

FOR THE ATTENTION OF ALL STATION & REVENUE CONTROL STAFF

INSIDE THIS EDITION

MAY FARES REVISION

Pages 1-5 → [PAYG Expansion](#) → [Heathrow name change](#) → [NR Changes](#) → [Updated Publications](#)

IN THE NEWS

Pages 6-9 → [T&R Book Update](#) → [TSID Card Reissue](#)

ASK OLLY!

Pages 10-11 → [More of your letters answered](#)

SPECIAL FEATURES

Pages 12-14 → [Oyster Charity Boxes](#) → [November Fraud Survey](#)

PROJECT UPDATES

Pages 15-19 → [TOM/SAF](#) → [SCU](#) → [Gates](#) → [TVMs](#) → [AFM Software](#)

AND FINALLY

Page 20 → [Further Gate Upgrades](#) → [TRU10 Preview](#)

TRIVIA - [Pages 5, 15 & 16](#) - Answers on [Page 19](#)

TSID CARD REISSUE

Sunday 01 April saw the switchover to the new series of *Ticketing System Identity (TSID)* cards for around 4,200 LU users and Cubic technicians.

This was probably the most complex changeover we have had to implement, covering not only the magnetic swipe sign-on functionality on TOM / SAF and POMs, but on this occasion also covering CHD sign-on and the linkage to Staff Oyster cards to access QBMs, TVMs and the pink staff screens on the front of the POMs.

The changeover generally went well although there were a couple of issues affecting users of the new cards.

On [Page 7](#), we provide a blow-by-blow review of what went well and what didn't quite go to plan, together with an update on what is being done to resolve the issues that arose.

COUNTDOWN TO THE... MAY FARES REVISION

As highlighted in [TRU108](#), our main focus this month is on the forthcoming May Fares Revision and some of the major changes being implemented.

These are covered in a four page feature on Pages 2 to 5.



Make sure you stay up to date with all the forthcoming changes, particularly those relating to PAYG and Staff Oyster card availability!



OTHER KEY STORIES INSIDE

Page 6

[T&R BOOK UPDATES](#)

We provide a summary on the forthcoming update of the T&R Books, changes to format, content and some of the significant changes included.

Pages 12/13

[OYSTER CHARITY UPDATE](#)

We report on the recent presentation of the proceeds of the Oyster card donation scheme and how this will benefit the [Railway Children](#) charity.

Page 15

[NEW SCU TAKES SHAPE](#)

We update you on development of the new SCU and give you a taster of how it will look when it is deployed later this year.

Pages 17

[NEW GATELINES](#)

We take a quick look at two new gatelines recently installed as part of major station upgrades.

Page 18

[WAGS](#)

We explain the operation of First Come First Served and possible improvements to help customers.

MAY FARES REVISION

The next fares revision is scheduled to take place on Sunday 20 May. The major changes to be included are:

PAY AS YOU GO EXPANSION

The current Heathrow Connect local service between Paddington and Heathrow Airport will be taken over and operated by TfL Rail.



For fare calculation purposes Heathrow (TfL Rail) will be treated as being within Zone 6 and Travelcards including validity within Zone 6 will be valid for journeys to and from Heathrow Airport on this service.

PAYG will also be valid on this service, but journeys to and from Heathrow will be charged at a higher rate than the normal Zone 6 Peak and Off Peak fares. Standard capping arrangements will apply, so customers making a return journey off peak will make a significant saving on the current Heathrow Connect fare.

Generally all fares on the new TfL Rail service will be lower than the current Heathrow Connect fare and standard TfL discounts will apply. TfL Staff Oyster cards will be valid for free travel on TfL trains but this will not apply to GWR trains between Paddington and Hayes & Harlington.

Following on from these changes, PAYG will be expanded to include Heathrow Express services probably from September 2018.

	Peak	Off Peak
PADDINGTON to HEATHROW	£10.20	£10.10
ZONE 1 to HEATHROW	£12.10	
EALING BROADWAY to HEATHROW	£7.30	£6.00

This will be at a premium fare, which will not be included within the zonal charging arrangements or count towards Daily or Weekly caps. Journeys will be charged on a similar basis to those on Gatwick Express and the Southeastern High Speed service between Stratford International and St Pancras International.

HEATHROW T123 RENAMING

In conjunction with these ticketing changes at Heathrow the station name on tickets and elsewhere within the ticketing system will be changed to Heathrow T2&3.

The re-naming of the station is being completed progressively, the name having already been changed on the latest version of the Tube map.

(a brief) HEATHROW HISTORY	
1930-39	First operates as Harmondsworth Aerodrome
1940-45	Used as a diversion airport when nearby RAF Northolt under threat
1946	Opens as London Airport, with a terminal made of army tents.
1955	First permanent terminal (now T2) is opened by Queen Elizabeth II
1961	Oceanic building (now T3) opened for long haul flights
1968	Terminal 1 opens
1977	Piccadilly line extended to Heathrow Central
1984	Heathrow Central renamed as Heathrow T123 and a loop built to serve T4
1986	Terminal 4 opens
2008	Terminal 5 opens

The more expensive elements of the change, the replacement of station signage and train and dot matrix information will be updated at a later date.

So what has happened to Terminal 1?

Following the opening of the new Terminal 2 in June 2014 the former Terminal 1, which originally handled domestic and British Airways flights, was closed and is now only used for baggage processing.



LONDON BRIDGE

Following the completion of the major National Rail works at and around London Bridge, Thameslink services are scheduled to resume calling at London Bridge from Sunday 20 May.

The final arrangements for the acceptance of NR tickets that would not normally be accepted on LU will be withdrawn from this date. This will mean that tickets valid to and from the destination "London Terminals" will no longer be valid at:



BLACKFRIARS	CANNON STREET	CHARING CROSS	ELEPHANT & CASTLE
EMBANKMENT	FARRINGDON	LONDON BRIDGE	

Since these arrangements have been in place for several years, new posters will be supplied to the affected stations to highlight to customers that London terminals tickets will no longer be valid there after Saturday 19 May.



Please note that the long standing Inter-availability of tickets between LU and Thameslink between London Bridge, Blackfriars, Farringdon, Kings Cross and Kentish Town will continue as before.

THAMESLINK

Linked to the completion of the works at London Bridge and the restoration of Thameslink services through the station, a number of new routes will be opened up to customers with through trains being introduced from Gatwick Airport to Cambridge and Peterborough.

This will see the opening of a new tunnel connection from the Great Northern mainline just north of King's Cross to join the existing Thameslink route at St Pancras International.

Prior to the re-opening of the Northern City line between Drayton Park and Moorgate in 1976, services from stations on the Great Northern lines joined the City Widened lines (adjacent to our own Metropolitan and Circle line tracks) just east of Kings Cross, and served Farringdon, Barbican and Moorgate, via now abandoned tunnels either side of Kings Cross Mainline station. Up until the late 1970's this saw mainline diesel locomotives and rolling stock serve these stations during the morning and evening peaks.

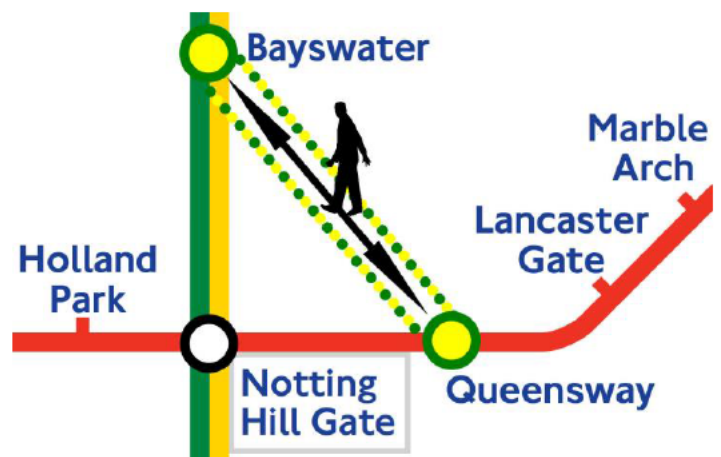
The enhanced Thameslink timetable being introduced from 20 May will also see the introduction of a number of other new services serving stations on other TOC routes.

This will mean that some through NR fares may alter as a result of these new journey opportunities, with customers being able to complete journeys without the need to change trains.

ADDITIONAL OSI

Following requests from the two areas concerned and an Ask Olly letter in [TRU106](#), an additional Out of Station Interchange (OSI) will be introduced for Oyster and contactless payment users, between Queensway and Bayswater.

Although included as part of the May Fares Revision scope issued to Cubic, this particular change will not be implemented until slightly after the main changes, due the amount of work that Cubic have to complete for 20 May.



The new OSI between Queensway and Bayswater will come into effect from the next base data load on Sunday 10 June.

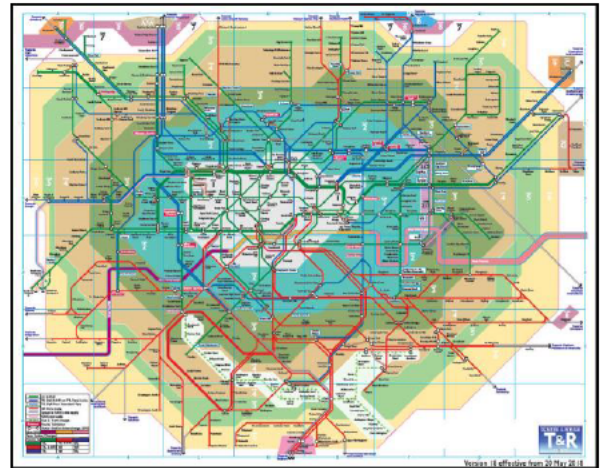
PAYG MAP

A new version of the PAYG map will be produced for the May Fares Revision, to reflect the expansion of PAYG to Heathrow and the introduction of new Thameslink services across London. The updated version will also include the new Queensway to Bayswater OSI.

Laminated copies of the new map (Version 14 - effective 20 May 2018) will be distributed to stations shortly.

Additional copies can be obtained from the T&R team ... or can be printed from the T&R section of the intranet via the link provided below.

http://luintranet.tfl/static/documents/coo/Oyster_PAYG_Map.pdf



FARES REVISION CIRCULAR

The [Fares Revision Circular](#) is normally only produced once per year to coincide with the major fares revision on the 02 January each year.

However, due to the level of changes taking place this year both on 20 May and shortly after the fares revision, an updated version will be issued for 20 May.

The revised edition will include full details of all of the new PAYG charges for the TfL Rail service into Heathrow (see feature on [Page 2](#)), revised fares to and from Watford Junction (as outlined on [Page 4](#)) together with the new Visitor tickets which are being introduced in June (see [Page 4](#) opposite).

The Fares Revision Circular will be available to download or print from Friday 18 May 2018 ([click here](#)). Copies of any of the 02 January editions should be removed and recycled.



CONDITIONS OF CARRIAGE

Changes to PAYG acceptance and the transfer of Heathrow Connect services to operate as part of the TfL rail network, means that there are a number of changes being made to the current [TfL Conditions of Carriage](#).

The updated version is effective from Sunday 20 May 2018 and can be accessed via the link above next week.

Customers requesting a copy of the Conditions of Carriage must be advised that a printable version is available on the internet at www.tfl.gov.uk or by contacting the Customer Contact Centre, who will arrange for a copy to be sent to them.



Part I – Focusing on one of the elements of the May Fares Revision....

- Q1) Before the renaming of Heathrow Terminals 1&2&3 to become Heathrow Terminals 2&3, which was the last station to be renamed?



Ticketing & Revenue
T&R
Trivia

Answers on [Page 19](#)

IN THE NEWS...

T&R BOOK REVAMP

The delayed updates to the T&R Books are due to be published at the end of May, to incorporate the May Fares Revision and other changes which are planned for June.

In an effort to reduce printing and distribution costs, it has recently been agreed that we will no longer produce hard copies of most of the current books, as most users will now be able to access the contents online, or via their iPad. This follows on from the T&R Book Contents & Glossary and the full set of T&R Book Appendices, which have only been available online for several years.

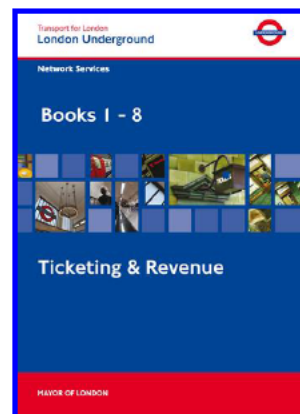
For security reasons we will continue to publish printed copies of Book 1 & Book 4. These will be distributed to each secure suite via Area Managers shortly.

The content of other books is also being revised to reduce the duplication of information. Historically Book 2 carried a lot of information for ticket office staff, whilst Book 8 included some of the same information for gateline staff. The revised editions will be:

Book No.	Title	Issue No.	
1	Security	8	■
2	LU Ticketing	15	●
3	POMs	10	●
4	Secure Suite Procedures	7	■
5	Gatelines	14	●
6	Ticket Issuing & Acceptance for Other Operators	9	●
7	Ticketing & Revenue Supervision	7	●
Contents & Glossary		10	●
Key ● Online only ■ Restricted circulation – Hard copy and online			

Since the Fit for Future Stations changes and the closure of ticket offices, the audience for both books has been the same, so within the next edition most of this information will be consolidated into one volume (Book 2) covering information on both the purchase and use of tickets etc.

This will obviously mean that in the new editions, some of the content may no longer be within the same book that it has traditionally appeared in.



Some of the major changes being incorporated in these books are:

Book	Section	Change	Comment
1	4/5/8	Expanded to include content previously within Book 5	Individual Accountability, TSID cards and Secure Suite Log Book
2	1/9	Transfer of Heathrow Connect services to TfL	PAYG extended to Heathrow via TfL Rail services
2	1	Inclusion of trial of 2 & 3 Day Visitor tickets	(Commences 24 June 2018)
2	4	Updated with 26-30 Railcard and Digital versions of NR Railcards	
2	5	Updated versions of Privilege Travel documents	
2	Various	Expanded to include content previously within Book 8	Magnetic ticket, Oyster and ITSO acceptance
3	Various	Inclusion of LU TVM procedures	
3	2	Amended POM Refund arrangements	
3	3	Expanded to include content previously within Book 5	Methods of payment, POM bank card acceptance
3	4	Change to procedures for replacement of ticket rolls	
3	8	Clarification of failed POM refund transactions	
4	5/6/14	Expanded to include content previously within Book 5	TOM processes, Miscellaneous transactions, Invalid currency collected by BTP
4	6	Update procedures for processing authorised charity collections	
4	8	Revised procedures for storage and despatch of completed Oyster Registration forms	
5		New Book covering gateline content previously within Book 8	
6	14	Updated with new digital format Britrail Pass	
6	17	Inclusion of Police ITSO cards	
7	5/6	Expanded to include content previously within Book 5	Retention of records, Stock control and Lost Property
7	6	Revised arrangements for dealing with bank cards and Oyster cards as Lost Property	

TSID CHANGE - WHAT HAPPENED?

What went well?



As stated in our lead item on [Page 1](#), the changeover to the new series of TSID cards generally went well, with most areas ensuring that all of their staff had received their new card ready for the changeover on the night of Saturday 31 March / Sunday 01 April.



It was the first time that a changeover had been completed whilst night tube services were operating and instructions were given not to service POMs or use the CHD during the period the changeover was taking place.

It was also the first time we had attempted such a large scale change to the CHD user database, with Scancoin successfully adding each user's new TSID card and mapping their existing CHD PIN to their new account. This was done to allow an initial sign-on with their existing PIN, before being forced to change it.

However, some users did not follow these instructions and were initially unable to sign onto the CHD when attempting to use their new TSID card PIN.

What didn't go so well?



The major issue encountered was that during initial testing, once the new 18-series range had been loaded to devices, it was found that a couple of cards were not recognised when used on the back of POMs, but worked on all other devices.

From these, Cubic very quickly identified that a total of around 800 cards had the same coding issue, approximately 400 of which had already been issued.

Subsequent investigations into the reasons behind the failure of these cards has established that a number of years ago, a change was made to the software within POMs, that determines the acceptable ranges of card based on a security coding. This change was not made on the TOM or SAF software and was not picked up when the new cards were formatted. Hence cards worked correctly on the TOM and CHD, but were not recognised on the back of the POM.

Arrangements were made for replacement cards to be issued to all staff affected by this issue, immediately after Easter. Defective cards need to be returned to the T&R team via Cover Group Admin offices.

Aside from this fairly major problem, there were a few issues caused by users deactivating their new cards. We have previously reported on an ongoing system issue which causes cards to repeatedly deactivate, due to local blacklists held within individual devices not clearing as they should.

Cubic have made steps to resolve this issue by forcing a blacklist table load after End of Day processing has been completed, but although this has improved matters, it hasn't completely cured the problem.

A permanent fix will be included within forthcoming device software upgrades, but this will have to be done one device type at a time. In the meantime if you should accidentally deactivate your TSID card, please be patient as it may take us a couple of attempts to get it working everywhere.

JOURNEY RESOLUTION

We haven't run a "Mythbuster" feature for a while, but recent feedback from a number of staff highlighted some confusion over perceived changes to the rules covering the resolution of incomplete PAYG journeys.

The MYTH	Gateline staff are no longer required to resolve fares for customer journeys, as this is now done only by CSS and CSM grades?
The TRUTH	Any TSID card or CSID holder can resolve an incomplete journey on a POM in accordance within the instructions within T&R Book 2 Section 10.



IN THE NEWS...

REGISTRATION FORM CHANGES

Changes in data protection legislation under the new General Data Protection Regulation (GDPR) effective from 25 May 2018, mean that the current version of the Oyster Registration form cannot be given out after the new regulations come into play.

As a result all stocks of the current leaflet titled "Register your Oyster card", dated September 2014 and any older versions of the form which may still be in circulation, must now be destroyed.

Please check all drawers and storage areas within secure suites, as we do not want any non-compliant forms to emerge at a later date.

A small quantity of a revised Oyster Registration form also titled "Register your Oyster card", but dated January 2018, with a code 01/18 on the top right will be delivered to each LU station for use should a customer need to register an Oyster card to have a discount entitlement added to their card. The new version is probably easily distinguished by a change to the colour of the section inside, containing the company privacy statement (as illustrated in the red highlighted section below).



Oyster card registration form 01/2018

Please complete this form writing clearly within the boxes in BLOCK CAPITALS using blue or black ink and return it to any Oyster Ticket Stop, Tube or TfL Rail station or most London Overground stations.

1. Personal details (please complete all sections, marking X where appropriate)

Mr ☐ Ms ☐ Miss ☐ Ms ☐ Other ☐

First name Middle initial(s)

Surname/family name

Address

Town/City Postcode

2. Email address

Email. Please provide in BLOCK CAPITALS, giving punctuation and @ signs their own spaces

3. Phone

Daytime phone number (including area code) Mobile phone number

4. Password (please complete all sections, marking X where appropriate)

To help us identify you, please choose one of the categories and enter your password in the space provided below. Your answer must not exceed 18 characters.

1 ☐ Your mother's maiden name 2 ☐ Memorable date (ddmmyy) 3 ☐ Memorable place

Enter your password below (do not use spaces or punctuation)

5. Agreement

I agree that the issue and use of this Oyster card is subject to Transport for London's Conditions of Carriage. Copies are available at tfl.gov.uk/terms at any of our ticket outlets or by calling TfL Customer Services on 0345 222 1234.

Where this Oyster card is issued by and is valid for use on another operator's services, the Conditions of Carriage of that operator will apply in relation to travel on its services. Copies may be obtained from those operators.

Signature Date form completed (ddmmyy)

Privacy Notice

Transport for London (TfL), its subsidiaries and service providers, will use your personal information for the purposes of customer services and administration, the provision of travel related information, customer research and fraud prevention. If you use your Oyster card in connection with National Rail products or services, or London River services you will also be authorising TfL to share your personal information with relevant Train Operating Companies (TOCs) and river service operators so that they can use it for the same purposes. Your personal information will be properly safeguarded and processed in accordance with the requirements of privacy and data protection legislation. Further information is available at www.tfl.gov.uk/privacy.

In certain circumstances, TfL, relevant TOCs and river service operators may also share your personal information with the police and other law enforcement agencies for the purposes of the prevention or detection of crime. TfL may also contact you about our offers and promotions, please mark X here if you would like to receive this information ☐

TOCs and their subsidiaries, whose services you have used, may contact you about their offers and promotions. Please mark X here if you would like to receive this information ☐

For office use only

Staple copy of receipt on the dotted line overleaf

Oyster card number Date form received (ddmmyy)

Outlet code User ID

Although a small quantity of the new forms will be delivered to stations, please remember that the best way for customers to register and protect their card is by registering via an online account.

Once they have done this, on production of proof that they have registered the card online, the registration flag can be set on the appropriate Oyster card. The registration flag can be set on the card via the pink staff sign-on screens on the POM. The customer will need to enter their Password and postcode when requested

From 20 May 2018 the process for registering an Oyster card at an LU station and for handling completed registration forms will change.

The most significant change is that any completed forms must now be sealed within a multi-safe bag, and deposited in the safe at the end of your shift. Previously completed forms were left within an open bag inside the secure suite, until sealed by the consolidator immediately before the next security collection. This change in procedure prevents any customer's personal data being seen by others.

Unfortunately this will mean that there may be more than one bag containing Oyster Registration forms to despatch at the next collection, but it is hoped that this will only be a short term solution, before online registration is mandated and the paper registration form is withdrawn.

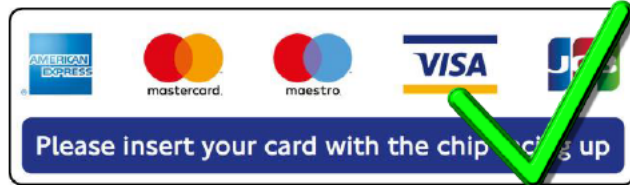
It is worth highlighting that if a customer needs to have a Privilege discount set on an Oyster card that has not previously been registered, the full registration process should be undertaken on a TOM and the appropriate discount set.

A card printout should be given to the customer so that they can see that the correct discount and expiry date have been set. The authorised Privilege PAYG Discount application form must then be placed within the TSID card holder's yellow V&C bag and not sent off as a registration form.

STICKER CHANGES

The recent completion of the final PED upgrades at Ashfield House saw the disappearance of the last of the old Chip & PIN units with their distinctive green throats.

However, although the last of these units was removed from stations last autumn, there are still a few places where out of date stickers (as shown above) are still on display.



Please check your POMs and remove any out of date stickers as soon as possible, as these give incorrect instructions to customers and include out of date card scheme logos. Replacement stickers are available from the T&R team.

If you are aware of any other POMs where the new card scheme stickers are missing or have become scratched, please email [\[redacted\]](#)

The new card scheme stickers are very much a stop gap measure. The new TVM already has the card scheme images incorporated into the POM screen display and as devices now use a common software platform, we are hoping to incorporate a similar feature into the AFM, MFM and QBM, to avoid the need for the stickers.

Unfortunately, implementation is likely to be delayed to co-ordinate the change with a planned expansion in the types of bank card that we currently accept. This should happen later this year, subject to completion of contractual discussions / agreement.

It is not just POM stickers that are changing...

In July this year, it is planned to trial a new design of sticker on gates at a number of LU stations. The six month trial period covers both summer holidays and the festive season, when many domestic visitors travel in London.

The new vinyl will be stuck over existing Oyster reader designs and then removed at the end of the trial. The trial is scheduled to run until 07 January 2019 and if successful, will hopefully be extended to all other stations at a later date.



The stations currently selected are:

ACTON TOWN	DAGENHAM HEATHWAY	PADDINGTON	WEMBLEY CENTRAL
------------	-------------------	------------	-----------------

COLLECTION CHANGES

In [TRU108](#), we updated you on the award of the new Cash in Transit contract to G4S. The new contract included a number of important changes, including revised arrangements for recovery collections, wider collection windows at central area stations and more stringent performance targets for G4S to meet.



Unfortunately implementation of these changes and of the revised schedule, following a review of current frequencies, has been delayed by a contractual dispute around the collection windows and performance thresholds in the new contract.

A number of meetings have been set up to try to resolve these differences, so we will hopefully be able to finally implement the changes from 24 June 2018.

One change that has already taken place is that change delivered to stations is now being supplied in scannable barcodes bags. Apart from allowing G4S to track individual bags, this change also avoids the need for LU station staff to have to over-bag unnumbered bags once they have been delivered, which apart from wasting bags, was clearly an additional cost to LU.

We are still working with suppliers, to identify the most efficient way to deliver complete bags of coin, rather than having coin sacheted, as most retailers prefer.



Sent: 03 April 2018 18:04
To: Ask Olly
Subject: **TSID Card Change**

Hello Olly,

In regards to the re-issuing of TSID Cards, one question not covered in the FAQ list, which is a frequently asked question between my colleagues, is why do the TSID cards need reissuing in the first place?

We cannot think of any obvious reason like faulty cards. I'm not saying the change is pointless – there must be a reason – but I cannot find any communication of this in **TRUI07** where it is first mentioned, and it's annoying to have to get used to a new TSID card number and unchangeable PIN when in the view of staff, nothing was wrong with the old cards.

The advice also said not to discard the old cards until we have tried the new cards. However, the old cards were deactivated anyway.

Could you enlighten us, Olly?

Regards,

CSA I

Hi

The reasons for the changeover to a new series of TSID cards were originally covered in [TRUI05](#) in November 2017, when the reissue process started.

Unfortunately one of the constraints of our ticketing system is that we have a restricted number of sign-on cards that can be in use at any one time. During last year it was identified with a larger number of staff now having a TSID card, our stock of cards were at a level where we would not have sufficient spare cards by about midway through the current year. As it is not possible to add cards to the range, we had to go through a process of completely reissuing cards to all holders.

The previous reissue took place in 2014, so hopefully we should be able to survive another 4 or 5 years before having to go through this process again.

Finally the reason we ask staff to retain their original card until they have successfully signed on with their new card, is to cover the situation where during the changeover process an issue is found with the new cards and we have to revert back to using the previous range. It would be a bit disastrous if we did this only to find out a large number of staff had binned their old card prematurely. We actually came close to having to do this on 01 April, but as the number of cards affected by the issue was manageable, it was decided to continue, as the process of reverting both POMs and CHDs to the 14-series would have had a greater impact on users.

Hopefully this explains the rationale behind the need to change the TSID range.

Regards

Olly Oyster

Hi

At stations like Marylebone this is one of the scenarios that staff can assist with, as it falls within the category of a recent customer error at the station.

Full details of what can and cannot be resolved are contained within the current **T&R Book 2 Section 10**.

Regards

Olly Oyster

From: [REDACTED]
Sent: 28 March 2018 17:15
To: Ask Olly
Subject: **Resolving journeys at stations**

Hi Olly

What is the procedure in resolving journey for customers on their Oyster cards, who have mistakenly touched their Oyster card rather than using their paper ticket?

Confusion lies when other station staff are still resolving journeys, which then customers get angry when you tell them you cannot resolve journeys unless there has been issue with the service.

Kind regards

CSA

From: [REDACTED]
Sent: 25 April 2018 13:34
To: Ask Olly
Subject: **Contactless Payment**

Hi [REDACTED]

If a customer touches in with their contactless bank card and then decides not to travel and then touches out, can you please explain how much they will be charged and how they can get refund a refund for this?

Many thanks,

[REDACTED]
CSA I
[REDACTED]

Hi [REDACTED]

It is very difficult to give a definitive answer on this question, as it will largely depend upon what the customer does afterwards and how long there is between their touch-in and touch-out.

For PAYG using contactless payment, the same basic rules apply as Oyster. So if the customer has a same station exit due to service disruption and then re-enters at another station within 45 minutes, they would only be charged for the following journey and the same station exit would be cancelled. The main advantage of contactless is that the decision on what to charge the customer is not made until the end of day, so a more informative decision can be made based on the whole picture, whereas at present on Oyster, the charge has to be made immediately based on the previous validations.

Any customers querying charges or asking for a refund on a contactless transaction should be referred to the Customer Contact Centre.

Sorry we can't be more definitive on this one.

Regards

Olly Oyster

Hi [REDACTED]

Unfortunately this isn't as straight forward as it may at first seem. The gates at a number of LU stations are set to accept certain NR "London Terminals" tickets as due to inter-availability between LU and NR services customers are entitled to use LU to complete their journey. An example of this would be between Kings X and Moorgate.

Although the gates can determine that a NR London Terminals ticket has been inserted and may have possible onward validity, it is not able to determine where the customer is intending to travel to. This can obviously result in a customer travelling on to Warren Street or Oxford Circus, where their ticket isn't actually valid.

With the decline in the use of magnetic tickets, it is possibly a good time to review whether we should continue this, or whether it may be better to reject them and allow the small number of customers legitimately travelling on using LU, to be manually checked and allowed in and out at their destination. The situation should improve after the forthcoming May Fares Revision, when the temporary arrangements that currently allow London Terminals tickets to be accepted at London Bridge will be withdrawn, following completion of the NR Thameslink works.

In the meantime, we have consulted with colleagues at Kings Cross, about the possible implications of changing gate settings there and we are now looking to implement a change as part of the September Fares Revision. This should hopefully reduce instances of customers mistakenly using London Terminals tickets to travel to LU stations where they are not valid.

Regards

Olly Oyster

From: [REDACTED]
Sent: 10 March 2018 22:27
To: Ask Olly
Subject: **London Terminal tickets**

Hello Olly

I have an issue that I was hoping you could help me with, please.

It's my belief that National Rail issued London Terminal tickets open LU gates (such as Euston, London Bridge etc...) if this is indeed the case, would it be possible to have this access to LU stopped.

This issue causes a number of discussions/clashes on the gateline with customers who don't want to pay any more as the gate allowed them to enter.

Regards

[REDACTED]
CSA
[REDACTED]



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: askolly@trainsforpeople.com today.



OYSTER CHARITY BOXES

On Tuesday 01 May, a presentation took place at the Infrarail exhibition at the London Excel exhibition centre of the proceeds of donations made via the Oyster Charity Donation box scheme.

This was the first presentation to **Railway Children** since March 2016 when a donation was made in conjunction with a funds matching scheme with the Department for International Development (DfID).

The latest donation of £57,001.75 covered Oyster cards donated between 2016 and April 2018 and comprised of donations made at King Cross, Liverpool Street, Heathrow T2&3 and Heathrow T4 together with two batches of cards donated by companies who had donated unwanted cards after staging events in London.

One of these was an event management company 2B-UK, who decided to support the scheme when providing Oyster Cards for American delegates attending a conference in London. Incredibly, this in itself generated almost £9,000. The other cards were donated following a previous event held at London Excel. We are hopeful that this is an area of support we can develop further having seen this level of benefit for all parties.

The breakdown of amounts raised from each location is shown in the table below.

Corporate Partnerships Manager for Railway Children told TRU that:

"This amazing amount generated through the Oyster donation scheme, will make a big difference to the lives of thousands of children through the work of Railway Children."

Station	No of cards	Ave per card	Total donated
HEATHROW	4656	£6.98	£31,276.40
KINGS CROSS	1309	£6.48	£5,336.69
LIVERPOOL ST	1816	£6.19	£9,700.76
Corporate	422	£25.33	£10,687.90
Totals	8203	£7.67	£57,001.75

As many of you will know Railway Children fights for the children struggling to survive alone and at risk on the streets and transport networks of India, East Africa and here in the UK. These vulnerable youngsters face violence, abuse and exploitation and have nowhere to go and no-one to protect them. Railway Children races to reach them before an abuser can, makes them safe and works with families, communities and governments to keep them safe for good. Last year the charity reunited 4,647 children with their families and this recent donation from London Underground will allow them to reach even more over the coming months.

"Having seen first-hand just how much goes into the success of this scheme, it is so rewarding to see how those responsible for its ongoing operation are literally changing the lives of children every single day."



The fact that the program has so much potential for further growth is incredibly exciting and I am very much looking forward to working with both LU and TFL as a whole to help to realise this!"

In the UK, Railway Children works closely with the Department for Transport and British Transport Police to make sure our rail networks and stations are safe places for the vulnerable children that end up using them.

Often they are running away or being lured to meet someone and the charity now operates a project based in Manchester that takes referrals directly from BTP every time they spot someone they think is at risk. Railway Children's project workers then follow that up and spend time with the young person and their family to work out what led to them being in that situation and make sure they don't put themselves in danger again.

This intervention can be the turning point for many children and has been so successful in the North West that the charity has just announced the launch of a second project based in London. Set to be up and running by the end of the year, London Underground's donation will have a huge impact on the progress of the new project and could pay its running costs for six months. In this time the charity expects it would deal with at least 350 referrals and has the potential to make a huge difference to the lives of many more.





Since the inception of the scheme in late 2007, the Oyster Charity Box scheme has directly generated a staggering figure of just under £207K for Railway Children. On top of this the 2016 donation was matched by DfID who contributed a further £11.4K, meaning the scheme has actually raised over £218K to date.

A breakdown of these payments is shown in the table below.

Station	2008-10	2010-12	2013-15	DfID 2015-16	2016-18	Total
KINGS CROSS	£5,771.39	£2,454.85	£25,242.54	£3,150.00	£5,336.69	£41,955.47
VICTORIA	£91.71	£0.00	£0.00	£0.00	£0.00	£91.71
EUSTON	£385.84	£0.00	£0.00	£0.00	£0.00	£385.84
HEATHROW	£4,612.23	£40,053.00	£23,740.27	£4,914.41	£31,276.40	£104,596.31
LIVERPOOL STREET	£8,056.84	£9,349.63	£18,765.10	£3,336.33	£9,700.76	£49,208.66
Corporate	£0.00	£0.00	£0.00	£0.00	£10,687.90	£10,687.90
Total	£18,918.01	£51,857.48	£67,747.91	£11,400.74	£57,001.75	£206,925.89

As is in previous editions of TRU where we have covered donations made via our charity schemes, we thought it would be useful to give readers a flavour of some of the valuable work undertaken by Railway Children. This time we feature a case study of one of the young people that Railway Children have worked with here in the UK.



What's ahead?

Way back in [TRU94](#), we outlined plans to expand the Oyster Charity Box scheme. progress has been somewhat slow and damage to some of the existing boxes we have purchased will now be used to replace boxes at existing stations.

The launch of these new boxes will also see a rebranding to make them more eye-catching to customers and move away from the previous blue Oyster card design.

This will hopefully reduce the number of cancelled cards deposited in the TfL bins, as well as the number of cancelled cards after obtaining their refund from a MFM.

The good news is that after initially stalling, plans to extend the scheme to Heathrow Airport are being progressed again. The expansion of Oyster and PAYG acceptance to Heathrow via the new TfL Rail service, has also stimulated an interest in possibly also locating boxes within the Heathrow stations operated by Heathrow Express, which will be served by TfL Rail services from Sunday 20 May.

Fortunately since then, it has been decided that some of the new boxes will be used to replace boxes at existing stations rather than expanding the scheme.

Heathrow
Making ever

those who are left with a cancelled card.



TICKET IRREGULARITY SURVEY

The results of the November 2017 On-train Ticket Irregularity Survey have belatedly been published by the TfL Transport Strategy team. This survey was conducted throughout that month by RCIs, following set criteria for each line. Customers were surveyed on LU trains 7 days per week; from the first train out of a depot to the last one back in at night. A total of **27,715** customers were checked, of which **2.42%** had a ticket irregularity of one form or another.

Below we have provided a detailed line by line breakdown of the number of customers surveyed in November and listed the number of offences encountered.

For this survey two new categories were included to reflect the use of contactless payment methods and Oyster cards that did not have any valid products on them (code 36). In the survey RCIs must record what they are presented with by a customer, but outside the survey use their experience and questioning skills to ascertain what a customer intended.

Survey Date	On train irregularity	Estimated revenue loss
November 2016	2.64%	1.51%
February 2017	2.28%	1.29%
May 2017	2.22%	1.30%
NOVEMBER 2017	2.42%	1.30%
12 month average	2.31%	1.30%

Line	Best Worst	No checked	R	NT	OAM	OAD	AC	PNV	CPNA	ONP	O	Total	% Invalid
BAKERLOO		1810	3	10	4	6	2	7	1	1	4	38	2.10
CENTRAL		2778	5	18	0	8	1	12	0	0	9	53	1.91
CIRCLE		779	1	7	2	2	5	3	0	3	0	23	2.95
DISTRICT		7872	24	85	0	13	11	52	0	0	8	193	2.45
HAMM & CITY		1210	3	11	3	2	4	4	0	6	1	34	2.81
JUBILEE		1658	2	19	0	2	1	3	0	0	3	30	1.81
METROPOLITAN		2213	10	39	9	1	6	11	2	9	0	87	3.93
NORTHERN		4361	8	45	9	9	1	32	3	1	2	110	2.52
PICCADILLY		2768	0	26	1	8	5	13	0	0	4	57	2.06
VICTORIA		2266	1	25	10	11	3	15	0	0	4	69	3.05
Total (all lines)		27715	57	285	38	62	39	152	6	20	35	694	2.42
Key	R = Runners OAM = Out of Area (Magnetic) AC = Adult on Child ticket CPNA – Contactless Payment not authorised NT = No Ticket OAD = Out of Area (Oyster) PNV – PAYG not validated ONP – Oyster Card no products O = Other												

Data for contactless payments is very difficult for RCIs to collect as bank cards and applications do not show validations (touch in or touch out on gate readers). Every RCI is issued with their own Revenue Inspection Device (RID), which adds an “inspection tap” to each contactless payment method presented to them.

If the passenger did not use that method to start their journey, they will be issued with a maximum fare and where a trend of fare evasion is identified there is also the potential for a Penalty Fare or possible prosecution.

In November 2017;

- A total of 27,715 customers were checked over the course of November, a much lower number than the 49,469 survey average over the past 9 years. The reason for this is not currently known.
- the **Jubilee** line produced the lowest percentage of offenders (1.81%) and had the lowest results in 4/9 categories.
- the **Metropolitan** line had the highest rate of all lines (3.93%) and fared worst in 3/9 categories.

HOW ARE SURVEYS CONDUCTED?

- Surveys are conducted three times a year throughout the months of February, May and November.
- RCIs are issued with specific areas to conduct their survey (labelled ‘runs’) on each line.
- The survey is conducted entirely ‘on-train’, and each run is divided into times of day and areas, the principle objective being to cover all the line over the entire traffic day.
- RCIs inspect tickets for each passenger and when they come across an irregularity, the details are recorded onto a data sheet.
- All this information is then collated and reviewed by analysts in Transport Strategy and the finished results sent to relevant departments to identify trends and plan future strategy.



TOM / SAF ROLLOUT BEGINS



Following on from the Vanguard of the new TOM/SAF hardware and software at 6 LU stations:

BAKER STREET	EUSTON
EMBANKMENT	HEATHROW T2&3
LEICESTER SQUARE	LIVERPOOL STREET

and the subsequent upgrade of equipment at Stratford (Mezzanine) and Ashfield House, the go ahead has recently been given for Cubic to start the rollout to all other LU stations from the end of April.

Ahead of this, all of the Vanguard sites (above) were upgraded with an improved version of software on the night of Monday 16 April.

The new version included fixes for a couple of minor issues that had been identified at the Vanguard sites.

The rollout programme will see two stations per night equipped with the new TOM hardware and software, with installation work initially starting at the north end of the Metropolitan line on Monday 07 May and then generally concentrating on other outlying areas of the network over the following weeks. The rollout is currently due to be completed by mid- November, but we hope to be able to accelerate the rollout shortly.

As a reminder...

- KVM Switch replaced by Green and Yellow buttons on keyboard. (GREEN = TOM mode, YELLOW = SAF mode). The screen will indicate under the Cubic logo, whether the device is operating as a TOM or SAF.
- TOM no longer reports error codes for missing THU, Chip & PIN unit and customer display to SCU. Device should now appear without any error codes unless it actually has a fault.
- TOM Main Menu – Options 6 and 10 appear blank and are not available to LU users. Option 8 is now “Secure TOM”
- Sign-on to the TOM/SAF is now possible by either swiping the TSID card and entering the associated PIN, or by placing your Staff Oyster card onto the RTD and entering the TSID PIN
- Recent Refund and tenders menus have been updated to remove references to methods of payments that we no longer accept. Now only shows Cash, Debit/Credit card.
- Miscellaneous Transaction menu has been re-ordered and now appears in alphabetical order again. Please take care when using Transfer to/from cash handling Device, as these now appear adjacent to each other
- When undertaking a Transfer to the CHD the screen no longer displays an erroneous message about making a refund to the customer. The receipt produced also no longer has the word refund printed on it.
- On TOM Ticket Sales Menu, options relating to magnetic tickets now removed, leaving only F5 Refund available
- Magnetic ticket Refunds Menu, Non-ticket, 7 Day and Season ticket refund options have been removed
- Recent refund of ticket purchased by bankcard will now be processed as a cash refund
- Incorrect screen messages relating to the defunct OEP function no longer displayed when making a Oyster refund and adding PAYG to a card
- Options to create an Uncounted Cash bag and SAF option to define Float Bag Contents have been removed
- SAF Main Menu – Option 7 is blank and unavailable to users. Can no longer view or print reports from Local SAF

LAL MXIDE PU

Part 2 – We’ve mixed up the letters in these station names. Can you work them out?

Ticketing & Revenue

T&R
Trivia

(a) **KING SEABIRD**

(b) **LOCKS HER ABOARD**

(c) **NORMAN BOOTS**

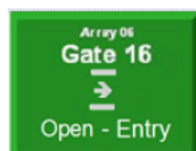
(d) **BEEN NO DRUGS**

(e) **THICK BULL RUSH**

Is there a connection?
– You decide.
Answers on [Page 19](#).

REVENUE PROJECTS

SCU UPGRADE



Gate closed due to fault



Gate paddles closed

Work has been continuing on the development of the new touchscreen Station Control Unit (SCU), with a recent workshop with Cubic's development team to try and address some of our concerns over the clarity of some of the proposed button icons. A lot of progress was made, with the addition of a text description under the icon to clarify the direction of operation of a gate, as illustrated in a couple of the examples to the left of this article.

Changes have also been made to bring the text forward in front of the diagonal lines displayed when a device is out of service (red with X across button) or in a degraded mode (amber with diagonal / symbol), again as illustrated in the examples below left.

Another area where changes have been made will affect stations that still have Manual Gates. The status of the Manual Gate (open/closed, locked/unlocked) is reported via the adjacent automatic gate and this is currently shown on the SCU via letters in the far right hand column of the relevant gates information.

In the original touchscreen SCU proposal this had been reported by a small "M" in the top right hand corner of the button for the adjacent gate, with 2 icons; one for the gate itself and the other for the Manual Gate. It was felt that this could potentially be confusing particularly if the Gate Paddles were set to open, but the Manual Gate was closed.



Gateline emergency open



WAG in First Come First Served mode



Manual Gate attached to gate in Entry mode



2018 TOUCHSCREEN SCU

Putting a gateline into Emergency Open mode will cause all of the associated gates buttons to turn pink (as shown above). The button will show the underlying mode of the gate, in the example above the gate is in entry mode.

The first step towards rolling out the new style SCU requires a further upgrade of the SC3 Station Computers (SC) already installed at these locations.

Current timescales are for the SCs at the 6 vanguard stations to be upgraded to the latest functionality towards the end of May and for the SCU Vanguard to start in late June.

Just as a reminder, the 6 Vanguard sites which will be the first to receive the new style SCU are shown in the table on the right.

Small Stations	
EAST PUTNEY	SOUTHFIELDS
Medium Stations	
EMBANKMENT	EUSTON SQUARE
Large Stations	
EUSTON	LONDON BRIDGE

Part 3 – And following a bit of an airport theme....

Q2) Which of the 6 major airports serving London, can be reached by rail using PAYG?

- | | | | |
|---|------------------|---|-----------------|
| A | London Heathrow | B | London Gatwick |
| C | London Stanstead | D | London Southend |
| E | London City | F | Luton |



Ticketing & Revenue
T&R
Trivia

Answers on [Page 19](#)

PNEUMATIC GATES TONED DOWN

We reported in [TRUI08](#), that the software deployed to stations with the older pneumatic gates had been upgraded, following the discovery that the final version used during the pneumatic gate LCP3 vanguard had not been deployed during the recent rollout. One of the most noticeable elements of this was to reduce the noise of the tones emitted by the gates for each validation.

Although a software upgrade was completed to reduce noise levels, a small number of stations still reported higher than normal noise levels. As a result a further change was implemented via a file downloaded to gates at 6 stations.



ANGEL	
BAKER STREET	Bakerloo Met
EUSTON	
GREEN PARK	
PADDINGTON (Bakerloo)	
RUSSELL SQUARE	
ST PAULS	
VICTORIA (District)	
WARREN STREET	

Although this further change reduced noise levels on gates, a number of stations continued to report high noise levels, possibly due to the acoustics of the ticket hall.

To address this and provide a more permanent solution, an updated version of Pneumatic gate software was deployed to the 10 locations listed on the left on Monday 23 April.

Following a short vanguard during which Cubic undertook further noise readings, the new software was deployed to all other stations with pneumatic gates on the night of Wednesday 25 April.

NEW GATELINES

Cubic have recently completed the installation of two brand new E2 gatelines.

The largest of these in the Victoria line ticket hall at Victoria, saw the completion of the new gateline comprising of 23 gates and 3 WAGs as part of congestion relief work.

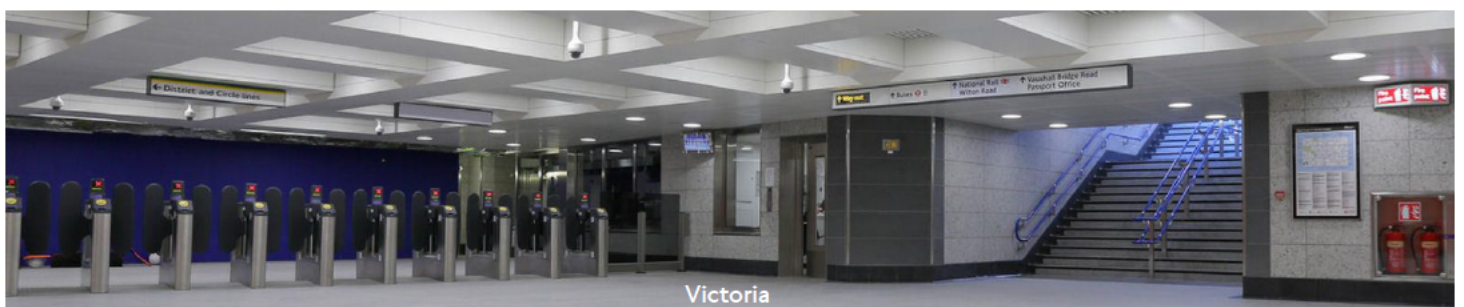
Half of the new gateline had been installed in the new section of the ticket hall, which opened in January. Once these were in use, Cubic progressively removed the pneumatic gates to allow the installation of the rest of the new E2 gateline.



Bromley By Bow

At the other end of the scale, after a period where the station operated without gates, a new E2 gateline has recently been installed at Bromley by Bow (illustrated above) as part of a scheme to install lifts to make the station more accessible to customers.

The new gates will be brought into service shortly, once scaffolding being used for other work has been removed by the project.



Victoria

REVENUE PROJECTS

A MATTER OF TIMING!!

At stations with only a single WAG on a gateline, to allow access to both customers entering and leaving the station, it is necessary to set the WAG in 'First Come First Served' mode (FCFS). At stations where there are two WAGs in the gateline, gates operate conventionally in entry and exit modes.

In FCFS mode the gate activates each card reader (RTD) in turn, polling between entry and exit every three seconds.

This means that the entry RTD will show an amber light, will then go red and the exit RTD will then show an amber light, before that goes red and the entry RTD goes amber. The exception to this is that following a successful validation, the RTD will stay available for following customers, so a flow of customers coming from the platform will be able to access one after another. There is then a 30 second countdown, before the reader goes red and the opposite RTD is activated.

It is not unusual for customers who are unfamiliar with WAG operation to struggle with validating their card, if they are not quick enough. Typically this happens when they initially see the red light or try to validate unsuccessfully and remove their card thinking the gate isn't working. They then miss the limited period that the reader is active, before it goes red again.



The solution to this is to hold the card on the reader and then wait for the gate to poll the reader. In this way as soon as the RTD is activated, the card will be validated and the gate will open.

At some stations local notices have been applied to gates to try and help customers advising the customer to hold their card on the reader rather than just touching it. Unfortunately there currently isn't a corporate sticker for this and some stations have copied the message onto gates operating in normal entry or exit mode, which is actually giving customers the wrong message.

We are currently looking at getting a corporate sticker which can be applied to all FCFS WAGs. We have also asked Cubic to investigate changing the times between the gate switching from entry to exit and vice versa. This should hopefully lead to a brief trial on a station in the near future, although it is felt that getting the gate to switch more quickly might actually make matters worse.

WAG GATE ARRAYS

Staying on the subject of WAGs, there are still a number of stations where WAGs were installed in the first phase of installations that have their WAGs arranged as part of the main gate array.

As part of subsequent installations, newer WAGs have been set up on separate arrays to the other gates. So for example, at a station with 4 gates and 2 WAGs, the gateline should be configured with the gates on 1 array and the 2 WAGs on a second array.

This arrangement allows ticket checking settings to be applied to block certain categories of ticket on the main gates, whilst allowing the WAGs to be left in normal operation, so that customers can validate in / out under supervision.

We have been looking at opportunities to modify the remaining gatelines which do not have their WAGs arranged on separate arrays, but as this required both a base data change and an engineer visit to change settings on the actual gates, it requires coordination with other works.

It is possible that this can either be completed with the forthcoming SCU upgrade, where the buttons on the new SCU will be set out in arrays, or later in the year when WAGs are upgraded with the new E2 gate lid.



LU TVM VANGUARD

Following the deployment of new Cubic Ticket Vending Machines (TVMs) at RSLU stations on the Bakerloo and District lines, the first two machines of an LU variant of the TVM were recently installed at Stratford (Mezzanine).

The two new TVMs replaced two AFMs between 15 and 19 April, but did not enter service straight away as there were a number of issues with the base data for the devices and staff at the station needed to be familiarised on the cash handling aspects of the device.

During commissioning testing, a number of issues were identified with incorrect base data being loaded, although some of these have since been resolved.

Unfortunately due to the change freeze for the May Fares Revision, it will not be possible to make the other changes needed until after 21 May. Until then, when the TVMs are not required for staff briefings, they will be left in service for customers to use in card only mode. The formal Vanguard of the new device will then begin.

Although similar to devices already installed at RSLU stations, on London Overground, and at TfL Rail stations, these will have different functionality and will interface with the SAF and LU SCU.



STRATFORD

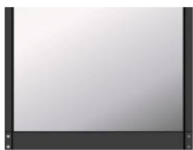
AFM SOFTWARE UPGRADE

Prior to the May Fares Revision, a planned vanguard of new AFM software on 6 devices had to be abandoned when the initial upgrades failed due to a fault in the way the new tables had been prepared. Two devices; AFM29 at Becontree and AFM14 at Canary Wharf were subsequently upgraded.

Initial feedback indicates that these AFMs, which had previously had high levels of error 96 faults (bank card left in PED), have been free of these faults since they were upgraded.

Station	AFM	Date
LEICESTER SQUARE	28	Thu 29 May
SOUTH EALING	29	
MARBLE ARCH	28	
NORTHOLT	29	

As a result, a decision has been taken to upgrade the remaining 4 devices which were part of the original vanguard in April. The devices listed below/right will be upgraded on the night of Thursday 24 May.



The upgrade also includes fixes for some other issues, including rectification of an issue with reporting magnetic ticket sales to the central system. To verify that this issue had been solved, it is likely that the vanguard will be extended to all AFMs at a couple of larger stations before a network wide rollout.

[Part 1](#) Q1 Shepherds Bush (Met) became Shepherds Bush Market

[Part 2](#) LAL MXIDE PU



ANSWERS TO
T&R TRIVIA

[Part 3](#) Q2 A B E Heathrow, Gatwick and London City Airports

How did you do?

GATE PADDLE SOFTWARE

Further to our article in [TRUI08](#), the trial of modified paddle control software on a single gate at Euston Square, has been successful so far and discussions are taking place with Cubic around extending the trial to a busier location and upgrading a whole gateline rather than a single gate.

It is proposed that the extended trial will take place at Stratford (North) gateline, which serves the nearby Westfield shopping centre. The site has a high throughput of customers, whilst less regular customers carrying shopping bags should provide a better test of how the software deals with instances of items being caught between the paddles.

The software trial will precede a trial of a new design of paddle later in the year. The new materials are in the process of going through a lengthy approval process including testing for fire resistance etc.



CHANGES TO GATE LIGHT BEAMS



In an effort to improve reliability and reduce gate failures, Cubic are looking to trial a modification to the positioning of the light beams which detect the movement of customers and control the opening and closing of the gate paddles.



Two sites with EI gates; Swiss Cottage and Paddington (Main) have been identified for a forthcoming vanguard, which will initially see the position of one of the light beams changed on each gate. This will then be monitored.

If successful, it is then planned to replace the full set of light beams on these gates before a potential extension to other EI sites.

We will update you on progress in future editions of TRU.

LOOKING AHEAD TO TRUI 10

In our next edition, which is due for publication at the end of June 2018 we will;

- mark the 15th anniversary since the introduction of the Oyster card
- take our customary look back at changes made as part of the May Fares Revision to see;
 - ❖ what went well and
 - ❖ what perhaps didn't go to plan
- catch up on all the various T&R projects as they resume after a short break for the fares revision
- provide you with information about other T&R news stories, and various projects on LU and elsewhere
- include a selection of our regular features.

