

# TICKETING & REVENUE UPDATE

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Issue 120  
September / October 2019

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## OCTOBER IS CHARITY MONTH!

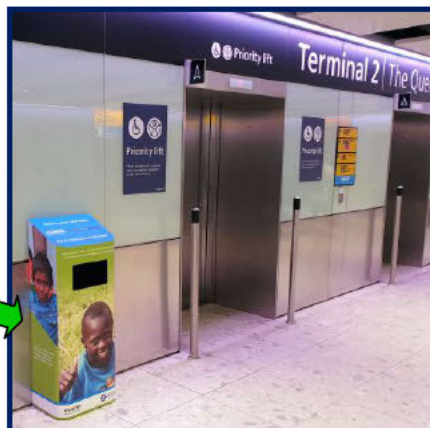
One of our key themes in this edition of TRU is our on-going support for our two nominated T&R charities.

Friday 11 October marks this year's "Make Some Noise Day", the main fundraising event for Global's Make Some Noise charity, which supports a large number of smaller charities, particularly those working with young people. →

Many of these would not normally receive the level of funding or support that some of the much larger national charities enjoy. On [Page 05](#) inside we provide further information on this year's event and how you can support it on the day.

Also on [Page 06](#) of this edition we include updates on the recent expansion of our Oyster Charity Box scheme to Heathrow Airport and the rebranding of the collection boxes on some of our Gateway stations.

Finally, on [Page 12](#) there is an update on our plans to provide an option on our POMs that will allow customers to donate the proceeds of their unwanted Oyster cards to charity, rather than receiving a cash refund.



### KEY STORIES INSIDE

#### Page 2 [FARES REVISION REVIEWED](#)

We have our traditional look back at the latest successful fares revision, plus the recent resolution of an issue identified at Stratford.

#### Page 4 [FAULT ESCALATION](#)

We outline a revised process for escalating faults on ticketing assets and provide a refresher on fault reporting.

#### Page 10 [CUSTOMER SERVICE TIPS](#)

We provided some dos and don'ts based on recent feedback from the Customer Contact Centre.

#### Page 13 [CHANGE OF ROUTE](#)

We provide updates on two recent pieces of work to re-direct transaction information between our stations and the central system.

#### Page 14 [GATE POD UPGRADE](#)

We provide an update on preparatory work ahead of the forthcoming replacement of customer displays on E1 and pneumatic gates.



# SEPTEMBER FARES REVISION

## WHAT WENT WELL / WHAT DIDN'T GO SO WELL

Yet again, it is very pleasing to report that the last fares revision which was implemented on Sunday 08 September went very smoothly. There were no reports of any LU devices not switching to their new fare tables and the only significant issue reported, was one that affected certain RSLU, Overground and TfL Rail stations.



The devices concerned were identified as not offering Extension tickets from the boundary of our zones to *Luton Airport Parkway*, *Harpenden* and *St Albans City* and were therefore wrongly advising customers with an incorrect screen message saying that they could use PAYG to travel to these stations. Which was a little premature!

This was very similar to an issue seen at Moorgate at a previous fares revision, where extension tickets were not available to a small number of Great Northern stations that were due to be included in one of the earlier expansions of PAYG acceptance. On this occasion, the September Fares Revision had included preparatory tables ready for the planned expansion of PAYG acceptance to these stations and although the necessary steps were taken to ensure that our MFM's could continue to offer customers tickets to these destinations, this was missed within the TVMs. Once the problem had been identified a fix was quickly deployed to the affected stations on the evening of Monday 09 September.

Normally that would be it until the main fares revision on Thursday 02 January, but it was recently announced that TfL would be exercising the option of a fourth fares revision on Sunday 20 October, to make some final adjustments to fares for contactless payment users ahead of the planned takeover of some GWR services between Paddington and Reading on Sunday 15 December.



This date falls between the September and January Fares Revision dates and if the changes were not implemented through an additional fourth fares revision, we would be stuck with incorrect fares until changes could be implemented as part of the main fares revision in January.

## STRATFORD GATE ISSUE RESOLVED

During fares revision testing at Stratford, it was identified that a number of gates on the main Stratford (East) gateline allowed the same ticket to be used multiple times in the same direction, rather than enforcing the standard "passback" restrictions which apply at all other gates.

The cause of this was eventually traced to code within the gate software which caused gates on one particular array at Stratford (Array 00) not to enforce "passback". This dated back to the opening of the Jubilee line extension to Stratford, when this setting was made to allow customers leaving the station from the Jubilee line platforms to exit the station through two sets of gates, without impacting upon their journey history or what they were charged.

When the Stratford (West) gateline was removed, the arrangement within the software was largely forgotten about, until as part of a device re-numbering exercise, gates were re-arranged utilising the specified array number. An interim fix was put in place as part of the first base data load following the September fares Revision, on Sunday 22 September. This allowed gates to be rearranged onto array numbers other than Array 00 designated within the gate software. Despite an engineer visit to restart the gates on their new designated arrays, subsequent tests performed at the station revealed that although most of the Stratford (East) gateline was now correctly applying the "passback" rules, certain gates on other gatelines at the station were still allowing multiple entry or exits.

This was slightly puzzling, but further investigation quickly identified that the gates still affected had not been correctly configured onto the correct arrays. A further engineer visit subsequently rectified these incorrect array settings to align with base data and all gates at the station are now processing tickets correctly.

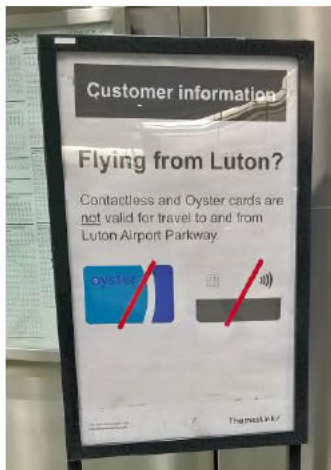
The reallocation of gates onto arrays other than "00" will remain in place until Cubic are able to implement a permanent solution by removing the offending line of code from the gate software. This is likely to be completed in conjunction with a future software upgrade.



## PAYG EXPANSIONS

Following on from the expansion of the Oyster PAYG area northwards to both Radlett and Potters Bar and the expansion of PAYG on contactless only to Brookmans Park at the end of August, further planned extensions are due to take place over the next couple of months.

The first of these is scheduled to take place on Tuesday 22 October, when PAYG acceptance for contactless payment users will be further extended on the Thameslink routes to St Albans City, Harpenden and Luton Airport Parkway. Please note that as with the previous expansion to Brookmans Park, Oyster will not be valid at any of these stations.



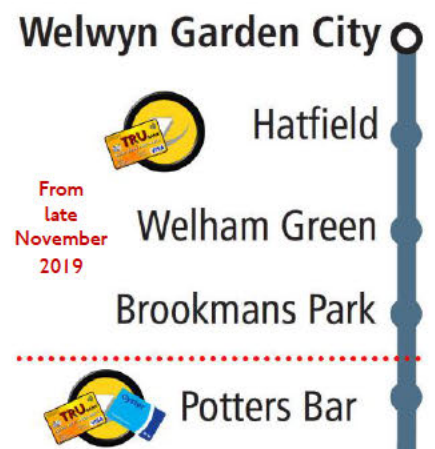
WHITEBOARD POSTER AT ST. PANCRAS THE TEXT OF WHICH WILL SOON NEED TO BE CHANGED

Following on from this, a further expansion is scheduled to take place from Tuesday 26 November, when PAYG acceptance will be extended northwards on the Great Northern route to Welham Green, Hatfield and Welwyn Garden City.

Again this will be for contactless payment users only and Oyster PAYG will not be accepted at any of these stations either.

Both of these planned expansions are dependent upon the installation of validation equipment and the upgrading of communications links to each site and delays have occurred to the implementation of previous expansions, due to aspects of this work not being completed in time.

We will confirm the dates for each extension of PAYG availability in the weekly [Hot Issues Bulletin](#).



Updates to the PAYG map will be published to coincide with these further changes. [Click here to access the current PAYG map.](#)

T&R Book Appendix 2 will also be updated to include all of the stations on these planned extensions.



It was recently announced that as part of the phased opening of the Elizabeth line, TfL will be taking over the operation of some services between Paddington and Reading that are currently operated by Great Western Railway (GWR) with effect from *Sunday 15 December*.

Ticketing arrangements for this expansion of the TfL Rail network are yet to be announced, but it is likely that in line with the other expansions of PAYG outlined above, it will only be valid for contactless payment users and not to Oyster card holders as originally thought.

The expansion westwards beyond the Zone 6 boundary at West Drayton, will mean that contactless payment will be accepted at the following stations:

The good news for Staff Oyster card holders is that their passes will be valid as far as Reading on the new TfL Rail service.

As previously stated, they will not be valid on the faster mainline services operated by Great Western.

December 2019 fares to Reading from:	Current cash fares		PAYG to be valid on	
	Off-Peak	Peak		
PADDINGTON	£20.60	£25.10	✓	✓
ACTON MAINLINE	£16.70	£18.70	✓	✓
EALING BROADWAY	£16.70	£18.40	✓	✓
WEST EALING	£15.70	£18.10	✓	✓
HANWELL	£15.30	£17.50	✓	✓
SOUTHALL	£13.70	£16.10	✓	✓
HAYES & HARLINGTON	£13.70	£14.90	✓	✓
WEST DRAYTON	£12.40	£14.20	✓	✓
IVER	£11.40	£13.80	✗	✓
LANGLEY	£10.90	£11.90	✗	✓
SLOUGH	£9.40	£9.60	✗	✓
BURNHAM	£8.30	£9.00	✗	✓
TAPLOW	£7.20	£8.30	✗	✓
MAIDENHEAD	£6.70	£7.30	✗	✓
TWYFORD	£3.90	£4.40	✗	✓
READING	-	-	✗	✓



## WHEN THINGS GO WRONG – A NEW ESCALATION PROCESS CONFIRMED

Discussions have recently been completed around a new process for escalating faults on ticketing equipment.

The previous route was for issues to be escalated via the T&D Service Operations Desk. However, their role has changed and ticketing issues have gradually been moved away from this team, with most functions relating to Cubic maintained equipment being transferred to the Cubic Global Operations Centre in Stockton on Tees. It was therefore time to set-up a new process.

The new process, which is outlined in more detail below, applies equally to ticket issuing and checking equipment maintained under the contract with Cubic and to cash handling equipment maintained by Suzohapp.

At the same time as launching the revised process, we thought that it was also a good opportunity to spell out the whole process for dealing with failures, reporting them and following up issues that have not been satisfactorily resolved.



Description	Action
Initial Fault is identified ↓	Station staff attempt to clear (actions to be taken for Gate and POM faults are outlined in <a href="#">T&amp;R Book Appendix 5</a> )
Either; 1. Station staff are unable to resolve the fault or 2. the same issue reoccurs 3 times within the same traffic day.	Report the fault to either; • Cubic Helpdesk ( ) or • Suzohapp Fault line ( )
To chase an unresolved fault	To chase the fault contact either; • Cubic Helpdesk ( ) or • Suzohapp Faultline ( )
The same fault re-occurs after initial clearance by an engineer.	1. Report the new fault to the appropriate report centre. 2. Request that they link the new fault to the original fault number
To highlight a recurring fault or the unsatisfactory clearance of a fault	1. Escalate the issues by email to " <a href="#">Ticketing Escalations</a> " mailbox 2. Information in the email must include • previous fault numbers • the nature of the faults • dates of recurrences
Escalation is raised ↓	T&D managers will raise the issue with Cubic / Suzohapp management

Escalations submitted on a weekday will generally be acknowledged and dealt with the same day. Those submitted at the weekend or on bank holidays will be processed on the next week day.

An A4 poster version of the new process will be circulated to stations for display within POM Rooms and Station Offices.

The new process will also be incorporated into the relevant T&R Books when these are next updated.

**Part I – Following on from the Stratford gateline issues outlined on Page 2...**

Q1) For how long do our gates prevent the same ticket being used in the same direction?

- |              |              |
|--------------|--------------|
| A They don't | B 2 minutes  |
| C 15 minutes | D 30 minutes |

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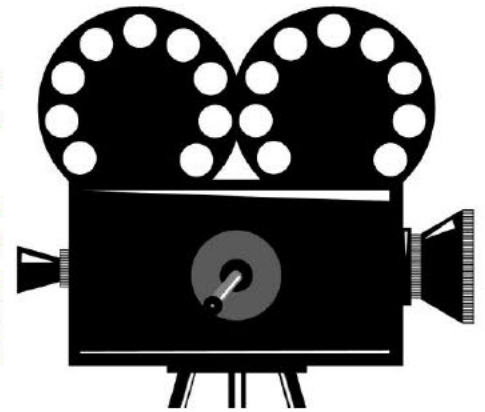
[Answers on Page 15](#)



## MOVies

There has been a lot of media coverage recently regarding this year's London Film Festival, but in this edition of TRU we bring you an update not about films, but about a different type of "movie".

For the last two or three years the T&R team have not been able to support the replacement or exchange of defective MOVie devices, since we had exhausted our stock of serviceable devices. Although MOVie devices used by NR staff received a Department for Transport (DfT) funded upgrade, to allow the devices to be able to read ITSO format smartcards, our devices were not covered by this funding.



The steady growth in ITSO card usage means that increasing numbers of these cards are being used on LU and plans to also launch sales of Single and Return tickets on ITSO will mean that there will be a much greater need for a facility to check ITSO cards at the gateline, rather than having to take the customer to a POM to check their card. This is particularly needed when NR ticket acceptance is in place to deal with service disruptions or planned engineering works, when gateline staff may be faced with large numbers of customers with tickets that would not normally be valid on LU services.

As part of a DfT funded package aimed at expanding the use of ITSO cards on NR, the TfL Tech & Data team have been putting together a submission for further funding to cover both the upgrade of the current TR3 card readers on gates and validators and the updating of LUs stock of MOVie devices, so we are better able to support the increased use of this format of smartcard on the network.



If the bid is successful, we should be in a position to get our existing devices refurbished and then have them upgraded with the latest version of software, capable of reading both Oyster and ITSO format cards next year. In preparation for this we will need to recall any remaining devices that are still sitting at our stations, whether they are working or not, so that they can be prepared ready to be sent off for repair/refurbishment once the funding has been approved.

If you still have MOVie devices at your station, please contact [redacted] of the T&R Team on Auto [redacted] who will be able to arrange for the collection of devices.

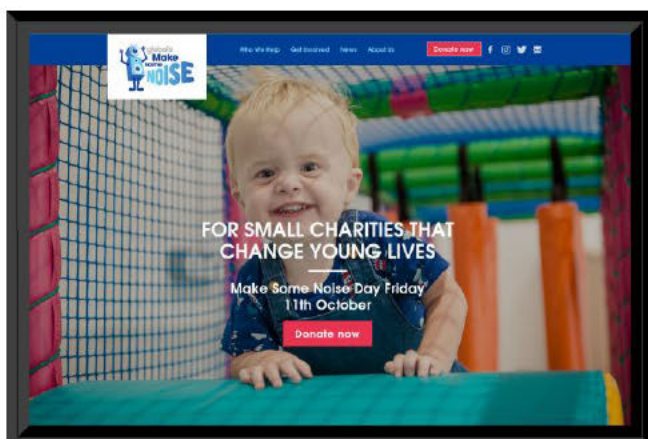
## MAKE SOME NOISE DAY

This year's annual Make Some Noise Day will be held on Friday 11 October and will be featured on each of the Global Radio stations.

The day and the events in the week leading up to it form the main fundraising day for Global's Make Some Noise charity, which aims to "give a voice to small charities that normally wouldn't be heard!"

Funds raised through the event will provide essential funding to these small local projects, which otherwise might not be able to function or would not be able to help the same level of people as they are currently able to do.

Useful web links	
<a href="#">Our website</a>	
<a href="#">About us</a>	
<a href="#">Who we help</a>	
<a href="#">Get involved</a>	
<a href="#">Video: Make Some Noise Day Best Bits 2018</a>	



Make Some Noise has been one of two nominated T&R Charities for over ten years and members of the T&R team will again be helping out on the day by manning the donation telephone lines.

If you are able to support these worthwhile causes ring in or donate online via the numbers / links provided above and below.

To donate by telephone →	0345 606 0990
To donate online →	<a href="#">Click here</a>
To donate by text ↓ ↗ →	£5 - text NOISE to 70766
£10 - text TEN to 70766	£20 - text TWENTY to 70766



## HEATHROW CHARITY BOXES TAKE OFF



As we last reported in [TRU115](#) and after almost 3 years of preparatory work, on Thursday 26 September we were finally able to launch an extension of our Oyster Charity Donation Box scheme to the four terminals within Heathrow Airport, making it quick and easy for customers to donate their card, with all credit going to the charity.

Passengers visiting or travelling through Heathrow Airport can now use their leftover Oyster Cards to help support vulnerable children through a partnership between Heathrow Airport, London Underground and Railway Children. The collaboration allows the card deposit and any remaining credit on the card to be donated to Railway Children – an international charity that fights for children alone and at risk in the UK, East Africa and India.

Following the launch of the new boxes [REDACTED] Surface Access Director at Heathrow Airport said:

**Heathrow**  
Making every journey better

*"We are proud to work with London Underground in support of Railway Children and its work to protect vulnerable children. We encourage all our passengers to travel by public transport to the airport, donate their Oyster cards and start their journey right by helping to improve the lives of children across the globe."*

Railway Children's Corporate Partnerships Manager [REDACTED] said:

*"We are so proud of our partnership with London Underground and the Oyster Card scheme, which has supported children who would otherwise be completely alone and vulnerable on the streets for just over 10 years. The expansion of the scheme to Heathrow Airport means that we will now have two of the world's most recognisable brands in terms of travel, supporting our program and will not only raise additional awareness for Railway Children and our essential work, but through the Oyster cards donated by passengers or visitors to Heathrow, will have a very real impact upon the lives of vulnerable children here in the UK, as well as in India and East Africa."*

*"When you consider that just £6 will allow us to feed a child in India three meals a day for a week, £11 could buy a new set of clothes for a child in Africa and £20 could fund an hour of support work for a UK runaway child or young person and their family, the difference Heathrow customers will be making to the lives of children and young people becomes incredibly apparent and will last long after they have left Heathrow for their destinations around the world."*

London Underground's Integration & Performance Manager [REDACTED] welcomed the expansion to the program, adding that:

*"the additional collection boxes within the airport terminals will give customers leaving London who find that they still have an Oyster card that they no longer need, an opportunity to donate their card and help the many vulnerable children that Railway Children work with."*



During October we are also looking to relaunch the Oyster Donation boxes at LU stations that are part of the existing scheme.

➔ The new style boxes will have more striking imagery, in line with that used on the Heathrow Airport box above.

Space applications have been approved for wall-mounted boxes at Heathrow 2&3, Heathrow T4 and Kings Cross. Space applications will also shortly be submitted for Liverpool Street and in parallel with these we will be hoping to expand the scheme to a couple more LU stations.

**Part 2** – The forthcoming takeover of services to Reading by TfL, will increase the number of sections of the NR network where Staff/Dependent Oyster users can travel free....

**Q1) Which sections of NR are you allowed to use your Staff Oyster card?**

- |                                       |  |
|---------------------------------------|--|
| <b>A</b> Anywhere in Zones 1-6        | <b>B</b> Finsbury Park to Moorgate     |
| <b>C</b> Finsbury park to Kings Cross | <b>D</b> Liverpool Street to Stratford |



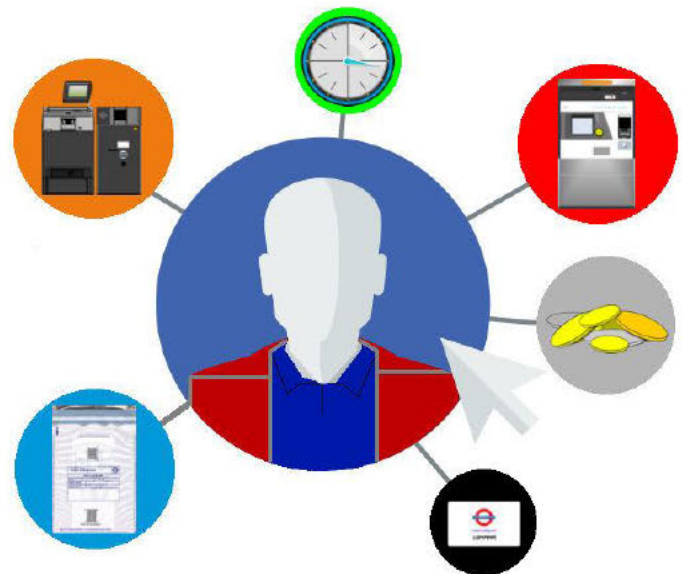
[Answers on Page 15](#)

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Trivia



## 2019-2020 PRIORITIES– PART 2

In the second of our Special Features looking at the T&R priorities for the current year, this month we turn our attention to the subject of Failed Card Replacements.



Whilst on the face of it replacing an Oyster card that isn't working might appear to be good customer service, analysis of the transactions undertaken by staff has identified a high level of card replacements taking place, whilst more detailed analysis has also identified numbers of cards that have been replaced with incorrect balances on them, which represents a potential loss of revenue.

Some recent issues that have been identified with Failed Card transactions:

- Cards being replaced where original card is still working
- Cards being replaced due to having a negative PAYG balance
- Cards being replaced, but where original card is still being used to travel
- Same Oyster card being replaced more than once
- Cards being replaced that have already been cancelled or refunded
- Cards being replaced with a higher PAYG balance than the original card

2019/20 PRIORITIES
Reducing Discrepancies
PAYG Journey resolution
Failed Card replacements
Settings Discounts
Gateline management
Ticketless travel

A number of the above failings are clearly due to CSID PIN holders undertaking transactions that they should not be doing at all. The replacement of failed cards is restricted to staff holding a TSID card, as they have access to the Staff Oyster Helpline (SOHL) or if they have completed the necessary data protection training access to the failed card portal, to be able to check the status of a card and the current balance and products on it.

One issue covered in TRU previously, that it is worth highlighting again, is that the replacement of a card by LU staff should be very much the last resort. The agreed procedures contained within T&R Book 3 clearly identify that in the event of a card failing the advice to customers should be to obtain a new card and then go online to link their old and new card, so that the balance can be transferred over via Faster Universal Load.

The facility for staff to replace a card should only be used when the customer cannot buy a replacement card and has no other means of travelling home. In other cases rather than helping the customer, we might actually make things more difficult, as in some instances the customer will still need to go online to link their new card to their online account and where appropriate transfer over any valid season ticket.

Where the Oyster card is intermittently not working but can be read by the RTD, the copy card facility available on the TOM should be used to produce a replacement card with the same details and cancel the original card within the same transaction.

So to conclude some points to remember, to ensure we are not giving revenue away:

- Don't replace cards unless they have genuinely failed and the customer is unable to travel
- Always encourage the customer to buy a new card and link it as the first option
- Where a card is replaced always ensure the card status and balance are verified first
- If a card is replaced always ensure the old card is withdrawn and despatched via the Surrendered Oyster card bag (if the customer requires their old card number to link their new card, give them the number rather than the card).





Got a ticketing and revenue related question, problem or simply noticed something you think your colleagues should know about?

Why not test the knowledge of Olly - our resident ticketing guru.



From: [REDACTED]  
Sent: 04 October 2019 08:22  
To: Ask Olly  
Subject: Contactless payment on POMS

Hi Olly,

Here at Hatton Cross, we get a lot of customers who require paper tickets and receipts for business purposes. They use a business credit card and are used to paying contactless elsewhere.

Are there any plans to introduce contactless payment on the POMS?

[REDACTED]  
CSA | Hatton Cross Area

From: [REDACTED]  
Sent: 18 September 2019 08:14  
To: Ask Olly  
Subject: Contactless on POM

Hi Olly,

TfL has any plan in near future to bring contactless on our POMs.

Regards

[REDACTED]  
CSS Hainault Area

Hi [REDACTED],

At present there are no plans to adapt POMs to process contactless payment on bankcards.

The business case for doing so is likely to be quite poor as the contactless payment card can be used directly for travel on LU and NR services within the zones.

If the customer has a TfL online account their journey history would show the journeys made and charges, to enable them to claim back their expenses.

The customer should be able to use the payment card using Chip & PIN if they need to buy a magnetic ticket.

Regards

*Olly Oyster*

Hi [REDACTED]  
Thank you for your email and for highlighting this issue.

Having made some initial enquiries, it would appear that the issue you have highlighted is a ticket coding issue which affects a number of the TfL Rail TVMs.

We are currently chasing Cubic for the timescales for this issue to be resolved.

Hopefully we will be able to provide an update in a future edition of TRU.

Regards

*Olly Oyster*

From: [REDACTED]  
Sent: 03 October 2019 07:12  
To: Ask Olly  
Subject: Code 13 on Valid Tickets

Hello Olly

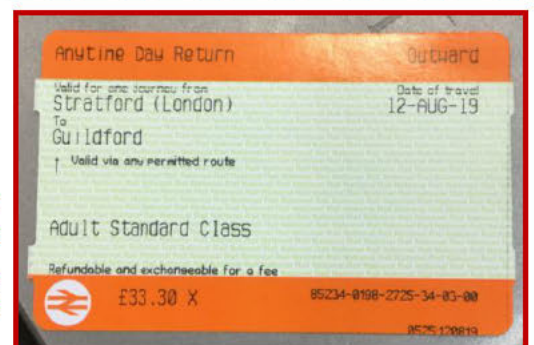
Can I please ask, the ticket in the picture is clearly valid it has the cross on the ticket, but for some reason it comes up with reject code "13".

This seems to happen all the time with tickets printed at Stratford or any of the stations along the TfL Rail line to Shenfield

Is it the machine type used or is something wrong with the tickets? It is always happening with tickets that have this font on them.

Kind regards

[REDACTED]  
Customer Service Assistant  
TMS Local Coach  
Waterloo Area





From: [REDACTED]  
 Sent: 28 September 2019 11:29  
 To: Ask Olly  
 Subject: Pink Validators

Hi Olly,

Can you answer two Questions for me?

1. Can we void PAYG charges on a customer's Oyster card who states that they avoided Zone 1?
2. Why is there not a detailed list of where the Pink readers are located at each station?

Regards

[REDACTED]  
 CSS Stanmore Area

Hi [REDACTED]

In response to your two questions.

1. Any queries regarding PAYG charges, in cases where the customer claims to have taken a different route to that which they have been charged for, the customer would need to be referred to the Customer Contact Centre, as the information displayed to you on the POM "Journey History" screen does not show you every step of the journey they have made and does not show intermediate validations which may or may not have taken place. (This actually links into a topic we have covered on our [Special Feature](#) on Page 10).

2. The stations at which Route Validators (pink validators) are located are indicted on the PAYG map.

[http://luintranet.tfl/static/documents/coo/Oyster\\_PAYG\\_Map.pdf](http://luintranet.tfl/static/documents/coo/Oyster_PAYG_Map.pdf)

Unfortunately it is difficult to provide further information on the exact location within each station, as these may change from time to time depending upon works being undertaken at the station.

The PVals are generally located in pairs on interchange routes between services that provide an alternative route at a different fare.

Hope this answers your queries.

Regards

*Olly Oyster*

Hi [REDACTED]

Thank you for your email and query.

At stations where there is an Out of Station Interchange (OSI) customers need to validate their card on both sides of the interchange in order that their journey will be recorded as one continuous journey.

If customers are allowed through without validating, they are likely to incur an incomplete journey and maybe charged incorrectly.

Where ticket acceptance is set up due to service suspensions etc. customers should be encouraged to validate as normal and those using a season ticket that are forced to take an alternative route should automatically be refunded any additional fare they are initially charged.

During engineering work or service disruption, PAYG users are always charged the appropriate fare for whatever mode or route they actually use.

Regards

*Olly Oyster*

From: [REDACTED]  
 Sent: 17 September 2019 14:26  
 To: Ask Olly  
 Subject: London Overground service disruption ticket acceptance

Hi Olly,

At Clapham North we have an OSI for London Overground from Clapham High Street. The service quite frequently goes down and then the Overground staff send customers to us telling them that they don't need to tap in to the underground as their journey will now take them through Zone 1 and they will be charged if they only have say a Zone 2-3 Travelcard.

We on the other hand are of the opinion that they must still tap in here to validate their journey and claim back any money they are charged as a result through the refund process. This causes a lot of conflict at the station with customers getting quite abusive towards us so my question is,

What is the correct procedure here? Do they need to tap in at Clapham North or do we just allow them through the gates?"

Regards

[REDACTED]  
 CSA Oval Area

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# SPECIAL FEATURE

## CUSTOMER SERVICE – DOs AND DON'Ts

From time to time in previous editions of TRU we have included guidance on providing customer service and how to deal with certain scenarios. In our recent discussions with colleagues from the Customer Contact Centre, a few issues have been highlighted where station staff attempting to deal with issues haven't always provided the customer with the best advice, or taken the correct action. Attempting to sort a problem out on the spot, isn't always the best answer, as better help for the customer can often be provided by waiting and contacting the Customer Contact Centre later. We thought it would therefore be useful to provide a few pointers, to help you point customers in the right direction, so below we have identified a few dos and don'ts to follow.

### CONTACTLESS PAYMENTS

There is very little station staff can do to check or attempt to sort out customer issues relating to contactless journeys. It is not possible to check a journey at a station and potential problems will often be automatically resolved in the back office before the customer is actually charged for a particular journey.

- Advise customers to ring the contact centre immediately
- Use an Auto phone to ring the Staff Oyster Helpline (SOHL) on the customer's behalf. **DON'T X**  
This should not happen and the staffs taking calls from the SOHL are not best placed for dealing with contactless queries.

- Tell the customer to check their online account the next day to verify what they have actually been charged. Even if they failed to touch-in or out, the missed validation may have been "auto-filled" based on their journey pattern, so they may have been charged correctly. **DO ✓**  
If not, they should be able to submit details of a missed validation to missed validation to generate an adjustment to their charge. If they need to contact the Customer Contact Centre, remind them to wait the 24 hours, otherwise the customer service agent will not be able to assist.

### OYSTER CHARGES

Where a customer has a completed journey on their card, but queries the amount they have been charged, particularly if they have been charged for a more expensive route than the one they claim to have used, there is again very little that station staff can do to resolve the issue.

- Try to void the journey or adjust the charge to what you think the customer should have been charged, **DON'T X**
- Call the SOHL to query the charge on the customer's behalf
- Tell the customer to call the contact centre immediately as ~~all transactions may not have been transmitted and~~ over-charges due to service disruption may be automatically resolved

Please note that although the journey history on the POM shows the start and end point of the journey, it does not show any interchange or route validations, so it isn't easy to tell whether the customer has validated correctly enroute. In a lot of cases that are forwarded to the T&R team to investigate, it often turns out that the customer hasn't validated on the required validator.

- Tell the customer to query any overcharge with the Customer Contact Centre if they haven't received an automatic refund within 48 hours **DO ✓**
- Remind the customer to ensure that they use the pink route validators when changing trains on a route where a lower fare would apply
- Note or take a photo of the Oyster card number, if you want to query a charge or journey history with the T&R team. Without the card number we are unable to review the exact reason a customer has been charged a certain fare.

### OYSTER REFUNDS

One final area, where we have recently had a number of queries from stations is around customers who are unable to obtain a refund on their Oyster card. The anti-fraud rules around whether a card can be refunded or not are very complex, to reflect the shifting patterns of fraud we are seeing. There may be occasions where a refund is rejected even though a card may have been bought more than 24 hours ago.

- Contact the SOHL on the customer's behalf **DON'T X**
- Tell the customer to either try again later, next day if possible **DO ✓**
- Get the customer to ring the Customer Contact Centre themselves. The agent taking the call will be able to see if the card has been blocked from obtaining a refund and explain why.



## BNR FIRMWARE UPGRADE

In the final section of [TRU119](#), we outlined an initiative aimed at improving the reliability of our MFM's fitted with Bank Note Recycler (BNR) units.

This programme didn't go exactly to plan and as we briefly outlined in our last edition, during the initial upgrade of four MFM's at London Bridge, two of the devices were found to not be accepting any £20 notes, resulting in both devices having to have their BNR units replaced. The defective units were examined on their return to the Cubic workshop and by that time one of the units was found to not accept any notes when tested.

As a follow-on it was agreed to upgrade some further devices, this time at Liverpool Street, where we encountered similar problems with two of the first three devices which Cubic attempted to upgrade. One of the devices affected had a recurring note unit fault on it which was cleared by the engineers before the upgrade was started, but given the high rate of failures at the initial two sites, a decision was taken not to continue the BNR firmware upgrade programme until the cause of the problems seen at these stations was fully understood.

Investigations which have taken place since these two incidents and reports of other devices randomly stopping accepting certain denominations of notes, have highlighted a potential issue with the heads within the BNR that read the notes that have been inserted. It currently appears that on some of the units an issue with the read head has prevented the device from being able to identify certain notes.

Apart from not delivering the improvement in device performance that we had hoped to see, there is also a potential issue around the most up to date firmware needing to be installed on the device, before it can be upgraded with the new bill set that will include the new polymer £20 which is due to enter circulation early next year. Further details of that programme appear in the article below.

Discussions are currently taking place between Cubic and the manufacturers of the BNR unit concerning these firmware issues and how the £20 note upgrade can be implemented.



## £20 POLYMER BANK NOTE

Initial testing is currently underway at the Cubic testing facility at Salfords, in readiness for the planned introduction of a new design of polymer £20 note, which the Bank of England are planning to introduce from 20 February 2020 (a date full of 20's - 20/02/2020).



Before the launch date, we will need to upgrade all MFM's with Bank Note Acceptor (BNA) units, the 100 MFM's fitted with Bank Note Recycler (BNR) units, the LU and RSLU TVMs which are fitted with a lower capacity version of note recycler and all of the note accepters and recyclers on Cash Handling Devices.

As with previous upgrades associated with the introduction of the polymer £5 and £10 notes and the withdrawal of acceptance of the paper versions of both notes, it is expected that all BNR units will be completed as part of an accelerated programme covering just over one week and undertaken during traffic hours.

The larger number of BNA units will be split between Day and night upgrades, with stations within Zones 1&2 generally being completed during traffic hours and those at outer London stations generally being completed at night within engineering hours. This pattern has worked well in the past and should minimise the impact on customers, by avoiding the need to dump and leave devices in card only mode for long periods, awaiting the engineer to arrive on site to complete the upgrade.

There had initially been a proposal to only upgrade devices for Bank of England notes, but after representations were made to TfL, it has now been agreed that devices will maintain the current range of notes they accept.



# REVENUE PROJECTS

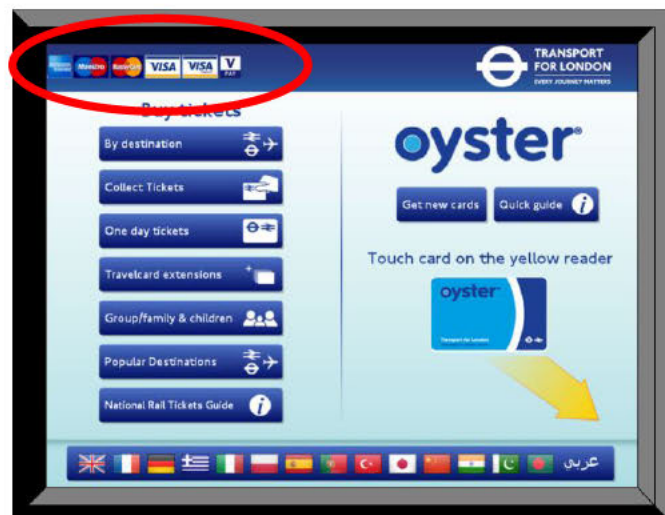
## MFM UPGRADES

Early in the New Year, TfL are planning to make changes to the way that the current Oyster Card Deposit is accounted for and handled by our devices.

To facilitate this, Cubic are currently developing new software, which will need to be deployed to all types of issuing devices towards the end of 2019 or beginning of 2020. Further information on the proposed changes will be included in later editions of TRU once they have been formally signed off.

As part of the forthcoming MFM software release, two other important changes are planned to be deployed at the same time:

Update of screens in readiness for the expansion of bankcard acceptance to cover a wider range of bankcards. This will also see the logos of the accepted card schemes integrated onto the "home" screen as on the TfL TVMs, rather than the logos only appearing when the customer gets to the payment screen.



This change will remove the need for the vinyl stickers which are currently applied to the AFM, MFM and QBM to highlight what cards are accepted. The existing stickers will need to be removed from all devices to coincide with the launch of acceptance of the new schemes.

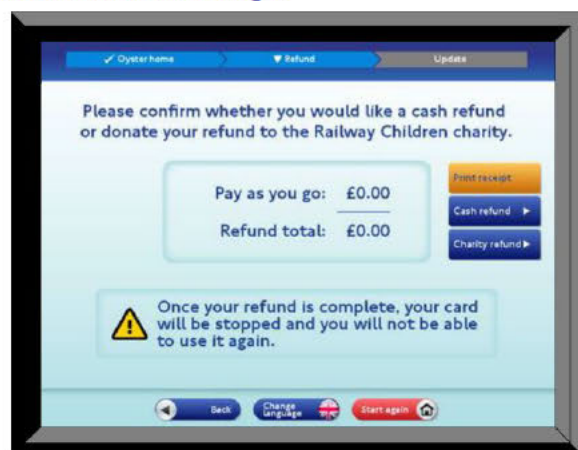
As mentioned elsewhere in this edition and in [TRU119](#), the forthcoming MFM software release will also include the provision of a new facility for customers to be able to donate the proceeds from Oyster cards that they no longer need to our nominated charity; Railway Children.

Screens and customer messages are in the process of being developed and will offer the customer the choice of a cash refund or making a donation to charity where the device has sufficient change.

A second feature will offer the ability to donate the proceeds of their card to charity when the device has insufficient change to make a refund or is operating in non-cash mode.

This exciting development will widen the availability of being able to make a donation to the charity from the current "Gateway stations" that have the collection boxes to all LU stations.

All donation transactions will then be collated and the proceeds totalled and presented to the charity in a similar way to how we currently handle the proceeds of overpayments on our POMs.



## >> DO: YOU: KNOW: YOUR: TICKETS << ?

Part 3 – Can you match the numbered areas on this NR ticket to their descriptions?



	Adult or Child ticket and Class
	Date and time ticket was issued
	Date of travel
	Discount Entitlement indicator
	From (station of origin)
	Issuing point number
	Portion – Outward / Single / Return
	Price paid and method of payment
	Ticket type

	To – Station destination/ LU Zones
	Type of discount entitlement
	URL for more detail on restrictions
	Validity

The above are in alphabetical order. Can you match all 13?

Ticketing & Revenue  
**T&R**  
Trivia

[Answers on Page 15](#)



## MIGRATION OF OYSTER TRANSACTION DATA

Although a majority of the Revenue Projects we report on involve changes to hardware or software, two recent projects focus on changes to the way in which data is transmitted to and from our stations.

As outlined in [TRUI19](#), during September we took the first steps towards moving the transmission of Oyster transaction data onto a new routing, utilising the infrastructure currently used for transmitting contactless payment transactions from each gate reader.



The start of the Vanguard at Hornchurch was originally planned to take place on 16 September, but due to a mix-up the required base data was not downloaded to the station in time for this to take place. The switchover was successfully completed on Friday 20 September, followed by a further 3 LU stations (Fairlop, Elm Park and East Ham) on Sunday 22 September.

The size of this Vanguard was then further increased with additional LU and NR stations being added in two separate waves on 26 September and 03 October.

The data traffic to / from each of these stations is being monitored and all being well it is planned to rollout the revised routing of Oyster transaction data to all other LU stations with effect from start of traffic on Sunday 20 October. At stations where "Night tube" services operate, this changeover will effectively occur within traffic hours and is likely to mean that gates will not be able to process Oyster or contactless payment transactions for a short period of around 5 minutes, whilst each gate reader resets and restarts itself.

Further information on the migration of stations onto the new data connection will be published in the [Hot Issues Bulletin](#).

## BANK CARD TRANSACTIONS TAKE A DIFFERENT ROUTE

A further change that has recently been implemented, affects the route used to send requests for authorisation of bankcard transactions and completed transactions to our bankcard processors.

Following an initial Vanguard on a single AFM at Liverpool Street, where these transactions were migrated onto the new infrastructure, Cubic re-routed bankcard traffic from all POMs at Blackfriars on Monday 16 September. The vanguard was then extended to include devices at Embankment and Liverpool Street on Wednesday 18 September. A test was also completed to check the automatic switchover to the back-up infrastructure in the event of the primary line to the bankcard processor failing.

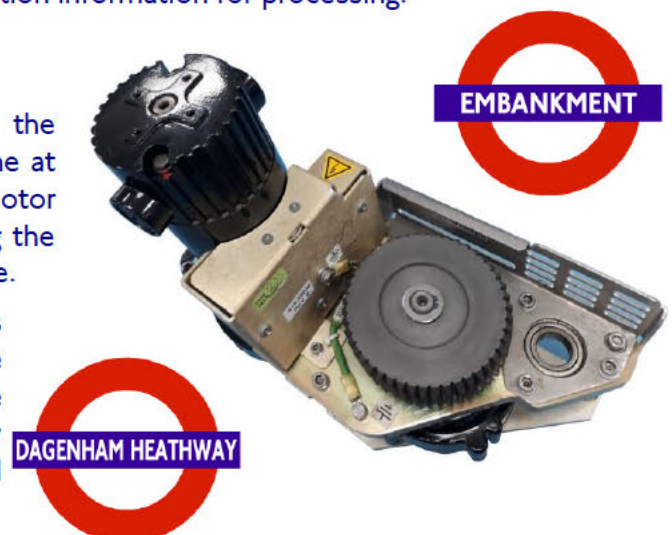
After successful migration of these three sites, POMs at two further stations, Euston and Waterloo were also migrated onto the new routing on the evening of Wednesday 25 September.

This then paved the way for the remainder of the network to be switched to the new method of transmission during the evening of Sunday 29 September. It is hoped that the new routing will provide a more stable and reliable infrastructure for transmitting this important transaction information for processing.

## WAG MOTORS

In another recent initiative, Cubic have recently replaced the existing motors on 4 WAGs (three at Embankment and one at Dagenham Heathway) with an improved design of paddle motor and fixing, aimed at improving the reliability and protecting the motor and gears from damage caused by mis-use of the gate.

An issue had previously been identified where customers pushing through or against the paddles had caused the drive shaft in the gear motor assembly to break, or the whole motor assembly to become loose on its mounting. The new motor includes a more substantial fixing plate which is held in place by four bolts in the bottom of the gearbox.





# REVENUE PROJECTS

## GATE POD VANGUARD

In this edition we had hoped to be able to report on and show images of the new E1 Gate POD (Passenger Orientated Display) on gates at Balham. Unfortunately, as often happens, there were a couple of last-minute delays that have prevented the new PODs from being installed.



New E1 Gate software was successfully deployed to both Balham and Clapham South on 11 September, in readiness for the start of the planned Vanguard of the PODs at Balham, but the initial installation date (19 September) had to be postponed as further electrical compliance testing needed to be completed before they could be deployed on stations.



The rearranged installation date of Wednesday 25 September then also needed to be postponed due to a delay in the delivery of some of components needed to complete the installation. But the good news is that the E2 style PODs were finally installed at Balham on the night of Tuesday 08 October, just in time to go to press.

The Vanguard of the E1 software is scheduled to continue at both of the above stations until the end of October, but ahead of a network wide rollout, we will be expanding the number of E1 gates using the Vanguard software by adding around 10 further locations to the Vanguard. All being well the software will then be deployed to all other stations in readiness for the start of the hardware rollout to other E1 gates.

In a second phase of the POD replacement programme, new Pneumatic Gate software successfully completed its testing to allow it to be deployed as a Vanguard to Marble Arch and Queensway on the night of Wednesday 25 September.

In a similar manner to the above E1 Gate programme, gates at both of these stations will initially operate on the new software with their existing PODs, before the planned installation of the new POD onto the pneumatic gates at Marble Arch, which is currently scheduled to take place at the end of October. This upgrade will also include the replacement of the Exit RTDs, which currently have a small customer display incorporated into them.

These are no longer required as the new POD will display information to customers about their card balance both on entry and exit. The pneumatic gates at Queensway will continue to operate with the existing PODs and as with the E1 software, we will look to expand the Vanguard by adding some further sites with larger numbers of pneumatic gates, so we can evaluate the ability of the software to operate with both types of POD.



## GATE READER UPGRADES

Further to the last update in TRU119, it is planned to deploy a new version of RTD software (card reader) as a Vanguard from Thursday 24 October.

This new release includes some enhancements to improve the TR3 reader performance and to help the RTD recover from an issue more quickly than it currently does.

The new software build will also incorporate changes in readiness for the planned "Express Validation" feature for ApplePay customers, which is scheduled to be introduced after all of the RTDs across all TFL modes have been upgraded.

At the time of going to press, the Vanguard stations for the new stations are not yet confirmed but will be linked to the implementation of the Oyster over Ethernet change outlined on Page 13.

Following on from this TR3 Vanguard, it is planned to rollout the RTD software to all other sites with effect from Sunday 20 November.





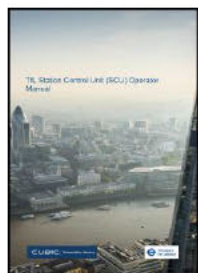
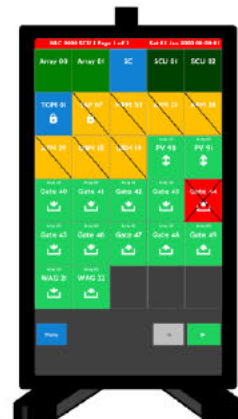


## SCU UPGRADE.....

The programme to rollout the new touchscreen PC based SCU is now well underway and as at Sunday 06 October we had completed the upgrade to the new SCU at 69 stations.

The new equipment has continued to perform well, although we have had a few minor installation issues which have prevented completion of the installation of several new SCUs, due to the installation teams finding that communications cables or power supplies for the new equipment were missing when they arrived on site to complete the installation.

Remedial work at the affected sites is being scheduled, after the completion of which the SCU installation team will return to complete the installation and commissioning of any missing units.



Although electronic copies of the new SCU Operators manual have been sent to each station with the email confirmation of the planned upgrade dates and pre-configured gateline settings, we have also supplied a printed copy of the document to each site during the week of the SCU installation.

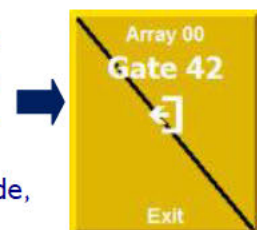
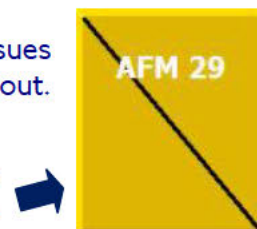
As more stations now have the SCU, we have now also added this document to the "Gateline" page of the T&R section of the Intranet.

[Click here to access the SCU Operators manual](#)

Instructions on the use of the SCU will also be included within the new version of T&R Book 5, the publication of which had been deferred due to the initial delays to the start of the SCU rollout. We are hoping that the new edition will be available shortly.

As outlined in previous articles about the new SCU, there have been a couple of minor issues identified with the information displayed on screen, since we started the main rollout. Currently we are addressing three main issues with Cubic:

- 1 **AFM button colour** - Although the AFM is always in "Exact Money only" mode, the SCU currently displays this status as a degraded mode, hence the button on the SCU is always orange
- 2 **Single direction gate button colour** - It has also been identified that on single direction Entry or Exit gates, the button appears permanently orange and the detailed device history reports errors on the RTD on the side of the gate that does not have any equipment fitted.



Both of these issues are due to be addressed within a forthcoming SCU software upgrade, after which devices should be indicated in the correct colour when in full service.

- 3 **TOM/SAF reporting spurious printer hardware faults** - arises from the TOM and SAF sharing the same monitor and keyboard, which does not update correctly if the operator switches from one device to the other. Rectification of this issue requires a change to the TOM/SAF software, which will hopefully be incorporated into the next software upgrade on these devices.

Pt.1	C	15 minutes
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Pt.2	B	Finsbury Park - Moorgate	D	Liverpool Street - Stratford	Although there is inter-availability for customers between Finsbury Park and Kings Cross, TFL Staff facilities aren't valid on this section
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Pt.3	>>D
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9	Adult or Child ticket and Class
13	Date and time ticket was issued
6	Date of travel
2	Discount Entitlement indicator
5	From (station of origin)
12	Issuing point number
3	Portion - Outward / Single / Return

11	Price paid and method of payment
1	Ticket type
7	To - Station destination/ LU Zones
10	Type of discount entitlement
8	URL for more detail on restrictions
4	Validity

## ANSWERS TO T&R TRIVIA

### How did you do?



## FINAL CALL FOR WALLETS

Thank you to the stations that have so far responded to our request for information on large stocks of Oyster card wallets.

A number of stations have advised us of excessive stocks of wallets, which we are currently in the process of re-distributing to sites that need small quantities of wallets whilst they are still available.

If your station still has a large stack of wallets please let us know as soon as possible.

Please confirm your stations current stock of wallets by email to: [REDACTED]@tfl.gov.uk.



## BST TO GMT REMINDER

The year has flown by and a reminder of this comes at 02:00 hours on *Sunday 27 October* when clocks go back one hour to mark the end of British Summer Time (BST).

Most people will enjoy an extra hour in bed, but this is tempered by the realisation that the nights are drawing in, the days are getting shorter and winter is coming.

On stations the change back to GMT means that all iPads, RIDs and MOVie devices will need to be checked to ensure the time change has implemented correctly.

Cubic devices will revert back to GMT automatically and technicians will be monitoring stations remotely to ensure a smooth transition. Any issues arising from the time change should be

Reported  
to the  
Cubic  
Helpdesk  
on Auto



### Five Tips to Help Cope with the Time Change

**ENJOY A LIE IN** – This is the one day of the year that you can actually lie in and at the same time not get up any later, so make the most of it! But... aim to keep your sleeping pattern regular before and after the clock change, especially the time you get up in the morning, as this limits its impact on your night time sleep quality and daytime energy levels.

**GRADUAL TRANSITION** – If you know you're sensitive to the clock change then it is best to ease your body into the time shift. Go to bed and get up 20 minutes later three days before the change. This way your body clock will already be synced to the new time when it happens. For time-sensitive individuals like babies and toddlers it can be helpful to delay daytime naps, meals, baths and books.

**SLEEP ENVIRONMENT** – Daylight Saving is out of your control, so perfect what is – your sleep haven. Ensure your room is quiet, cool, dark and comfortable.

**STOW AWAY ELECTRONICS** – The clock change can disrupt your circadian rhythm, so minimise any other disruptions that may prevent you from achieving the perfect night's sleep. Put away mobile phones and tablets, or put them on silent to reduce sleep interruptions.

**GET OUTSIDE** – Exposure to morning sunlight helps to synchronise your internal body clock and adapt it to the new time. Get your light fix by going for a run or a brisk walk outside. The added tiredness will also help you to sleep better the next night.

Source – Daily Mirror and Dr Guy Meadows (The Sleep School)

## LOOKING AHEAD TO TRU121

Our next edition of TRU (issue number 121) is scheduled for publication at the beginning of November.

Subject to the details of the January Fares Revision being signed off, we plan to include an early preview of the main changes planned as part of the January 2020 Fares Revision.

We also plan to include:

- Focus on another of our 2019/20 priorities
- Progress updates on both current and forthcoming projects
- Return of our Oyster Explained feature
- An in-depth look at proposed ticket acceptance on the new TfL Rail service to Reading, which is scheduled to be launched on 15 December

Plus our normal selection of T&R news, special features and a further selection of correspondence from Olly's Inbox.

