK COIN BAGS	INABILITY TO PAY FORMS	MULTI-SAFE BAGS	PLASTIC SECURITY SEALS
ROLT / RLMP PADS	SECURE SUITE LOG BOOK	V&C MULTI-SAFE BAGS	V&C TRANSPORTATION SACKS

If you need to follow up the non-delivery of one of the above items which require a SAP order, you should in the first instance contact your cover group administrator to ensure they have received and processed the order.



Join our **email Distribution List** to ensure you get the benefits from;

- the most recent edition of the TRU, on the same day it goes to the printers.
- having your own personal copy.
- access to archived copies.

- Send an email to: [redacted]



T&R BOOK UPDATE PACKS

The difficulty in getting the new books printed and distributed over the Christmas / New Year holiday period ready for 02 January has led us to defer the publication of the new books until the end of January.

We are currently planning to reprint T&R Books 1, 2, 3, 4 and 8. The Contents & Glossary and Appendix 1-5 which are only available online, are also due to be updated to take account of changes which have occurred since the current versions were completed.

Details of when these will be available online, will be communicated via the weekly *Hot Issues Bulletin*. The major changes that will be included are:



Book	Section	Change	Comment
All	Various	References to LOROL replaced	London Overground now operated by Arriva Trains London
1	3	Access to Secure Suite updated to include RCIs	Revised paying-in arrangements
2	5	Updated to include "Priv NR only" discount entitlement	Discount not valid on LU services and not loadable on LU POMs
	7	Updated to include use of Failed Card Portal	
	9	Updated to include Bus Hopper fare	
3	1	Inclusion of instructions regarding Skimming devices attached to POMs	Existing procedures previously communicated via Hot Issues Bulletin
	3	Revised sign-on arrangements for QBM's upgraded with new design of PED	Revised process
	3.5	Inclusion of QBM Receipt Printer	
	6.4	Updated to include use of Failed Card Portal	
	Various	Revised to include CHD processes	
	7	Section deleted	Withdrawal of procedures for creation of Uncounted cash bags
4	9.1	Sub-section deleted	Procedure for bankcard slips withdrawn
	10.3	Revised to include KVM switch operation	
	13.2	Updated following introduction of CHDs	
	14	Revised to include CHD processes	
	16	Revised to include CHD processes and collections when TSID card holder not available	
	3.5	Clarification of procedure where customer cannot purchase required NR ticket	
	6.1	Updated to include new ticket stock design	
	6.2 / 6.3	Updated to include new NR ticket stock	
8	6.4	Updated to include South Eastern ITSO cards	South Eastern TheKey smartcard introduced December 2016
	6.6	Updated to include revised format of Temporary Authority to Travel	New design of TATT introduced
	9.4	Updated to include Android Pay and Vodafone Pay	
	13	Inclusion of monitoring and reporting gate fault via Device Monitoring app	Updated procedure

As in previous years distribution of the update packs containing the new books will be done via Area Managers offices. This is planned to take place during the week beginning **23 January**. On receipt of their pack, each station is required to confirm delivery of their books by completing a checklist and then faxing it back to the T&R team.

The checklist will be distributed with the weekly *Hot Issues Bulletin* in the week that the books are scheduled for delivery. Please do not complete the checklist if you have not received the update pack from your Area Manager. You should first of all contact them to request the pack from them.

For this reprint we will not be issuing update packs individually to coaches, as we have done in previous years. This is partly to reduce print costs, but mainly a reflection that all staff now have access to the T&R Books via their iPad and the T&R Book section of the intranet.

PAY A LITTLE MORE, BUT HELP A LOT

Since the ability for customers to overpay was introduced onto our POMs when they cannot give change, the proceeds each year have been donated to two nominated charities; [Railway Children](#) and [Global's Make Some Noise](#).

Over the last year, customers who have opted to overpay by up to 30p on their POM transaction have resulted in us being able to donate a total of £40,944.80 to these charities this year and brings the total amount raised by this scheme to £227,281.90 since it started in 2008.

Year	Railway Children		Global Make Some Noise*		Total
2008 – 2009		£9,533.00		£9,533.00	£19,066.00
2009 – 2010		£7,306.00		£7,306.00	£14,612.00
2011 – 2012 †		£19,355.35		£19,355.35	£38,710.70
2012 – 2013		£12,161.00		£12,161.00	£24,322.00
2013 – 2014		£20,081.66		£20,081.66	£40,163.32
2014 – 2015		£24,731.54		£24,731.54	£49,463.08
2015 – 2016		£20,472.40		£20,472.40	£40,944.80
Total		£113,640.95		£113,640.95	£227,281.90

† 18 month period

* Previously Capital Help a London Child

Despite the growth in Oyster and Contactless payments the amount raised through the scheme remains high, this year's figure only being slightly lower as the totals were calculated and presented one period earlier than usual, so that we could get the money distributed before Christmas.

It is quite appropriate that these small contributions from our customers are being used to support a small charity supported by the railway industry and Make a Noise which supports a range of small charities and projects.

This year's donations to the charities were recently handed over to representatives of the charities at cheque presentation ceremonies at Pier Walk in North Greenwich on **Wednesday 23 November** and at Global Radio in Leicester Square on **Monday 05 December**. Each cheque was for £20,472.40.



Cheque presented to [redacted] from Railway Children by [redacted] and [redacted] at North Greenwich.



[redacted] from Global's Make Some Noise Charity and [redacted] presenter of LBC's Drive Time show are presented a cheque by [redacted] at Global Radio's Leicester Square head quarters.

Dave Ellis of Railway Children, who received the cheque for Railway Children said: *"We'd like to thank all the London Underground staff and its customers. Your support has made a tremendous difference by not only helping to increase awareness of our work but this ongoing public engagement with the problems children face on the streets here in the UK and around the world is something we can build on for years to come."*

Railway Children has now been benefiting from the huge support generously provided by the rail industry for over 21 years, helping the charity reach more children than ever before in India, East Africa and here in the UK.

The following case study is just one of many charitable works undertaken by Railway Children in the UK and shows how funding from POM overpayments can contribute towards improving the lives of vulnerable children.

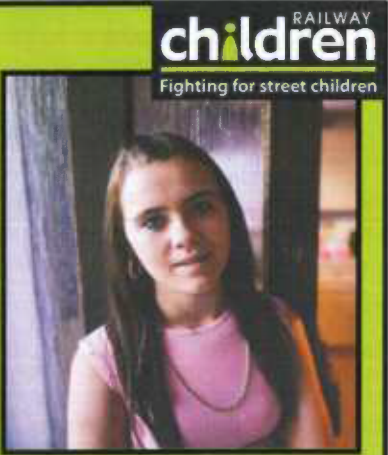
Railway Children - LOST AND FOUND AT EUSTON

Natalie was 17 when she escaped from her abusive, alcoholic mother. After sleeping on the sofas of friends and acquaintances, she ended up in London - where she moved in with a much older man she'd just met.

She didn't feel safe and after a week he became angry and kicked her out. Our outreach worker Viv found her sobbing on a Euston Station bench. Viv helped Natalie through hostels and shelters and eventually into secure accommodation, as well as giving her the emotional support she needed to rebuild her life.

Viv: "When we first met Natalie she was very vulnerable - a prime candidate for exploitation. We worked with her to develop her self-esteem and help her avoid dangerous situations and risky behaviours."

A year on, Natalie is confident, living with friends and she's just been promoted in her job. She said: "Viv and her colleagues really did save me when I was desperate and completely alone. If Viv hadn't found me...I don't know what would have happened or where I'd be now."



In accepting the cheque for Make Some Noise, Jo Hamilton the charity's Partnerships Manager outlined some of the many projects that they were currently supporting within the London area.

Name of charity	Category	Name of charity	Category
Hillingdon Autistic Care & Support (HACS)	Disability	Community Focus	Disadvantage & Mental Health
Prospex	Disadvantage	Momentum	Illness
Heart n Soul	Disability	Carers Bromley	Young Carers

Below we provide some details of two of these London area projects currently being supported by Global's **Make Some Noise** that the donation from the LU POM overpayments scheme will help to support in the year ahead.

COMMUNITY-FOCUS

Community Focus is a small charity founded in 1978, which aims to improve the lives of young people who are disadvantaged due to disability, mental health or special needs, by engaging in creative art.

The charity is based in Barnet, North London, where it helps youngsters develop life-changing skills using photography, music, drama, graphic design, drawing, painting, creative writing and digital art.

Global's Make Some Noise will be supporting the charity's ARTiculate project which works to address the needs of vulnerable 16-25 year olds with mental health issues through creative arts. There is a severe lack of services for this age group in Barnet, which means Community Focus' work is so incredibly important. Otherwise, the support simply isn't there.

When asked about the project, one of the young people who currently takes part said: "ARTiculate benefits young people who get shunned and excluded from many youth spaces because of their mental health - we have the opportunity to be ourselves and learn and make friends and have fun all at the same time. People like us don't fit in anywhere, but we do at ARTiculate."



PROSPEX

Prospex is a charity which supports disadvantaged youngsters and helps them achieve their full potential.

These young people have had tough starts in life. They might suffer from low self-esteem, lack confidence, and face the prospect of unemployment. At worst, they're at risk of becoming involved in crime.

But, Prospex is there to help them reach their goals. The charity provides loads of activities and workshops at their hub in North London, and we're really proud to be able to support their work.

Global's Make Some Noise will help fund the charity's 'Healthy Body Healthy Minds' project, which combines culinary and gardening skills with outdoor activities at the project's hub - promoting health and wellbeing to the young people, and exposing them to new foods, environments and activities they wouldn't usually take part in.





askolly@tube.tfl.gov.uk

From: [REDACTED]
Sent: 05 November 2016 09:46
To: Ask Olly
Subject: £50 Note acceptance

Hello Olly,

Firstly, I appreciate all the work that is being done by your team to update staff with all the changes.

Over the years, TfL has adapted to so many new technologies, new payment systems, software upgrades, system improvements etc. and many more projects in the pipeline to improve customer experience.

Why can't £50 notes be accepted on POM's?

Why can't the ground work be laid for this and necessary changes made as we (frontline staff) encounter this problem many times?

Regards,

Hi [REDACTED]

Thank you for your email and query.

The "copy card" functionality on the TOM which you refer to should provide an exact copy of the original card.

The customer's registration details, the card deposit, PAYG balance, season ticket products and any discount entitlements on the card would therefore be carried across automatically.

Since the new card will have been shown as being issued on the day concerned, it is likely that a refund of the card would be blocked on the POM until 48 hours had elapsed.

Finalisation of the transaction will also cancel the original card.

Regards

Olly Oyster

Hi [REDACTED]

Thank you for your email and positive comments.

We do from time to time get asked similar questions about POMs accepting £50 notes. This is actually quite a tricky issue, as although the acceptance of the note should be fairly straight forward, the main difficulty that it introduces, is in the ability to give change to customers who possibly might buy a relatively low value ticket with the note.

The knock-on effect would be that the thresholds for when the device is in "Change Given" mode would have to be a lot higher, which could actually inconvenience more customers or require the device to be re-floated more often.

The other main factor against £50 note acceptance is the risk of fraud and money laundering, as POMs have previously been targeted with dye stained notes from robberies, as an easy way for the criminals involved to convert their proceeds into untraceable currency.

On a more positive note, if you do encounter customers that have a £50 note as their only method of payment, the introduction of the CHD does mean that staff have a facility of changing the note for notes of a different denomination.

However, the note should always be deposited first to ensure its validity, before the required tenders are dispensed.

Regards

Olly Oyster

From: [REDACTED]
Sent: 10 November 2016 19:26
To: Ask Olly
Subject: Oyster duplicate on the TOM

Hello Olly,

When faulty Oyster cards are duplicated on the TOM:

- A) Is the capping history transferred to the new card?
- B) Are discounts automatically transferred to the duplicate Oyster?
- C) Is the deposit (if any!) originally paid for the Oyster card still refundable? (If yes, is it subject to a 48 hour rule?)

Kind regards



From: [REDACTED]
Sent: 18 October 2016 18:21
To: Ask Olly
Subject: Re: Platform tickets

Dear Olly,

Are we still selling Platform tickets?

We had a customer who travelled from Hammersmith using a Platform ticket. It seems that on the POM they had selected the "by destination" button and then selected "Hammersmith" as their destination.

The only problem was that as they were at Hammersmith it issued a Platform ticket when what it should have done is what any SAMF would do on the window and asked where they really want to go.

It works the same at Parsons Green but not at Southfields.

Yours confusedly



askolly@tube.tfl.gov.uk

Hi [REDACTED]

Thanks for your email.

Yes Platform tickets should be available from all stations.

On POMs, the ability to purchase a platform ticket is not available if someone is signed on to the TOM. This dates back to the days of ticket offices, where we didn't want customers to be able to buy Platform tickets from POMs if the ticket office was open.

You might want to check Southfields again, ensuring that the TOM is in signed-off mode.

There are two methods for customers to purchase a Platform ticket, both of which are accessed by selecting the "By destination" button. The customer can then either select the name of the station they are actually at, or type in "PL" in the destination field and the select "Platform ticket" from the list of destinations.

In both cases the screen will show the selected ticket as being a Platform ticket and the customer then has to confirm that is what they want.

Regards

Olly Oyster

Hi [REDACTED]

Thanks you for your email and query.

It is correct that if a customer purchases a Season ticket from a POM, their journey history on their online account will show all the journeys they have made within the zones covered by the ticket as £0.00, as they will not have been charged for any of these.

The online account will show that the customer has a valid season ticket, but if this has been bought from a POM it does not show the purchase price.

If a customer requires proof of their purchase and has forgotten to press the button for a receipt, they should be advised to contact the Customer Contact Centre, who should be able to provide them with a suitable confirmation of their purchase.

Regards

Olly Oyster

From: [REDACTED]
Sent: 29 November 2016 13:18
To: Ask Olly
Subject: Customer Oyster Online Account Information

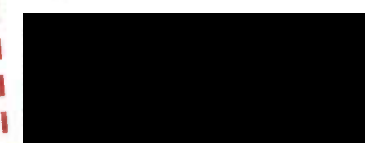
Hello Olly,

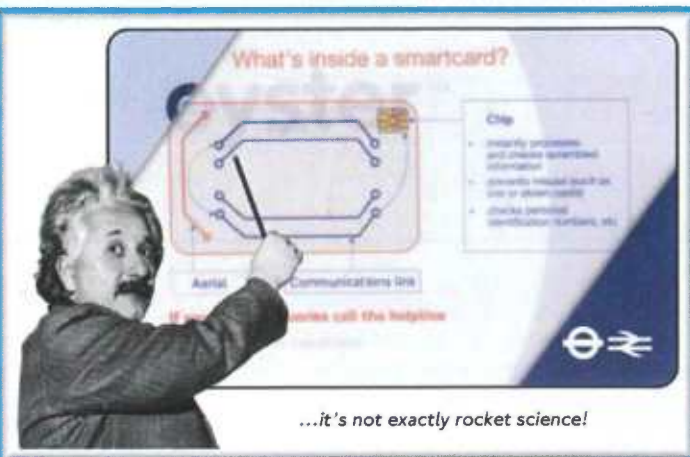
A customer who needed a receipt showing the cost of their 7 Day Travelcard, reported to me that the price on their online account was shown as zero. They also explained that the journey costs weren't available.

With so many customers forgetting to request receipts on the POM are we giving wrong information when we advise for them to go to their online accounts for them to print the POM transaction?

Does it have to be an online transaction to show the cost?

Regards,





OYSTER EXPLAINED

For our last Oyster Explained feature of 2016, we go back to revisit a topic we previously covered in TRU51, when we explained the operation of ad-hoc loads and refunds and how they are loaded onto customer's Oyster cards.

Following on from our recent coverage of the FTP4 upgrades (see Page 19) and the planned introduction of **Faster Universal Load (FUL)** in 2017, in this month's

Oyster Explained we provide a comparison of how online purchases and refunds to customers' Oyster cards are currently handled and how the forthcoming changes will improve things for Oyster customers.

HOW FASTER UNIVERSAL LOAD WILL SPEED UP OYSTER PICK UPS

Currently buying a season ticket or topping up your Oyster card online has very limited appeal to customers. The current restrictions on the product not being available for collection until the next day and then only at a nominated station, means that purchases have to be planned in advance. This is really quite at odds with the instant online satisfaction that most 'tech savvy' customers are used to.

Historically a vast majority of customers using PAYG or buying 7 Day Travelcards tend not to plan their purchase in advance and just turn up and buy. This is very much illustrated by the much longer queues we have always had on Monday mornings, when these tickets could often have been renewed or bought in advance.

As a result, it is only really Annual and longer period tickets where the purchase tends to be planned a lot more in advance and where online purchase is really attractive. This is more so since the closure of LU ticket offices and the fact that Annuals, other than Privilege Season tickets, cannot be bought from our POMs.

CURRENT ONLINE PURCHASE

The customer needing to buy online has to complete their purchase before around 20.30 hrs in order that it can be collected the next morning. Having nominated a station to pick the product up from, the information is then transferred to Cubic and collated into a file, which is then transmitted to the chosen station as part of the end of day processing.

On receipt by the relevant Station Computer(s), the SC then passes the information to each gate and validator attached to it. The information is not currently transmitted to POMs, so the customer has to be making a rail journey to be able to collect a product.



Each gate / validator will then look out for the relevant Oyster card and as soon as it is detected, the ticket or PAYG will then be loaded onto the card as part of the validation process. When it is confirmed that the load was successfully loaded, this is transmitted to the SC, which then updates all of the other devices not to look out for the Oyster card. This prevents the load happening twice.

OYSTER EXPLAINED

FASTER UNIVERSAL LOAD cont'd

The product is held at the station for up to 7 days and if not collected can potentially be reloaded for another period.

Apart from customers not wanting to make a Tube journey, who incur an incomplete journey when picking up their product, one of the other main short comings of the current set up is that if the customer misses the pick up of their product, or has to travel via another station, they will be charged for any journeys they make before collecting their product and may have to top-up at a POM.

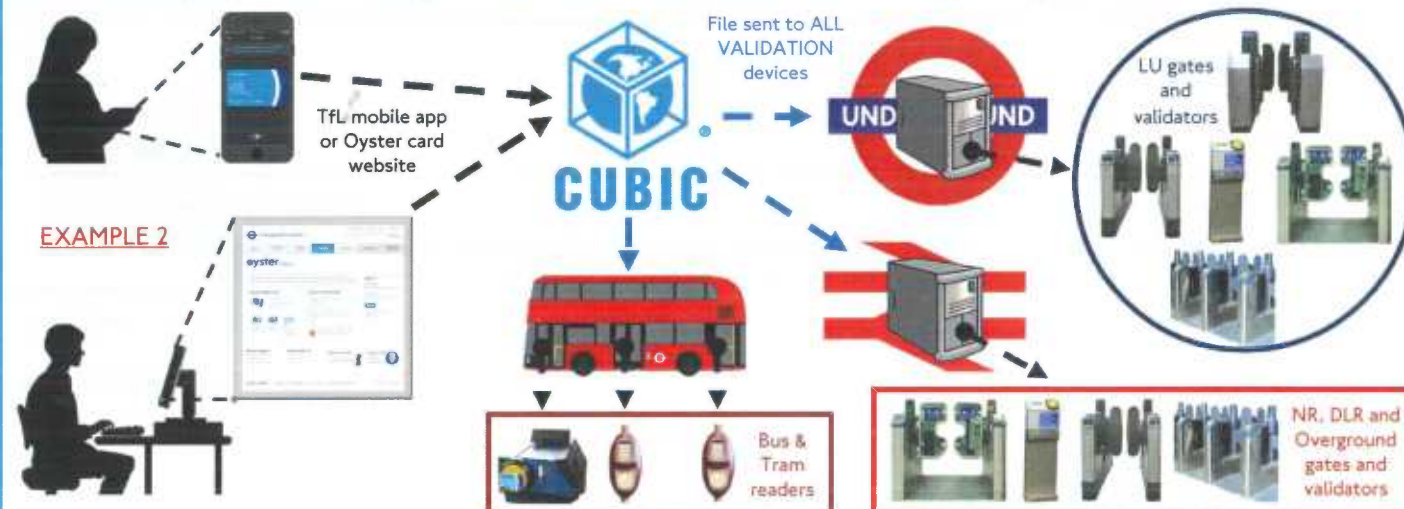
It is a similar picture for ad-hoc refunds to Oyster cards, the only real difference being that the nominated station often has to be guessed, based on previous patterns of journeys. This contributes to a fairly low success rate for pick-ups, particular if the customer concerned travels infrequently or has an erratic pattern of journeys.

SO HOW WILL THINGS BE IMPROVED?

Faster Universal Load will offer a number of significant improvements:

- The ability to buy products/ top up via a new TfL app
- Pick up product within about 30 minutes, rather than next day
- Pick up from any location, not just a nominated station
- Pick up also available on buses for first time.

So when fully operational, the purchase will be transmitted from the app or Oyster online website to the TfL



The big difference is that this information will be sent out almost immediately rather than being packaged up into a daily file. It will also be sent across the whole Oyster estate. As a result, the first validation device reader (RTD) that detects the Oyster card number will load the product to the card and then transmit confirmation that it has been loaded. This should mean that the customer will pick up their product at their first validation, regardless of where this occurs.

All other devices will be updated so they don't look out for the card concerned. In the case of ad hoc refunds, this has the great advantage of being able to apply the refund to the card wherever it is presented.

Since the updating of Station Computers and RTDs on gates and validators, testing of the new Faster Universal Load facility has been taking place, with trial purchases being made using the new TfL app. So far the results of these tests have been very encouraging, with products being available for collection in around 15 minutes.

The publicly quoted pick up times are likely to be slightly more conservative at 30 minutes to cover cases where a delay in transmission may occur. However, this does open up the prospect, once the app is released, for a customer being able to use the app at home, at work or on their way to the station and for their product to be waiting for them when they arrive at the station.

Look out for more news about Faster Universal Load, and details of when this facility and the TfL ticketing app will be launched to customers, in the TRU in the new year.



LOOKING AHEAD TO 2017

In the final edition of TRU each year, we generally have a special feature in which we look ahead to some of the main T&R events planned for the next year. So following the tradition we take a look at some of the main changes and developments in the pipeline for 2017. As ever, some of these may come to fruition as planned, some may be delivered a little later than expected, whilst some may never see the light of day.

2017

➤ GATE LCP ROLLOUT



This project hasn't progressed well in the last 12 months and delivery is now considerably behind the original timescales. There is a glimmer of hope in that after many delays, we plan to start the E1 gate rollout in early January and to expand the number of stations using the latest version of E2 LCP software, once the fares revision is out of the way. All being well, 2017 should see the start of an LCP vanguard for pneumatic gates and the subsequent rollout of LCP3 to the last category of gates. Further information on the LCP upgrade can be found on **Page 17**, within the Project Updates section of this edition.

➤ TOM ASSET REFRESH & SOFTWARE UPGRADE



The TOMs retained in each of our POM Rooms are due an update and during 2017, Cubic are due to replace the PC and some of the other peripherals as part of an asset refresh. The opportunity will be taken to consolidate the TOM and SAF PCs into a redesigned cabinet and replace the current KVM button used to swap between TOM and SAF modes with dedicated keys integrated into the new keyboard. The change will also give us the opportunity to rollout updated TOM software that will address a number of known bugs in the current version. Further information on this will be included in future editions of TRU.

➤ SCU REPLACEMENT

As part of another asset refresh project, Cubic will be replacing our current SCUs with a more up to date version, as the current equipment, which is some of the oldest ticketing equipment we are still using, is becoming more and more difficult to maintain. A project next year plans to replace all of our current SCU monitors and keyboards with a new PC based SCU, which operate using touchscreen technology.



➤ POM PED UPGRADE

This project which is covered in more detail on **Page 14**, will continue into 2017, with the completion of the current MFM rollout in April 2017, the start of the larger AFM rollout and finally the start of a Vanguard and subsequent rollout of the new QBM.



➤ FASTER UNIVERSAL LOAD



One of the biggest changes in terms of customer impact will be the planned launch of the new TfL ticketing app and the new Faster Universal Load facility as we outlined in TRU95. This should transform the customer's ability to top-up or make online purchases. The recent reader upgrade (covered on **Page 19**) will allow initial on system testing of these facilities to take place, ahead of a vanguard involving invited staff and customers in early 2017.

➤ MORE WAGs

The final sites in the current programme to provide additional WAGs at around 70 stations is due for completion in April 2017. The programme in early 2017 focuses heavily on stations that currently have Pneumatic gates.



➤ MORE CURRENCY CHANGES



2017 will see an expansion of polymer banknotes with the introduction of a new design of £10 note and the launch of a new £1 coin. As you will read on **Pages 15 & 16**, we are currently getting ready for the new £1 coin with the rollout of the new Eagle validator. Prior to the launch of the new £10 note in mid-2017, Cubic will need to update the note images loaded into each device, to include the new versions and street quality versions of the £5 note. The same update should also hopefully allow MFMs with Bank Note Acceptor (BNA) units to also accept Scottish and Irish notes. Devices with the Bank Note Recycler (BNR) already do.

THE T&R CHRISTMAS QUIZ 2016

Answers on
Page 19



Around the lunch table with your friends and family over Christmas you may well get quizzed about fares and travel. To help prepare you, we have pulled together a quiz to test how good your T&R knowledge is? We have focussed on a few topics which have either changed recently, or where we frequently get reports of incorrect information being given to customers.

Q1	What is maximum number of bus or tram journeys you can make before your card reaches the Daily Bus & Tram cap?	
A	2	
B	3	
C	4	
D	5	
Q2	When advising a customer about the best value, is a 7 Day Travelcard?	
A	Cheaper than using PAYG and Daily Price caps	
B	Same price as 5 PAYG Daily Price caps	
C	Same price as the contactless weekly cap	
D	Only available if the customer has a registered Oyster card	
E	Always cheaper than paying daily PAYG fares	
Q3	What facility allows a customer's PAYG balance to be automatically replenished?	
A	Ad-hoc load	
B	Faster Universal Load	
C	Auto top-up	
D	Auto completion	
E	Auto continuation	
Q4	Which of the following are not features of using PAYG with contactless payment?	
A	Same prices as PAYG using Oyster	
B	Price capped on a fixed Monday to Sunday week	
C	Capped to 7 Day ticket price for journeys made between Monday and Sunday	
D	Flexibility if you don't travel every day or change journey pattern	
E	Never pay more than the cost of a 7 Day Travelcard	
Q5	Can a customer get all the benefits of contactless travel, even if they have a bankcard which isn't contactless?	
A	Yes if they link their bankcard to Apple Pay, Android Pay or Vodafone Pay on a mobile device	
B	No they have to have a contactless bankcard	
C	Yes using Oyster will give them the same benefits	
D	They will need to contact their card issuer to get the card re-issued	
E	Only certain customers can get a contactless payment card	
Q6	Which discounts are not available to holders of an Annual Gold Card?	
A	Discount on Day Travelcard (Anytime)	
B	Buy discounted Day T/card (Off Peak) for themselves and up to 3 adults and 4 children accompanying them	
C	Discount on all journeys charged at the reduced PAYG rate	
D	Discounted rate for all PAYG journeys on NR	
E	Discount on Single & Return tickets for NR journeys	
Q7	Which season tickets can not be bought from a POM?	
A	7 Day or Monthly Travelcard or Bus & Tram Pass	
B	Discounted 7 Day or Monthly Travelcard/Bus & Tram Pass with a valid 16+ or 18+ Oyster Photocard	
C	Annual Privilege Season ticket	
D	Renewal of a Period ticket already held, up to 4 days in advance	
E	Any period Travelcard priced below the current bankcard limit	

PED UPGRADE

The programme to replace the equipment we use to process bankcard payments on our POMs is now well underway, although all has not gone quite to plan in the early stages.

Following an initial Vanguard covering 10 MFM's, the rollout to other MFM's began on **Sunday 27 November**, but after the first few nights going pretty well, we had a number of devices at the end of the first week which reported problems in connecting to the new bankcard processing service. This prevented the devices from being able to process any bankcard transactions and lead to a decision to temporarily suspend the rollout from **Sunday 04 December**. As these issues were resolved and subsequent installations were completed without any similar issues, permission was given to restart the rollout from **Sunday 11 December**.

The issue was subsequently identified as being caused by a variety of unrelated problems, including a poor data connection, communications being blocked by a firewall and issues with the commissioning of the new PED units once installed.

The start of the Vanguard on the AFM also suffered a number of delays before the first device was successfully upgraded at **Embankment** on the night of **Tuesday 22 November**. The amount of work required to complete this upgrade on site meant that the first few upgrades took longer than planned to complete and lead to subsequent vanguard devices being completed at only one device per night. We also had some issues which prevented devices being fully operational for start of traffic, as on completion of the physical upgrade work, there was little time left for trouble shooting to be completed.

Whereas the MFM upgrade is relatively straight forward, other than the need to cut a new slot in the MFM panelling for the PED, the work on the AFM is much more extensive. The new PED requires the installation of a new PC and new Interface board which links the various components in the device. This requires the disconnection of most of the component units within the AFM (as illustrated in **Fig 4** below).

The other complication is that to fit the new PED bankcard reader above the RTD, requires the removal and replacement of the panel on which the RTD is mounted. This is secured by bolts on either side of the machine and below the screen, and to access these it is necessary to unbolt the device from its plinth and then pull the device forward by about 6 inches to enable the engineers to access the securing bolts of the front panel.

AFM PED UPGRADE – HOW IT HAPPENS



Moving the device forward by about 12 inches, allows access to the securing bolts either side of the device. This then allows removal and replacement of the panel on which the RTD is mounted. Once completed the newly installed PED card reader is mounted on this panel, with the RTD slightly lower than it previously was.

UPDATE!



POM UPGRADES IN BRIEF

It has been a frantically busy few weeks since the last TRU was published, during which we have had to contend with a large number of POM upgrades as we tried to get as much work as possible completed before the fares revision. Below we have summarised in brief, the progress on some of these activities.

POLYMER NOTE FIX

By the time you read this article, we will have completed a modification to all of the MFM's that have Bank Note Accepters (BNA) units to address a problem that had caused a high proportion of the new polymer £5 notes to jam when transferred into the note vault. We outlined the cause of this in some detail in **TRU96**.



Completion of this modification means that customers can now insert their notes either way round, without risk of the device failing. A majority of devices were completed by **Friday 09 December**, but some revisits were required the following week, to sites where staff had not been available to empty the devices for the engineer to be able to complete the upgrade.

During the same visit, the Cubic engineers also replaced the coin validator on all machines that had not already been upgraded with the new Eagle validator in readiness for the introduction of the new £1 coin next spring. This just leaves a small number of MFM's with Bank Note Recycler (BNR) units which will be picked up in the New Year.

QBM SOFTWARE UPGRADE

Following a Vanguard on 10 QBMs earlier in the year, a decision was taken at the end of November, to complete this software upgrade on all the remaining devices ahead of the fares revision.

Like the AFM upgrade covered on **Page 16**, this was a service release to update the software, rather than being linked to a specific project.



The main driver for this change was to implement a change which gives us the ability to increase the bankcard transaction limit on these devices. This change is explained in more detail within the Fares Revision Update on **Page 3**.

All 103 QBMs that required the update were remotely upgraded over three nights starting on the night of **Wednesday 30 November**, at a rate of 35 devices per night, with the final QBMs being completed on the night of **Friday 02 December**.

As with several other recent projects, we had to juggle the programme to avoid scheduling upgrades on stations where night tube services now operate on Friday nights.

The software change also implemented a change to the way that the QBM receipt printer reports its paper running low or being exhausted. On the QBM it will no longer report separate low stock and exhausted receipt roll stock errors.

About a third of our QBMs have already had a hardware upgrade to the receipt printer, which means that it will only flag that the receipt roll is exhausted when there is a very small amount of paper left.

On the remaining devices which have not yet had this hardware upgrade, the device will indicate the receipt roll as being exhausted when there is quite a lot of paper left.

This will be resolved as these QBMs are upgraded either as a result of the receipt printer being replaced in a fault maintenance visit, or when the QBM is upgraded as part of the PED replacement project in early 2017.

THE KEY POINTS



● MFM Polymer note update	223
● AFM software upgrade	543
● MFM Eagle validator upgrade	383
● QBM software upgrade	103
● MFM PED upgrade	40
● AFM PED upgrade	5



AFM SOFTWARE UPGRADE

As reported in **TRU96**, a service upgrade of AFM software was completed across 543 AFMs between **Sunday 22 November** and **Friday 02 December**, following an earlier Vanguard covering 32 devices.

Apart from allowing implementation of a higher bankcard transaction limit as part of the fares revision changes, the upgrade should also improve the devices ability to handle large table downloads. At previous fares revisions and when updating POM screens, this had resulted in a number of devices failing.

Implementation of this particular fix was important in the run up to the loading of new fare tables for the 02 January fares revision, which is scheduled to take place towards the end of December.

The new software also addresses a number of outstanding defects, particularly around coin acceptance and the operation of the reject lever on the validator. These issues had impacted upon the ability of some devices to accept coins until a soft reset was performed.

Further information on the PED (Chip & PIN unit) replacement on the AFM, MFM and QBM is included on **Page 14**.



AFM CHU REPLACEMENT

We had originally intended to include the fitting of the new Eagle validator into our AFMs as part of the PED upgrade on these devices.



Unlike the MFM, where the new validator can be quickly fitted into the machine, the AFM requires a new bracket to be fitted, which can then hold either the existing validator or the new Eagle unit.

The complexity of the AFM PED work (as outlined on **Page 14**), combined with some of the difficulties we have encountered during the upgrading of the first machines as part of the current AFM PED Vanguard, has forced a bit of a rethink which now means that it is unlikely that this additional work on the Coin Handling Unit (CHU) can be completed as part of the PED upgrade programme.

The new validator needs to be in place on all POMs in readiness for the launch of the new design of £1 coin in Spring 2017.

As we have nearly 600 AFMs to upgrade, the current projections for the PED upgrade points to the last AFMs not being completed until after the launch of the new coin.

It is therefore likely that the fitting of the new bracket and Eagle validator will need to be completed on the AFM, using a separate team of engineers in the New Year.

GATE READER TIMINGS REVERTED

In **TRU96**, we outlined a trial that was being undertaken at 9 LU stations, where the time that the card reader (RTD) on the gate was activated had been increased to try and identify occurrences of customers presenting more than one card to a device, where the reader was only detecting the nearest card.

Following a review of the trial, all of the readers at the stations shown below, were reverted to the standard configuration from start of traffic on **Sunday 27 November**.



CHARING CROSS	LEICESTER SQUARE	TOTTENHAM COURT ROAD
GREEN PARK	OXFORD CIRCUS	VAUXHALL
KINGS CROSS (Northern)	PICCADILLY CIRCUS	VICTORIA

No issues had been identified during the period that these gates had been operating with extended periods of RTD activation, but there was a desire to get all gates and validators operating on a common platform before the planned FTP4 upgrade took place in early December (see below).

E1 GATE MOTOR REPLACEMENT

As reported in **TRU96**, on **Sunday 20 November** Cubic commenced a programme to replace the existing motors on a number of E1 gates which only had their paddle shafts replaced during a period when we were investigating a possible issue with the new motors.

Unfortunately during the first week, the engineers encountered a number of issues which resulted in the work not being completed within the timescales originally expected, requiring some adjustment to the programme. Subsequently some issues were identified with some of the newly installed gate motors, which caused this package of upgrades to be suspended again.

Initial investigation of these issues by Cubic appears to point to the recent failures being due to the new motors sitting within the stores for an extended period before installation.

Following earlier problems with newly installed units, a regime had been put in place to "run in" the motors within the Cubic workshop, before they are released for installation. Although the motors had been "run in", it appears that an extended period had elapsed before they were deployed onto the network.

As a result, it now looks unlikely that we will achieve our original target of completing this upgrade work before Christmas.

We will also have to upgrade both motors and paddle shafts on a number of gates which were previously removed from the programme when it was expected that these gatelines would be replaced with new E2 gates.



E2 GATE LIDS

The design of the lid on the E2 gates and WAGs has been a concern for some while and resulted in a trial of a new design of lid with a self close mechanism at **Kings Cross (Western)** in **July 2015**, as outlined in previous articles in **TRU 85**. The trial units avoided the risk of the lid being accidentally dropped once released.



Although the new lid was viewed as a great improvement on the previous design, we received quite a lot of feedback from both gateline staff and H&S representatives that the design could be considerably improved if the lid would self-lock when closed.

After a number of months of trying different solutions, Cubic now believe that they have come up with a solution which both meets our requirements and is durable enough to survive on our gates. Once sufficient components have been delivered, we are hoping to have a further trial on the same gates at **Kings Cross (Western)** before making a decision on whether to deploy the new design to other sites with E2 type gates.

Apart from the soft close mechanism avoiding the risk of the lid slamming down once released, the new design also overcomes some of the difficulties users have regularly encountered when trying to lock the lid and remove their key. This was recently highlighted as being the cause of a large number of E2 lids being left unlocked and allowing customers to access the key pad and gate controls.

LCP3 a quick update...

There is little progress to report on the LCP3 front. The latest version of E2 software remains in Vanguard at **Stratford (North)**, **Sloane Square**, **Cannon Street**, **Embankment** and **Tottenham Court Road**, with a decision on whether to deploy this software to other sites due to be taken early in the New Year.

The long awaited start of the LCP3 rollout and Service Panel upgrade for E1 gates will commence in early January, as soon as the fares revision change freeze is lifted. Initial upgrades are likely to be at Jubilee line extension stations.

Unfortunately the two test gates at **Green Park**, which were the first pneumatic gates to be fitted with the LCP3 had not performed at an acceptable level and as a result a decision was taken to revert these to conventional configuration until more reliable version of software has been fully tested.

PRIVACY SCREENS

To reduce visibility of the CHD screen to contractors and other staff who may be in the POM Room, all CHDs should be fitted with a privacy shield.



This takes the form of a clear film applied across the touchscreen, which prevents the display being seen from either side.

It is particularly important that this is in place to prevent entry of your PIN being visible to others.

When viewed full on, the screen can be clearly read, but if viewed from the side, it appears completely blank.

We have recently had some reports of privacy screens being missing from devices, possibly due to our staff removing them. Please **do not** remove the privacy shield from the screen.



CHD NOTE ACCEPTANCE

The problems with polymer note acceptance on POMs has now thankfully been resolved, as outlined on [Page 15](#). However we have also had some problems with note handling and note acceptance on a number of CHD units.



Investigation of these issues has highlighted that many have been caused by folded notes with their corners turned over then skewing inside the transport mechanism.

These problems can actually be minimised if any notes that are not perfectly flat are fed in with the **folded corners first** and the straight end of the note towards the user.

This is probably the opposite of what most people would naturally do, but means that when the note moves off the recycler, either to be suspended or to be transferred to the collection sack, it moves in the reverse direction with the good end of the note first.

This should reduce instances of the turned corner or crease causing the note to jam.



CHD UPGRADES

Scancoin will shortly be deploying a new version of CHD software to help improve device performance.

This will be loaded locally at each site during a technician visit and will correct a problem which affected the screen options on the Main menu of around 40 CHDs recently.

In response to an on-going problem which has affected a number of stations, where certain coins (mainly 50p pieces) have been directed into the wrong hopper of the coin acceptor, Scancoin are currently trialling a modified sorting wheel on a couple of devices, to see if this reduces instances of coins being misdirected.

If successful, this modification will then be deployed to other units.

When this particular issue does occur, the cash is correctly counted when it is being deposited, but leads to a situation where the actual number of coins in each hopper is different to what the devices expects to be there.

An engineer visit is always required to check that all coins are in the correct hoppers and the device contents agree with what is actually inside the device.

SCAN COIN



FTP4 PROGRESS

In [TRU95](#) we outlined plans to introduce a new TfL ticketing app and a much faster delivery of online purchases, via a new Faster Universal Load facility.



In preparation for this, some major upgrades were undertaken at the beginning of December, with all Station Computers (SCs) initially being upgraded, followed by the card readers (RTDs) on all validation devices across the Oyster estate on **Sunday 04 December**.

This FTP4 upgrade as it was referred to, was the first major RTD upgrade for some time and generally went very well.

On the Sunday morning of the upgrade only 7 RTDs failed to upload the new software and these required a Cubic engineer visit to change parts.

In addition, all of the PVal's at **Royal Albert** station on DLR failed and these were dealt with as a priority, so that customers could validate at the station. 5 further sites suffered communication problems, which prevented Cubic and the CE Service Desk being able to confirm whether the readers had successfully upgraded or not.



Following completion of the upgrades, testing is being undertaken, with purchases of PAYG from pilot versions of the TfL app being available in around 8 minutes and season ticket purchases in around 20 minutes.

Tests also confirmed around a 98% success rate for RTDs receiving the Faster Universal Load lists in 15 minutes.

Further information on how Faster Universal Load will work, when it is launched to customers next year, is included in this month's [Oyster Explained](#) feature on [Pages 10 & 11](#).

FTP4

ANSWERS TO T&R TRIVIA



How did you do?

Answers to... THE T&R CHRISTMAS QUIZ 2016

Q1	D	5 journeys - If 2 journeys are made within an hour, the 2 nd journey will be free. So 3 chargeable journeys at £1.50 each and 2 free trips)
Q2	B & C	It is the same price as 5 Daily caps and the contactless weekly cap
Q3	C	Auto top-up
Q4	E	The customer may pay more if their journeys are made over a different 7 day period (e.g. Wednesday – Tuesday)
Q5	A	Providing they have a suitable phone or mobile device, they can link their bankcard to the appropriate payment app and then use this to make contactless payments and journeys
Q6	A & D	They can get a discount on the Day Travelcard (Off Peak) for themselves and people travelling with them, but on the Day Travelcard (Anytime). The discount on PAYG covers any journey made off peak at the reduced PAYG rate. There is no discount on any mode for PAYG journeys charged at the Standard PAYG rate
Q7	E	Travelcards and Bus & Tram Pass for periods of longer than 1 month, can only be bought from a POM if the same product has previously been purchased

NR TVM PROBLEMS

It isn't just our POMs that have been having problems of late.

Whilst we have encountered a number of problems with note jams caused by polymer notes and failures following initial PED upgrades, Ticket Vending Machines (TVMs) at NR stations and at the **Regulated Stations on London Underground** (RSLU) fared much worse during November.

The operation of these devices is quite complex, as the Oyster capability is provided by a Cubic device known as the Pearl, which is fitted to the TVM. There is therefore a complex set of contractual relationships covering the TVM suppliers, Cubic and the mechanism for sales data to be communicated.

An upgrade of the Pearl device was undertaken between **10 October** and **03 November** but it wasn't until **Thursday 10 November**, that Cubic started to see the loss of connectivity between Pearl devices and their Data Gathering Centre (DGC).

The TVMs continued to operate and data was stored locally. When connections were restored on **14 November**, the DGC was flooded with transaction data, resulting in the DGC failing.



Regulated what???

RSLU is the acronym used to describe a small number of stations which were formerly operated by National Rail, but transferred to LU following the change of franchise to London Overground.

These locations consist of two stations on the Richmond branch of the District line;

GUNNERBURY KEW GARDENS

plus the nine Bakerloo line stations north of Kilburn Park;

QUEENS PARK	KENSAL GREEN	HARLESDEN
STONEBRIDGE PARK	WEMBLEY CENTRAL	
NORTH WEMBLEY	SOUTH KENTON	KENTON
HARROW & WEALDSTONE		

Although now managed and staffed by LU, these stations still operate with a number of NR systems, including ticketing.

Following resolution of this failure on **15 November** a further failure occurred when the authentication server was flooded with transactions, resulting in the complete loss of Oyster capability on approximately 200 TVMs.

Following investigations by Cubic and the TVM suppliers, Oyster capability was restored to around 100 TVMs by **18 November**.

The remaining devices required further engineer visits and were progressively returned to service between **23 and 29 November**.

An investigation into the cause of this major failure is underway and will also look at the complexity of the arrangements for these devices, to try and identify a more efficient way for the various suppliers to work together to address any future faults.

LOOKING AHEAD TO TRU98

Our next edition and the first of 2017, is scheduled to be published at the end of January and will be a joint January / February edition. In our next edition we intend to include coverage of;

- A review of what went well / not so well with the January Fares Revision
- A look back at the major T&R events of 2016
- A progress report on the current Chip & PIN / PED Upgrade programmes
- Latest information on the Gate LCP upgrades

... plus more of your letters and emails to Olly and all our other regular features.

