



For the attention of all Station and Revenue Control staff

INSIDE THIS EDITION

IN THE NEWS

Pages 1-10 → [POD Messages](#) → [Charity Updates](#)
→ [January Fares Revision final news](#) → [Xmas Collections](#)

ASK [REDACTED]!

Pages 12-13 → [More of your letters answered](#)

OYSTER EXPLAINED

Page 14-15 → [Weekly Capping on Oyster](#)

SPECIAL FEATURES

Pages 11 & 16 → [Looking Ahead to 2019](#) → [2018 T&R Christmas Quiz](#)

PROJECT UPDATES

Pages 17-23 → [Gate upgrades](#) → [Intelligent Gate line trial](#) → [BNA replacements](#) → [SCU update](#)

AND FINALLY

Page 24 → [Looking Back to TRU 113](#) → [Looking Ahead to TRU 115](#)

OYSTER WEEKLY CAPPING IS HERE!

Monday 17 December, will see the launch of weekly capping for Oyster PAYG customers using bus and tram services, bringing them into line with those using PAYG on contactless payment, who have enjoyed the benefits of the fixed Monday to Sunday weekly cap since 2014.

The launch, originally scheduled seven days earlier, was postponed due to the disruption to the O2 network in the preceding week, which impacted upon the loading of the relevant tables to all buses.

It is likely that the number of bus and tram customers that will actually reach the weekly cap will be quite small as since, the extension of the Bus Hopper, many users do not make enough chargeable journeys to match the cost of a 7 Day Bus & Tram Pass.

As promised, we have utilised our [Oyster Explained](#) feature on [Pages 14 & 15](#) to give a more detailed explanation of how weekly capping will work for bus and tram users.

The launch of weekly capping for rail customers is now pencilled in for Spring 2019 but, as we have previously reported, is subject to final agreement between TfL and all of the London area train operating companies. Watch out for further news on this in future editions of the TRU.



This month's TRU is a bumper 24 pages, due to the need to include details of a number of important projects in this edition.

KEY STORIES INSIDE

Page 2

[OYSTER IN GRACE](#)

We explain why strange messages have been seen on gate PODs and how this will be resolved.

Pages 4-7

[CHARITY UPDATE](#)

We report on recent presentations to our two nominated charities and how the money will help them.

Page 11

[LOOKING AHEAD TO 2019](#)

We take a seasonal peek at what is planned in 2019.

Page 16

[T&R CHRISTMAS QUIZ](#)

An opportunity to test your T&R knowledge with a quiz based on some of the issues covered in TRU this year.

Pages 20-22

[BNA REPLACEMENT TRIALS](#)

We provide a detailed review of new units to be trialled at three stations.

Written and compiled by [REDACTED]

IN THE NEWS

OPEN – SHUT!

In the last edition of TRU in an article about a new OSI between Cannon Street and Bank, we mentioned the planned opening of a new ticket and entrance to Bank station.

The new Bank (Bloomberg) ticket hall opened to customers on Friday 30 November.



BANK

Further east on the Central line the entrance onto the westbound platform at South Woodford closed at the end of September, to enable Step Free Access works to be completed there.

During the duration of the works, customers will need to use the nearby subway to cross under the Central line tracks to enter the station via the main entrance on the eastbound platform. Those wishing to travel towards Stratford or central London, can then reach the westbound platform via the footbridge.

During the work, the former Eastbound POM Room will be demolished and the two AFMs that served this side of the station will be removed during December. When the station re-opens it is planned to provide two card only TVMs on this side of the station.

The third and final change should see the opening of a new entrance to Waterloo LU station before Christmas.

WATERLOO

The new Waterloo (Southbank) entrance is on the site of the former Waterloo (Shell) ticket hall which was demolished as part of a large scale redevelopment of this site, close to the Southbank complex and London Eye.

The new ticket hall will be equipped with an MFM, 2 AFMs, 3 WAGs and 11 new E2 gates and is currently due to open around 20 December (subject to confirmation).

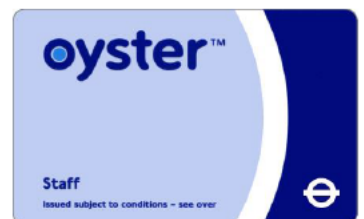


REPLACEMENT TSID ACTIVATION

During the switch to the new series of TSID cards in April 2018, we identified a number of cards that had been produced with incorrect coding on them. This resulted in the affected cards not being read by the magnetic swipe readers on the back of our POMs, although they worked on other devices. Holders of these affected cards were issued with a replacement card in early April, which needed to be activated by phone before it could be used. Over 6 months later, around 50 of these replacement cards had not been activated, nor the original defective cards returned to the T&R team.

Cubic have recently completed the final step in changing the coding of the 800 affected TSID cards to facilitate a replacement batch of cards to be issued to LU to make up for the loss of 10% of our original stock. The impact of this was to change the PIN associated with each of these cards and as a result staff who had continued to use their original 180000 series card linked to their Staff Oyster card, found that their PIN was no longer accepted.

Although a number of users have since contacted the TSID Helpline to get their replacement card activated, there are still quite a few of the original cards unaccounted for at present and it is planned to disable all of these early in the New Year to prevent their further use.



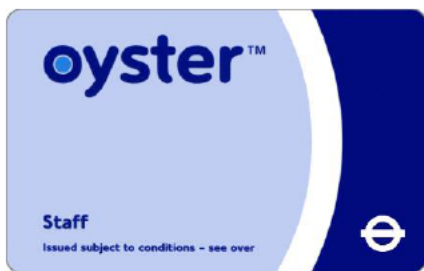
WHO IS GRACE AND WHAT DOES SHE MEAN?

The recent appearance of a rather strange warning message on the Passenger Orientated Display (PODs) of E1 and E2 gates, has caused some alarm amongst staff and led to a number of emails and calls to the T&R team and is the subject of one of this month's Ask [redacted] letters on [Page 12](#).

Since this message started to appear, it has been established that this POD message relates to a warning period linked to the expiry date of the actual Oyster card, rather than the Staff Pass product loaded onto it. This had been configured to trigger at 1,000 days (just over 3 years) before the expiry date of the card. The older Mifare cards which were first issued in 2003 had been configured with a card expiry date 7,000 days after the date each card was enabled and issued, meaning these cards were due to expire in 2021.

All of the staff affected are long-serving members of staff who are still using their original issue Staff Oyster card and the date that the warning message is triggered is dependent on when their card was enabled.

At the point that the warning is triggered, a message is sent to the central system and a flag is set on the actual card, then triggering the "Oyster in Grace" message to appear each time the card is subsequently presented until it actually expires and then stops working. The message doesn't appear on the older pneumatic gates which has a much less sophisticated POD.



The oldest customer Oyster cards still in circulation are due to reach the point at which this message would also be displayed to their users, at the end of December, so we are keen to avoid this happening and customers potentially receiving a potentially confusing message.

As a result it has been agreed that Cubic will undertake an emergency base data update on Sunday 09 December, to replace the current tables which define the card expiry date and grace periods.

This will shorten the period before expiry that the warning is given from 1,000 to 500 days and extend the card life from 7,000 to 11,000 days, meaning that these cards will not be due to expire until 2027.

These changes will hopefully avoid any customers being affected and will stop the message being displayed to the holders of any Staff Oyster cards that had previously triggered the message, even though they will already have had the "In Grace Period" flag set on the card. At a later date, a decision will need to be made on when to switch the warning message back on (probably around 500 days before the new expiry date).

Please be assured that even if you have seen the message, there is no impact on either the validity or acceptance of the card by devices and there is no immediate need to request a replacement Staff Oyster card.

ITSO SMARTCARD EXPANSION

On Friday 14 December 2018, Chiltern Railways will be the latest Train Operator to launch their version of the ITSO Smartcard. Customers will be able to add Point to Point season tickets as well as Day, 7 Day, and Period Travelcards valid from Chiltern Rail stations outside of the zonal area.

PAYG cannot be added to the card, but cards loaded with a valid Travelcard will be valid on London Underground, Bus, Tram, DLR, London Overground, TfL Rail and most National Rail services in London.



All Chiltern Smartcards will have the holder's name printed on the front. Initially there will be just one type of Chiltern ITSO card which can hold either adult or child products.

A Staff version of the card is scheduled to be introduced at a later date. Details of the new cards will be added to the updated T&R Book 2, when this is published in the New Year.

Chiltern Railways

CHARITY UPDATE – THOSE SMALL OVERPAYMENTS KEEP MOUNTING UP!

As has become something of a tradition at the end of each calendar year and for the final edition of TRU, the Financial Services Centre (FSC) have recently undertaken the annual calculation of the proceeds from overpayments made by customers on our POMs.



As a reminder;

1. the AFM allows customers to overpay on cash payments by up to 30p at all times,
2. the MFM also has the facility for overpayment when in 'Exact Money Only' mode.

Although use of contactless payments has continued to grow over the last year, POM cash sales are still significant and although the total value of POM overpayments is slightly down compared to last year, it still amounted to a total of £31,715.50.

As in previous years the proceeds have been split equally between two nominated charities Railway Children and Make Some Noise, each of which recently received £15,857.75. Details of the cheque presentations and how the charities will benefit from this donation are outlined below and opposite.



This year's figure means that since this scheme started in 2008, the total amount we have donated has now reached over £300K. This is quite amazing when one considers that the largest customer payment is 30p.



A summary of the total payments made to each charity are shown in the table below.

Year	Railway Children		Global Make Some Noise*		Total
2008 – 2009		£9,533.00		£9,533.00	£19,066.00
2009 – 2010		£7,306.00		£7,306.00	£14,612.00
2011 – 2012 †		£19,355.35		£19,355.35	£38,710.70
2012 – 2013		£12,161.00		£12,161.00	£24,322.00
2013 – 2014		£20,081.66		£20,081.66	£40,163.32
2014 – 2015		£24,731.54		£24,731.54	£49,463.08
2015 – 2016		£20,472.40		£20,472.40	£40,944.80
2016-2017		£20,628.84		£20,628.84	£41,257.68
2017-2018		£15,857.75		£15,857.75	£31,715.50
Total		£150,127.54		£150,127.54	£300,255.08

† 18 month period

* Previously Capital Help a London Child

Over the next three pages, we outline how this money can help these amazing organisations, accompanied by case studies at the base of each page to demonstrate how lives can be transformed for the better.

KEEN (London)

KEEN is a London-based charity that offers free weekly sports sessions in Camden, Hackney & Lambeth to empower disabled children and young people to lead, participate in and enjoy a wide range of physical activities and challenges. They support over 150 young people from the ages of 5-23 with over 6000 hours of one-to-one support every year.

KEEN provides amazing services to young people like [REDACTED], a 13-year-old with autism and muscular dystrophy. When [REDACTED] joined KEEN in 2014 she was very reliant on the support provided by the coaches and would often take long breaks during group activities. The sessions have helped [REDACTED] gain determination to take on tasks independently. Recently, [REDACTED] overcame one of her fears and flew down a 10-metre-high zip-wire - something she never could have done just a few years ago. Her enthusiasm has continued through all of KEEN's activities, inspiring other young people with disabilities to reach their full potential too.

Global's Make Some Noise will help the charity to deliver the 'Keen in East London' project, which will help boost provision for children with disabilities in Hackney. The project will include Saturday sessions for 5-25 year olds and one-to-one support for over 90 children every year.



GLOBAL'S – MAKE SOME NOISE

Global's Make Some Noise is a national charity that funds and empowers small projects helping disadvantaged children, young people and their families, as close to home as possible.

██████████ Head of Corporate Fundraising and Events for Global's Make Some Noise, told TRU that "these small charities can be the only place for families to turn to when their lives suddenly change.

We're here to fund vital equipment and life-changing services to help children and young people through challenging times, including therapy, counselling, nursing and support groups."

With the support of Make Some Noise, many charities can bring to life a new project that's desperately needed in their communities. While for others, it means they're able to continue running the only service of its type in the UK.



Make Some Noise gives a voice to these charities that often struggle to get heard and through the support of Global, home of some of the UK's biggest radio brands including Heart, Capital and Classic FM, experts from Global train the charities in marketing, digital and media communications, to boost their skills and build sustainability. ██████████ added "In short, we raise money, we raise awareness and we raise the bar".

Some key stats about Make Some Noise

- Since 2014, we've helped to improve the lives of more than 56,000 children and young people by supporting 192 projects across the country, from Cornwall to Glasgow, from Cardiff to Cambridge.
- Last year we supported 33 small projects across the UK, and granted £2.5m to continue their vital work for the next 2 years. Specifically, this means we're funding a range of programmes, specialist equipment and staff, including 67 dedicated roles, from bereavement counsellors to youth support workers.
- Through these charities, we're directly helping more than 17,000 young people and thousands more family members.
- When surveyed, 81% of the charities we support said that awareness of their charity has increased by being involved with Make Some Noise. And 95% agreed that they had gained new knowledge or skills through our training programme.

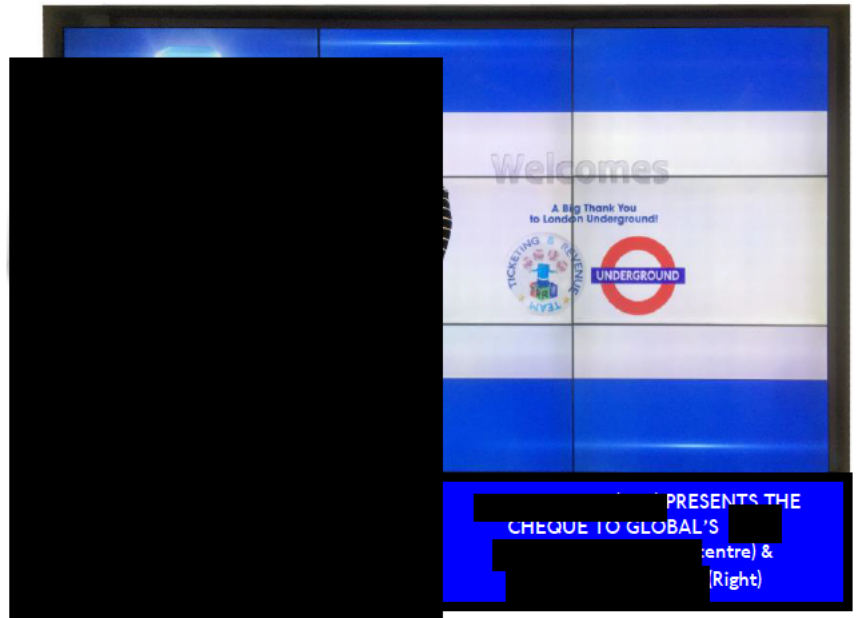
THE AMBER TRUST

The Amber Trust supports over 200 children every year who have a visual impairment and may also be affected by another disability or even a life-limiting condition. Through specialist lessons and technology, these youngsters are able to access music and learn to play instruments, which is all part of The Amber Trust's programme of support.

Naturally, at Make Some Noise we love music, and when we heard about The Amber Trust, we wanted to give them a voice because of children like ██████████ who has no vision. He joined the charity when he was three years old and has been supported by a music specialist for the past two years.

Music is incredibly powerful and important for ██████████ as he communicates with other people through rhythm and melody. It's a vital part of his daily life. ██████████ recently received an Amber Music Award to have piano lessons, plus funding for a full-sized keyboard, which he loves to play at home every day.

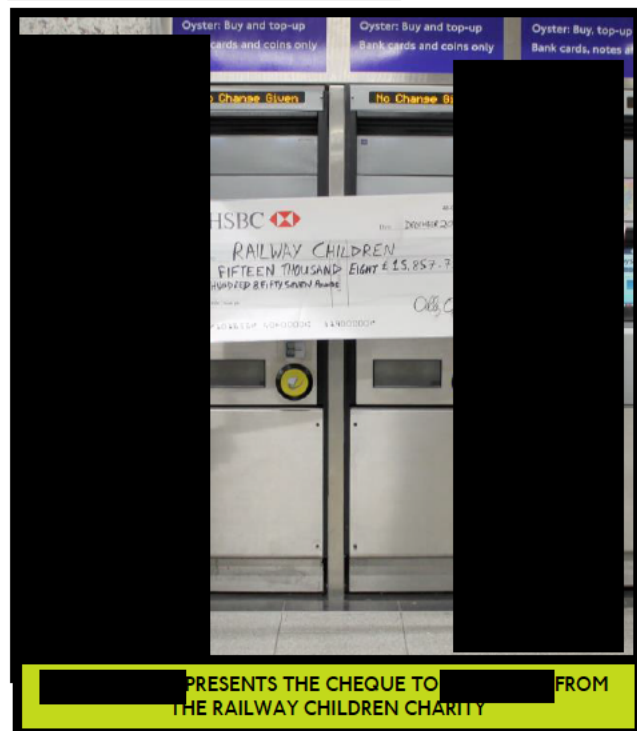
Global's Make Some Noise is supporting the 'AmberPlus' project, which will help 50 visually impaired children and young people with complex needs through face-to-face music sessions with specially trained staff.



CHARITY UPDATE (continued....)



The second of our presentations took place on Monday 10 December, when [redacted] from Railway Children was presented with a cheque for £15,857.75 by [redacted] team, during a presentation held in the North ticket hall at Victoria LU station.



[redacted] thanked LU for the latest donation of cash generated from customer overpayments on POMs, which he outlined would genuinely transform the lives of thousands of children in East Africa, India and here in the UK.

Railway Children have worked in India for 22 years. Across that country's rail network, a child arrives alone at a station platform every five minutes. The charity is working to change this by establishing 'Child Friendly Stations,' where the station community is trained to look out for vulnerable children and to take them to Railway Children shelters, where they can get food, clothes, a safe place to sleep and the support and counselling they need to secure a better future.

It costs £35,000 to set up and run one of Railway Children's shelters for a year – and in that time they would expect to care for 876 children. So the amazing sum from London Underground could go a long way to helping Railway Children protect hundreds more children in another location for almost an entire 6 months.

In East Africa, the charity works with children forced to survive on the harsh streets, with nowhere safe to sleep and not enough food to eat. When these vulnerable children have health problems, and no access to proper care, simple injuries or illnesses can quickly become life-threatening. The amount of money raised could pay for more than 500 first aid kits used by Railway Children outreach workers in East Africa, looking after children they find on the streets or at a shelter.

It is not just in India and East Africa that Railway Children are making a difference. Their work in the UK is less visible– but no less vital and life-saving. In this country a child runs away from home around every five minutes, and many use the public transport system to escape. The charity is currently working in partnership with the British Transport Police, to identify and protect these youngsters before they become the victims of traffickers, abusers and those out to exploit them. They have set up projects supporting children in Manchester and thanks to the support of organisations like London Underground, have now launched a second in London. This enables the charity to reach out to young people from all across the south who find themselves at risk on the network.

[redacted] explained that the £15k donated by London Underground alone could allow Railway Children to train 800 frontline members of transport staff in how to spot a child at risk. It could ensure they know how to react, where to refer them to and give them the confidence to step in at what could be a critical moment in that young person's life.

This is what happened to [redacted] a 14-year-old girl found behind a building in a dark, deserted part of the station. She was very drunk and clearly distressed. Being young, alone and vulnerable she was in very real danger of facing violence, abuse and exploitation. Luckily, [redacted] was referred to Railway Children by the BTP.

She said she was happy to talk to someone as she knew her drinking was out of control and she had been feeling suicidal. Railway Children made contact with [redacted] and her parents – who had no idea how their daughter had been feeling.

With help from Railway Children's family workers, [redacted] is now being supported by the services she needs and talking about changes she wants to make.

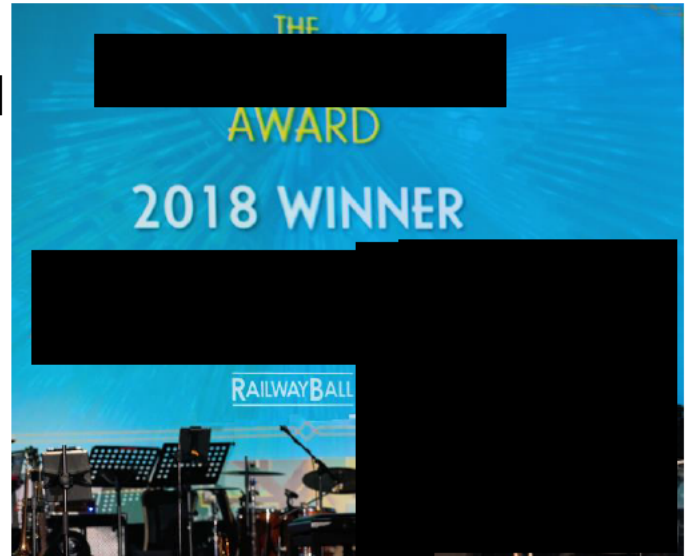
They're also meeting up with her parents every week to help them understand how they can manage and support their daughter. The family are building strong and trusting relationships and [redacted] is making great progress, getting good results from school and developing a much more positive outlook.



CHARITY AWARD

The incredible support Railway Children has had from London Underground is helping them change the lives of some of the world's most vulnerable children.

This was recently recognised at the annual Railway Ball held this year at North Greenwich, where [REDACTED] became the first recipient of the [REDACTED] Award. [REDACTED] Railway Children's Corporate Partnerships Manager said "I am so so pleased that [REDACTED] has been recognised for the inaugural [REDACTED] Award. This award is to recognise those people who do so much in support of our work and yet much of their time and effort is completed very much behind the scenes. [REDACTED] is an incredibly deserving recipient, but also someone who will immediately give credit to all of his team and colleagues who have also supported all of the work conducted in support of Railway Children, which epitomises why he is perfect to be the first ever winner of the award."



POM SCREEN CHANGES

And finally on the subject of POM overpayments: we are hopeful of including a screen change within the forthcoming January Fares Revision changes, to highlight to customers that if they agree to the overpayment option, the surplus money of up to 30p per transaction will be donated to our nominated charities.

Currently there is no indication that the money is donated annually and many of our customers who opt to overpay out of convenience, may be left feeling slightly disgruntled by paying more for their ticket than they need and under the misconception that the money is kept by LU or TfL.

We would ideally have liked to include the charity logos on the screen, but this proved much more complicated to achieve as the necessary graphics are included within device software, whereas the simple screen text is easily configurable within base data. There is also the risk that a logo might change, resulting in an out of date logo being displayed or additional costs being incurred to make changes.

HELP FOR HEROES RESULTS

As reported in [TRU113](#), the second Help for Heroes collection of the year took place on Thursday 07 December at 18 stations. A total of £27,855 collected by their volunteers was processed via our cash handling devices.



LONDON POPPY DAY UPDATE – CORRECTION



In [TRU113](#) we reported on the total amounts processed for the Royal British Legion at each of the stations involved in the recent London Poppy Day Appeal.

Since publication we have been cross-checking the amounts processed with the receipt that the Royal British Legion collectors have submitted and after a further reconciliation by the Financial Services Centre (FSC) the total figure to be paid to the charity has risen to £282,179.98. In addition to this, we will also be donating an additional £781.53 which had been collected during the year within a collection box situated next to the war memorial at Baker Street station.

In addition to assisting the RBL with the processing of money donated by customers at some of our bigger stations, we are also in discussions with them around us donating a number of our redundant coin counting machines which can be easily adapted for them to use next year for processing Poppy Appeal money from other sources. This will potentially assist us in removing some pieces of equipment that we have been struggling to find a budget for.



JANUARY FARES REVISION

OVERVIEW OF MAIN CHANGES ON 02 JANUARY 2019

Over the following three pages we outline the main changes to be introduced from start of traffic on Wednesday 02 January 2019.

Many of these were provided with in-depth details in [TRU113](#), but are produced as a summary below. We have also added a number of regular “good housekeeping” processes that accompany this fares revision.



PRICE CHANGES

PAYG FARES – PAYG fares for journeys wholly on TfL services will remain frozen at 2016 prices. NR journeys and through journeys involving travel on both TfL and NR services will increase as a result of the TOC element being increased.

DAILY PAYG CAPS – In line with fares increases on the National Rail network, the prices of the Anytime Daily PAYG caps will rise between 20p and 40p depending on the zones chosen.

SINGLE & RETURN FARES – These fares will remain unchanged for journeys on LU. PAYG continues to offer best value for customers, with a saving of £2.50 on a journey wholly within Zone 1.

TRAVELCARD SEASON TICKETS – The prices of Season tickets will increase by an average of 3.1%. Contactless Weekly PAYG caps will also increase by the same amounts.

DAY TRAVELCARDS – As with Season tickets, Day Travelcards will increase in accordance with the Retail Price Index (RPI). In general terms this means that Adult One Day Travelcards within Zones 1-6 will increase by 40p-50p and within Zones 1-9 by either 30p (Off Peak) or 60p (Anytime).

VISITOR TRAVELCARDS – The current trial of 2 Day and 3 Day Visitor tickets at a number of Gateway and tourist stations will be extended until the May 2019 Fares Revision, rather than being withdrawn as previously planned. Although these tickets are only valid on TfL services, the prices will increase from 02 January in line with RPI as the current prices are aligned to the prices of Day Travelcards which are going up.

GATE CHANGES

STRATFORD – Gateline settings will be changed to allow customers who have travelled to Stratford International on Southeastern High Speed services valid to London Terminals to be able to break and resume their journey at Stratford and travel to Liverpool Street via the Central Line or TfL Rail services. Providing they have not used their ticket to exit an LU gate, these tickets will be accepted by gates at Stratford.

BARBICAN – Gates will be set to reject National Rail issued tickets to the destination “London Thameslink.” In future and National Rail customers wishing to travel to Barbican will have to purchase a ticket to Underground Zone 1 or alight at Farringdon where Thameslink tickets are valid.

7 DAY MAGNETIC TRAVELCARDS

TfL TICKET VENDING MACHINES – The TfL TVMs at all London Overground and TfL Rail stations will no longer issue magnetic 7 Day Travelcards valid within the zonal area. In future 7 Day Travelcards for travel within Zones 1-6 will be mandated on to Oyster in line with Bus & Tram Passes and Period Travelcards sold on these devices.



+++ LATE + CHANGE +++ +++ LATE + CHANGE +++ +++ LATE + CHANGE +++ +++ LATE + CHANGE +++ LAT

PLATFORM TICKETS – As outlined in [TRU113](#), as a measure to guard against potential misuse by fare evaders, we are planning to stop Platform tickets issued from our POMs from working on way in gates. This change which is part of the January Fares Revision scope, will now not be implemented on Wednesday 02 January, but will instead be delivered as part of a scheduled base data release either on Sunday 27 January or on the following update on Sunday 10 February. This will depend upon whether other changes are required after the fares revision.



We will confirm the actual implementation date in the [Hot Issues Bulletin](#) once it has been confirmed.

JANUARY FARES REVISION



FARES POSTERS

Revised versions of the customer fares poster will be distributed to all LU stations by 21 December 2018.

Staff taking delivery of these posters must;

- Provide the courier with their **name** and their **employee number**
- Store the posters safely and **record their storage location on the station.**

At the end of traffic hours on **Tuesday 01 January 2019**, Supervisors must remove all existing fares posters and replace them with the new posters prior to start of traffic on **Wednesday 02 January 2019**.

ADVANCED ISSUE OF TICKETS

As with last January's Fares Revision there will be a block on the advance issue of tickets from POMs between **Saturday 29 December** and **Tuesday 01 January**, to prevent customers being able to purchase tickets to start after 02 January at the 2019 prices. POMs will revert to normal operations on 02 January.

Customers can buy Travelcards and Bus & Tram Passes at the price applicable to the ticket's start date;

- **Online – up to 30 days in advance**
- **At Oyster Ticket Stops – up to 7 days in advance** At London Overground / TfL Rail ticket offices – **up to 30 days in advance**
- **At National Rail ticket offices that have Oyster ticket issuing facilities.**

STAFF FARES LISTS 2019

New staff fares lists showing 2019 fares are now available online from the T&R Intranet pages and can also be viewed or printed off by [clicking here](#).

The fares lists appear by station / NLC and each has two lists. One covering fares to other LU stations plus other stations on the TfL fares scale, the other covering through fares to NR stations within the London area.

- **the first starting SOO followed by the last 3 digits of the station NLC – containing fares to LU, DLR and other stations on the TfL fare scale for which "Station of Origin" tickets are issued**
- **the second starting SOD followed by the last 3 digits of the station NLC – containing fares NR stations for which "Point to Point" or "Station of Destination" tickets are issued.**
- **At stations with multiple NLCs, only one version of fares list will now be provided**

CHRISTMAS COLLECTIONS AND DELIVERIES

Christmas Day and Boxing Day this year fall on Tuesday 25 and Wednesday 26 December and as in previous years, there will be no scheduled security company collections or deliveries on either of these days.

Stations that are scheduled to have a weekly or fortnightly collection will have their collections during the week commencing Sunday 23 December rescheduled as follows:

Normal Collection Day	Date	Revised Collection Day	Comment
MONDAY	Christmas Eve	MONDAY 24 DEC	NO CHANGE
TUESDAY	Christmas Day	MONDAY 24 DEC	CHANGE
WEDNESDAY	Boxing Day	THURSDAY 27 DEC	CHANGE
THURSDAY	27 Dec	THURSDAY 27 DEC	NO CHANGE
FRIDAY	28 Dec	FRIDAY 28 DEC	NO CHANGE
SATURDAY	29 Dec	SATURDAY 29 DEC	NO CHANGE

Any stations which have more than one collection per week and have a collection scheduled for either Tuesday or Wednesday, will have this automatically cancelled, with money being collected on the next scheduled collection day after 26 December.

On New Year's Day (Monday 01 January) a normal collection schedule will operate, apart from a small number of stations within central London affected by the New Year's Day Parade, where collections will be cancelled due to access problems.



JANUARY FARES REVISION

CHANGES TO ALTERNATIVE CHARGEABLE ROUTES

From **Wednesday 02 January 2019** – customers using a non-Zone 1 Travelcard on Oyster, who change to or from a London Overground service at the stations listed below, will need to touch a pink routing validator at these stations when changing, to avoid paying a Zone 1 PAYG extension fare:



Between stations at the eastern end of the Central, District, Jubilee, TfL Rail, DLR and c2c lines;

BARKINGSIDE	BUCKHURST HILL	CHIGWELL	DEBDEN	EPPING		
FAIRLOP	GANTS HILL	GRANGE HILL	HAINAULT	LEYTON		
LEYTONSTONE	LOUGHTON	MILE END ●	NEWBURY PARK	REDBRIDGE		
RODING VALLEY	SNARES BROOK	SOUTH WOODFORD	STRATFORD ♦	THEYDON BOIS		
WANSTEAD	WOODFORD					
BECONTREE	BOW ROAD	BROMLEY BY BOW	DAGENHAM EAST	DAGENHAM HEATHWY		
EAST HAM	ELM PARK	HORNCHURCH	PLAISTOW			
STEPNEY GREEN ♦	UPMINSTER BRIDGE	UPNEY	UPTON PARK			
CANARY WHARF	CANNING TOWN	NORTH GREENWICH	WEST HAM			
BRENTWOOD	CHADWELL HEATH	FOREST GATE	GILDEA PARK			
GOODMAYES	HAROLD WOOD	ILFORD	MANOR PARK			
MARYLAND	ROMFORD	SEVEN KINGS	SHENFIELD			
ABBEY ROAD	ALL SAINTS	BECKTON	BECKTON PARK			
BLACKWALL	BOW CHURCH	CANARY WHARF	CANNING TOWN			
CROSSHARBOUR	CUSTOM HOUSE	CUTTY SARK	CYPRUS		DEPTFORD BRIDGE	
DEVONS ROAD	EAST INDIA	ELVERSON ROAD	GALLIONS REACH		GREENWICH	
HERON QUAYS	ISLAND GARDENS	KING GEORGE V	LANGDON PARK		LEWISHAM ●	
LIMEHOUSE	LONDON CITY AIRPT	MUDCHUTE	POPLAR		PONTOON DOCK	
PRINCE REGENT	PUDDING MILL LANE	ROYAL ALBERT	ROYAL VICTORIA		STAR LANE	
SOUTH QUAY	STRATFORD INTRNL	STRATFORD HIGH ST	WEST HAM		WEST INDIA QUAY	
WEST SILVERTOWN	WESTFERRY	WOOLWICH ARSENAL				
BARKING	CHAFFORD HUNDRED	CLAPTON ♦	DAGENHAM DOCK	EMERSON PARK		
GRAYS	LEA BRIDGE	OCKENDON	PURFLEET	RAINHAM		
UPMINSTER	WANSTEAD PARK ●	● Route 1 only ♦ Route 2 only				
Key:	CENTRAL LINE	DISTRICT LINE	JUBILEE LINE	TfL RAIL	DLR	NATIONAL RAIL

Route 1 - When changing at STRATFORD for London Overground stations at;

BRONDESBURY	BRONDESBURY PARK	FINCHLEY ROAD & FROGNALL
KENSALL RISE	HAMPSTEAD HEATH	WEST HAMPSTEAD



Route 2 - When changing at WHITECHAPEL, SHADWELL or CANADA WATER for Southern stations at;

CATERHAM	GYPSY HILL	KENLEY
SELHURST	STREATHAM HILL	TULSE HILL
WEST NORWOOD	WHYTELEAFE	WHYTELEAFE SOUTH



PREPARATIONS FOR CHRISTMAS DAY

On Monday 24 December 2018 Supervisors must ensure that the last TSID card holder on duty;

- empties all coin and note vaults on all POMs
- leaves devices in service with vaults inside, but with minimal amounts of cash within them prior to the closure of stations for Christmas Day
- moves all notes from the Cash Handling Device (CHD) rollers into the cash collection sack, to avoid a build-up of notes.

...AND FINALLY

The Fares Revision Circular containing full details of all changes on 02 January will be available to download or print from the T&R Intranet pages from Monday 17 December. Printed copies will also be distributed to Secure Suites across the network from this date.





LOOKING AHEAD TO 2019

In our last edition of TRU each year, we like to take a look ahead to what is planned for the forthcoming year.

As in previous years we asked [REDACTED] Oyster to identify his top 6 priority T&R issues for 2019.

SO WHAT DOES 2019 HOLD FOR US?

1 SCU UPGRADE

Progress during 2018 has not been as quick as we would have hoped and we reach the calendar year without yet getting to the start of the planned Vanguard. We provide an update on this project on [Page 22](#), but we remain hopeful that we will be able to at least start the delayed Vanguard early in 2019 and to have then completed the upgrade of equipment at all LU stations before the end of 2019.

2 WEEKLY CAPPING ON OYSTER

Our lead article and [Oyster Explained](#) feature this edition; both celebrate the delayed launch of weekly capping for Oyster PAYG users on bus and tram services. Hopefully in Spring 2019 this will also be launched across all rail modes, bringing customers using Oyster in line within those using PAYG via contactless payment.

3 OYSTER CHARITY BOX RELAUNCH

Our Oyster charity donation box scheme has suffered a bit over the last year, with a number of boxes having to be withdrawn due to damage to them. We have recently taken delivery of a number of new boxes and are planning to relaunch the scheme with new boxes and more eye-catching new branding early in the New Year. We are also still hopeful of concluding arrangements with Heathrow Airport for collection boxes to be located within their terminal buildings for the first time.

4 ELIZABETH LINE

The delay to the planned opening, originally scheduled for this month, has made national news several times recently. We had hoped that in 2019, we would see the opening of the new central section of the line between Abbey Wood and Paddington, with additional ticket halls and ticketing facilities at a number of the LU managed sites along the route, followed by the eventual full opening and the extension of Oyster and PAYG acceptance as far west as Reading. However, just as we were going to press with this edition, recent reports have painted a far less optimistic picture for when the line might open and this may well be one of the items that will still be on [REDACTED] wish list this time next year?

5 T&R MINOR PROJECTS BUDGET

Since the TfL Transformation Project made significant changes to the support services provided by TfL, some of the previous sources of funding to make some of the improvements we would like to implement have been removed. Over the last 18 months, it has become increasingly difficult to secure funding to take forward a number of small but beneficial ticketing initiatives. We are hopeful that in the next financial year some budget will be set aside to be able to take forward some of the schemes that we are currently struggling to progress, including minor changes to gatelines to improve customer flow and some POM changes to assist our customers.

6 BANK NOTE ACCEPTER REPLACEMENT

We end the year with two of the three possible designs of replacement BNA unit Cubic are evaluating, already installed at our nominated Vanguard stations. Hopefully the third of the units will follow in January, enabling us to determine the suitability of each as a longer term replacement for the current Bank Note Accepters. Realistically given lead times for procurement, even if a decision on which unit to use is made in 2019, it is unlikely that any rollout would take place within the next 12 months.



From: [REDACTED]
Sent: 12 November 2018 06:41
To: Ask [REDACTED]
Subject: "Oyster in grace"

Hi [REDACTED]

A Train Operator colleague has brought to my attention, that when they use their staff Oyster card to touch in on an entry gate, the gate displays the message "Oyster in grace".

The Oyster card works fine and the gate opens as normal but the message is a mystery.

Can you possibly shed some light on the meaning, we have asked high and low and nobody seems to have heard of this before.

Many thanks



Hi [REDACTED]

Since receiving your email we have received several other reports of staff receiving this message when using gates.

The mystery has now been solved. The message related to a 1,000 day pre-expiry warning for the actual Oyster card rather than the Staff Pass product loaded on to it, which was actually due to expire many years later.

A change has recently been applied which will extend the card life of affected Oyster cards, reduce the warning period, as 1,000 days is really much too early and will also suppress the "In grace" message appearing on the gate POD.

A more detailed explanation is included on [Page 3](#) of this edition of TRU.

Thanks again for highlighting this.

Regards

[REDACTED] *Oyster*

Hi [REDACTED]

Thank you for your email and query.

If a customer is using contactless payment via any mobile device, or a barcoded ticket for a National Rail journey, the onus is on them to ensure that they have sufficient battery power to be able to validate or present their authority to travel for inspection.

Failure to do so would make the customer liable to a penalty fare.

On exit, you should treat them in the same way as any customer arriving at the gateline and receiving a reject code 36 with an Oyster card or a reject code 80 on a contactless payment card.

Regards

[REDACTED] *Oyster*

From: [REDACTED]
Sent: 21 November 2018 07:11
To: Ask [REDACTED]
Subject: Advice please!

Hello [REDACTED]

How should we proceed when we get a customer arrive at the way out gates wanting to exit with a phone with no battery power or a contactless bank card that is not readable?

Do we charge them the standard Single fare or do we charge the Oyster fare? With the increase in phone and contactless payments, it will be more and more open to misuse. We only seem to get people with these issues on the way out, makes me think that a small number of our customers may have found a way to travel for free!! Advice please?

[REDACTED]



From: [REDACTED]
 Sent: 06 November 2018 15:33
 To: Ask [REDACTED]
 Subject: Discount on Retail Oyster card

Hi [REDACTED]

Do Oyster cards need to be fully pre-registered before we can put any Discount Entitlement onto them or can we partially register them on the front of the POM?

Many thanks

Kind regards



Hi [REDACTED]

If we are setting a discount on a card we really need to have full details of the customer. This is partly to mitigate the risks of fraud.

Currently there are several options to achieve this by getting the customer to either:

- 1) set up an Oyster online account and link the card to that. If they produce proof that the card has been registered online, you can set the registration flag on the card and only need to enter the customer's postcode and then ask them to enter their password.
- 2) complete an Oyster Registration form and fully register the card and set the discount using the TOM. The registration form must be sealed in a multi-safe bag and dispatched via the Oyster Registration Form multi-safe bag
- 3) complete an Oyster Registration form and enter basic details to set the registration flag on the front of the POM. Again, the registration form must be sealed in a multi-safe bag and dispatched via the Oyster Registration Form multi-safe bag. (The only drawback of this option is that the customer's card will not be fully registered until the registration form is processed – which could take a couple of weeks)

We are currently planning to withdraw the Oyster Registration form next spring, when the only option will be for the customer to register online, as is already the case for many store loyalty cards. Further information on this will be included within the next TRU.

Regards



Hi [REDACTED]

Thank you for your email and query. This is actually an issue that has come up a couple of times before.

You are correct in that the Young Visitor discount applies only to visitors from outside of London, who aren't easily able to get a Zip card to cover their visit.

It should not be used as a temporary replacement for London residents who have either lost the Zip card or are in the process of applying for one.

Regards



From: [REDACTED]
 Sent: 09 December 2018 12:39
 To: Ask [REDACTED]
 Subject: Young Visitor discount

Hi [REDACTED]

I was wondering if you could clear something up for me?

Today I had a woman whose daughter had lost her 11 to 15 Zip card and asked me to put a visitor discount on her spare Oyster card until her child's new one arrived.

I informed her that the discount was for tourists only. She informed me that a member of staff had done it for her son before. I was under the impression it was generally for tourists only.

Thanks for clearing this matter up.



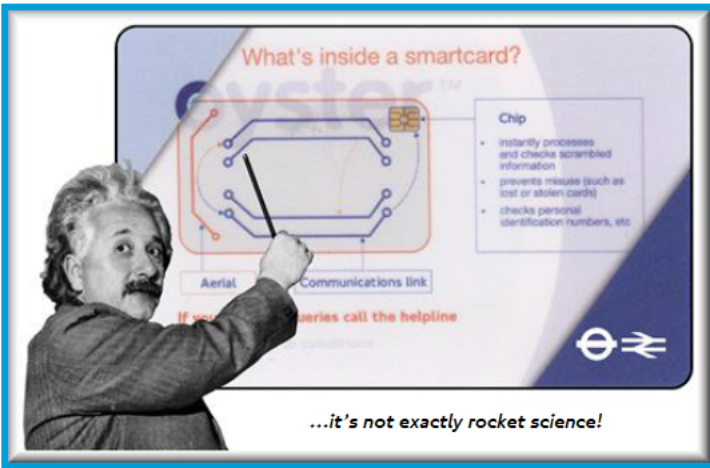
Join our **email Distribution List** to ensure you get the benefits from;

- 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.



OYSTER EXPLAINED



Delays to the planned launch of Weekly capping on Oyster has resulted in a couple of postponements of our planned feature on how weekly capping will work on Oyster.

The launch of Weekly Capping for Bus & Tram users means we can eventually bring you the promised feature.



The launch of Oyster weekly PAYG capping for bus and tram customers was delayed by 7 days, due to well publicised issues which affected the O2 mobile network in the days leading up to the original planned launch on Monday 10 December. This meant that there was a risk that some bus units may not have received the necessary updates for successful implementation. It is therefore planned to launch weekly capping on Buses and trams with effect from Monday 17 December.

WHY IS IT BEING LAUNCHED ONLY FOR BUS & TRAM CUSTOMERS?

Implementation on Bus & Tram services only, does not require formal agreement with other London area train operators (TOCs), as the revenue implications on the apportionment of fares income are entirely within TfL.

Weekly PAYG capping on bus and tram is also much simpler, as the calculations which determine what fare should be charged are undertaken on the actual card. It is therefore not necessary to recalculate fares within the back office after end of day, to determine the best value option for each days travel, or the best value over a fixed Monday to Sunday week.

WHO WILL BENEFIT?

It is likely that the actual numbers of customers benefitting from this first phase of weekly capping on Oyster, will be fairly small.

Once implemented, customers paying adult bus & tram fares will now not pay more than the price of a 7 Day Bus & Tram Pass for journeys made between 04:30 hrs on Monday and End of Day the following Sunday (actually 04:29 hrs on Monday). This will effectively mean that after paying for 14 bus or tram fares, the customer will pay a reduced fare for their 15th trip and then can travel free on buses or trams until the end of the week. The operation is explained in more detail with some examples later on.

The main beneficiaries will be regular bus and tram users who are either not sure of their exact travel plans and therefore don't want to buy a 7 Day Bus & Tram Pass, but then travel extensively or customers who regularly buy a Bus & Tram pass but on occasions travel less than expected during the week.

WHO WON'T BENEFIT?

As already stated, during the first phase of implementation, weekly PAYG capping on Oyster will only apply to bus and tram users. Customers using rail modes will not benefit until Oyster weekly capping on rail is introduced next year.

At this stage weekly capping will only apply to customers paying adult fares. Concession fares will be excluded from weekly capping until a later date. Holders of the Bus & Tram or JCP discounts will therefore not benefit from weekly capping on Oyster and should continue to buy 7 Day Bus & Tram Passes at the discounted rate.

The final group who won't benefit are those whose travel patterns don't fall into the fixed Monday to Sunday week; e.g. If they travel only from Wednesday to Saturday and then again on the following Monday and Tuesday.

OYSTER WEEKLY CAPPING (Continued...)

SO HOW WILL WEEKLY CAPPING WORK?

Customers will validate their Oyster card on the RTD on the bus or tram platform in the normal manner and the existing Bus Hopper and daily PAYG price capping arrangements will continue to determine if a fare is deducted from a customer's PAYG balance.



From 17 December with the introduction of Oyster weekly capping, these arrangements will continue until the 5th day of travel (potentially Friday).

Day	Daily Bus & Tram Spend	Weekly Bus & Tram Spend	Comment
MONDAY	£4.50	£4.50	DAILY CAP REACHED
TUESDAY	£4.50	£9.00	DAILY CAP REACHED
WEDNESDAY	£4.50	£13.50	DAILY CAP REACHED
THURSDAY	£4.50	£18.00	DAILY CAP REACHED
FRIDAY	£3.50	£21.50	WEEKLY CAP REACHED
SATURDAY	£0.00	£21.50	
SUNDAY	£0.00	£21.50	

As can be seen in the above example, on the 5th day of travel, after the second bus/tram trip of the day (14th of the week) the customer will pay only 50p for their third journey of the day, bringing their daily spend to £3.50 and their weekly PAYG spend to £21.50 (equivalent to the price of a 7 Day Bus & Tram Pass). From this point, further bus and tram journeys will be free of charge until 04:29 on Monday morning. The customer doesn't reach the daily Bus & Tram cap for the 5th day before their card achieves the weekly cap.

HOW WILL THE CUSTOMER KNOW THEY HAVE BEEN CAPPED?

Customers will be able to see whether they have reached the Daily or weekly cap either via their TfL online account or via the TfL ticketing app.

11:44	Bus journey, route 276	£0.00	£68.80
10:12	Bus journey, route 40	£0.00	£68.80
09:42	Bus journey, route 104	£0.00	£68.80
Friday, 09 November 2018		£3.20 daily total	
12:28	Bus journey, route 17	£0.00	£68.80
09:49	Bus journey, route 238	£0.00	£68.80
09:11	Bus journey, route 101	£0.20	£68.80
07:22	Bus journey, route 101	£1.50	£69.00



THIS "7 WITH A CAP" SYMBOL WILL APPEAR NEXT TO THE JOURNEY ONCE THE CAP HAS BEEN REACHED

10 November	104 Bus Journey	£0.00
9 November	17 Bus Journey	£0.00
238 Bus Journey	£0.00	
101 Bus Journey	£0.20	
101 Bus Journey	£1.50	
325 Bus Journey	£0.00	
147 Bus Journey	£1.50	

POM screens will not show that a card has reached the weekly Bus & Tram cap.

WHAT HAPPENS IF A CUSTOMER USES RAIL SERVICES AS WELL?

Existing daily price caps will continue to apply for rail travel and for customers using both bus and rail services. The one exception to this which was discovered during testing, is that if a customer reaches the daily Bus & Tram cap by paying 3 separate bus or tram fares before 09.30 and then later in the day makes a rail journey to a station beyond the Zone 6 boundary, their bus journeys which occurred before 09.30 will be wrongly included in the calculation of an Off Peak cap.

If the rail journey is within Zones 1-6, things work as they should. This anomaly could not be resolved before the public launch, but will be rectified at the first opportunity. This particular issue will always work in the customers favour.

SPECIAL FEATURE

TRU CHRISTMAS QUIZ 2018

In the final TRU each year, we replace our regular T&R Trivia items with a Christmas quiz to test your T&R knowledge.

This year we aim to test both your knowledge and powers of recollection, on some of the T&R events and issues we have covered in the nine editions of TRU that we have published during 2018.

This year we have made some of the questions a little more cryptic. There are a couple that you should find very easy, but hopefully a couple will challenge you a little more? Good Luck!



Q1	What stopped taking cash payments during 2018?	
Q2	What celebrated its 15th birthday in September 2018?	
Q3	Which language caused us problems during 2018, resulting in its temporary removal from all AFMs?	
Q4	What turned black during 2018?	
Q5	Which monarch didn't quite make it onto the Tube map this year?	
Q6	What moved from 39 to 19 during 2018?	
Q7	What was introduced for 2 or 3 days during 2018?	
Q8	What can you now get in less than 48 hours?	
Q9	What changed from 14 to 18 this year?	
Q10	'Simply Red' to 'Deep Purple' what's the link?	
Q11	What was promoted with a range of "limited edition" Oyster cards during 2018?	
Q12	Previously restricted to 2, what can you now do multiple times?	

Check how you have done and calculate your points score. The answers are on [Page 23](#).

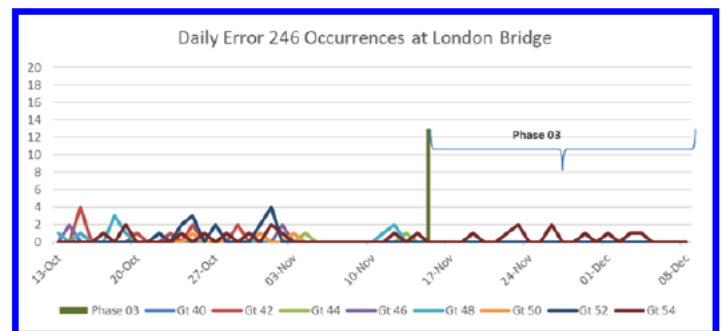
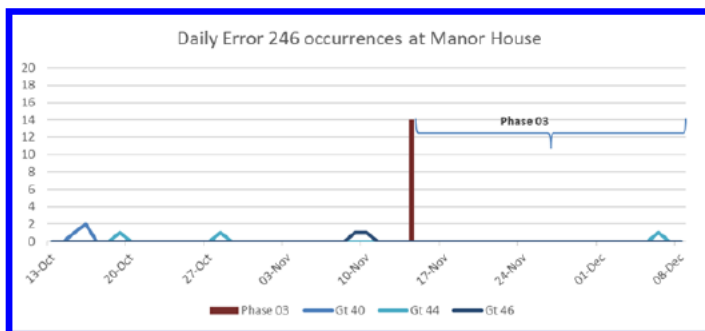
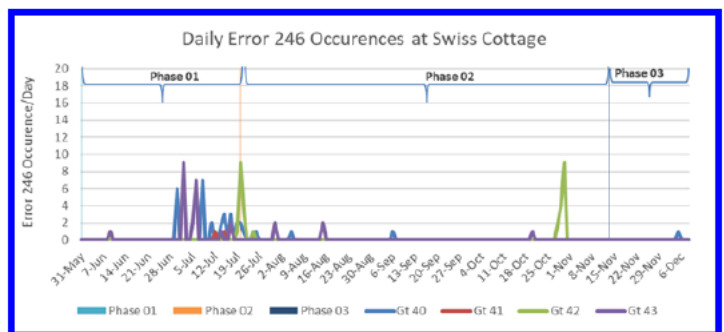
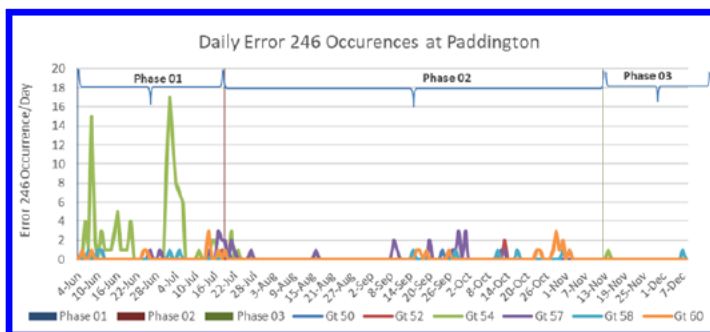
GATE UPGRADES

Since [TRUI13](#), a number of gate changes have taken place and the progress on each of these initiatives is summarised over the next two pages.

EI GATE BLU UPGRADE – PHASE III

The BLU Vanguard on EI type gates has recently been expanded by the inclusion of two additional sites within the third phase of this work. Gates at Manor House and a small number of gates in the main ticket hall at London Bridge have now joined gates at Paddington (Main) and Swiss Cottage in having the new design of shroud fitted to the light beams on their gates.

As can be seen from the graphs below, the modified gates have generally continued to perform well with very few instances of beam related faults (Error 246) being reported. The one exception to this being Gate 54 at London Bridge, which was seen to have the highest number of failures. A subsequent site visit by a Cubic engineer has since established that the new shroud on this particular gate had been wrongly aligned and it was this that had caused the errors to be reported.



We will continue to monitor the performance of the modified gates at the four sites, with a view to being able to make a decision on a wider application of the changes to other gates in 2019.

ERROR 01 FIX

Following a successful Vanguard on E2 gates at 5 locations (as outlined in [TRUI13](#)) in November, approval was given for Cubic to deploy the revised E2 gate software to all other stations with E2 gates or WAGs, with effect from start of traffic on Sunday 02 December via a global software upgrade to all E2 type gates.

Implementation of this new software should hopefully dramatically reduce the number of failures due to Error 01 being reported and improve gate availability. Unfortunately the testing of similar software upgrades for both EI and pneumatic gates has been delayed due to the level of other testing that Cubic are required to undertake in readiness for the January Fares Revision.

The planned Vanguards of both the EI and pneumatic gate software releases, is now scheduled to take place in January 2019. Hopefully as the changes being implemented have already been proven to work on E2 gates, after a short Vanguard on a suitable number of each type of gate, we should then quickly be able to rollout the modified software to all of our remaining gates early in the New Year.

EXIT THRESHOLD VANGUARD

As we reported in [TRU113](#), since the week commencing Monday 19 November, the 19 locations listed below have been operating with reduced Exit Thresholds, as a result of a software change which allows us to configure stations with different Entry and Exit Thresholds.

BANK / MONUMENT	BOND STREET	BRIXTON	EUSTON
HOLBORN	KINGS CROSS (Northern)	KINGS CROSS (Tubes)	KINGS CROSS (Western)
LIVERPOOL STREET	LONDON BRIDGE	OXFORD CIRCUS	PADDINGTON
STRATFORD	TOTTENHAM COURT ROAD	VICTORIA (District)	VICTORIA (Vic)
WATERLOO (Colonnade)	WATERLOO (Main)	EAST HAM	

At these locations, as long as the customer's PAYG balance is more than **-£2.00** they will be able to exit through the gate even if they had failed to validate at the start of their journey and will have the applicable maximum fare deducted from their PAYG balance.

Prior to this change and at all other stations which have the Exit Threshold set at the minimum PAYG fare from the station, the gate would have not opened for any PAYG customer who had not touched in and whose card balance was less than the cost of the minimum fare journey at the station they were exiting. This would have resulted in reject code 36 being displayed on the gate POD.



At the time of publication, it is really a bit too soon to be able to analyse the impact of the recent change at the Vanguard stations, but over the next few weeks data will be examined to determine the best way forward in terms of implementing this change more widely. A decision will also need to be taken on the level at which the Exit Threshold should be set.

If we do decide to go ahead, the change will need to be implemented in line with one of the scheduled base data updates, which happen fortnightly outside of the fares revision freeze periods.

PADDLE CONTROL SOFTWARE

The software that controls the operation of the paddles on our gates is currently being reviewed by Cubic, as it pre-dates the relevant British Standard covering the operation of power operated doors. Although previously installed equipment does not need to comply with later standards, any new equipment we install should comply with the relevant British and EU Standards.

In the case of gates, the standard governs the forces used to close the gate paddles and how the paddles react if an obstruction is detected by the paddles as they are closing. This aims to minimise the impact if a customer or their property gets caught between the paddles when passing through the walkway.



At a recent demonstration by Cubic of revised software, concerns were raised that the much quicker "back-off" of the paddle when an obstruction was detected, could potentially make it considerably easier for anyone intent on not paying their fare to get through the gate as the paddles were in the process of closing behind a customer who had legitimately used the gate.

Currently if an obstruction is detected between the paddles, they will partially release after 3 seconds and the gate paddles will fully open after an obstruction has been present for 30 seconds.

During the demonstration the period before a partial opening took place had been reduced to $\frac{3}{4}$ second, with the gate paddles fully opening after only 7 seconds.

Cubic are currently reviewing how the paddles behave to increase the times before the paddles partially release, to reduce the angle at which they re-open and the time before the paddles fully reopen.

Hopefully we will be able to identify a solution which complies with the relevant safety standards, is safer for customers to use, whilst not diluting the effectiveness of the gates in protecting our revenue.

INTELLIGENT GATELINES TRIAL

Further to the short article that we included within [TRU113](#), an onsite demonstration was carried out at Blackhorse Road, during engineering hours on the night of Thursday 22 November, during which the capabilities of the system were demonstrated to those present.

Using cameras located on the ceiling of the ticket hall to detect the movement of customers, data is captured and analysed, resulting in prompts to change the direction of operation of individual gates, to be sent to a “virtual SCU” hosted on a mobile device. This then gives the member of staff managing the gateline the opportunity to either accept the recommended change – resulting in the operational mode of the gate changing, or to reject the suggestion. If the suggestion is rejected or there is no response from a member of staff within a set time, the gate will remain in the current mode of operation.



The iPad based solution used for the recent demonstration also includes some basic SCU functions and hosts a small CCTV image of the gateline as illustrated in the image below left.

Although the system can be figured to operate automatically, for the LU trial at Blackhorse Road any change in gate operation will need to be accepted by a member of staff.

The trial at Blackhorse Road is currently planned to start at the end of January 2019 and then run through until October 2019, during which time data and feedback from users will be reviewed. At the conclusion of the trial the equipment will be removed, as there is currently no long term plan for LU to use this technology at other stations.

Final details of the LU trial are still being considered, including whether the ‘virtual SCU’ functionality could be accessed from an LU iPad, whilst still being able to access other TfL applications.

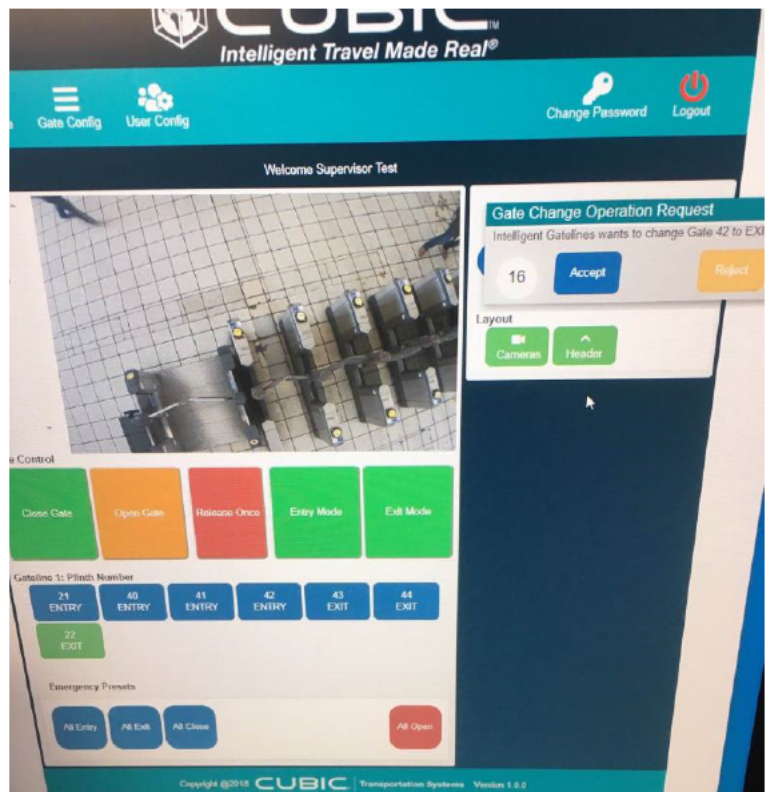
Cubic are also planning to undertake a similar trial at Marylebone (NR) station, which due to services terminating there has very uneven flows of customers in and out of the gateline.

Unlike the LU trial, it is possible that the Chiltern railway gates will be configured to change automatically to avoid the need for staff intervention.



These two trials are not to be confused with another study being undertaken by Cubic at Cambridge Heath station on London Overground, which recently featured in a slightly inaccurate Evening Standard article (see feature on [Page 24](#)).

We will update you on the progress of the Blackhorse Road trial in future editions of TRU in 2019.



THE SEARCH IS ON FOR A BNA REPLACEMENT

Further to our article in [TRU113](#), further progress has been made by Cubic towards the trial of three different types of note handling unit, as possible replacements for our ageing current Bank Note Acceptor (BNA) units, which the majority of our MFM's have.

PHASE I



The first stage of the trials to compare each of the three new units with the current design of BNA, saw the installation of a Bank Note Acceptor produced by CI Tech, within MFM31 at Highbury & Islington on the night of Thursday 06 December.

This unit is manufactured by the suppliers of the existing MFM BNA unit and was the easiest of the three designs to physically install within the MFM. As can be seen from the photographs on the right, the unit has similarities with both the current MFM BNA and Bank Note Recycler (BNR) units.

To service this new device, the backbone has to be withdrawn and the unit rotated, in a similar fashion to our existing BNR units. This then gives the TSID card holder access to the front of the unit where the note vault is located.

The note vault can then be released by the operation of the upper of two locks on the vault and the yellow lever (as illustrated on the right).

Learning from the experience of the BNR, where the use of separate red and yellow tagged keys caused lots of confusion with users, this new unit will have a common key for both locks, as on the current BNA vault.



The new vault has a capacity of between 1500-1800 notes depending upon the condition of the notes. New "bank quality" notes take up less room in the vault than ones that have been used extensively and which may have folds or creases in them, although this difference is much less in the case of polymer £5 and £10 notes.

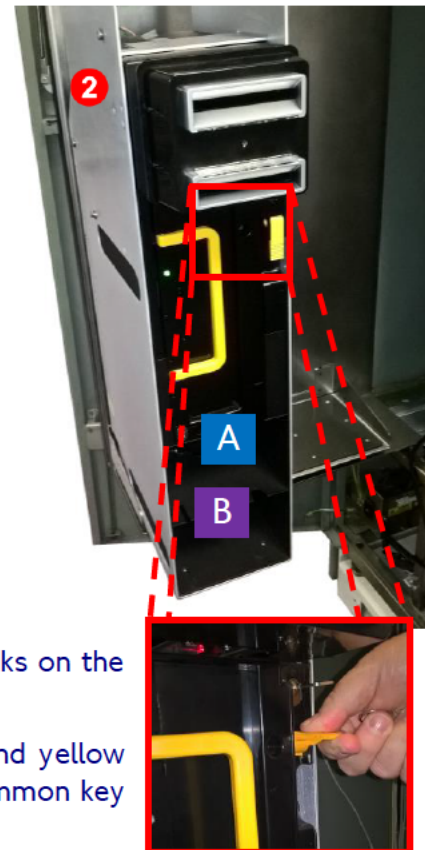
Once removed from the MFM the vault is opened by use of the key and a yellow slider on the top of the vault. The notes are then removed in a similar manner to the existing BNA note vault.

During the trial at Highbury & Islington, the unit will work as a Bank Note Acceptor, with all notes being transferred into the vault after completion of each transaction.

If a transaction is cancelled, the notes are returned quickly from the note escrow in one dispense via a separate note return slot (as can be seen in photograph 2 above). Externally the unit looks similar to an MFM fitted with a BNR, but during this trial will not be able to pay out notes as change or when making a refund.

If we were to go forward with this design of unit, the empty spaces below the note vault (marked "A" and "B" in image 2) could be utilised to convert the same device into a note recycler. However, this would require further software development as the current MFM software does not support this functionality on the CI Tech unit.

The trial of this unit will continue into the New Year and we will be actively encouraging feedback from users via a Trial Log Book supplied to the station by the T&R team.



TRIAL EVENT LOG	
STATION	Highbury & Islington
SUBJECT	MFM BANK NOTE ACCEPTOR (BNA) REPLACEMENT TRIAL
DEVICE	MFM 31
DATES	21/12/18 to 21/12/18



BNA REPLACEMENT Continued...

PHASE II

A week later, the second type of replacement unit was installed within MFM31 at Moorgate (Northern) on the night of Tuesday 11 December. This Smartpayout unit is a simple Bank Note Recycler provided by Innovative and is already used within the Cubic TVMs which have been installed on various modes and as a Vanguard on LU on the new TVMs at Stratford (Mezzanine) and Bond Street (Marylebone Lane).



In terms of software integration, this was the most straightforward of the three units being evaluated, to work with the MFM, as the common software platform shared by the TVM and MFM already supports the operation of this unit within the TVM. It is for this reason that the trial unit at Moorgate will be configured as a note recycler rather than as a bank note acceptor. The capacity of this recycler is very much smaller than that on the 100 MFMs which have our current design of BNR unit and only has the capacity to hold a maximum of 61 notes. These are held within a belt mechanism, which the device shuffles to select the correct note to be dispensed.

Positive aspects of the recycling capability of the unit are that the device will be able to dispense £5 and £10 notes as change and when making a refund, hopefully reducing the frequency of re-floating the device with £1 and £2 coins. Like the existing MFM BNRs the unit also has the capability of accepting Scottish and Northern Irish notes.

The task of physically incorporating the Smartpayout unit into the MFM was slightly more challenging, as the unit has previously only been used in devices with front access.

Again the housing adopted for the trial uses a similar mechanism to the existing MFM BNR. To service this unit, the backbone will again have to be withdrawn and the unit rotated, giving the TSID card holder access to the front of the unit where the note vault is located. On this design of unit, the note vault can currently be released without the use of a key, although in the longer term it could be possible to adapt that vault to include a lock.

The note vault is smaller than either of the current MFM note vaults or the CI Tech unit (opposite) and can only hold around 500 “bank quality” notes. This is half the capacity of the current BNA vault which can hold up to 1,000 notes.

During the testing of this unit within the MFM, a number of changes were needed to physically integrate the device into the MFM, in particular to remove a number of potentially sharp edges on the housing and to reroute some of the cabling. These issues have now been resolved with additional black protective material being fitted along some of the edges of the casing.

From a customer point of view, the operation of this unit appears to be a lot slower than the existing BNA or the CI Tech unit described on [Page 20](#) opposite. Notes are accepted and processed individually, so there is a pause between the first note being fed in and the customer being able to insert a second note. When notes are paid out by the unit, either when giving change or when processing a refund, these are again dispensed individually due to the need for the belts to move the relevant notes to the right position, making the operation slower than on other designs of unit.

If a transaction is cancelled after multiple notes have been inserted, these are returned individually in the same order that they were inserted and therefore take considerably longer to return the whole payment to the customer.



REVENUE PROJECTS

BNA REPLACEMENT Continued...

PHASE III

The final phase of the search for a replacement BNA unit will now not occur until early in 2019. As the unit supplied by Suzohapp which is due to be installed in MFM 31 at Vauxhall, requires considerably more work to allow it to be physically fitted within the MFM.

For this device, a new casting will need to be produced to accommodate the current bankcard acceptance equipment (PED) and the new BNA unit.

Testing of the third trial unit, like a number of other projects reviewed elsewhere in this edition, has also been pushed back by the programme of testing Cubic need to undertake in readiness for the January Fares Revision.



Like the CI Tech unit at Highbury & Islington, the Suzohapp unit will initially be configured to work as a Bank Note Acceptor, although it does have the capability of being converted into a Bank Note Recycler at a later date if required.



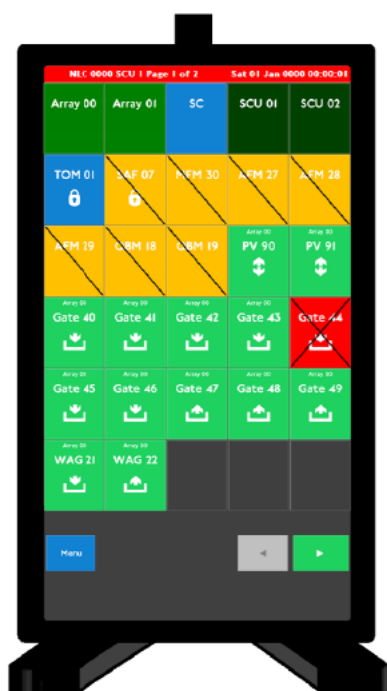
We will provide further information on the operation of this unit and the performance of the two other units already installed within TRU115 at the beginning of February.

SCU UPGRADE

Unfortunately the year finishes without much in the way of good news on the SCU upgrade front.

In our last edition, we had been hopeful that we would at least be able to get one or two of the smaller Vanguard stations (East Putney or Southfields) up and running with the new style of SCU before the Christmas break.

However, testing pressures related to the forthcoming January Fares Revision and other projects have resulted in time running away from us and we are now regrettably looking at the first installations now not taking place until January 2019.



Hopefully by the time TRU115 is published in early February, we will be in a position to report on the first devices actually being in use.

As we have previously outlined, the main reason for the on-going delay to the SCU Vanguard relates to a potential screen freeze issue which had been observed a couple of times when development work on the new equipment was taking place.

Although we feel that it is unlikely that this would actually occur when the new SCU is connected to live devices on a station, hence our keenness to progress to a Vanguard, other parties involved are taking a more cautious line.

Time hasn't been totally wasted as a result of the delays to the programme, as the Cubic installations team have been progressing the installation of the new cabling required for the new SCU, at stations across the network in readiness for the planned rollout later next year.

Most stations have now been completed, but there are a small number of "difficult sites" where track access is required to access the existing cable runs, that are yet to be completed.

TOM/SAF SOFTWARE UPGRADE

Since the completion of the recent TOM/SAF upgrade, an issue has been identified by Cubic affecting the TOM at a number of locations and has resulted in a majority of the TOM/SAF faults logged with the Cubic Helpdesk.

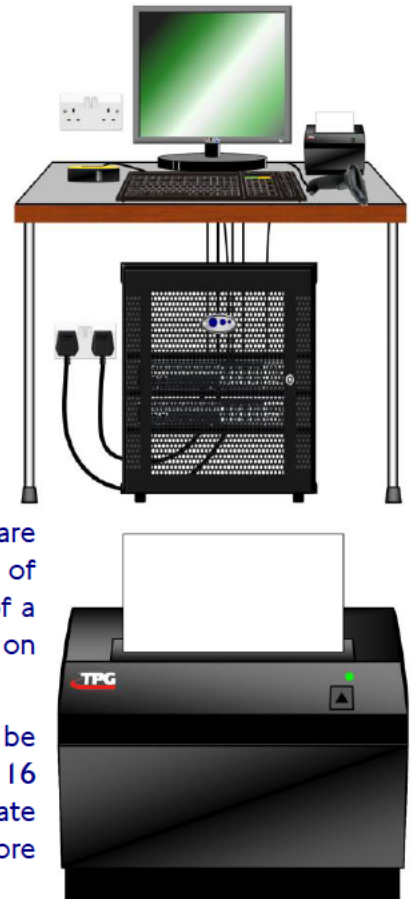
The issue results in the new TOM receipt printer appearing to go offline and therefore prevents staff using the TOM from being able to print off any receipts for the transactions they are processing.

To address this particular issue, a new version of TOM/SAF software has been developed by Cubic and was initially loaded to the TOMs at Acton Town, Euston and Liverpool Street (C&H) on the night of Wednesday 05 December, taking effect from the start of traffic the following morning.



Following this Vanguard it is planned to progressively rollout the new software to all other TOMs and SAFs at a rate of around 50 devices per night, as part of a programme scheduled to commence on Monday 10 December.

All being well, the final devices should be upgraded on the night of Sunday 16 December, shortly before the final date that device changes can be made before the fares revision change freeze starts.



Hopefully implementation of this new software should reduce the number of TOM faults and improve the overall performance of the TOM and SAF devices.

CHRISTMAS QUIZ ANSWERS

How did you do?

No	Answer	Award yourself
1	TRAMS stopped taking cash payments on Monday 16 July 2018	2 points
2	OYSTER CARDS – which were first introduced in September 2003.	2 points
3	PORTUGUESE – now reinstated and working on all our POMs.	2 points
4	A new black TOM/SAF replaced the previous dirty cream version.	2 points
5	The ELIZABETH line was originally meant to open this year.	2 points
6	The QUEUE BUSTER MACHINE (QBM) range.	2 points
7	2 and 3 Day VISITOR TRAVELCARDS were introduced on 24 June 2018	2 points
8	An OYSTER CARD REFUND from a MFM	2 points
9	The new 18-series of TSID CARDS replaced the 14-series on 01 April 2018.	2 points
10	RED bulk coin bags for £1 coins were replaced by PURPLE bags	2 points
11	3 designs of limited edition Oyster cards were issued with ADIDAS SPORTS SHOES	2 points
12	Multiple BUS HOPPER journeys if all made within one hour.	2 points

The maximum points score available if you got everything right was 24. So how does your point score rate?

We thought we would classify your performance using stations with a bit of a Christmassy theme as our categories:

Total	Level achieved	Rating
20 – 24	STAR LANE	The top of our T&R Christmas tree. A shining light to your colleagues and clearly someone who reads their TRU.
15 – 19	ANGEL	You could have been top of the tree if you had just got a couple more right!
10 – 14	SEVEN KINGS	With a bit more study you could become one of the Wise Men!
5 – 9	PUDDING MILL LANE	You have definitely gone a bit off the boil.
Under 5	TURKEY STREET	You need a lot of work to get ready for Xmas!

...AND FINALLY!

YOU CAN'T BELIEVE ALL YOU READ IN THE PRESS



A couple of T&R stories have recently caused a bit of a stir in the press. In [TRU113](#) we mentioned the planned PAYG extensions to Epsom and Hertford North as part of our *Oyster Explained* feature covering the use of PAYG outside of Zones 1-6.

Somehow or the other a reporter from a newspaper in Surrey got hold of this information and in journalistic fashion concocted a story about Epsom being moved in to Zone 6 and the consequential impact on other stations further out of London within their catchment area.

Sadly had he actually read the title of the article and more than one paragraph, it would have been clear that there was absolutely no suggestion of Epsom being in Zone 6 and we in fact didn't indicate which of the zones beyond 6 it would be in.

This does however, highlight an important issue that we would like to bring to the attention of readers, this being that in an effort to keep staff fully up to date with what is happening and what is planned in the near future, we at times include information that hasn't been "officially announced" to the wider public. Such information should not therefore be forwarded to contacts outside of the industry.

The second story appeared in the *Evening Standard* on Thursday 22 November and related to development work that Cubic have been undertaking and a trial that is currently taking place at Cambridge Heath station on London Overground. Unfortunately, this article again completely misreported what is actually taking place at that station and discussed the use of facial recognition software, which is not part of that current trial. We would also like to clarify that this is not linked to a separate planned Cubic trial of intelligent gateline operations, which is due to take place at Blackhorse Road next year, which we briefly covered in [TRU113](#) and which is covered in more detail on Page 19 of this edition.

Shortly after publication of [TRU113](#), we were advised of a delay and then the subsequent postponement of the planned launch of PAYG acceptance on Heathrow Express (HEX) services, which we had reported as being due to start on Thursday 22 November.

CORRECTION!

At the time of going to print with this edition of TRU, no new date for the launch of PAYG on HEX services had yet been announced and as a result we have temporarily removed the updated PAYG map from the intranet, to avoid any possible confusion around where PAYG can currently be used. The map will be reinstated once a new "go live" date is confirmed.

It now looks likely that the launch will not take place until mid-January and further information on this will be communicated via the weekly *Hot Issues Bulletin* as we receive it.

Please be aware that due to the last minute postponement, there may be other versions of maps in circulation, which incorrectly show PAYG as being valid on Heathrow Express.



Heathrow
Express

LOOKING AHEAD TO TRU115

That's it for the TRU for 2018. We will be back in the New Year with our next edition TRU115, a combined January / February edition, which is due for publication towards the end of January.

Within it we plan to include:

- *Our customary review of the January Fares Revision, what went well and what didn't go so well*
- *A look back on the major T&R events of 2018*
- *Updates on all of the current projects and vanguards*
- *Plus all of the usual T&R news and our regular features.*



All that remains is for everyone in the Ticketing & Revenue Team to wish a very Merry Christmas and a...

HAPPY NEW YEAR TO ALL OUR READERS