

TICKETING & REVENUE UPDATE

OCTOBER 2021

For attention of all Station and Revenue Control staff

WEEKLY CAPPING IS HERE

The Ticketing & Revenue Update #111

JULY / AUGUST 2018

For the attention of all Station and Revenue Control Staff

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In preparation for the forthcoming Fares Revision, we have put together a four page feature providing details of most of the major changes that are being implemented.

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We provide an overview of some projects being undertaken. Contract renewals and opportunities are being pursued to improve the arrangement of ticketing equipment at a number of stations.

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Written and compiled by **ALAN MUNDY & DAVID AIX**

COUNTDOWN TO WEEKLY CAPPING

PAYG charges for customers using Oyster and Contactless Payment are generally the same. The current exception to this being that contactless users also get the benefit of a weekly Price Cap, which is applied on a Friday Morning. Sunday morning is the price of the 7 Day Travelcard for the appropriate zones. So for example, a customer travelling within Zones 1&2, would not pay more than £54.10 for their travel.

Last year, the intention was to introduce a weekly capping system for Oyster PAYG users. This will utilise the TFL back-office system used for contactless payments to calculate payments for Oyster PAYG users. Implementation requires a new software upgrade to change the TFL back-office, as well as the current Oyster card management system.

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

Until then weekly capping on Oyster will be prevented by limiting the range of test cards created for the trial.

The launch date for this additional facility has yet to be confirmed, but it will potentially be soon after the September Fares Review. System limitations will mean that it will only be able to store a limited number of cards which do not have any current discounts set on them.

Once a launch date has been confirmed, further information will be supplied to stations via the TRU and the weekly *TRU Issues Bulletin*.

Well the good news is that Weekly Capping on Oyster was successfully implemented as planned on Monday 27 September and Oyster users can now enjoy the same benefits as contactless payment customers when making PAYG journeys. This month on Pages 10 and 11, our *Oyster Explained* feature focusses on Weekly Capping and how it operates.

TRANSFORMING THE TUBE

There is a popular saying that you wait ages for a bus and then two come along together. Well it seems that you might be able to say the same thing about stations and new ticket halls!

After quite a long gap since the last major station opening occurred at Finsbury Park in December 2019, in recent months we have seen two new ticket halls and two completely new stations open on the LU network. On Pages 8 and 9 we give an overview of these recent openings.

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...AND FINALLY

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TRIVIA - Pages 2, 11 & 16 - [Answers on Page 19](#)

Way back in [TRU111](#), which was our July / August edition in 2018, our lead article was "Countdown to Weekly Capping". What we didn't know at the time, was that like an Apollo space mission launch, it was going to be a very long countdown!

An RTD upgrade was due to take place on 19 August 2018, after which the launch of Weekly Capping for Oyster users was expected to come shortly after the September Fares Revision. However, we didn't actually say which September Fares Revision that might be!

Many projects are delayed beyond their original implementation dates, but we didn't really expect this to be implemented 3 years after we had originally expected.



KEY STORIES INSIDE

Page 3

COLLECTION & CHD PROBLEMS

We outline issues that have occurred since the return to cash acceptance at our stations and how we are addressing these.

Page 6 & 7

CHARITY UPDATE

We provide an update on the latest donation to Railway Children and how it will help them.

Page 15

MFM NHU UPGRADE

We provide an update on the replacement of existing note handlers in our MFMs.

Page 17

GATE UPGRADES

The latest information on current and planned upgrades to our gates.

Page 18

WAG UPGRADES

We provide some early information on some planned improvements to our Wide Aisle Gates.

SEPTEMBER FARES REVISION

REVIEW OF SEPTEMBER FARES REVISION

Following each Fares Revision, in the next edition of TRU we take a look back at what went well and any particular issues that didn't go quite to plan.

Recent fares revisions have gone very well with no major issues being identified and the last fares revision on Sunday 05 September followed this pattern.



The only very minor issues identified during initial testing on the Sunday morning were that a couple of POMs were failing to show the new Northern line stations which were added as part of the fares revision changes. The devices concerned were possibly offline or had not gone through their End of Day process, so had failed to switch tables as expected. These devices were quickly resolved.

The changes were implemented without any other hitches, allowing the freeze in place before and after each revision to be lifted very quickly, once on system testing had proved that all changes had been successfully implemented.

As previously reported, the September Fares Revision changes were relatively small and were rather overshadowed by the more significant change later in the month, when as reported in our lead article on Page 1, we implemented Weekly Capping for Oyster users. Further information on this is included in this month's *Oyster Explained* feature on Pages 10 and 11.

Following completion of the September Fares Revision we are now rapidly approaching the contractual deadlines for the main fares revision which would normally be scheduled to take place on Sunday 02 January 2022. However, much like last year these deadlines are now very close and timescales for implementing changes are now very unrealistic.

As a result, there is currently a lot of uncertainty around whether the

JANUARY FARES REVISION

fares changes will be implemented at the start of January, or whether we will again be forced to make the changes later in the year, as we did in March of this year. At present it is looking very unlikely that the January date will go ahead.

Hopefully the Department for Transport (DfT) will soon clarify the extent of the fare rises allowed on National Rail services and how funding discussions between DfT and TfL will affect the fares that TfL are responsible for setting. Hopefully we will be able to provide further information on this in TRU135.

CLOCKS FELL BACK FOR FALL



At 02.00 hrs on Sunday 31 October, British Summer Time (BST) officially came to a close and clocks in the UK reverted back to Greenwich Mean Time (GMT).

As all our ticketing related systems rely heavily on accurate time keeping devices, there is always the potential for things to go wrong if devices do not switch over as they are supposed to.



This is something we have become very good at over the years and happily there were no reports of any clock related disasters from start of traffic. However, staff should still check their personal devices such as phones, iPads and Revenue Inspection Devices (RIDs) and report any that have failed to revert to GMT.

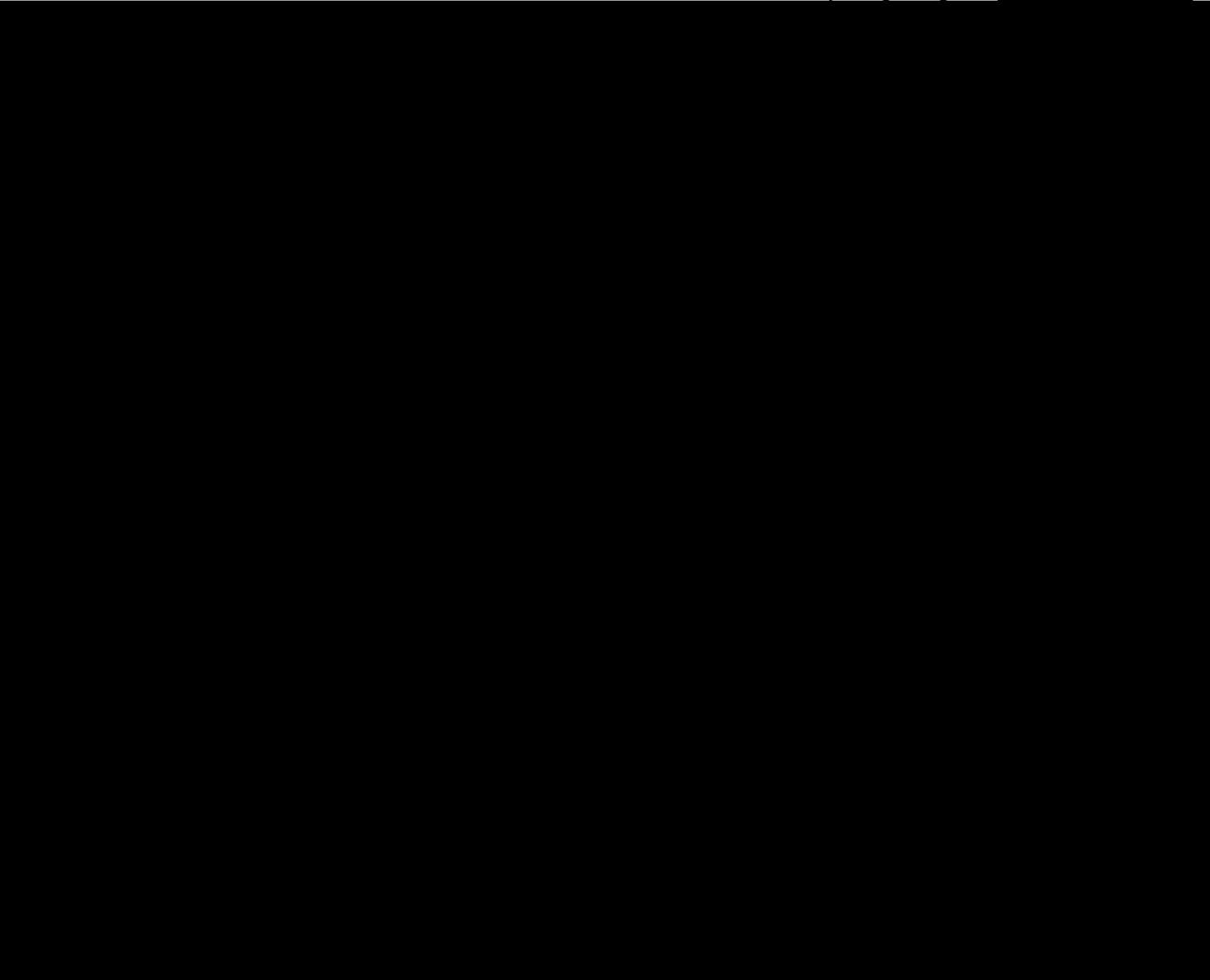
Part 1 – Whilst working on the gateline you find a £20 note on the floor of the ticket hall...

Q1) ...should you?

- | | | | |
|---|---|---|------------------------------------|
| A | Pay it in via the front of the POM and record it in the Secure Suite Log Book | B | Follow the lost property procedure |
| C | Pay it into the CHD and record it in the Secure Suite Log Book | D | Place it in the Secure cabinet |

Ticketing & Revenue
T & R
Trivia

Answers on Page 19



CHD PROBLEMS – UPDATE

In TRU133, we outlined some of the issues that Pay Complete had encountered since the return to full cash acceptance. We are pleased to report that since then progress has been made with the recruitment of engineers to bring their team back up to full strength and a gradual reduction in the number of outstanding faults.

We are still having issues with one component for the Note Acceptor and Note Recycler units, where failures have been at an unprecedented level. In the first 4 years of the contract Pay Complete had replaced around 10 of these modules across the whole LU estate. However, since July, they have had to replace around 40 of these units, far exceeding the parts holding of this item. As stated in our previous article, the cause of this high level of failures is attributed to a large number of the CHDs which stood unused for a long period of time last year, during which the rubber belts stretched and deteriorated on many devices.

Since this particular item is produced by a supplier in Italy there have been delays in receiving batches of these units, whilst several replacement modules have had to be returned due to faults.



A further consignment was delivered to Pay Complete on Monday 11 October, with sufficient parts to cover the final 15 sites that had been awaiting parts for a couple of weeks. It will also provide a pool of parts to cover any further failures that do occur.

We have also asked Pay Complete to inspect a number of devices to see if there is any sign of deterioration within belts that handle the notes, so that future failures can be avoided by changing units before they fail completely.

PayComplete

ALL CHANGE AT FINSBURY PARK



During the height of the pandemic, the need to maintain social distancing and separate customer flows, resulted in customers interchanging between NR and LU services at Finsbury Park being rerouted from using the spiral staircases which link the two parts of the station and were instead routed out of the station to then re-enter through the LU gateline to continue their journey.

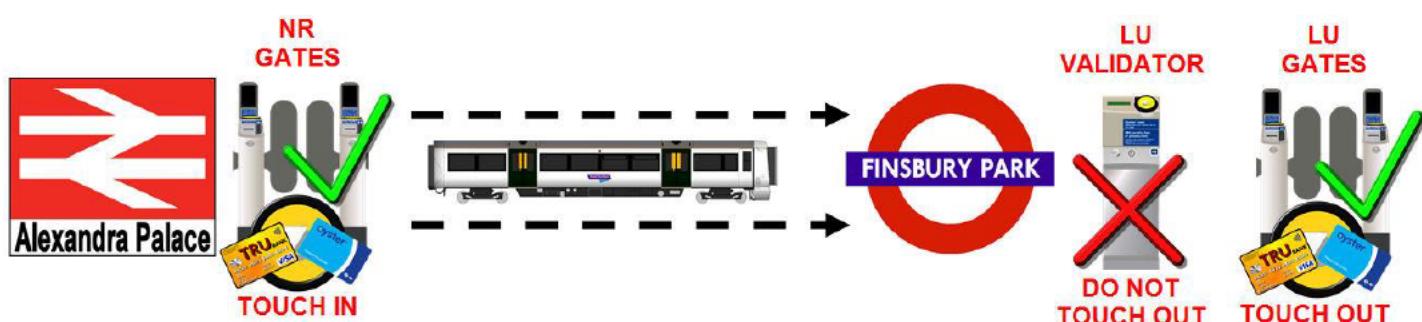
To avoid potential overcharging of customers, gateline settings were applied to allow customers to continue their journey whilst not incurring an additional charge when they touched in for a second time.

As we gradually return to normality, the station has returned to normal operation and gateline settings were therefore removed. However, this then caused an issue to resurface, which had originally occurred when the new Western ticket hall opened.

Due to the location of a NR gateline on the northbound NR platforms, customers wishing to exit the station via the new ticket hall, found that their journey had already been completed when they exited through the NR gates and they therefore created an 'un-started journey' when exiting a second time via our new gateline.

The solution to this issue was to get the customer to touch-in on one of the validators in the interchange passageway, so that the existing Out of Station Interchange (OSI) functionality would reopen the original journey. This then allowed them to leave via the Western ticket hall without being overcharged.

This message has recently had to be recommunicated since the station resumed two way operations.



Looking forward, these issues will hopefully shortly be eased. As part of the on-going development work at the station, NR are due to relocate the existing NR gates from the platforms to the Station Place ticket hall. This will mean that the station is then fully gated for the first time and customers from the NR platforms should then be able to exit through whichever gateline they choose.

Discussions have recently taken place concerning the retention of the existing PVals in the interchange corridors, as only a very small number of customers will legitimately need to use these in the future. These will be small numbers of customers travelling from outside the Oyster / contactless area on paper tickets or ITSO products, who want to start an Oyster or contactless journey from Finsbury Park.

The number of customers making genuine journeys of this nature will be reviewed once the NR gateline has been relocated, to ascertain levels against customers making unnecessary validations. Generally we try to avoid having PVals within the 'Paid area' where possible, so we will be evaluating these against the potential fraud risk of customers without tickets for the NR portion of their journey, being able to touch-in / out and only pay for the small LU element of a much longer journey.

FLEXI-SEASON TICKETS

One of the most significant impacts of the Covid Pandemic has been the move towards many workers working from home and the longer-term impact of many employees only attending their office / normal place of work for 2 or 3 days per week.

Traditionally the commuter market was largely served by the sale of 7 Day Season tickets



THE KEY FEATURES



- ▶ Will start as a “smart-only” product on ITSO or barcode (where available)
- ▶ Available to customers online, via in-app purchase or from selected NR ticket offices.
- ▶ Valid between two named stations
- ▶ Provides customers with 8 days of travel in a 28 day period
- ▶ Each day’s travel must be “activated” prior to travel

or Travelcards, the prices of which were generally matched to 5 return journeys, or possibly offering a slight saving on individual day tickets. Similarly, greater discounts were offered to customers purchasing longer period tickets for periods of 1 month and up to a year.

With the move away from travelling everyday Monday to Friday, the appeal of 7 Day tickets for many customers has diminished. In response to this the Department for Transport (DfT) and the Train Operating Companies have started to offer Flexi-season tickets for journeys from stations outside of the London zones, allowing customers to travel on any 8 days within a 28 day period. The days do not need to be consecutive and allows gaps between the periods of travel.

These new products will not be offered within the London area as PAYG (Oyster and contactless) already offer customers a greater degree of flexibility, in that customers are only charged for the days they actually travel, and they will therefore receive the best value even if they only travel 2 or 3 days within a week.

To facilitate the acceptance of these new products, it will be necessary to upgrade the card readers (RTDs) on all stations. Initially this is being Vanguarded at several NR stations where these products will be valid, but on the night of Tuesday 01 November, Cubic will be adding the LU stations listed in the table to this Vanguard.

These are a mixture of stations where ITSO flexi-tickets will potentially be used for NR journeys and other LU sites where they won’t be valid. These are being included as at the end of the Vanguard, the same software will be deployed to all RTDs on Sunday 14 November. This is to maintain a consistent software build across the whole RTD estate.

BARBICAN
BLACKFRIARS
CANADA WATER
EAST HAM
FARRINGDON
KILBURN
MOORGATE
VICTORIA
WANSTEAD

BAR-CODED TICKETS

Across the rail industry, there is a gradual movement away from reliance on magnetic stripe ticketing. On TfL services this has generally been towards Oyster and contactless payment technology.

On National Rail services, in addition to Oyster and contactless a number of the Train Operating Companies (TOCs) in the London area have introduced ITSO smartcards for their season tickets, with the potential for the same cards to also be used for Single and Return tickets in the future.



(1) TICKET TYPE (4) VALIDITY DATES (7) TICKET PRICE
 (2) JOURNEY DETAILS (5) TICKET CLASS (8) BARCODE
 (3) TICKET RESTRICTIONS (6) REFUND POLICY (9) VALIDITY INFORMATION

Train Operators have also embraced other technologies as an alternative to a magnetic stripe ticket, with a number using barcode technology to allow customers to load tickets onto their phone, or to print tickets like the example above. Unfortunately, gates at LU stations do not have the capability of reading barcoded tickets, as in addition to barcode readers, they would also need to be linked to the NR ticketing system, rather than our own.

We have recently received several enquiries from stations regarding the acceptance of barcoded tickets and it has been confirmed that TOCs should not be issuing this type of ticket for journeys that include travel on LU.

SPECIAL FEATURE

CHARITY DONATION UPDATE

At the end of September, we made a further payment to the Railway Children charity, of money from unwanted Oyster cards which had been donated by our customers via the Oyster donation facility on our POMs and TVMs.



The latest payment was for £22,031.94 and covered donations made during the period from 10 January 2021 to 04 September 2021.

This was the third payment made to the charity since the scheme was launched in late February 2020 and brings the total amount generated by the scheme to an amazing £90,519.51.

It is worth noting that this amount has been generated during a period of much lower customer usage of the network and the very low numbers of visitors to London, this being one of the main groups that we would normally expect to make up a large proportion of customers "cashing in their Oyster cards".

Another factor to also consider is that since the launch of the scheme, any new Oyster cards issued no longer have a refundable deposit on them, so on newer cards it is only the PAYG balance that is being donated, rather than the PAYG and deposit on older Oyster cards.

The breakdown of payments made since the scheme launched are:

Payment date	LU POMs	Bus TVMs	HEX TVMs	Grand total
August 2020	£40,329.14	£77.07	£55.90	£40,462.11
February 2021	£27,800.15	£120.97	£104.34	£28,025.46
September 2021	£21,834.86	£96.52	£100.56	£22,031.94
Total	£89,964.15	£294.56	£260.80	£90,519.51

Donations are still continuing to flow in week by week, and we are hopeful of reaching the £100K mark before the end of 2021.

TERRIFYING TIMES FOR INDIA'S CHILDREN

Coronavirus has been catastrophic for millions of people in India, and especially for the vulnerable children we work with there. Their fragile families and difficult living situations have been made near impossible by the crisis and our teams have had to work hard to keep them safe from both the virus and its devastating impact.

YOUR SUPPORT HAS ENABLED US TO REACH AND PROTECT 4,168 VULNERABLE CHILDREN SINCE THE PANDEMIC HIT INDIA IN MARCH

When the lockdown started so many daily wage workers lost all income immediately so we contacted the families we already knew would be affected and gave them emergency support.

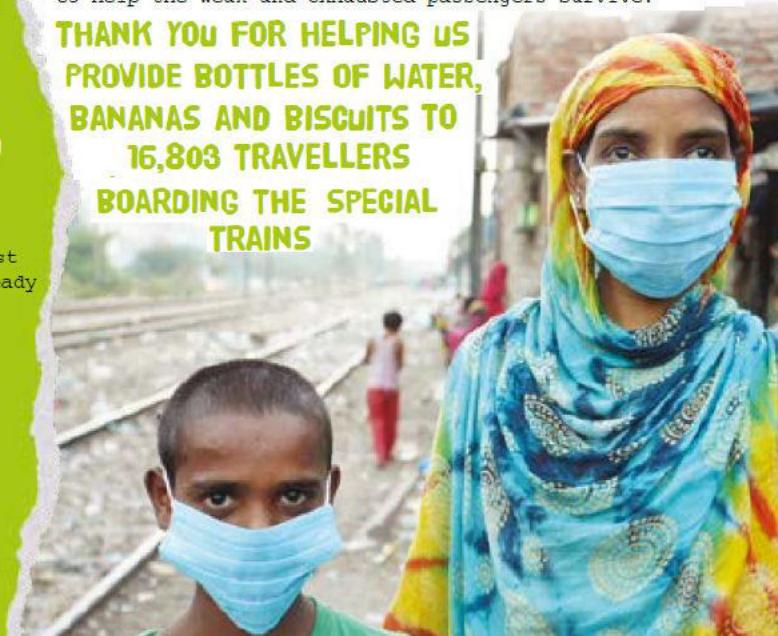
WITH YOUR HELP WE REACHED OUT TO 7,331 FAMILIES IN DESPERATE NEED

Many lost homes and have been forced to live in the slum communities that are growing alongside the railways so our teams are now working within these to reach and protect the most vulnerable children.

THANKS TO YOU OUR TEAMS HAVE BEEN ABLE TO PROVIDE EMERGENCY PARCELS OF FOOD AND HYGIENE SUPPLIES TO 2,929 FAMILIES

Many desperate families tried to leave the cities and return to home communities - even if it meant walking for hundreds of miles - so the government laid on special trains to help with the mass migration. But these were long, hot and dangerous journeys so our teams based at the stations handed out food and water to help the weak and exhausted passengers survive.

THANK YOU FOR HELPING US PROVIDE BOTTLES OF WATER, BANANAS AND BISCUITS TO 16,803 TRAVELLERS BOARDING THE SPECIAL TRAINS



SPECIAL FEATURE

We asked [REDACTED], the Corporate Partnerships Manager for Railway Children how the latest donation would help the work of the charity. He told TRU...

"As you know we have received huge support from LU for over 15 years now. However the Oyster card program led by the T&R team really does give us great pride. Not only has it proved so valuable to us, but as the technology and processes around it have developed, so have the means by which LU customers can donate to us.

The idea that customers can now donate within any LU station, in a matter of seconds is true testament to the way in which LU and the T&R team have been so supportive of Railway Children and our work.

Last year we were able to reach and protect almost 16,000 children and young people and LU and your support really are integral within that.

However when you consider that just £15 could pay for a wellbeing pack for a child in the UK effected by the additional isolation in recent times or just £7.50 could pay for an emergency hygiene safety kit in India, the very immediate impact of the Oyster card scheme and its donations become all the more apparent.

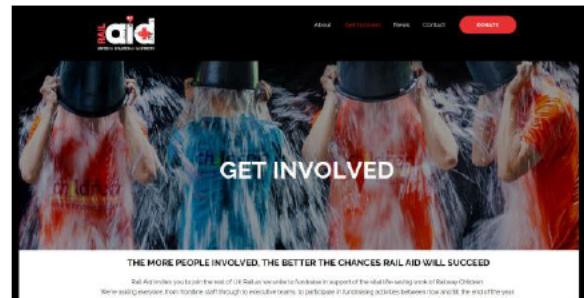
The fact that TfL will also be running an awareness raising campaign for the Oyster donation scheme throughout the main Rail Aid month of November really is so exciting and could impact the lives of many more children and families still."

RAIL AID IS BACK!

Despite our recent donation to the charity, the impact of the Covid pandemic and the cancellation of many charity events that provide a large proportion of the valuable funds the charity needs to continue its work has put a great strain on the charity and other small charities across the country.



Railway Children are therefore planning to repeat the "Rail Aid" event that was held last year, only this year the event will be bigger and better and will be staged between October and Christmas, rather than just within one week, as was done last year, giving more opportunities to contribute.



Last year the pandemic completely wiped out Railway Children's extensive events programme including the annual Railway Ball creating a financial hole of over £1,000,000, at a time when their support for some of the world's most vulnerable children, here in the UK and overseas, is needed most.

A new variant in India has proved catastrophic for vulnerable communities and the aftermath of COVID-19 will be felt for generations to come.

[REDACTED] from Railway Children, outlined that the charity have already seen an increase in severe mental health issues in young people, fragile families in further turmoil having lost jobs and income, a spike in the numbers of children forced to survive on the streets, more children forced into child marriage and labour worldwide, and a devastating legacy of hunger and poverty across the globe. That is why they are hoping that once again the rail industry will come together in a way only it does, and really support Rail Aid and allow us to continue to reach these children who would otherwise be completely alone and vulnerable on the streets.

As part of this year's event, discussions are taking place about how TfL can support the event, one of the possible options being to promote options for customers to donate through the POM donation facility and charity boxes at Heathrow Airport and certain LU stations.

[REDACTED] added that the fact the TfL are also looking at how to increase awareness for the Oyster Donation scheme throughout the main Rail Aid month of November is such good news and hopefully many of you will also look to take part in some of the activities and events running throughout the next 10 weeks.

For further information on Rail Aid and how you can participate, please click on the link below

[Rail Aid – United for Street Children](#)

TRANSFORMING THE TUBE

MOORGATE (MET)

Although there has been much to bemoan over the past 18 months, 2021 has actually been a very busy year for new stations and ticket halls opening on the network. The first of these was Moorgate (Met) which opened for customer service on Monday 05 July 2021 as part of the Elizabeth line project.



The previous entrance had been closed since 2011 and almost a decade later the newly refurbished ticket hall now provides;

- ✓ Step-free access to the Circle, Metropolitan and Hammersmith & City lines with new lifts serving both westbound and eastbound platforms
- ✓ More space (65 metres wide) and large information screens located by the entrance
- ✓ A large gateline consisting of 2 x Wide Aisle Gates (WAGs) and 12 x E2 Gates
- ✓ 6 x Ticket Vending Machines (TVMs)



...and the work doesn't stop there as step-free access to the Northern line platforms using new lifts, will be available in 2022 when the Elizabeth line opens.

The station will also have a central concourse linking Moorgate and Liverpool Street together, as well as two platforms that are more than 200 metres in length... but that's a story for a later edition of TRU.

WHITECHAPEL

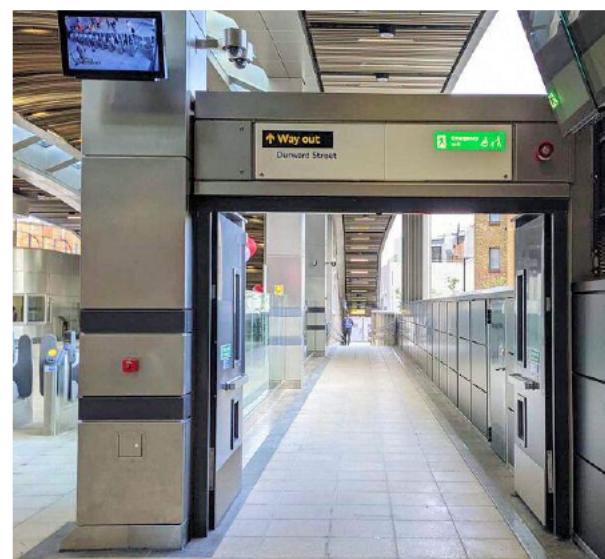


Next up was the eagerly awaited and totally transformed Whitechapel station, which opened on Monday 23 August 2021.

Gone is the dimly-lit and cramped ticket hall, as are the narrow passageways and the numerous wooden hoardings that had largely been in place since 2011, to be replaced by a fully step-free station with a huge naturally lit entrance and ticket hall, wide passageways and fully covered platforms which are all now served by numerous lifts.

- ✓ 8 x E2 Gates and 2 x Wide Aisle Gates
- ✓ 4 x Ticket Vending Machines

The Victorian façade of the Whitechapel Road entrance which closed in January 2016 has been cleaned and repaired. There is also a new public footway (shown right) directly through the station connecting Whitechapel Road to a new entrance on Durward Street. However, the temporary entrance on Court Street which opened in 2016 has now closed and is to be removed.



TRANSFORMING THE TUBE

The most recent stations to open also saw the first major extension of London Underground this century in the form of the Northern Line Extension (NLE).

NINE ELMS & BATTERSEA POWER STATION

Both of these stations opened for customer use on Monday 20 September 2021 and are the first new stations on the Northern line for 80 years, when Highgate was added in 1941.

Construction on the 3km railway between Kennington and Battersea Power Station began in November 2015 and despite the challenges of the pandemic, the construction project stayed on track and completed the works to scope and within budget.



These 2 stations take the total number of London Underground stations to 272 of which 88 are now step-free.

The NLE is currently served by a peak-time service of six trains per hour and will increase to 12 trains per hour in 2022. There are five trains per hour during off-peak times, which will also double to 10 trains per hour.



Station	Area	Zone	TVMs	WAGs	E2 Gates	Date opened
NINE ELMS BATTERSEA POWER STATION	BATTERSEA	1	5	2	9	Monday 20 September 2021
			5	4	12	



Both stations were built in support of a huge development in the area that will see around 20,000 new homes built and it is estimated around 25,000 new jobs will be created as a result.



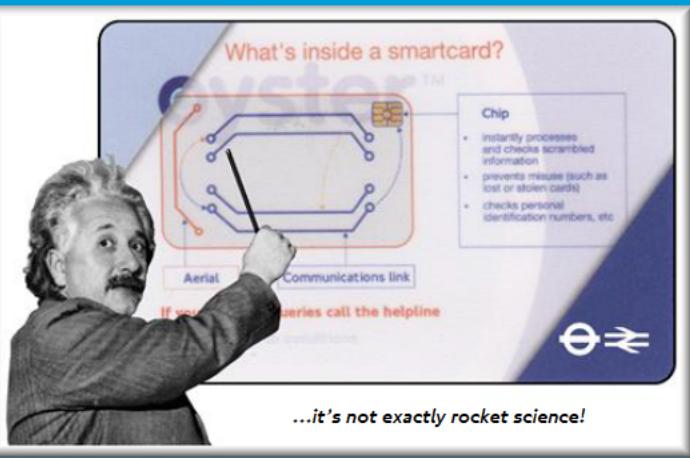
Battersea Power Station sits in the shadow of Gilbert Scott's iconic Power Station and includes a gold-painted geometric roof with a giant skylight, which opens onto Battersea Park Road. The station will hold a prominent position within a new commercial district of over 42 acres for shops, bars, restaurants, entertainment and office space.



A planned over-station development at Nine Elms will include over 400 new homes, offices and a new public square. The creation of a new pedestrian route will provide easy access to the US Embassy and New Covent Garden Market.

T&R would like to thank CSM _____ and CSA _____ for these NLE images.

OYSTER EXPLAINED



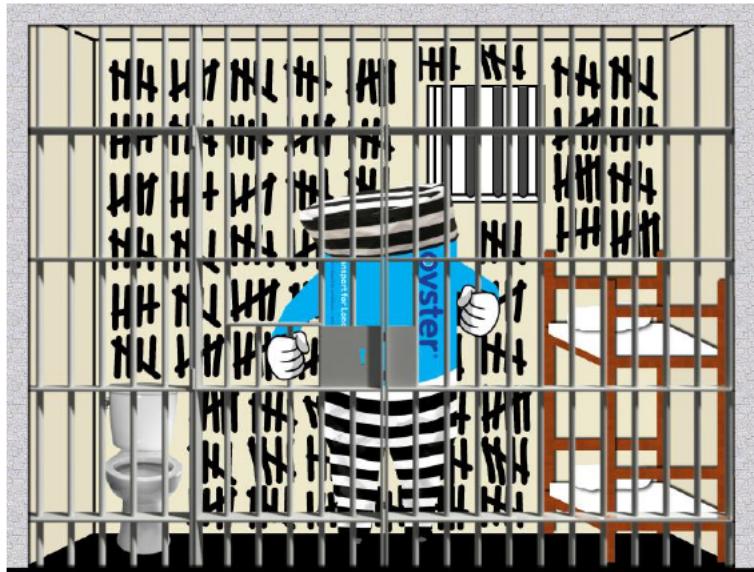
For this month's Oyster Explained feature, we turn our attention to the subject of Capping.

Although we have covered the operation of Daily Price Caps before, this time we are focussing on the recent introduction of Weekly Capping for Oyster users and how this differs from the arrangements for Weekly Capping which are already in place for contactless payment users.

Weekly Capping for contactless users

Weekly Capping was introduced for customers using contactless payment to make PAYG journeys in 2014. It operates on the basis of a fixed Monday to Sunday week. When introduced it provided one of the main exceptions to the normal promise, that contactless and Oyster charges were the same, in that customers travelling every day, would pay less if they used contactless payment.

For contactless payment, one of the features is that each journey is fed through to the TfL back-office systems, which then calculate the value of the whole day's travel. On a daily basis, providing the customer does not have any incomplete journeys, the cost of travel will be capped at the appropriate Daily Cap.



Zones 1+2	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Daily Cap	£7.40	£7.40	£7.40	£7.40	£7.40	£0.00	£0.00
Towards Weekly Cap	£7.40	£14.80	£22.20	£29.60	£37.00	Weekly Cap reached	
Zones 1-3	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Daily Cap	£8.70	£8.70	£8.70	£8.70	£8.70	£8.70	£0.00
Towards Weekly Cap	£8.70	£17.40	£26.10	£34.80	£43.50	Weekly Cap reached	
Zones 1-4	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Daily Cap	£10.60	£10.60	£10.60	£10.60	£10.60	£0.20	£0.00
Towards Weekly Cap	£10.60	£21.20	£31.80	£42.40	£53.00	£53.20	Capped

After End of Day, the customer is charged one charge covering all of their day's travel and this will be repeated through the week on each day that they use their contactless payment card / device.

The cost of each day's travel is then compared to the appropriate Weekly Cap to ensure that between Monday and Sunday, the cost of their journeys does not exceed the Weekly Cap (which is the same price as the corresponding 7 Day Travelcard).

So in the examples above, after 5 days Z1&2 and Z1-3 customers travel free and for Z1-4, instead of being charged the usual Daily Cap, the customer will only be charged £0.20 on the Saturday and any further journeys made on Sunday, will then effectively be free.

Currently with changing working patterns since the beginning of the Covid 19 Pandemic, if a customer is not traveling into work every day, there is less likelihood of them reaching the Weekly Cap, although any leisure journeys they make will of course be covered.

However, it will always be the same price or cheaper than a 7 Day Travelcard covering the period Monday to Sunday. There will be some occasions where the customer travels every day over say Tuesday to Monday or Wednesday to Tuesday, where the Weekly Cap may not be achieved and in these cases, the customer may pay more in daily charges than if they had bought a 7 Day ticket.

WEEKLY CAP FOR OYSTER USERS

Although the prices of Weekly Caps for Oyster will be the same as for contactless payment users and the price of a 7 Day Travelcard, the method of charging is slightly different.

For Oyster users the basis of charging for each journey remains the same, with the Oyster card holding details of journeys made, the cost of each trip and the application of Daily Caps being calculated by the RTD on the gate or validator at the end of each journey. When the cost of a journey has been capped due to the application of a Daily Cap, this will be indicated in the journey history on the POM when the card is checked.

Since Monday 27 September an RTD software change means that details of each journey are now also transmitted to the TfL back-office system that calculates contactless charges. At the end of each traffic day, this now recalculates the costs of the days travel on each Oyster card to ensure that best value has been achieved. As with contactless users, this is then applied across a fixed Monday to Sunday week to check the costs of all journeys made do not exceed the Oyster Weekly Cap.

Zones 1-4	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Daily Cap	£10.60	£10.60	£10.60	£10.60	£10.60	£10.60	£0.00
Towards Weekly Cap	£10.60	£21.20	£31.80	£42.40	£53.00	£63.60	-£10.40

The difference with Oyster Weekly capping is that the customer will have already been charged for each journey and had the cost deducted from their PAYG balance. On achieving a Weekly Cap, any additional fares paid will need to be refunded back to the customer's Oyster card via the Faster Universal Load (FUL) system. This will obviously not be an immediate credit and will take a couple of days to process and load onto the system before being available for the customer to pick-up the next time that the card is used to travel.

As a result, it is important to remember that there will be occasions where over the course of a Monday to Sunday week, the customer's charges may temporarily exceed the cost of the Weekly Cap and in order that they can continue travelling, they will need to load more PAYG onto their card. They cannot simply load enough PAYG to cover the Weekly Cap on Monday morning and expect that to last them through the week.

Unlike with the Daily Cap where once the cap has been achieved, the customer will not be charged for any further journeys they make within the appropriate zones for the rest of that traffic day, with the Weekly Cap, the customer will continue to be charged for further journeys until a Daily Cap has been reached, but will then receive a refund of any overpayments they make.

KEY FEATURES OF WEEKLY CAPPING

- ▶ Journeys capped on basis of a fixed Monday – Sunday week, not a rolling 7 Day period
- ▶ Weekly Cap is equivalent to the cost of the corresponding 7 Day Travelcard
- ▶ Contactless Payment users charged retrospectively based on the actual journeys made over each day and the week
- ▶ Oyster users are charged for each individual journey up to the Daily Price Cap. Charges are rechecked by the TfL back-office and adjustments made where charges exceed the Monday-Sunday cap.
- ▶ Any payment above the Weekly Cap will be refunded back to the Oyster card via FUL
- ▶ As charging is done via the back-office, it will not be possible to see if a Weekly Cap has been applied if the card is checked on a POM.



As previously stated, with less customers travelling to / from work on a daily basis, the impact of the introduction of Weekly Capping will be less than if it had been introduced in 2018 as was originally planned.

PAYG however, continues to offer flexibility of only being charged for the journeys actually made up to the appropriate caps.

Whereas on a season ticket, which offers unlimited travel over the period covered, there may be days where the customer does not need to travel but is still effectively charged.



Staff are reminded that they should not resolve any journeys more than 48 hours after they occurred as may conflict with capping calculations already made.



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: 21 October 2021 08:19
To: Ask Olly
Subject: Customer help

Hi Olly.

Hope you can help on this rather complex issue and sorry in advance for the length of the email.

I have a customer who holds a Z1-4 to Travelcard and travels from Grove Park to Upney every day. In the morning he changes at New Cross and takes the Overground to Whitechapel then lastly district line to Upney. As a result, he is charged an extra £1.60.

On the way home he goes via London Bridge as this is quicker and this results in no extra charge.

For the life of me I cannot see why he is being charged as this is a logical route. I asked him to tap the pink reader at Whitechapel, but this did not seem to do anything as he still got charged.

I hope you can shed some light on this issue as it's very frustrating not being able to help the customer. I have looked at other travel card zones but this will work out more at the £1.60 charge is for 2 extra zones which will mean he would have to get a 1 to 6 TC.

Regards

[REDACTED]

Hi [REDACTED]

Thank you for your email and highlighting this.

It is very strange that the customer is being charged an additional fare, as the route via New Cross should be cheaper as the customer doesn't go through Zone 1.

Following some further investigation, the mystery concerning this additional charge has been solved.

We have established that the journey has been set up incorrectly in the fares system as a Zone 2-6 journey instead of Z2-4. Unfortunately, this cannot be changed until the next fares revision, which will now probably be in March 2022.

However, the customer can avoid this overcharge, if instead of validating on the PVal at New Cross they touch-out on the gateline and then touch-in again. This will split their journey into 2 separate journeys and avoid them being overcharged.

Hope this explains the current situation for you.

Regards

Olly Oyster

Hi [REDACTED]

Thanks for your email and query.

I'm pretty sure that this issue has come up once before and arises because the product only gets "expired" when the card is touched onto a validation device (bus reader, gate or PVal).

If the customer goes straight to the POM it would still be green, but it will have turned grey if you were to re-check the card after the customer had touched-in or attempted to touch-in.

Regards

Olly Oyster



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From: [REDACTED]
Sent: 09 June 2021 07:03
To: Ask Olly
Subject: Folded Mountain Bicycles

Hi Olly,

I was advised to contact you when I spoke to my CSM.

In 2018 a customer attempted to use the Bakerloo at Paddington with a Folded adult Mountain Bike. A CSM at the time informed me that only folded Boston Bikes were allowed onto the Bakerloo line Off Peak.

Recently we had a customer entering the station whom I informed about folded mountain bikes not being permitted. The customer disputed that they have been allowed in the past. A CSS was called who didn't know for certain the rules regarding larger folded mountain bikes, as TfL only states 'Folded Bikes' and let the customer travel.

I remembered the Ask Olly was the best place to ask questions and my CSM suggested to ask you.

Kind regards,

[REDACTED]
[REDACTED]
[REDACTED]

Hi [REDACTED]

Thanks for your email and what was a topical question.

The Conditions of Carriage were updated earlier this year to deal with E-Scooters and some of the wording around folding / folded bicycles was amended to clarify the issue you have highlighted.

The current ruling is that any bike that can be folded can be taken on tube lines during Off Peak periods, regardless of the wheel size. It isn't just restricted to the small fold up bikes that can go in a large bag or car boot.

Hope this clarifies things for you.

Regards

Olly Oyster

Hi [REDACTED]

Thank you for your email and query.

Refunds can be made via the TOM/SAF if the customer has purchased an incorrect product from the POM. In instances where a customer wrongly purchases a Bus & Tram Pass instead of a Travelcard, the Bus Pass can be refunded and the Travelcard added on the TOM, if the customer is able to pay the additional cost in cash.

Hope this is of help.

Regards

Olly Oyster

From: [REDACTED]
Sent: 21 October 2021 18:22
To: Ask Olly
Subject: Travelcard refunds

Hi Olly.

At Hatton Cross station today, two customers incorrectly purchased 7 Day Travelcards on both of their Oyster cards and wanted them refunded.

Are we allowed to do that refund on the TOM/SAF?

Regards

[REDACTED]
[REDACTED]

Hi [REDACTED]

This is an issue we are currently following up with the TfL Tech & Data team who manage the contactless payment back-office payments system.

In the scenario you have described, in theory the customer should get one complete journey from the second entry validation and first exit validation then an incomplete journey for the second exit.

However, various station colleagues have observed customer behaviours which seem to indicate that the customer is probably under paying, rather than being penalised for an incomplete journey.

If you observe any further instances of this happening and can record the time and gate numbers please let the T&R team know, so that we can trace the transactions concerned and establish what charges were made.

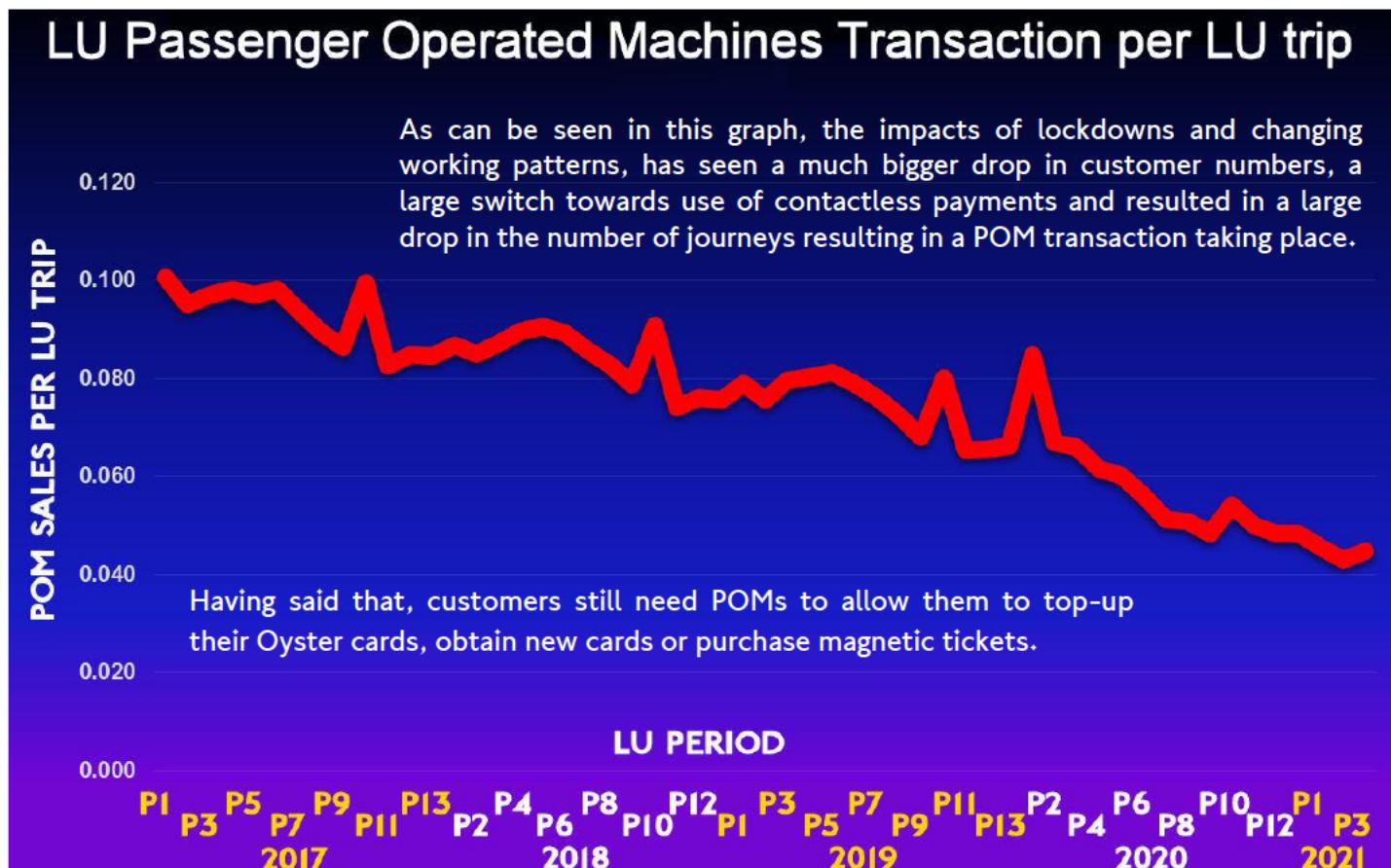
Regards

Olly Oyster

REVENUE PROJECTS

POM REDUCTION PHASE II

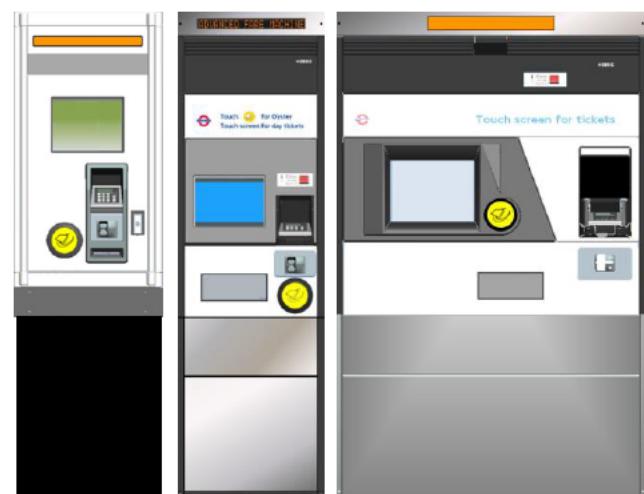
As we have previously outlined in earlier editions of TRU, POM usage was gradually reducing long before the onset of the Covid 19 pandemic. This was down to a combination of customers switching to using PAYG on Oyster or contactless



As a result, although we are planning to reduce the number of POMs at certain locations, we will be maintaining at least two devices at each location. The minimum being 1 x AFM and 1x MFM, so at a lot of our smaller stations there will be no change to POM numbers, the main impact being at stations which have larger numbers of devices, where demand projections show that we could easily cope with even the busiest periods for POM demand with less machines.

Since our last update in [TRU133](#), we have commenced a local consultation exercise with each of the areas affected to determine which is the best AFM to either mothball or remove, based on local knowledge, station layouts and projected future POM demand forecasts.

Funding for the overall POM Reduction project has recently been approved by TfL, so we will hopefully soon be able to move forward with some aspects that do not require clarification or further discussions. The first phase of work is likely to focus on completing the removal of a further batch of QBMs, following on from the work undertaken in Phase I earlier this year.



Most of these devices will be removed and not replaced, but at several locations where projected demand indicates that we need the current number of devices, we will be replacing current QBMs with additional AFMs.

We are also hoping to be able to progress with several POM consolidation schemes, which will see POMs relocated into one secure suite, instead of being split between two different POM rooms. At locations such as Waterloo and Holborn, this will also enable savings in other equipment and rationalisation of collection arrangements. It will also throw up some areas for re-use for other purposes.

MFM NOTE HANDLER UPGRADE

Since our last update in [TRU133](#), two updates to MFM have taken place. The first involved the upgrading of all devices to a new version of software, which paved the way for the 100 MFM already fitted with the new Pay Complete NHUs to subsequently receive an upgrade to their NHU firmware.



Following an initial Vanguard on devices at Baker Street (Met), Camden Town, Liverpool Street, Pimlico and Victoria (North) at the end of July, the Vanguard was later extended to Euston, Heathrow T2&3 and Kings Cross in September. The new software was remotely rolled out to all other MFM during engineering hours, between Tuesday 12 October and Wednesday 20 October.

Following on from this, the new firmware was Vanguarded at Camden Town, Euston Heathrow and Kings Cross, to address several problems that had been identified with the processing and accounting of Scottish banknotes. Following this Vanguard, the new firmware was remotely deployed on a short rollout to the other 88 MFM with new NHUs, between Monday 18 October and Thursday 21 October.

All other MFM will receive this new firmware when their NHUs are replaced with Pay Complete units, as part of the second phase of the rollout of these NHUs. This second phase of NHU upgrades is scheduled to commence on Sunday 31 October. This will initially focus on the replacement of all the remaining Bank Note Recycler (BNR) units.

We had also been planning to tackle a number of JLE style devices fitted with Bank Note Accepters (BNA), but over the last month concern has been raised over the number of Pay Complete BNA units that have been replaced recently. It has therefore been decided to pause rolling out further BNA units until a potential issue has been investigated and addressed.

A number of devices that have had the new Pay Complete NHUs working as Note Acceptor units, have suffered repeated note jams and related failures. Interestingly, we did not experience any such issues with this particular unit when it was initially installed as a trial at Vauxhall, to evaluate its reliability or in the subsequent Vanguards at Vauxhall, Pimlico and Liverpool Street (C&H), which preceded the start of the current rollout.



We also have not experienced the same level of failures on the MFM that have been fitted with the new NHU with the additional recycler module for it to function as a BNR. It is currently believed that a problem exists when notes are being held within the 'note escrow' awaiting the completion of the transaction, as this occurs only on the devices which are operating as Bank Note Acceptors.

This doesn't happen when a BNR is fitted, as the notes are immediately moved to the recycler rollers. The core of the new BNA and BNR units are basically the same, except that the BNR has an additional recycler module fitted. We are hopeful that a modification and further new version of firmware will be available shortly and we will be able to then Vanguard this at several locations that have experienced high levels of note related faults.

Once this issue has been resolved, it is expected that Cubic will then start upgrading the remaining devices which have the old-style BNA units. The replacement of the existing Note Handling Units will be completed at a rate of 2 machines per night (10 per week). It is expected that the rollout will continue until the end of January next year. However, this may be extended if there is a longer pause between completion of BNR replacements and the start of work to replace the final BNA units.

Part 2 – You enter the secure suite and find a number of loose coins on the counter...

Q2 ... what do you do with them?

A Pay it into the CHD, record as a Misc Transaction then record it in the Secure Suite log book

B Follow the lost property procedure

C Add it to the next POM service or use as a POM float top-up

D Leave it where it is

**Ticketing & Revenue
T & R
Trivia**

Answers on Page 19

REVENUE PROJECTS

TVM SOFTWARE UPGRADE

As part of a programme of regular software releases for the TVM, Cubic will be deploying a further new version of TVM software as a Vanguard to selected TVMs at the following stations at the end of October / beginning of November:

KEW GARDENS	GUNNERSBURY	WEMBLEY CENTRAL
-------------	-------------	-----------------

As with previous software upgrades, the new software will be downloaded remotely by Cubic to these devices during the afternoon and will then switch in at around 03.00 hours the following morning.

This latest software release contains several fixes to resolve issues that were identified on TVMs since the last upgrade was undertaken.

The changes include:

- Update of imbedded software certificates to link with webserver
- Resolution of issue causing Error 109 to appear at midnight
- Resolution of issue causing Oyster Deposit not to appear for certain refunds
- Display of POM bankcard version on engineer screens.

Following the Vanguard, it is planned to rollout the new software to all other Cubic TVMs on 02 December.

OOPS!! WAS THAT A 50?

During September we received a number of reports initially from Harrow & Wealdstone and subsequently from other stations with Cubic TVMs, that devices had accepted the new style polymer £50 notes.



The issue has been raised with Cubic to investigate, but the suspicion is that there is an error in the bill-set used by the Innovative Smart Payout note accepter used in the TVM, which has resulted in the £50 not being rejected as it should be and the note then being incorrectly accounted for at the wrong value.

At the time of going to press with this edition of TRU, we understand that a new bill-set has been supplied to Cubic for them to test on devices within their System Test Facility, before it can be deployed to some Vanguard sites. As an interim step to avoid further incidents of customers inserting £50 notes we have asked if Cubic could replace the current notes here stickers on the TVMs with the sticker used on the MFM, which shows the denominations accepted but has a X through the £50.



No LU POMs accept £50 notes. However, £50 notes are accepted by the CHD, which can be used to change it for notes of a lower denomination for customers that arrive at a station with only a £50 note.

Part 3 – Which station has its London Overground platforms and track actually underneath its London Underground platform and track...

Q3) ... is it?

- | | |
|----------------|---------------|
| A Canada Water | B Gunnersbury |
| C Stratford | D Whitechapel |

**Ticketing & Revenue
T & R
Trivia**

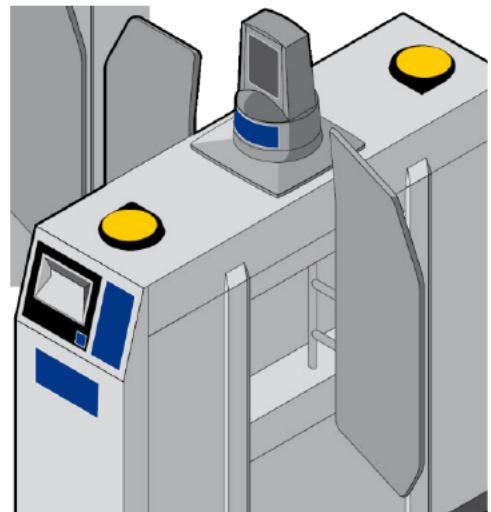
Answers on Page 19

GATE UPGRADES

Further to our last report in [TRU133](#), the rollout of two modifications to our EI gates to improve the performance of the Beam Logic Unit (BLU) and implement new paddle control software has recently past the halfway point in the rollout.

At the time of writing, Cubic have completed the upgrading of approximately 85 sites and around 479 gates, largely focussing on stations on the Bakerloo, Central, Metropolitan, Circle & Hammersmith and the western end of the Piccadilly, and eastern ends of the District and Jubilee lines.

As the EI upgrade programme continues, there are plans to implement a similar solution to improve the performance of the BLU on the older style Pneumatic gates located in central London.



Cubic have developed a solution that can be applied to the pneumatic gate walkways and following some analysis of gates that have suffered high levels of BLU related faults, we have identified gates at the following locations which will be used for a Vanguard of this modification. The initial modification being tested will focus on a change to reduce the accumulation of dust on the light beam units, but unlike the EI modification, will not change the housing of the reflectors the beams point towards.

The first gates to be upgraded as part of this Vanguard are at Pimlico and were scheduled to be completed on the nights of Wednesday 27 October and Thursday 28 October.

The programme will initially start at a fairly low rate per night, as the installation team get up to speed with the work but will then be followed by the upgrading of gates at Bank (Central) and Waterloo (Main), between Sunday 31 October and Sunday 07 November.

CONTACTLESS DENIED EXIT CHANGE BACK ON!

Back in [TRU126](#) in June 2020, we sadly reported that development work on a change to gate RTD software to handle contactless payment validations differently, had been paused due to budgetary issues. At the time this element of work was decoupled from a further upgrade to the RTD (known as SR8), but was continued to a point that it could be parked in case we wanted to revive the project in the future.



Fortunately, approval has been given to resume this Denied Exit upgrade and testing is now underway, ahead of a planned Vanguard starting around 25 November.

As a reminder from our article in [TRU125](#):

- At present the TfL back office processing contactless payments ignores any rejections that do not complete a journey and in most cases no charge will be made. At station level, gateline staff should charge the customer the fare for the journey made using the Manual Charge facility on the POM, but in many cases no fare is collected. TfL analysis has indicated that around 10,000 instances of POD code 80 exits occur per week and based on a £6.24 average CPC Maximum Fare charge, this could mean an annual revenue loss of up to £3.2m.
- This upgrade to the RTD and Back Office processing, will result in all these denied exit taps for un-started journeys resulting in a maximum fare being charged. At station level after the upgrade, gates will indicate a new validation code "87", but instead of preventing the customer from exiting, will allow the customer to exit and report this to the back office so that an appropriate charge can be made.

This time round the upgrade will closely follow on from another RTD upgrade to facilitate the acceptance of the new NR Flexi-season tickets, scheduled to be deployed on Sunday 14 November, (as outlined in our article on Page 5). Although that particular RTD change will not impact upon many LU stations, the new software will be globally loaded to all validation devices, so that all equipment is running on a common software version.

The Vanguard of the Denied Exit change is planned to take place at the end of November, but also requires changes to be made to the TfL back office software to handle the new transactions generated. The precise date for the Vanguard and stations to be used is yet to be confirmed. The plan is to then rollout the change to all stations in early January 2022.

REVENUE PROJECTS

MANUAL GATE MODIFICATIONS

As some of our equipment gets older, from time to time we encounter components that have become obsolete and can therefore no longer be sourced. When this is known about, a final order is often placed to give a sufficient level of spares to support the particular item and this then allows time for alternative options to be sourced and tested.

A recent example of this are the rubber straps on the luggage chutes situated in some of the remaining Manual Gates.



These were originally intended to allow customers with bulky items to push them through the chute before entering or exiting through a nearby walkway. In reality, this probably now rarely happens. Over recent years, we have greatly reduced the number of Manual Gates and where they have been retained, this has generally been for crowd control purposes.

Most of our gatelines now have WAGs, so it is likely that customers with luggage will walk through the WAG with their item, rather than attempting to use a luggage chute and leaving their property temporarily unattended.

Alternatively, they may instead request a member of staff to let them through the Manual Gate with their luggage.



Rather than replacing the current rubber straps with a similar material, Cubic initially proposed to replace the rubber with a chain-male curtain (as illustrated on the left), which would allow items of luggage to be pushed through. This would also have the advantage of replacing rubber with a more fire-resistant material.

As demand for the luggage chute is now very low and some stations have previously reported incidents of customers crawling through the opening to avoid their fare, we have instead asked Cubic to look at removing the chute altogether and replacing the current opening with a solid glass panel instead.

Development work on this is currently underway, but in the worst-case scenario would mean that the Manual Gate would possibly need to be opened for a customer with a large item, as probably already happens today.

PNEUMATIC GATE PODS

In addition to the Vanguard of a modification to the light beams that monitor customer movements through each walkway, as outlined on Page 17, the older pneumatic gates within Zone 1 will also hopefully receive another update to address an issue that has prevented some information being displayed on the new style gate PODs (Passenger Orientated Display) since these were installed.

As we outlined in our feature in [TRU133](#), this particular issue only affects the small number of single direction *Entry or Exit) gates.



The first phase of work to install the additional cabling needed to ensure that information is displayed on both sides of all PODs has now been completed and all pneumatic gates are now able to show a red No Entry or No Exit X on the rear of the POD, rather than relying on the temporary stickers that we were forced to apply during the rollout of the new PODs.

The final piece of work to replicate information displayed on the side of the POD facing customers using the gate, onto the rear of the POD, requires an upgrade to the Gate LCP software. We understand that this is currently undergoing testing with a view to deploying it on a Vanguard to three locations that have a number of single direction gates.

VICTORIA (District)	6 Gates	BANK (Monument)	5 Gates	TOWER HILL	5 Gates
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REVENUE PROJECTS

COMPOSITE GATE PADDLE AND WAG MOTOR UPDATES

The trial of the new light weight composite material gate paddles on E1, E2 gates and WAGs continues at the stations listed below and we will shortly be seeking feedback from gateline staff at these locations.

Station	E1	E2	WAG	Station	E1	E2	WAG
WEST HAM		✓	✓	CANNON STREET		✓	✓
UXBRIDGE	✓		✓	ACTON TOWN	✓		✓
WALTHAMSTOW CENTRAL		✓	✓	EDGWARE ROAD (Bakerloo)		✓	✓
BLACKHORSE ROAD	✓		✓	HAMMERSMITH (D&P)	✓		✓

Moving forward, Cubic are now looking at the possible deployment of the new light weight paddles to a further batch of 55 WAGs, at locations which have recently been identified as having a high level of WAG motor replacements over the last couple of years.



It is planned to deploy these in conjunction with the replacement of the current WAG motors with an improved "ruggedized" version. This was previously trialled on a WAG at Dagenham Heathway prior to the pandemic and proved to be more resilient to the impacts of customers pushing through the paddles than standard motor arrangement.

It is hoped that the implementation of a combination of this more durable motor / gear box will better be able to withstand potential abuse by customers attempting to push through the paddles, whilst the lighter weight of the new design of paddle, will also reduce stresses on the motor and gear mechanism.

Hopefully the combination of the two upgrades will greatly improve the reliability and reduce the number of faults related to the gate paddle mechanism.

In addition, Cubic will be installing the new ruggedised motors on a number of other WAGs that have also had high numbers of motor replacements. These will then be fitted with the new paddles at a later date but will give the opportunity of reviewing the impact of the new motors with conventional WAG paddles.

We have requested that WAGs at all of the sites currently involved in the paddle trial are upgraded with the new motor so that we reduce the number of variants of WAG in use to the minimum.

Delivery lead times for the additional paddles are likely to mean that the changes to these gates will not be completed until spring 2022. However, subject to the availability of engineer resources, we are hopeful that some of the new motors may be fitted before the end of the year.

It is planned to replace all WAG motors across the network in a second phase of installations in the 2022/23 financial year.

ANSWERS TO T&R TRIVIA

Pt.1	B	Follow the Lost Property procedure.
Pt.2	A	Pay it into the CHD, record as a Misc Transaction then record it in the Secure Suite log book
Pt.3	D	Whitechapel

How did you do?

...AND FINALLY!

MFM CABLING SAFETY ALERT

Cubic have recently made us aware of a potential issue affecting certain cables within some of our MFs.

The issue that has been identified affects cables feeding the note handling unit, which at some sites have been found to have been damaged, possibly when the spine holding the NHU backbone has been pulled out or inserted back into the device.

The cable concerned was changed from a standard cable to a coiled cable, as previously when sliding the backbone out of the MFM, the cable could become stretched and damaged. These replacement cables had more flexibility than the original ones.

From recent feedback, it would appear that there are two possible causes of the latest issue:

- *The coiled power cables are not dressed correctly*
- *The coiled power cables have become stretched, and when they don't return to their shorter coiled length, can be prone to becoming caught.*

Either way the end result is that that they are left potentially dangling down and every time the spine is pulled out and pushed back in, the cable can potentially get caught and chaffed. Cubic are planning to undertake physical inspections of all 328 MFMs currently in service by the end of November to check the situation and will replace any cables that are found to be damaged.

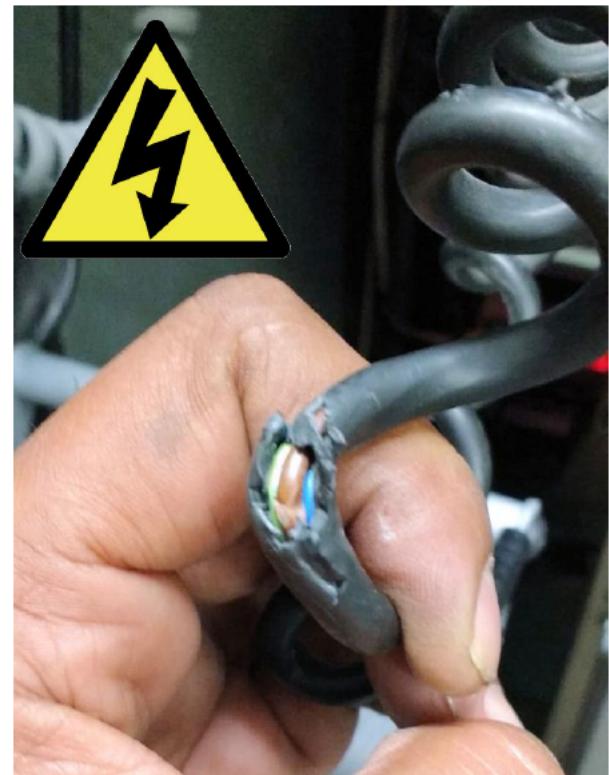
Ahead of this we are asking any TSID card holders servicing the MFM to check that these coiled cables are not showing any signs of being physically damaged as in the photograph above or are showing any evidence of being pinched or chaffed.

MAIDA WATER?

Amongst the many challenges we have faced recently, we have recently had a major issue with our ticketing equipment at Maida Vale following a flood originating from a restaurant above the ticket hall.

Large amounts of water unfortunately came through the ceiling of the POM Room and resulted in the POMs having to be taken out of service. Water and electricity don't mix well, so once the water had stopped we had to wait for things to start drying out. The process was accelerated by Cubic bringing in a dehumidifier over the weekend of 30 / 31 October and parts were then ordered to replace damaged components within the AFM and MFM.

The CHD was also severely affected, and the coin unit is thought to be beyond repair due to the amount of water found inside. We are currently working with Pay Complete to temporarily replace the whole device with a unit that is not currently being used, as this is likely to be quicker than trying to make repairs onsite.



LOOKING AHEAD TO TRU135

The next edition TRU135 will be published towards the end of November and we plan to include:

- *An update on the forthcoming Fares Revision*
- *Update on progress with MFM NHU replacements*
- *Further information on Gate Upgrades*
- *A round up of other T&R news items*

Plus a selection of our other regular T&R features...

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