

# The Ticketing & Revenue Update #111

JULY / AUGUST 2018

For the attention of all Station and  
Revenue Control Staff



## INSIDE THIS EDITION

### IN THE NEWS

Pages 2-9 → [September Fares](#)  
[Revision Changes](#) → [Help for Heroes](#) → [T&R Book Changes](#) →  
[POM Consolidation](#) →  
[Collection changes](#) →

### ASK OLLY!

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

### SPECIAL FEATURES

Page 12-13 → [Fraud Survey](#) →  
[Gateline Revenue Loss](#)

### PROJECT UPDATES

Pages 14-19 → [TOM/SAF](#) →  
[SCU](#) → [POM Upgrades](#) →  
[SC3](#) → [Gate Upgrades](#)

### AND FINALLY

Page 20 → [TVM Update](#) →  
[Looking Ahead to TRU112](#)

TRIVIA – Pages 5, 7 & 17  
[Answers on Page 19](#)

## KEY STORIES INSIDE

Pages 2-5 **SEPTEMBER FARES REVISION**

*In readiness for the forthcoming fares revision, we provide you with a four page feature providing details of most of the major changes that are being implemented.*

Page 8 **POM CONSOLIDATION**

*We provide an overview of some projects being undertaken by Commercial Development and opportunities we are pursuing to improvement the arrangement of ticketing equipment at a number of stations.*

Page 12 **FRAUD SURVEY RESULTS**

*We bring you a summary of the results from the On Train Fraud Survey which was conducted in February and how these compare with previous surveys.*

Page 16/17 **PROJECTS COMPLETED**

*We report on the recent completion of two of our upgrade programmes covering the replacement of Station Computers and the Oyster card dispensers within each AFM.*

Page 18/19 **GATE DEVELOPMENTS**

*We update you on a number of current and future initiatives affecting our gates and their performance.*

## COUNTDOWN TO WEEKLY CAPPING

PAYG charges for customers using Oyster and Contactless Payment are generally the same. The current exception to this being that contactless users also get the benefit of a Weekly price Cap, when their spend on a fixed Monday – Sunday week reaches the price of the 7 Day Travelcard for the appropriate zones. So for example a customer travelling within Zones 1&2, would not pay more than £34.10 for their travel.

Later this year, there are plans to introduce a weekly capping system for Oyster PAYG users. This will utilise the TfL back-office systems used for contactless payments to calculate payments for Oyster PAYG users.

Implementation requires a reader upgrade so that information is shared with the TfL back-office, as well as the current Oyster card management system.



A small number of stations have already had their gate readers upgraded to allow on-system testing to be undertaken by TfL Tech & Data and Cubic. The upgrade will be applied to all other stations on Sunday 19 August in readiness for the public launch.

Until then weekly capping on Oyster will be prevented by only having a small range of test cards enabled for the facility.

The launch date for this additional facility has yet to be confirmed, but it will potentially be soon after the September Fares Revision. System limitations will mean that it will only apply to standard adult retail cards which do not have any current discounts set on them.

Once a launch date has been confirmed, further information will be supplied to stations via the TRU and the weekly [Hot Issues Bulletin](#).

# SEPTEMBER FARES REVISION

The next fares Revision is scheduled to take place on Sunday 02 September 2018.

The main changes that will be included are principally steps to prepare for the introduction of Elizabeth line services later this year.



## Additional NLC for Liverpool Street

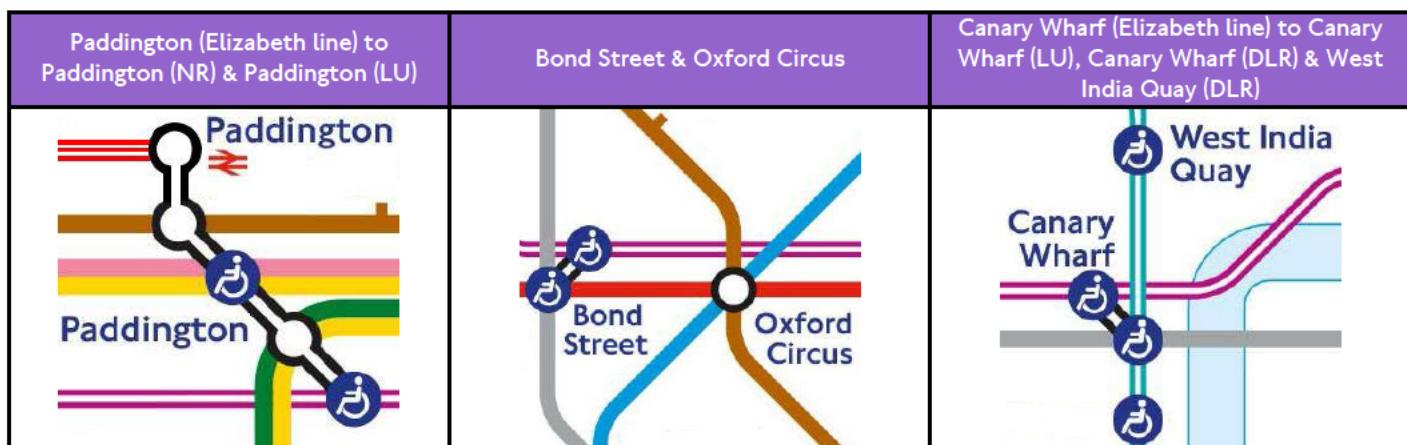


A new National Location Code (NLC) will be added at Liverpool Street (LU) to cater for additional gates and devices which will be installed in the new Liverpool Street (Broadgate) ticket hall currently under construction, but it is likely that other devices may also be migrated from the existing NLC onto this new NLC, to ensure that there is adequate capacity for the renumbering devices on the rest of the station into the correct device numbering ranges.

The new 0689 NLC will be set up for interchange to / from London Overground, TfL Rail and NR services at Liverpool Street (NR).

## OSI CHANGES

A number of additional Out of Station Interchange (OSI) settings will be also pre-loaded in readiness for the opening of the Elizabeth line, later in the year. These will include new OSIs between;



Although these will be configured as part of the fares revision changes, they will not become effective until the new Elizabeth line entrances and gatelines come into operation. Although the new Bond Street / Oxford Circus interchange is between two existing gatelines, the time allowed for customers to make the interchange between the two, will be set to be very short and therefore it will be very unlikely that any customer would be able to restart their original journey at the other station. When it opens, the new Elizabeth line entrance to Bond Street in Hanover Square will be very close to the existing Oxford Circus station and interchange between the two will be possible within the time allowed.

Whilst these new interchanges are being added, we are also taking the opportunity of removing the current OSI between Cannon Street (NR) and Mansion House. This had been put in place during reconstruction works at Cannon Street, which included periods when Cannon Street (LU) station was closed. Recent checks of journeys had established that very few journeys had actually been made using this facility with most customers using the shorter interchange between Cannon Street (LU) and Cannon Street (NR) stations.

The final OSI change will see the addition of a new "within the station interchange" at Tottenham Court Road. This will allow customers to interchange between lines at this station via the ticket hall and is being put in place in conjunction with the Elizabeth line works at the station.

To spread the level of work being undertaken by Cubic, it has been agreed that these OSI changes will be made after the main fares revision has taken place and will take effect from Sunday 23 September 2018.

An updated version of the PAYG map will be produced later in the year to include Elizabeth line services and these OSI changes.



# SEPTEMBER FARES REVISION

## FARE CHANGES

Fares data will also be pre-loaded in readiness for the opening of the Elizabeth line, which will result in changes to the "chargeable routes" and fare scales for a selected number of journeys to / from Abbey Wood.

From 02 September, customers travelling from Abbey Wood to an LU station in Zone 1 (e.g. Bond Street) will be charged on the TfL PAYG scale rather than on the NR + TfL PAYG scale, even though the journey can currently only be made using an NR train.

Fares for other journeys will also change, based on future journey opportunities once the new line opens. Unfortunately the September fares Revision is the last opportunity for us to load amended fares information onto the system before the planned start of Elizabeth line services in December. The alternative would have been to wait until the main January Fares Revision on 02 January 2019, which would have potentially meant that a large number of customers using the new services may have been overcharged as a result.



## CHANGES TO TICKET ACCEPTANCE AT KINGS CROSS

Following consultation with staff at Kings Cross (LU), changes will be made to NR magnetic ticket acceptance on all of the gatelines at Kings Cross (LU) to prevent gates from accepting NR London Terminals tickets. Currently gates at the station allow the use of London Terminals tickets to allow holders to travel by LU services to Finsbury Park, Moorgate or Old Street, as part of the inter-availability arrangements between LU and NR tickets.

Unfortunately, the downside of the current settings is that the gates allow acceptance of London Terminals tickets which have no validity on LU and allow customers to travel on to other LU stations within Zone 1 where their ticket is not valid. In many cases customers unfamiliar with London ticketing arrangements are under the impression that their ticket is valid, particularly when the entry gate accepts it. As previously documented in [TRU109](#), this frequently leads to disputes when customers are unable to exit at their destination, due to their ticket not being valid there.

Under the revised arrangements, the small number of customers who have tickets valid for onward travel to Finsbury Park, Moorgate or Old Street will have to have their ticket visually inspected and to be allowed through the gates by gateline staff.

Please note that there is no change to the validity of the actual tickets, this is just a change to gate settings at Kings Cross to prevent the London Terminals tickets from being automatically accepted by the gates. More detailed information on inter-availability and the revised gate arrangements will be supplied to staff at Kings Cross ahead of the changes being implemented.



## STAFF OYSTER CARD ACCEPTANCE

From 02 September settings on the NR gates on the main concourse leading to the South Eastern and Thameslink platforms at London Bridge (NR) will be changed to allow these gates to accept TfL Staff and Dependent Oyster cards. This change does not apply to the gateline near The Shard, serving Southern platforms.



Inter-availability between LU and NR Thameslink services means that TfL Staff Oyster card holders can travel free on Thameslink services between London Bridge, Blackfriars, City Thameslink, Farringdon, St Pancras International and Kentish Town. However, the NR gates at London Bridge had never allowed Staff Oyster cards to be accepted and any users had to manually present their Staff Oyster card to gateline staff to gain entry and exit from Thameslink services.

From September anyone wanting to use Thameslink to / from London Bridge will be able to do so without seeking assistance from staff.

Please Note – that there will be no change to the actual availability of the Staff and Dependent Oyster cards for travel on NR services.

# SEPTEMBER FARES REVISION

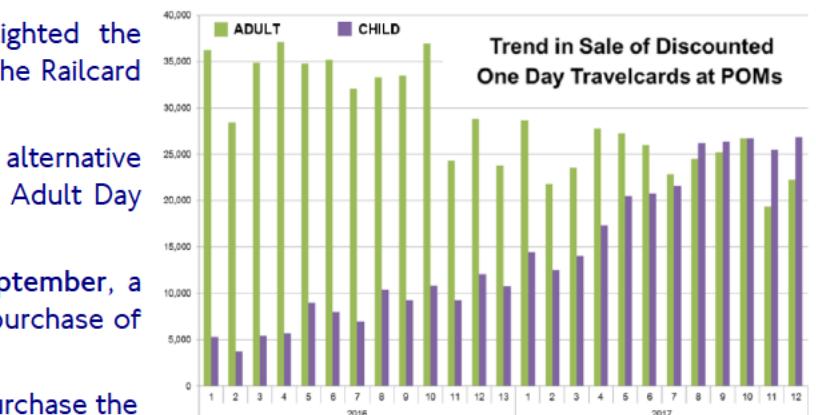
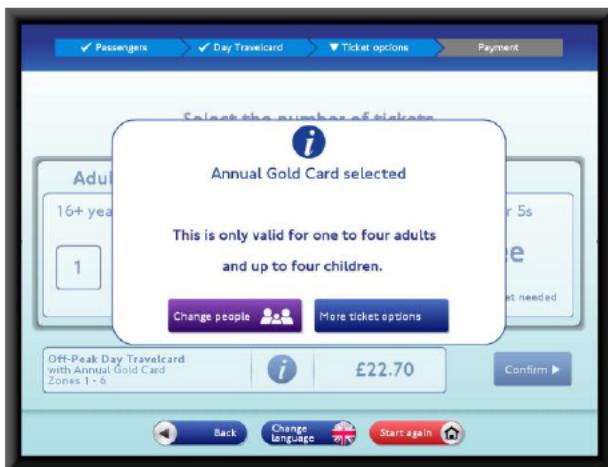
## DISCOUNTED CHILD DAY TRAVELCARD AVAILABILITY

In previous editions of TRU we have highlighted the growth in the purchase and fraudulent use of the Railcard Discount version of the Child Day Travelcard.

The ticket priced at £2.40 offering a very cheap alternative for those not wanting to purchase a full price Adult Day Travelcard or pay Adult PAYG fares.

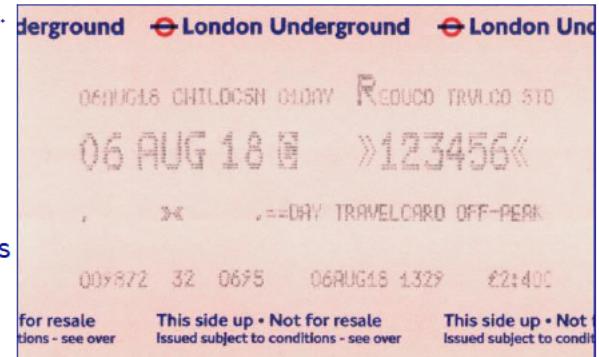
In an effort to stem these sales, from 02 September, a change will be made to POMs to prevent the purchase of a single Discounted Child Day Travelcard.

At present Annual Gold Card holders can purchase the Child version of the Discounted Day Travelcard without buying an adult ticket, whereas all other Railcard holders have to purchase at least one adult ticket.



This anti-fraud measure will mean that to obtain the child rate Discounted Day Travelcard, an adult ticket would need to be selected as well.

Whilst this will not totally eradicate the problem, it should at least partially plug this growing area of revenue loss.



## POM CHANGES

POM software will be updated to allow customers to clear a negative PAYG balance at the same time as buying or renewing a season ticket. Currently a customer, who inadvertently forgets to renew their season tickets and travels on the small amount of PAYG on their Oyster card, may end up with a negative balance at the end of their journey and is prevented from making a further journey.

However if they then purchase a new season ticket, they are still prevented from travelling until the negative balance on their card has been cleared.

This has to be done as a second transaction and if the customer wants to pay by bankcard, they are forced to load at least £5, as it is not possible to just clear the negative balance.

The change being implemented will indicate that the negative balance needs to be cleared when buying the season ticket and will allow the customer to do this in one transaction. From 02 September, this will initially only be implemented on the TVM, but it is planned that the change will then be implemented on other device types at a later date, as opportunities to update devices arise.

POMs at a small number of stations covered by [T&R Book 6](#), which sell tickets for wholly NR journeys, will be updated to allow the purchase of certain Off Peak NR tickets before 09.30. The change will allow customers to purchase and use Off Peak tickets from Ruislip Gardens, South Ruislip and West Ruislip to a number of destinations outside of London which are not subject to the normal "not before 09.30" restriction.

The destinations affected by this change are:



BICESTER VILLAGE



ISLIP



OXFORD PARKWAY

# SEPTEMBER FARES REVISION

## MORE WATFORD JUNCTION PRICE CHANGES

London North Western Railway (LNWR), who set fares to and from Watford Junction, will be making some further price changes at the September Fares Revision, having changed some fares at the last revision in May.

As has been customary with the predecessor London Midland, LNWR will be increasing the price of the Zone 1-9 version of the Day Travelcard.

Entry / Exit Charges		May-18	Sep-18	change	
WATFORD JUNCTION (set by LNWR)	Peak	Adult	£9.40	£9.40	0%
	O/Peak		£6.30	£6.30	0%
	Peak	Child	£4.70	£4.70	0%
	O/Peak		£3.15	£3.15	0%

Adult PAYG		Child PAYG		Day Travelcard (Off Peak)		Adult PAYG Daily Price cap		Child PAYG Daily Price cap	
Standard	Reduced	Standard	Reduced	Adult	Child	Peak	Off Peak	Peak	Off Peak
£9.80	£7.20	£4.90	£3.60	£18.30	£9.10	£23.80	£18.30	£11.90	£9.10

All changes are shown in red.

## STAFF FARES LISTS

As a consequence of the change to Watford Junction fares (above) and changes to through fares to some other TOC destinations, a new set of Staff fares lists covering NR destinations will be issued for the September Fares Revision. These will be available slightly in advance of the fares revision from the T&R Intranet site or by clicking on the link provided below.

<http://onelink.tfl.gov.uk/sites/oyster/Fares%20List/Documents/Forms/Line%20All.aspx>



As some TfL fares will also change as a result of the changes being made in readiness for the launch of Elizabeth line stations, Cubic will also be producing new TfL Staff fares lists. However, since a majority of the changes do not take effect until the Elizabeth line actually opens, we will not be distributing these lists until later in the year. They will however show a September effective date.

Further information will be provided in future editions of TRU.

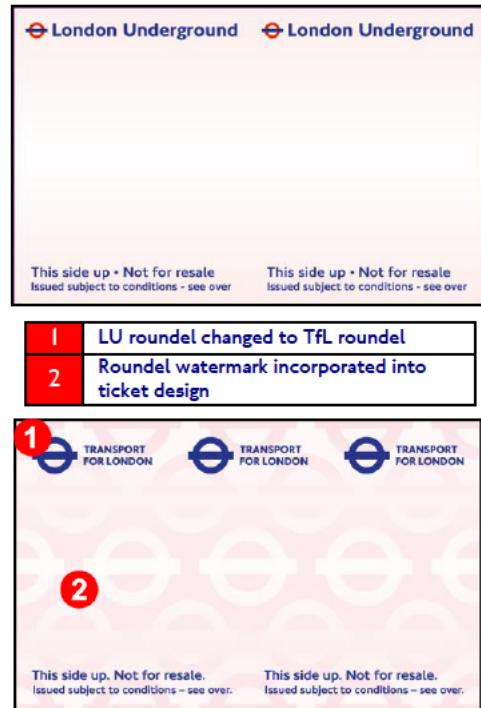
## NEW TICKET STOCK ROLLOUT

It is now over a year since the original launch of a new design of pink ticket roll stock was deferred, due to the huge stocks of the current stock which had accumulated at stations around the network.

After a year of reallocating stock and gradually running down these stockpiles, we have now reached the point where we can start deploying the new stock to stations. The new stock will initially be supplied to low usage stations, with high volume central London sites continuing to be supplied with the existing design of ticket stock.

In this way the transition period during which tickets printed on both old and new style stock are in circulation, will be kept to a minimum. Remaining supplies of the current ticket rolls will then be redistributed, to speed up the process of moving all stations to the new design of stock.

From the start of July, stations will begin to see the first of the new style tickets in circulation.



Part I – Picking up the Fares Revision theme about Discounted Day Travelcards...

Q1) Which NR Railcard holders can purchase discounted tickets for accompanying children?

- |                    |                    |
|--------------------|--------------------|
| A Family & Friends | B Senior Railcard  |
| C Disabled Persons | D Network Railcard |



Answers on [Page 19](#)

# In the news...

## HELP FOR HEROES COLLECTIONS

Following the use of some of our Cash Handling Devices (CHD) to process money collected at our stations during the British Legion's London Poppy Day last November, approval was also given for the money collected at selected stations during the recent Help for Heroes Collection day on **Wednesday 20 and Thursday 21 June** to also be processed through the CHD and TOM/SAF at the 25 stations listed in the table on the right.



Having processed all of the money from these stations the Financial Services Centre (FSC) will be providing a cheque to the charity for a total of £20,814.30, the whole amount collected at these stations.

Instructions for processing charity collections via the CHD are now included within the latest edition of T&R Book 4 Section 6.6. Money must not be paid in via the secure suite for any other collections or at any other locations unless authorised by the T&R team or the FSC.

Other than potentially using the CHDs to process money from the 2018 London Poppy Day, this facility is unlikely to be made available for other charity flag days, or to a wider selection of stations, as there is clearly an operational cost to us processing the money from Flag Day collections.

Station	Amount £
BAKER STREET	584.35
BANK	1,277.43
BOND STREET	635.60
CANARY WHARF	6,708.01
BLACKFRIARS	247.40
CHANCERY LANE	429.09
CHARING CROSS	625.02
EMBANKMENT	116.00
EUSTON	983.00
GREEN PARK	974.22
KINGS CROSS	908.71
LEICESTER SQUARE	284.90
LIVERPOOL STREET	1,163.74
LONDON BRIDGE	502.56
OXFORD CIRCUS	259.61
PADDINGTON	251.85
PICCADILLY CIRCUS	356.28
ST JAMES PARK	516.43
ST PAULS	381.40
STRATFORD	723.85
TOWER HILL	112.21
VICTORIA	385.78
WATERLOO	904.05
WESTMINSTER	1,482.81
Total collection	20,814.30

## NOTTING HILL CARNIVAL

**NOTTING HILL CARNIVAL**

This year the Notting Hill Carnival will take place over the Bank Holiday weekend of **Sunday 26 and Monday 27 August 2018**. To minimise incomplete journeys customers must be encouraged to touch-in and touch-out where possible and Station Aliasing, Auto-fill and Selective Auto-completion will be used at stations within the Carnival area.

**Aliasing to Notting Hill Gate – Using this facility, customers forced to travel to a station beyond their intended destination who cross a zonal boundary, will not be charged for the extra zone.**

BAYSATER	HIGH STREET KENSINGTON	HOLLAND PARK	LADBROKE GROVE
LANCASTER GATE	LATIMER ROAD	PADDINGTON	QUEENSWAY
ROYAL OAK	SHEPHERDS BUSH MARKET	WESTBOURNE PARK	

**These settings are to be applied to the following stations from the start of traffic on Sunday 26 August until close of traffic on Monday 27 August 2018.**

**Selective Auto-completion – will be applied at the stations below to ensure that any customers who are unable to touch-out when exiting will have their unfinished journey completed when they touch-in on their return journey;**

BAYSATER	EALING BROADWAY	HIGH ST KENSINGTON	HOLLAND PARK
KENSAL GREEN	KENSAL RISE (LO)	LADBROKE GROVE	LANCASTER GATE
LATIMER ROAD	MAIDA VALE	NOTTING HILL GATE	PADDINGTON
PADDINGTON (NR)	PADDINGTON (Suburban)	QUEENS PARK	QUEENSWAY
ROYAL OAK	SHEPHERDS BUSH (Central)	SHEPHERDS BUSH MARKET	SHEPHERDS BUSH (LO)
WARWICK AVENUE	WESTBOURNE PARK		

**Any customers, whose journeys are not Auto-completed, will be picked up by the T&D Operations Centre and appropriate refunds will be downloaded to these cards via the Faster Universal Load facility.**

Gates should where possible be left in normal operation and must not be powered down, as this will prevent tables been loaded to the device and may cause depletion of the device battery which is used to open the paddles in the event of a power failure.



Station staff **must not** resolve incomplete journeys which occurred between **26 and 27 August**, due to the risk of customers receiving a double refund. Customers must be advised to contact the Customer Contact Centre if they do not receive their refund automatically by **Monday 03 September 2018**.

## PTAC COLOUR VARIATION

During the process of updating the T&R Books and the images within them, it became apparent that there was a considerable variation in the colour of some recently issued TfL Privilege Travel Authority cards (PTAC).

It has subsequently become clear that a batch of cards (issued mainly to new applicants or as replacements for lost cards), have been printed on a background which is a lilac or light mauve colour, rather than the normal blue background, as illustrated in the examples on the right.

The bulk of the regular annual / bi-annual reissues of cards have been produced on the normal blue stock, but there are a small number of the lilac version now in circulation. Just to emphasise that both varieties are valid. We don't want any cards to be mistakenly withdrawn on the basis that they are not genuine.

The latest edition of T&R Book 2 has been updated to include examples of both colour variants.



## T&R BOOKS UPDATE

Although updated versions of Books [1](#), [3](#), [4](#), [6](#) and [7](#) were published at the end of May, the production of the final three books, the new Books 2 and 5, together with an updated version of the Contents & Glossary have been delayed.

Apart from the need to include both colour variants of the current TfL PTAC (as outlined in the article above) within the new Book 2, there was also some difficulty in obtaining sufficient examples of the revised format of NR magnetic ticket now being issued by a majority of NR stations within the London area.

We are hoping that the new edition of T&R Book 2 will be available in early September, followed shortly by the completely new T&R Book 5, which will include a lot of the remaining content from the old Book 8, which largely covered gateline issues.

Production of this book has been put on hold awaiting finalisation of the design elements of the new touch-screen Station Control Unit (SCU) as outlined on [Page 15](#). It is planned to publish this volume towards the end of September, to coincide with the SCU Vanguard.

Once Books 2 and 5 have been completed we will then be able to finish the updated Contents & Glossary with a new index covering all of the current books and revised sub-sections.

We are also making a minor change to [T&R Book 6](#), as the May edition was printed without an image of the Reciprocal Pass issued to Arriva Trains and Chiltern Railways staff.

**Part 2 – And following another Fares Revision change topic...**

**Q2) When are NR ticket holders permitted to break their journey at an LU station?**

- |   |   |   |  |
|---|---|---|--|
| A | When required to interchange between services                                     | B | At any station served by NR services                     |
| C | At any station on the "line of route" when making a journey wholly on NR services | D | Any LU station when using a Cross London ticket marked + |



Answers on [Page 19](#)

# In the news...

## POM CONSOLIDATION

Since ticket offices closed, there have been a number of attempts to reuse space for other purposes.

The T&R team are currently working with colleagues in Commercial Development to progress several schemes which will require relocation of some of our ticketing equipment. We are particularly keen to progress work at a number of sites where we are potentially able to consolidate POMs into one bank of devices rather than being split between two or more rooms.

The two pilot sites currently being progressed are at Oxford Circus – which will see the consolidation of the Main office devices into the current Remote POM Room and at North Greenwich – which will involve the transfer of the current POMs into old ticket office and removal of redundant manual gate, to provide more space for queuing and avoid the current bottle neck at entrance to the lift. Both of these schemes will then allow the existing POM Rooms to be used as retail units.

In a parallel piece of work at Canary Wharf, we are looking to open up a walkway between the current East and West ticket halls by relocating a number of the current gates. The scheme will also replace the current lightly used Canary Wharf (East) POM Room with a standalone QBM, allowing the reuse of a large number of the rooms in the old secure suite to be converted for retail use. This work will also result in the removal of a further two unused Manual Gates and avoid the need for the current additional NLC and interchange for the Mezzanine gateline

Following the successful completion of these sites we will then be hopefully pursuing a number of similar initiatives at other stations, including:



LONDON BRIDGE (Main)

LONDON BRIDGE (Borough High Street)

LIVERPOOL STREET (Main)

Other sites are likely to follow.

## RTD STICKER TRIAL TO RESTART

From Friday 17 August 2018 until 07 January 2019 a new design of gateline Remote Ticketing Device (RTD) sticker will be piloted at five LU stations as well as on the DLR gates at London City Airport.



Worn sticker on a gate at Paddington

An original trial in July was aborted due to a defect which saw the print wear off very easily. The new more robust stickers will be applied between Friday 17 and Monday 20 August at the stations listed in the table on the right.

The new sticker aims to combine the existing gateline signage, which currently consists of two separate vinyls displayed on different areas of the gate.

By combining the Contactless payment and Oyster acceptance details with the yellow card reader target, it is hoped to improve customer awareness of contactless acceptance being accepted at the gateline as a way of paying for travel.

The new design will be applied directly over existing yellow card reader vinyls of the duration of the pilot and the current rectangular acceptance sticker will be removed.



ACTION TOWN

BAYSWATER

DAGENHAM HEATHWAY

PADDINGTON

WEMBLEY CENTRAL

## CASH COLLECTION UPDATE

As we reported in our last edition of [TRU](#), the new schedule for cash collections and revised contractual arrangements were finally implemented on Sunday 22 July.

During the first couple of weeks we had a few teething problems, either due to details of the new schedule not being cascaded to CSAs by their local managers, or the new schedule not being correctly loaded by the relevant G4S depot.



Hopefully in the coming weeks the more flexible collection windows at a majority of stations, will enable the performance of G4S in completing collections to improve.

In the period leading up to the new schedule being introduced, we had a particularly bad period with a total of 255 missed collections over the 4 weeks.

These included a large number of instances of either consecutive collections being missed, or both the scheduled and recovery collections not being completed.

The new contractual arrangements included changes to recovery collections and to assist with this a table was sent to each area to highlight when a recovery collection will automatically happen, when it needs to be requested and when a notification of missed collection needs to be submitted. In case you have not received this, we have reproduced it below.

Nature of Missed Collection	Automatic Recovery Collection	Missed Collection Notification	Notes
G4S fail to attend site	Automatic Recovery next day	Complete Missed Collection Notification	CSM to request Recovery Collection via T&R team (if required)
G4S attend, but unable to collect (e.g. due to staff non-availability)	No Automatic Recovery	Complete Notification indicating Partial Collection	Other items collected at next scheduled collection
G4S attend and collect other items, but fault on CHD prevents notes being collected	No Automatic Recovery	Complete Notification indicating Partial Collection	CSM to request Recovery Collection via T&R team when CHD fault cleared (if required)
G4S attend but unable to take all coin bags	Change should be delivered on next scheduled collection of week, or via special visit	Complete Missed Collection Notification, indicating Change not delivered	CSM to contact T&R team for special collection if excessive amount of coin
G4S make collection, but fail to deliver change ordered	Change should be delivered on next scheduled collection of week, or via special visit	Complete Missed Collection Notification, indicating Change not delivered	
Recovery collection completed	Not applicable	Not Required	
Recovery collection not completed	Not applicable	Complete Notification indicating Missed Recovery collection	
Consecutive scheduled collections missed		Complete Missed Collection Notification	CSM to advise T&R team, who will escalate with G4S



### Some key reminders:

- Make sure you know when collections are due at the station you are working at.
- If the collection hasn't been completed by the end of the contractual collection window, ensure a Notification of Missed Collection is completed via Mi-aps.
- If the custodian arrives outside of the contractual times, every effort should be made to allow the collection to take place. However, a further notification of missed collection should be completed to highlight the time completed and what was collected.



To: Ask Olly  
Subject: Odd Oyster card balances

Hello Olly,

Can you explain how when we touch a customer's Oyster card on a POM screen and check their balance; we can sometimes get odd figures like £3.59?

All fares are now rounded up or down to 5p, so where does the odd amount come from?

Banging my head on the wall trying to think why???

Regards

Hi [REDACTED]

From time to time you do see some odd balances on customer's cards and these have generally come about in one of two ways.

On occasions customers have topped up and asked for all the money they had available (including odd pennies) to be added to their card. These occur mainly at Oyster ticket stops, but occasionally this happened when we had ticket offices, as the TOM will allow any amount to be added to a card.

Some older cards, particularly those given away to promote Oyster had an initial PAYG balance of 1p, as the machine that produced them would only issue the cards with a product or some PAYG on them. As a result when subsequently topped up and used, the balance will always have an odd 1p.

If these cards are refunded on the MFM, the machine obviously is unable to refund the exact amount, so will round the refund up to the appropriate amount. So in your example the customer would receive a refund of £3.60 plus their Oyster card deposit.

Hope this explains how these might have come about.

Regards

*Olly Oyster*

Hi [REDACTED]

Thank you for your email and query.

If the card goes into a negative PAYG balance, further use will be prevented until this has been cleared.

So to get the advantage of the Bus Hopper, the customer would need to top-up their Oyster card so that the new balance was £0.00 or more.

Further bus journeys would then be allowed within an hour of the first bus journey, without further charge.

Hope this answers your query.

Regards

*Olly Oyster*

Sent: 05 August 2018 10:00

To: Ask Olly  
Subject: Unlimited bus hopper fare

Hello Olly,

A customer asked me a question today regarding the unlimited hopper fare for the buses.

If for example, the customer's Oyster card had a £0.00 balance and they touched their Oyster card on the bus, charging them £1.50 and making their Oyster go into a negative balance. Can they still use the same Oyster to get the unlimited bus rides within 60 minutes?

Are they able to use an Oyster card with a negative balance?

Regards



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] today.



From: [REDACTED]  
Sent: 02 July 2018 14:58  
To: Ask Olly  
Subject: Failure to refund Oyster card

Hi Olly,

Today I had a customer with 4 separate Oyster cards purchased on 28th June which each had balances of less than £10. However, the MFM wouldn't refund these.

Do you know why this might be?  
(Oyster card numbers supplied to identify the transactions).

Many thanks,

Hi [REDACTED]

Thank you for your query.

The actual refund rules that are now applied by the MFMs are quite complex and take account of purchase and journey patterns.

Having followed up the particular examples you refer to, it would appear that the refunds had been blocked due to a potentially suspicious pattern of purchases. A foreign card may have been used to buy quite a few cards, on which a refund had then been attempted fairly quickly.

In such cases either get the customer to try again later, as recommended by the MFM screen, or advise the customer to contact the Customer Contact Centre who will be able to check as to why the refund has been prevented and potentially override this.

Regards

*Olly Oyster*

Hi [REDACTED]

Thanks for your email and query.

The current TOM/SAF upgrade does remove the SAF reports option and a number of other menu items that are no longer used by LU staff. The facility to view and print reports at stations was only ever designed to allow reports to be printed in the event that Finance didn't receive data and has never really been used.

We are aware that some staff had been trying to view these reports, but the information in them is only provisional and does not get finalised until after End of Day processing has taken place, so may not give a true account of transactions undertaken.

Warning messages will still be displayed so if you fail to acknowledge a POM Service, the SAF believes you have money that hasn't been remitted or a bag that hasn't been deposited, you will continue to receive a warning message when you attempt to sign off.

Regards

*Olly Oyster*

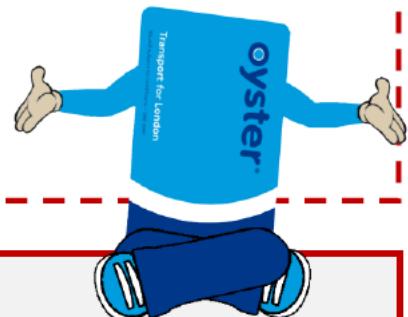
Sent: 06 July 2018 15:40  
To: Ask Olly  
Subject: New TOM/SAF software

Hello Olly,

Since the new hardware and software were loaded at Lancaster Gate station, we are no longer able to generate reports to see any potential errors/ discrepancies.

My question is whether or not the same software 'upgrade' also no longer warns you when logging off whether or not you need to transfer monies etc. (a flag used by me and others to tell you there is a discrepancy) or log a service. In the absence of the reports mechanism this log off warning was/ is an excellent way to ensure your account is all up to date and your shift's work was all logged and correct.

Many thanks.



Dear Reader,

There are always lots of things happening in the busy world of Ticketing and Revenue. With the pace of change within our organisation and others, technological innovations and improvements, and the way customers want to buy and use their tickets, it is often difficult or a bit overwhelming to keep up to date with things that are happening.

If you have a question that's troubling you or you don't know the answer to... or if you are unsure about a certain procedure... or simply interested in how or why something works the way it does... why not drop me a line?

I'll either answer you directly, or if the subject is one that your colleagues will find useful, I'll share it in future issues of the T&R Update.

To get in touch, send me an email or post me a note through the internal mail service.  
You can find my contact details at the top of page 10.

Regards

*Olly Oyster*

# SPECIAL FEATURE



## TICKET IRREGULARITY SURVEY

The results of the February 2018 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 **48,919** customers were checked, of which **2.46%** 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 February and listed the number of offences encountered.

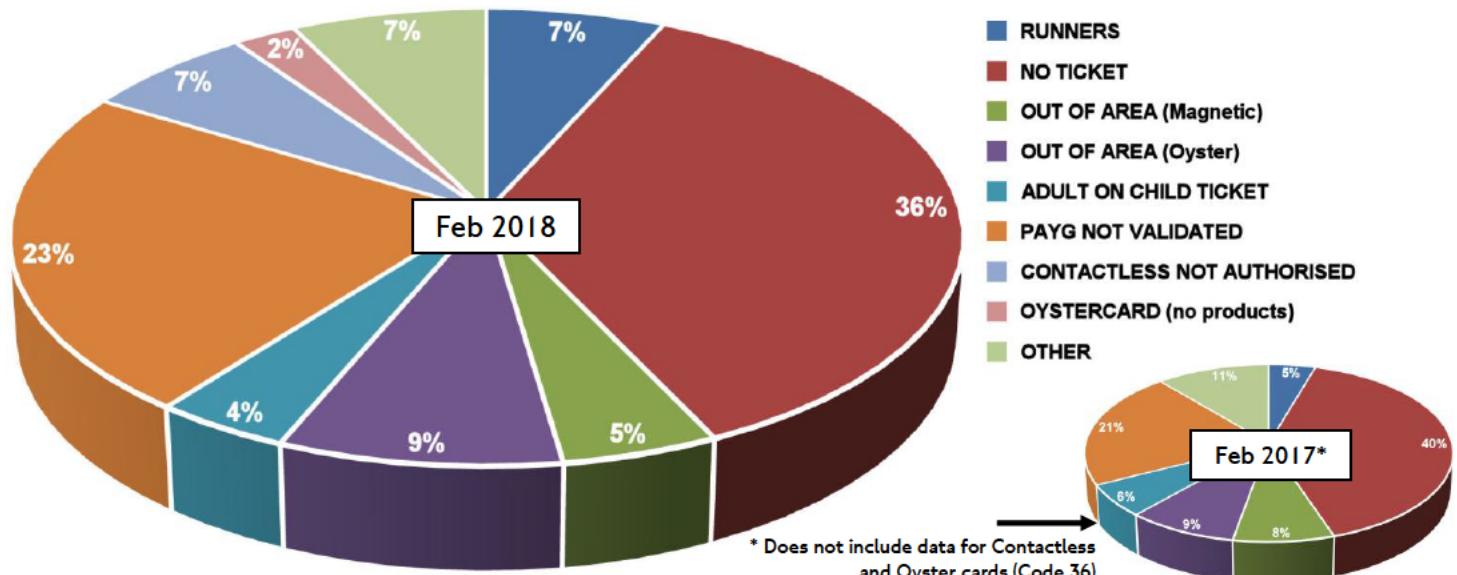
In February 2018;

- The Victoria line recorded the highest levels of irregular travel and the Northern line the lowest.
- This survey produced the highest February irregularity rates recorded since 2013 (2.47%).
- The most common irregularity continues to be “No ticket” (36% of irregularities). However this does not mean that the customer was not in possession of a ticket of some sort (e.g. someone else’s Freedom Pass), that they may have used to enter through a gateline and avoid paying a fare.

Survey Date	On train irregularity	Estimated revenue loss
February 2017	2.28%	1.29%
May 2017	2.22%	1.30%
November 2017	2.42%	1.30%
<b>FEBRUARY 2018</b>	<b>2.46%</b>	<b>1.47%</b>
12 month average	2.31%	1.36%

Line	Best Worst	No checked	R	NT	OAM	OAO	AC	PNV	CPNA	ONP	O	Total	% Invalid
BAKERLOO		4203	5	27	0	3	2	29	6	0	1	73	1.74
CENTRAL		5437	3	68	2	5	3	38	8	5	19	151	2.78
CIRCLE		2005	0	2	4	6	3	8	3	2	6	34	1.70
DISTRICT		8375	41	99	6	17	9	58	8	1	3	242	2.89
HAMM & CITY		3598	7	8	7	7	4	20	11	6	10	80	2.22
JUBILEE		2826	5	31	1	0	2	10	0	0	1	50	1.77
METROPOLITAN		6339	1	22	16	22	14	32	19	10	20	156	2.46
NORTHERN		5925	6	43	0	1	2	17	10	2	4	85	1.43
PICCADILLY		6094	3	36	3	10	4	13	6	0	15	90	1.48
VICTORIA		4117	2	55	13	23	2	25	0	0	1	121	2.94
<b>Total (all lines)</b>		<b>48,919</b>	<b>73</b>	<b>391</b>	<b>52</b>	<b>94</b>	<b>45</b>	<b>250</b>	<b>71</b>	<b>26</b>	<b>80</b>	<b>1082</b>	
<b>Key</b>	R = Runners		OAM = Out of Area (Magnetic)			AC = Adult on Child ticket			CPNA – Contactless Payment not authorised				
	NT = No Ticket		OAO = Out of Area (Oyster)			PNV – PAYG not validated			ONP – Oyster Card no products			O = Other	

The charts below show the percentage of each irregularity recorded and compares results from this year's survey with the one recorded in February 2017. Last year the survey did not include categories for contactless payments or Oyster cards that were presented for inspection without any products loaded on them (Code 36).





## FRAUD SURVEY (Continued...)

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.

## GATELINE REVENUE LOSS

You will no doubt be aware that LU's funding has been progressively cut, resulting in increased pressure to make efficiency savings and reduce expenditure. The latest fraud survey results (on Page 12 opposite) also highlight significant amounts of money that could potentially be recouped.



It is never going to be possible or cost effective to collect every penny of this and the current deterrents at our disposal will not deter the most determined of diehard fare evaders. However, there is a significant proportion which is either opportunistic or money that could easily have been collected.

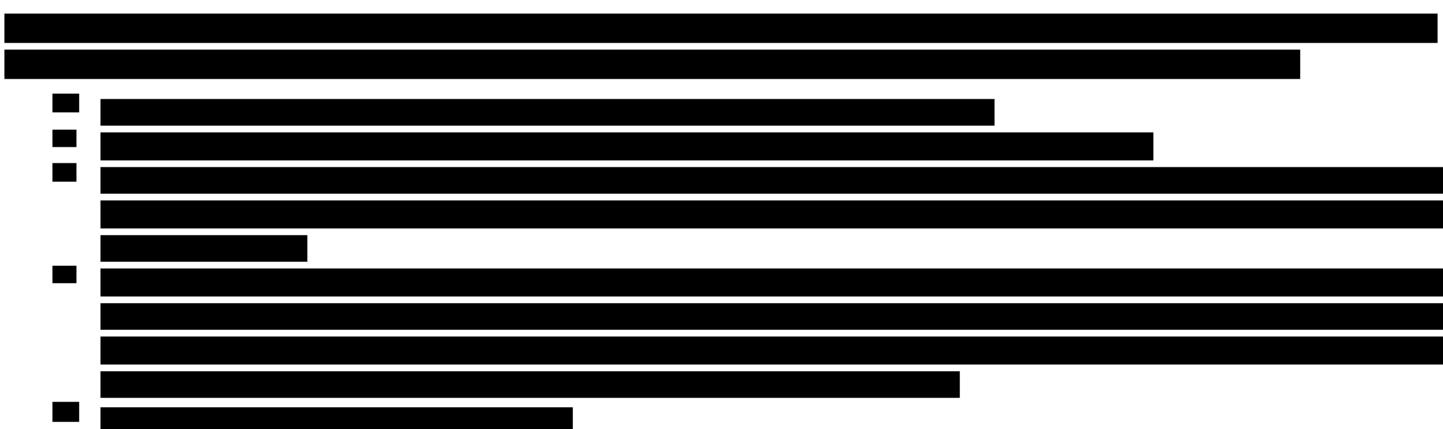
In recent months a lot of attention has been focussed on Oyster cards which have been rejected with Code 36 (insufficient PAYG) when presented on exit. On many occasions resulting in the customer not paying for a journey they have made.

Better handling of these card rejections at many locations, has seen the amount of money collected through Fare Paid tickets issued on POMs rise from £18,775 collected in the whole of the 2016/17 financial year, to £57,396 during the year 2017/18. However, already in the first 19 weeks of 2018/19, the amount collected through these transactions is already over £81,000, which exceeds the total for the previous two complete years added together.



One related issue that has been raised with us recently, is a growing number of contactless payments being rejected on exit with reject code 80. This relates to the contactless payment not being approved and like a code 36 means that the card/contactless payment would have been rejected when validated on entry. As a result like with an Oyster code 36, the customer will need to be manually charged for the journey they have just made and reminded of the need to ensure they have successfully validated at the start of their journey.

The key to capturing much of the lost revenue is good gateline management. If customers have to validate on the way in, you will not get incidents where they are unable to exit due to insufficient PAYG. It will also mean that they will potentially be charged a maximum fare even if they are able to exit at their destination without validating.



# REVENUE PROJECTS

## TOM/SAF UPGRADE

UPDATE!

As reported in [TRU110](#), we have recently accelerated the TOM/SAF upgrade programme by increasing the number of upgrades from 10 sites a week to 16 sites over a four night week (Monday-Friday). This has enabled us to use the remaining fifth shift on a Sunday night to catch up on any sites that have been missed during the preceding week or to revisit any sites where additional work has been identified. This has proved extremely useful over recent weeks and has enabled us to keep the programme on track, despite some resourcing issues.

As of Thursday 16 August we had successfully completed 214 out of a total of 283 locations and all being well, we are on target to complete the final TOM/SAF upgrades during the week commencing Sunday 09 September.

It is possible that a couple of sites will be deferred until a later date to tie in with other projects at those sites. This will hopefully avoid upgrading equipment that is subsequently replaced, or projects installing old style equipment which we then have to upgrade.

The TOM/SAF upgrade project has enabled us to reinstate a number of missing TOMs which were wrongly removed during ticket office closure works. Additional devices have been reinstated at:

KINGS CROSS (Northern)

KINGS CROSS (Western)

HOLBORN (Remote)

OXFORD CIRCUS

During the rollout we have also taken the opportunity of standardising the numbering of several TOMs, where historical numbering had left us with a TOM04 or TOM05, but no TOM01.

One issue that did occur during the rollout of the new equipment was that at a number of locations the replacement of one of the PCs required it to be reinitialised by a TSID card holders sign on. Where no TSID card holder was available during the night, this was left to be done during the day once more staff had booked on.

In a couple of cases where only the SAF PC needed re-initialisation, this went unnoticed whilst TSID card users used the new TOM PC. At Hampstead this rather strangely resulted in some very odd times being recorded for failed sales entries on the SAF Journal.



## NEW E2 GATE LID ROLLOUT

Work on the development of a new and improved gate lid for the E2 type of gate started way back in 2011 and has been regularly featured in previous editions of TRU.

An initial trial conducted on the Kings Cross (Western) gateline proved successful, but it was felt that the design could be improved by allowing the lids to self-lock without the need for a key to be used. Following further work on the design, gates at Kings Cross were updated and a further trial took place.



Following on from these two trials, Cubic have been purchasing the necessary components to allow for all of our existing E2 type gates to be updated and they will shortly be commencing a programme to modify the lids on all of the current E2 gates and WAGs to include both the new soft close feature and the self-locking mechanism.

The rollout programme is due to start on Sunday 07 October and will initially focus on stations with larger E2 gatelanes, as there is a much higher likelihood of staff accessing these gates to retrieve jammed magnetic tickets or perform resets etc. than on single WAGs at outlying stations.

This will also see a large number of gates completed quickly, as deployment at stations with WAGs will be slower, due to the amount of time needed to travel between sites.

## THE KEY POINTS



- ▶ New TOM and SAF hardware
- ▶ KVM incorporated into buttons on new keyboard
- ▶ Updated TOM and SAF software
- ▶ Redundant functions removed from menus
- ▶ Reordering of Miscellaneous transactions

## SCU VANGUARD – TAKES SHAPE

Although preparatory work for the forthcoming SCU Vanguard continues, the actual dates for the first installations to take place have now been pushed back into early September. This latest delay results from a later than expected delivery of some of the metalwork required to fit the new units within the current ticket hall SCU cabinets.

The current planned dates for the 6 Vanguard stations are:

SOUTHFIELDS	Tue 04 Sep	LONDON	Main	Sun 16 Sep
EAST PUTNEY	Thu 06 Sep	BRIDGE	BHS	Mon 17 Sep
EMBANKMENT	Sun 09 Sep	EUSTON SQUARE		Wed 19 Sep
EUSTON	Wed 19 Sep			



Work is being staggered to allow the teams completing the installation work to gain experience on some of the simpler sites, before tackling some of the more complex sites towards the end of the Vanguard.

Recent testing of the new SAF at Cubic's system test facility went well, with only some relatively minor issues identified. This testing did highlight some additional functionality that we had not been aware of, which will now require some additional work to prepare additional base data settings for each station.

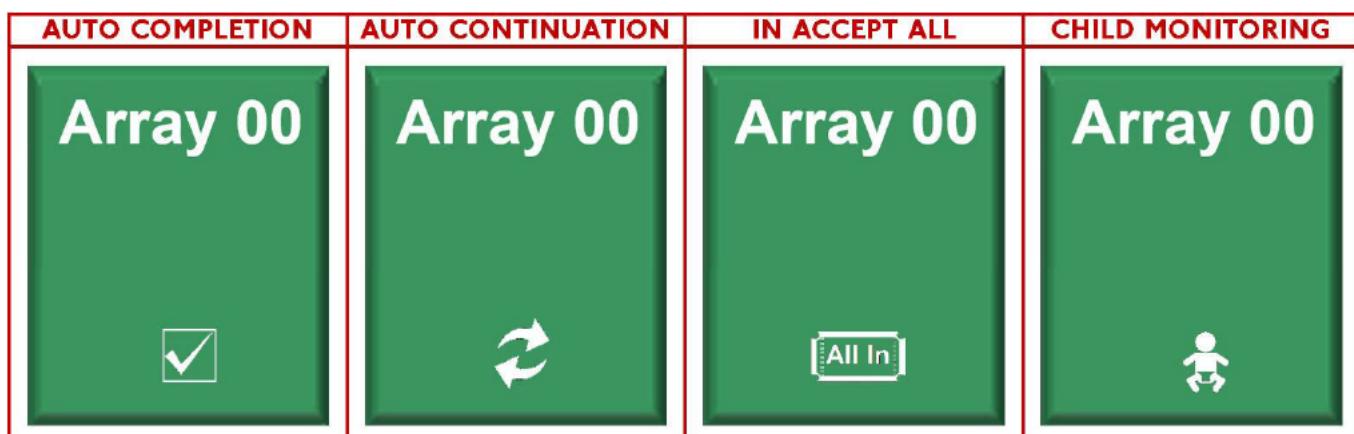
The functionality concerned allows the pre-configuration of gates into a standard set up of entry and exit gates, a set up with a larger number of entry gates to cope with predominately way-in flows during an event or at peak hours and a third setting with a larger number of exit gates to deal with heavy exit flows. As illustrated in the example below.

	Custom Gateline Setting	Maximum Entry Setting	Maximum Exit Setting
Gate 40	ENTRY	ENTRY	ENTRY
Gate 41	ENTRY	ENTRY	EXIT
Gate 42	EXIT	ENTRY	EXIT
Gate 43	EXIT	EXIT	EXIT

The advantage of these settings is that a whole gate array can be configured with the push of a couple of buttons, rather than having to set each gate individually, as we now have to. This does however mean that prior to upgrading each site we will need to confirm how we want the gateline set up.

There is one remaining area that requires some further development. This involves the Symbols used to designate the various Ticket Checking and Ticket Monitoring settings. On the current SCU screen, these are indicated by abbreviated text at the bottom of the screen, or against each of the gates affected.

The initial examples suggested by Cubic were considered to be not clear enough and in some cases the same symbol had been used on icons for more than one setting. Some examples of these icons are shown below.



### THE KEY POINTS



- ▶ Replacement of existing SCU hardware
- ▶ Modification of existing ticket hall SCU cabinets
- ▶ Removal of redundant SCU equipment
- ▶ Reinstatement of some missing SCUs
- ▶ New cabling to allow removal of current multi-link within station

# REVENUE PROJECTS

## AFM UPGRADES

Thursday 26 July, saw the completion of the upgrade programme to replace the Oyster card dispenser and Uninterruptible Power Supply units on all 591 AFMs currently in service.

The work should hopefully improve the overall performance of the AFM and its ability to shut down and recover after a power failure.



## NOW AVAILABLE IN PORTUGUESE AGAIN

Back in [TRU107](#), we reported on the temporary removal of the Portuguese language option from all AFMs, to address an issue which Cubic had believed to have caused a number of freezes on these devices.



Cubic now believe that they have cured the previous issue, which should pave the way to Portuguese language screens being reinstated on the AFM. Given the previous issues, there was some reluctance on the part of TfL's T&D team to deploy the new base data straight to all 583 AFMs. As this a global table which applies to all devices, it is difficult to have a limited vanguard restricted to a small number of devices.

Cubic have offered to manually modify the base data at 3 locations to allow a vanguard to take place, but there is only a very restricted opportunity to this before the change freeze for the forthcoming fares revision starts. It would also mean that even if we were completely happy with the change, we would now not be able to deploy the table to all AFMs until after 02 September.

It was also indicated that the temporary base data changes at the vanguard locations would have to be replaced by standard tables at the fares revision, so even these vanguard locations would temporarily lose their Portuguese screens for a short period after 02 September until the new global could be loaded to restore Portuguese to all AFMs.

AFM	MFM	QBM
Screens in Portuguese Language		
NO		YES

LIVERPOOL STREET

STRATFORD

KINGS CROSS

In the intervening period, screens in Portuguese are available on both the MFM and QBM.

## PED BLOCK REFIT

In [TRU110](#) we reported on plans to fit a modified design of block to fill the gap left by the replacement of the old design of Chip & PIN unit.

Unfortunately those plans didn't go fully to plan. Although Cubic were able to fit the modified block to one of the devices chosen (MFM31 at Piccadilly Circus), they were not able to install the block to the other device at Charing Cross (Trafalgar Square), as the block which had been drilled to accommodate the new method of fitting, was one of the original larger blocks which would not fit within the space on this particular machine.



Three of the later design of block, which are slightly smaller, have since been pre-drilled to allow one to be fitted to MFM31 at Charing Cross and for the Vanguard to be expanded to include two further devices with missing blocks at Green Park.

GREEN PARK      MFM 31      AFM 29

If the new fixing method proves successful, we will then be able to pick up the other 63 devices which currently do not have blocks in place.



## CHD SOFTWARE VANGUARD

Since the Cash Handling devices were introduced, we have had a number of instances where note jams have occurred and after successfully clearing the jam, the CHD had displayed a message indicating that money should be returned to another TSID card holder.



A recent incident where this happened at Liverpool Street following a jam during the transfer of notes into the collection sack during a demonstration for Suzohapp, established that there was in fact an issue within the CHD operating software. This arose if a previous note jam had been cleared without using the "Resolve" button on the device overview screen.



When resolve was subsequently used to rectify a later problem, the CHD retained knowledge of the previous jam and wrongly attributed the note as belonging to a deposit made by a previous CHD user.

Scancoin/Suzohapp have now produced an updated version of device software which is being trialled on the four CHDs at Liverpool Street since Monday 23 July. Devices were upgraded on site during an engineer visit site and will be monitored during the trial period, ahead of the new software being deployed to all other devices.



*If a note jam occurs whilst transferring notes from the CHD note recyclers to the Collection Sack and the "Resolve" option is used to clear the jam, any note that is rejected by the device should be recorded on the SAF as "Money Found in Secure Suite", then deposited back into the CHD and a further Miscellaneous transaction completed to record the transfer of the money back to the CHD.*

## SC3 UPGRADE COMPLETED

Thursday 26 July, saw the completion of the SC3 upgrade with the last two station computers at Stanmore and Finsbury Park being replaced.



All LU stations with the exception of Whitechapel now have the latest SC3 Station Computer. Whitechapel will be upgraded when the new ticket hall currently under construction opens in the autumn.

All of the units installed will however need to be upgraded shortly in readiness for the deployment of the new style SCU.

At the beginning of July five of the six SCU Vanguard locations had their SCs updated with a new version of software, with the upgrade of the final station (Southfields) delayed until after completion of the Wimbledon tennis tournament. We now plan to remotely deploy this latest SC3 build to all other stations shortly.

A further update of the SC3 software is scheduled to commence in October. This will include fixes for a number of outstanding faults and will also incorporate a change to the way that the SC handles the synchronisation of blacklist tables at End of Day. It is hoped that this particular change will help eradicate the long running issue that causes TSID cards that have been locally blacklisted to repeatedly be added back onto the local blacklist, preventing use of the TSID card.

LAL MXIDE PU

Part 3 – We've mixed up the letters in these station names. Can you work them out?

(a) MEGA ROOT

(b) FRONT SHIELD

(c) OTTERS LED

(d) NO TEARDROPS

(e) SURPRISING DEAL

Answers on [Page 19](#).

Ticketing & Revenue  
T&R  
Trivia

# REVENUE PROJECTS

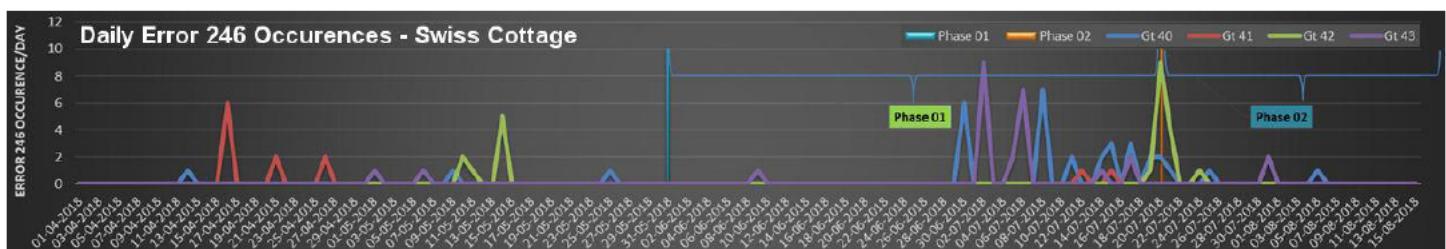
## GATE ISSUES - EI GATE BEAM UPDATE

Further to our coverage in [TRU110](#), we have recently moved to the second stage of a trial to improve the performance of the light beams on EI gates.

The beams concerned detect movement of customers through the walkway closing of the gate paddles.



In the first stage of this trial, Cubic repositioned one of the beams on gates at Swiss Cottage and Paddington (Main) ticket hall to point in a downward direction instead of upwards. In doing so it was hoped that it would reduce the amount of dust settling on the reflectors of the light beams and thereby improve their performance. The two sites selected, had previously suffered high levels of error 246 failures. Following the change made to one of the light beams in each of the EI gates at the two locations, there was initially a reduction in error 246 at both locations, most notably at Swiss Cottage, where no events were seen in the first few weeks, before failures were seen in the final weeks of the first phase.



Over three nights between Monday 16 and Wednesday 18 July we started the second phase of this trial with Cubic replacing all of the beams on each of the gates at these two sites.

A further period of monitoring is now underway at the conclusion of which these gates will receive a third modification which will see the fitting of shrouds to protect the light beams from dust.

Results of each phase will then be evaluated to determine the most cost effective way to improve gate performance.



This is very much in the early stages of development and quite a bit more work is still to be done before we would be able to take this forward as a vanguard on either type of gate. In the longer term we hope to achieve a position where this particular component is common to all gates.

## GATE PADDLE VANGUARD

Following on from the vanguard of new paddle control software on E2 gates at Stratford (North) and Euston Square, we are now planning the next stage of the planned Vanguard of the new design of E2 gate paddle.

Rather than installing the new design of paddle at the two sites where we have trialled the modified software, a decision has been taken to stage the Vanguard of the new paddles at Embankment.

This station has been selected as it has a suitable number of E2 gates to match the quantity of the new design of paddle that Cubic have ordered and it also has a fairly compact gateline with a medium throughput of customers.



Our plan is to replace all of the current E2 gate paddles with the new design, to test both their durability and performance in the field. We will not however be equipping the station's three WAGs with the new design of paddle, as the WAG paddles are considerably larger and at this stage, Cubic have confined their development work to the standard sized paddles.

Installation of the new style paddles is currently scheduled to take place in early October and they will then be monitored for a period of at least one month, before a decision is made on the suitability of the new materials.

## GATE READER RED LIGHT FREEZE

Across the network gates have from time to time been affected by an issue that causes the indicator on the RTD to show a continuous red light and prevents customers from being able to validate their cards.



Following the installation of additional logging software on E1 gates at London Bridge, Cubic have been able to extract data concerning what was happening on the gate and reader around the time this freeze occurs and from this, they believe that they have identified a possible fix. Initial indications are that under certain circumstances the reader sends a message that is not understood by the Master Module which controls the reader.

The assumption is then made that the reader may have some type of fault on it and this then causes the reader to go into an automatic restart, rendering it out of service for a period of time until a successful reset is achieved.

It is hoped that a change can be implemented on a limited number of gates towards the end of August, to see if this successfully reduces the number of freezes seen. Unfortunately, even if successful this fix will have to be removed ahead of the implementation of changes needed to facilitate weekly capping on Oyster, so that we only have one version of software in use. The change will then have to be made across the network at a later date.

## ANSWERS TO T&R TRIVIA

Q.1

A & D

Family & Friends, Network Railcard.

But also available to HM Forces and Gold Card holders

[See Page 5.](#)

Q.2

A & C

\*D customer is allowed to exit at a station on line of route,  
but will need to buy a ticket to resume their journey

[See Page 7.](#)

Pt.3

LAL MXIDE PU

[See Page 17.](#)

How did you do?

(a)

(b)

(c)

(d)

(e)

MOORGATE

NORTHFIELDS

OLD STREET

PRESTON ROAD

RUISLIP GARDENS

# ...AND FINALLY!

## LU TVM UPDATE



Although RSLU stations have had their new Cubic TVMs since last year, the LU variant is still currently in vanguard at Stratford (Mezzanine). The first two devices were installed there in mid-April and following a period of staff familiarisation and rectification of some initial problems with base data settings, they entered full service from 30 May.

Performance of these two devices at Stratford has so far been similar to that on TVMs already installed at RSLU stations and on other modes. However, the general performance of TVMs across the TfL estate is being reviewed and until such time as an improvement is seen, the Stratford devices will remain in Vanguard. It is planned to extend the vanguard and install a further two LU TVMs in the new Bond Street (Marylebone Lane) ticket hall, which currently has no ticket issuing facilities.

Detail of the sales and performance of the Stratford machines is shown below.



Once the LU TVMs have been formally accepted, we plan to replace the current MFM and AFMs within the Stratford (North) ticket hall with TVMs.



New ticket halls being built at Whitechapel and Moorgate as part of Elizabeth line works are also due to be equipped with TVMs when they open in October.



Further TVMs are scheduled to be installed in further new Elizabeth line entrances at Farringdon, Tottenham Court Road, Bond Street and Liverpool Street (Broadgate) when these ticket halls open in conjunction with the opening of the new line later this year.

TVMs are also due to be installed to replace current POMs in the existing Moorgate (Northern), Tottenham Court Road, Bond Street and Stratford (East) ticket halls.

## LOOKING AHEAD TO TRU112

Our next edition of the Ticketing & Revenue Update will be published towards the end of September and will be a combined September / October edition.

Within TRU112 we aim to include:

- A review of the September Fare Revision
- A progress update on all forthcoming projects
- A look at the ticketing aspects of the Elizabeth line
- All the latest T&R news

Plus a further selection of letters and queries from Olly's inbox and a selection of our other regular TRU features.

