ELIZABETH LINE OPENING ON HOLD

Not long after publication of TRU111 and only days before the implementation date of the September Fares Revision, it was announced that the scheduled opening of the central section of the Elizabeth line would be delayed until autumn 2019.

Unfortunately this announcement came too late to stop the implementation of a number of the changes which had been incorporated into the fares revision, in readiness for the planned opening in December 2018.

On Page 7, as part of our usual review of what went well and what didn’t go quite so well at the fares revision, we have also included a brief overview of some of the changes which were implemented on Sunday 02 September, that will have implications now that services are not due to start until next year.

It is not feasible to revert the changes made before the January Fares Revision and the amount of work required to restore things to a pre-Elizabeth live state and the fact that this work would probably then need to be done again for the May 2019 Fares Revision, means that we will have to leave the changes in place until the line actually opens next year.

One of the other consequences of the delay to the opening of the Elizabeth line is that our planned Special Feature in this edition of TRU, looking in more detail at some of the ticketing aspects of the Elizabeth line, will now be held over until nearer the public launch of trains on the central London section of the line.

Written and compiled by
FARES REVISION - What went well!

The fares revision on Sunday 02 September generally went extremely well. On this occasion there were no reported incidents of devices failing to switch over to their new tables.

There were also no reports of any devices charging wrong prices as we had at the last revision.

FARES REVISION - What didn't go so well!

The one blot on the implementation of the fares revision revolved around the Revenue Inspection Device (RID) used by Revenue Control staff.

On the morning of Sunday 02 September, a number of Bus Revenue Protection staff reported that they were unable to use their RIDs. The subsequent investigation established that no users were able to use RIDs due to an issue with a new table which had been loaded. Cubic therefore arranged for the table concerned to be reverted to the pre-fares revision version, as a temporary fix.

As previously mentioned in our lead article on Page 1, the other aspect of the fares revision which didn't go exactly as planned was due to the late announcement of a delay to the opening of the Elizabeth line. This unfortunately occurred too late to prevent changes taking place on 02 September and as explained elsewhere, makes it impractical to revert and then reinstate fares and settings at a later fares revision, in time for the revised opening date.

Fortunately, many of the changes will lie dormant until the line does open, as interchanges or journeys will not be possible. We had planned this for the short period between September and December. This period will now just be extended a bit longer than we had originally planned.

Some of the implications during this period are:

➢ For certain journeys customers may be charged a lower fare based on a journey via the Elizabeth line, rather than being charged the TFL + NR rate. However, customers travelling from Abbey Wood to Bond Street / Tottenham Court Road via London Bridge NR, Waterloo East or Charing Cross NR, will be charged correctly as a result of the interchange between NR and LU services.

➢ A number of Elizabeth line destinations now appear as options on POM screens, either as stations or routes that are not yet open.

Examples of this are:

- Woolwich, which now appears in addition to the existing Woolwich Arsenal and Woolwich Dockyard NR station
- Abbey Wood which now offers two options, one of which is a lower price option shown as being via the Elizabeth line.

➢ As outlined in TRU111, an Out of Station Interchange (OSI) is now in place between Bond Street and Oxford Circus, but the interchange time is set to make an interchange at street level impossible.

Some NR London Terminal tickets will now be accepted by gates at Whitechapel, based on an Elizabeth line journey to Liverpool Street being broken short of its final destination. So for example, currently an Ipswich to London Terminals ticket would allow a customer to break their journey at Whitechapel, even though it is not valid at that station or on services passing through it.

The number of customers potentially affected by these issues are likely to be very small and generally any customer affected by this will benefit from a lower fare than would otherwise have been paid.
VISITOR TRAVELCARD AVAILABILITY

Following an enquiry from a member of staff at King’s Cross around the non-availability of the new 2 and 3 Day Visitor tickets on certain POMs at King’s Cross, we were able to identify that the tables required to allow the issue of the new tickets had not been loaded correctly at some of the trial stations.

The issue affects three stations (Kings Cross, Victoria and Waterloo) which have more than one NLC (National Location Code), where Cubic have only enabled the ability to issue the new tickets to one of the station’s NLCs. The issue would also have affected the new NLC introduced at Liverpool Street.

The locations affected were:

<table>
<thead>
<tr>
<th>KINGS CROSS (Northern)</th>
<th>KINGS CROSS (Western)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIVERPOOL STREET (Main)</td>
<td>LIVERPOOL STREET (Broadgate)</td>
</tr>
<tr>
<td>VICTORIA</td>
<td>VICTORIA (District)</td>
</tr>
<tr>
<td>WATERLOO (Main)</td>
<td>WATERLOO (Colonnade)</td>
</tr>
</tbody>
</table>

The issue could only be resolved in the first available base data update after the fares revision freeze is lifted, and was successfully implemented on Sunday 23 September.

Despite restrictions on sales at the above locations, the last 8 weeks have seen a total of 1,131 tickets issued across the LU trial locations.

Not surprisingly Heathrow T2&3 has the highest level of sales with Heathrow T4 rather surprisingly having the lowest number of issues amongst the LU stations involved.

Sales are generally strongest at the LU "Gateway" stations with the other stations frequented by high numbers of tourists only averaging sales of around 30 tickets per week.

The trial continues until January 2019, when a decision will be taken on whether the product is withdrawn, made permanent or extended.

Part 1 – With Oyster online and the popularity of contactless payment methods, you may think that very few tickets are sold at stations... but you may also be surprised

Q1) From highest to lowest, rank the following stations in order of ticket sales revenue:

A) VICTORIA  B) LIVERPOOL STREET  C) KINGS CROSS
D) STRATFORD  E) HEATHROW T2&3  F) PADDINGTON

Answers on Page 19
IN THE NEWS

REJECT CODE 80

Following on from our feature on gantries in TRU111, in which we highlighted a recent increase in the number of reject code 80s seen by staff, we are pleased to report that in response to feedback from staff, improvements have been made to the contactless system allowing simpler handling of cards and devices which are rejected by our gates with reject code 80.

The following guidance is provided on how to deal with these and what to tell customers who are affected by this.

**Code 80 on ENTRY:**

Advise the customer that their card is not currently accepted for travel, as a previous payment to TfL may have failed. The customer must be advised to use another way to pay for their journey – an Oyster card, another contactless card, a mobile payment or to buy a Single ticket.

Advise the customer that they should try to use their card again on their next journey and if it’s still not accepted, this means there is an ongoing problem with their payment account which they will need to resolve before trying to use the card again for PAYG journeys on TfL the following day.

**Code 80 on EXIT:**

Exactly the same advice should be given to the customer, concerning why their card has been rejected. However, as the customer has already made a journey, they will need to be charged for this.

So additionally they will need to be accompanied to a POM and the Manual Charge option on the Staff Facilities screen used to charge them for the journey they’ve made, in the same way as an Oyster customer whose card is rejected with reject code 36 on exit.

**LIMITED EDITION OYSTER CARDS A FOOT!!**

We have had a number of what we have called "Limited Edition" Oyster cards, covering Royal events, the London 2012 Olympics and anniversaries of both bus and Underground services. However, in reality the volumes of these cards produced ran into many thousands, so weren’t really that limited, even though relatively small in comparison to the total number of standard blue Oyster cards issued.

In this edition, we had planned to bring you details of a further "special edition" Oyster card to promote the planned start of Elizabeth line services in central London, but due to the delay to the opening [see our lead article on Page 1], the issue of these new purple Oyster cards has been put on hold for the time being.

However, from 27 October, you may start to see a new design of what will be a series of true "limited edition" Oyster card in use.

This time the three designs of card (illustrated on the right) will be very much a limited edition, restricted to 500 of each design. The cards carrying Adidas branding support a range of Underground themed trainers available at their London store.

Purchasers of these shoes will receive one of the limited edition cards pre-loaded with £80 of PAYG but will not have the usual card deposit. Please note that the customer doesn’t have to be wearing the shoes when travelling.

Please treat the details of the launch of this new card as confidential, until it is announced publicly. We need to make people aware of the cards before you read about it first in the press.
LONDON POPPY DAY 2018

Following on from our report in TRU11, concerning the Help for Heroes collection which took place at various stations in June, we have again been asked to support this year’s British legion London Poppy Day Appeal, which this year will take place on Thursday 01 November.

Like last year, authorisation has been given for money collected at the stations listed below to be processed via the Cash Handling Devices within the secure suite.

All of the money processed in this way will then be collated by the Financial Services Centre and paid to the British Legion as one lump sum.

<table>
<thead>
<tr>
<th>ALDGATE</th>
<th>ALDGATE EAST</th>
<th>BAKER STREET</th>
<th>BANK / MONUMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLACKFRIARS</td>
<td>BOND STREET</td>
<td>CANARY WHARF</td>
<td>CANNON STREET</td>
</tr>
<tr>
<td>CHANCERY LANE</td>
<td>CHARING CROSS</td>
<td>COVENT GARDEN</td>
<td>EUSTON</td>
</tr>
<tr>
<td>EUSTON SQUARE</td>
<td>FARRINGDON</td>
<td>GREAT PORTLAND ST</td>
<td>GREEN PARK</td>
</tr>
<tr>
<td>HEATHROW T2&amp;3</td>
<td>HOLBORN</td>
<td>HYDE PARK CORNER</td>
<td>KING'S CROSS</td>
</tr>
<tr>
<td>KNIGHTSBRIDGE</td>
<td>LEICESTER SQUARE</td>
<td>LIVERPOOL STREET</td>
<td>LONDON BRIDGE</td>
</tr>
<tr>
<td>MANSION HOUSE</td>
<td>MARBLE ARCH</td>
<td>MARYLEBONE</td>
<td>MOORGATE</td>
</tr>
<tr>
<td>NORTH GREENWICH</td>
<td>OXFORD CIRCUS</td>
<td>PADDINGTON</td>
<td>PICCADILLY CIRCUS</td>
</tr>
<tr>
<td>SLOANE SQUARE</td>
<td>ST JAMES PARK</td>
<td>ST PAULS</td>
<td>STRATFORD</td>
</tr>
<tr>
<td>TEMPLE</td>
<td>TOTTENHAM COURT ROAD</td>
<td>TOWER HILL</td>
<td>VAUXHALL</td>
</tr>
<tr>
<td>VICTORIA</td>
<td>WAREN STREET</td>
<td>WATERLOO</td>
<td>WESTMINSTER</td>
</tr>
</tbody>
</table>

WEEKLY

CAPPING COMING SOON!

Following on from our lead article in TRU11, further steps towards the launch of Weekly Capping for Oyster users were taken recently, with a network wide upgrade of the Oyster card readers (RTDs) on all of our POMs.

The updates concerned needed to be made to change the way in which POMs handle PAYG transactions that are voided using the staff facilities on the front of the AFM, MFM and TVM.

Voiding the exit on a completed journey has potential implications upon the capping calculations and our POMs already take this into account in terms of the Daily Price Caps. The change recently implemented also makes allowance for the potential impact on the Weekly Price Cap, if a journey is voided.

As there is shared code across all types of POM, the upgrade was also made to all of our QBM RTDs, even though these devices do not currently have the pink staff screens.

Everything should be in place ready for the launch of weekly capping on Oyster by the end of November. However, the public launch date has yet to be confirmed and is subject to the finalisation of commercial agreements between Tfl and the various Train Operating Companies (TOCs) around changes to the way that revenue for journeys is apportioned.

This may well mean that the facility does not become available to customers until after the January fares revision.

Part 2 – Connected to the previous question, the bulk of our POM sales are accounted for by bankcard transactions, but some stations still take a high volume of cash....

Q2) So, from highest to lowest, rank the following stations in order of their actual cash take per year:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heathrow T2&amp;3</td>
<td>Kings Cross</td>
<td>Paddington</td>
<td>Victoria</td>
</tr>
</tbody>
</table>

Answers on Page 19

TRU112 – Sep / Oct 2018  Visit the T&R Intranet Pages for all the latest Ticketing & Revenue Information  Page 5 of 20
FAULT REPORTING & ESCALATIONS

We regularly receive feedback from stations regarding devices with poor reliability or where identical repeat failures have been seen but not effectively resolved by Cubic.

In most cases, when these issues are escalated correctly, they are successfully resolved. However, it is not unusual for faults either not to be dealt with correctly or to be escalated through the wrong channels. We have run previous TRU features on the process for reporting faults to Cubic and how to escalate them if they are not satisfactorily resolved, last time in TRU99, but we felt it might now be time to revisit this topic.

In simple terms there are 4 steps in the process.

1) SEE IT
   - Faults may be identified from the SCU, Device Monitoring app, service panel or from observation of the device. If a device isn’t fully functioning, don’t ignore it.
   - Unlike many other contracts, we don’t get charged per fault, so it’s in our best interest to report any issues we become aware of that we aren’t able to deal with.

2) FIX IT
   - LU Operational staff are responsible for the first level of maintenance and fault rectification.
   - Many error codes and straightforward faults can be easily cleared by staff, often via a soft reset of the device. It is therefore important that when an issue is highlighted it is quickly investigated and attempts made to clear the problem, rather than leaving a device out of service or in a “degraded mode” for someone else to deal with later.

3) REPORT IT
   - If you aren’t able to resolve the issue or the same fault keeps occurring on a device, then it should be reported to the Cubic Helpdesk on Auto 1610.
   - As a guide, if the same problem occurs on a device three times during a traffic day, then it should be immediately reported as a recurring fault rather than making further attempts to clear it by a reset.

4) ESCALATE IT
   - We can spell out the process, but it’s not a perfect world and sometimes things don’t always get fixed within the expected timescales or they fail again with the same problem, not long after the engineer has left.
   - When the process doesn’t deliver the required result, it’s important to know what to do.
   - Don’t wait for a senior manager to visit or use social media to moan about an issue. Make your supervisor or CSM aware of the issue, provide them with previous failures of the device and job numbers. The issue can then be escalated via the T&D Service Operations Desk – 

Technology & Data are responsible for the management of the Revenue Collection Contract with Cubic and will escalate issues raised with Cubic management. Issues that have gone through the escalation process are generally resolved satisfactorily very quickly.

To help highlight the correct processes to be followed and who to contact, the T&R team will be producing a laminated notice for display in the secure suite/station office, similar to the notice already issued for CHD issues.
MAKE SOME NOISE DAY

In this month’s TRU we focus on one of the two charities that we support through the proceeds of customer overpayments on our POMs.

Friday 05 October, marks the annual Global Radio Make Some Noise Day, the principle fundraising event for the charity, which funds many small projects which do not have the resources of some of the big charities and struggle to get heard!

During this year’s Make Some Noise Day, all of Global’s radio stations will come together to make some noise for small charities, by hosting various fundraising events during the day, with listeners being invited to join in on auctions, sponsorship or by hosting their own events.

So it’s time to dig out your snazziest shirt or your wackiest wig and make a donation to Global’s Make Some Noise. It’s that simple!

As long term supporters of the charity, we have been asked to help support the event by promoting it to our readers and encouraging LU staff to support the event in any way that you can.

Members of the T&R team have been persuaded to swap their roles in answering calls on the CHD and TSID helplines, to instead spend a couple of hours during the day at Global Radio helping to man the phone lines for the event.

So you never know, phone up on the day and make a donation and you might actually be talking to one of your colleagues!

Visit the website:  https://www.makesomenoise.com/
Donate online:  https://www.makesomenoise.com/donate/
Donate by phone:  0345 949 5000

It isn’t quite the time of year that we total up the proceeds from overpayments on our POMs, but in the December edition (TRU114) we hope to be able to report on this year’s total and the presentations of the money raised through this scheme to our two charities;

Make Some Noise
and Railway Children.

As is usual, that edition will also focus on how the money we raise is used by the charities, by focussing on a couple of case studies or projects they gave successfully supported.

Part 3 – Picking up on the introduction of a new NLC for Liverpool Street at the recent fare revision, most LU stations are numbered in alphabetical order, but there are a number of exceptions, where NLCs have been reused...

Q2) Which former LU stations previously used the NLCs that are now used for...

A  0689 – LIVERPOOL STREET (Broadgate)  Was  ?
B  0722 – VICTORIA (District)  Was  ?
When Oyster PAYG was initially introduced, nearly all journeys were charged on a simple Zone 1-6 basis, with customers holding Travelcard season tickets being charged PAYG fares for any additional zones that they travelled through, which were not covered by their Travelcard.

Special treatment was however required for the small number of stations at the north end of the Metropolitan line, which fell beyond the Zone 6 boundary and these were originally allocated into additional Zones A, B and C for season ticket and PAYG capping purposes.

In the years since the launch of Oyster, life has become increasingly more complicated as Oyster acceptance has been progressively expanded onto all National Rail services within Zones 1-6 and subsequently to a number of stations beyond the Zone 6 boundary.

Subsequent expansions have seen PAYG acceptance extended to Grays, Hertford East, Shenfield, Dartford and Swanley. These expansions have been identified by additional zones mainly for PAYG capping and charging purposes, in some cases season tickets not being available on Oyster. Although these additional zones appear on our Staff PAYG map, they are not generally advertised to our customers, as there is the risk of potentially confusing users or leading them to think that these zones function in exactly the same way as Zones 1-6.

One of the reasons that the fare structure becomes much more complicated when you travel to stations beyond the Zone 6 boundary, is that the various Train Operating Companies (TOCs) are responsible for setting the fares to and from their stations outside of London. This means that the do not have to follow the standard TFL zonal fares and can mean that stations that are notionally indicated as being in the same fare zone for capping purposes, may actually have very different charges for journeys to / from London.

The initial Zones A, B and C were changed to Zones 7-9 and for some of the more recent expansions, we have ended up with a situation where the allocation of stations to zones for capping purposes means that on certain routes, there may not be any stations within particular zones, to enable the appropriate charge to be levied at a particular TOC station.

This is why on customer facing items like the Tube map which carries zonal information, destinations such as Watford Junction and Shenfield are described by the text description "Special fares apply" rather than by a zone number or letter.

So some of the descriptions we use to identify which cap might apply for certain journeys, may not be what is actually used within the actual fares system.
AND FURTHER BEYOND ZONE 6.....

At present the Oyster system has the capacity for 15 fare zones, although only 14 are currently used, the remaining zone being reserved for use when the Elizabeth line opens as far as Reading.

It should be noted that zones 10–14 do not appear in any fares material but relate to:

10 = A  11 = B  12 = C  13 = Merstham - Horley  14 = Gatwick

For capping purposes, Watford Junction and stations on the Grays branch are all treated as being in Zone A (Zone10), but fares from Zone 1 to each destination will be different, although the same Daily Price cap will be apply and any card that is capped on this basis will not be charged in the event of the card holder travelling to the other.

More recently, the expansion of Oyster and contactless PAYG acceptance to include Gatwick Airport and the intermediate stations between the Zone 6 boundary and the airport required a slightly different treatment.

In addition to individual fares from and between each of these stations, we also have the unusual situation of different PAYG fares applying for journeys between Gatwick and London Victoria, depending upon which service is used. This is achieved by the exit gates from the Gatwick Express platforms at Victoria, applying a higher charge, than those served by other Southern services, which use other platforms at Victoria.

When the Elizabeth line eventually opens fully, it will utilise the remaining fare zone that is not currently used for capping calculations. The delay to the opening of the Elizabeth line is likely to mean that the next expansion of Oyster beyond the current area of availability will be to the north on Great Northern services to Hertford North (Oyster is already valid to Hertford’s other station on the Greater Anglia route) and to the south on Southern and South Western services to Epsom (where Freedom Passes are already accepted). These expansions are currently scheduled to be included within the January Fares Revision changes, but we will provide further information on this and the likely public launch in future editions of TRU.

Some of the recent enquiries have resulted from Staff Oyster card holders checking their cards on POMs and the POM screen displaying their validity in terms of Travelcard zones, which isn’t strictly accurate.

What is currently displayed on screen also depends upon how old the particular Staff Oyster card is. The oldest Staff Oysters are indicated as being valid in Zones 1-9 + Watford Junction, while versions issued more recently, may appear to show different validity.

The most recent cards issued by TfL Staff Travel are shown as having validity in Zones 1–F, a zonal designation that doesn’t currently appear anywhere. This is not to be confused with something previously referred to as Zone G for Grays, which as we have already explained, is in reality actually within Zone A or Zone 10 for PAYG capping purposes.

These newer Staff Oyster cards have been prepared in readiness for the opening of the Elizabeth line, on which they will be valid for travel.

Just to clarify that Staff Oyster cards are only valid on TfL services and the limited number of NR routes shown on the Staff Travel and T&R pages on the intranet. So they would not be valid for travel on NR services to Gatwick, even though POM screens might give that impression.

This particular issue is currently being investigated with a view to changing the information displayed to Staff Oyster and Freedom Pass holders as part of the January 2019 Fare Revision changes.

Details of charging zones outside of the Zone 1–6 area are shown in the latest version of our PAYG map (Version 19) which has been updated to include changes made as part of the September Fares Revision and to correct a couple of errors that had been identified in the previous version.
Hi Olly,

I read about the recent change that will mean in the future Gold Card season ticket holders will, in order to obtain the child rate Discounted Day Travelcard, have to buy an adult ticket as well.

If I am correct in this, I am somewhat confused. E.g. if a person has an annual Gold Card valid for travel in Zones 1-6 and is taking their child out for the day, they will now have to buy an adult and child Travelcard?

The person with the Gold Card has no reason to buy an adult Travelcard as their Gold Card already covers their journey.

What should our advice be to genuine Gold Card holders who find themselves in this situation? It seems unfair?

Regards

Olly Oyster

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Hi Olly,

Thank you for your email.

The change that has been implemented on the POMs is being supported by a change to the conditions of use for Gold Card holders across all modes.

The situation has actually returned to a similar situation to how it used to be several years ago, when the Gold Card holder was required to buy a discounted Day Travelcard for themselves unless their Gold Card covered all zones (Zone 1-6).

The Child discounted Day Travelcard does not need to be purchased if the accompanying child is under 11 and although there is now a requirement to buy at least one Adult ticket to obtain the Child version for an 11-16 year old, the adult ticket can be used by another member of the group, if the Gold Card holder is using their season ticket to travel.

Regards

Olly Oyster
Hi [Name],

Thank you for your email and highlighting this issue.

The only journeys that should be resolved for less than the maximum fare are where they arose due to a known incident or where the customer has made a recent error at the station concerned.

Other journeys such as customers forgetting to touch-out etc. can be resolved but with the maximum charge left in place.

As you rightly say, any refund would need to be made via the Customer Contact Centre.

We will feed back your comments to colleagues responsible for the contact centre team, to ensure that they are giving customers the correct information.

Regards

Olly Oyster
**IMAGE IS IMPORTANT**

The image we portray to our customers, gives them an impression of how we are as an organisation and the service we offer. Although new trains, refurbished stations and new equipment project a view of a modern and up to date system, things can often be let down by shabby or unprofessional signs and notices.

Recent journeys around the network by members of the T&R team have highlighted the poor appearance of a large number of our POMs, with official stickers missing or defaced, out of date stickers or information still on display, or unofficial notices adorning devices.

We have collated below a bit of a rogues gallery of examples of what POMs shouldn’t look like. Precise locations have not been disclosed to protect the guilty, but these are by no means isolated examples.

<table>
<thead>
<tr>
<th>Issue</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handwritten device number</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out of date stickers</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marker pen</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unofficial sticker</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazard tape used to seal up money slots when ‘card only’ mode stops cash acceptance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unofficial poster</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Unofficial laminate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

In comparison, we thought it would be useful to include below some examples of what an AFM, and MFM should look like, when the correct stickers and signage are in place.

**So what do we need you to do?**

**CHECK POMs**

**REMOVE OUT OF DATE STICKERS OR NOTICES**

**REMOVE UNOFFICIAL STICKERS OR NOTICES**

**IDENTIFY MISSING STICKERS**

**ORDER REPLACEMENTS**

In a similar initiative the POMs at four stations listed on the right, are shortly due to get a “make-over” and will be fitted with new vinyl coverings, similar to those previously used at a number of trial stations and at a couple of locations such as Charing Cross (Strand), where old POMs were reinstalled into brand new ticket halls. These devices at the stations listed, will also be fitted with new lower panels and new stickers to improve the overall appearance to customers.

In a future edition of TRU, we will include a similar article on gate appearance, as similar issues have been observed with missing or damaged stickers and notices on our gates.
STATION COMPUTER UPGRADE

In readiness for the planned rollout of the new Station Control Unit (SCU), all of our Station Computers (SCs) will need to be upgraded to allow them to operate with either the new SCU or the traditional version of the SCU.

Since July, the six stations identified for the SCU Vanguard have been successfully operating on this updated software. Since the new version also includes some fixes to improve SC performance, a decision was taken to deploy this version of software as soon as possible.

The rollout, which is being undertaken remotely during traffic hours (generally between 11.00 and 15.00 hours) started on Monday 24 September, at a rate of around 25 SCs being upgraded each day (Monday to Friday). The programme is due to be completed on Tuesday 09 October, at which point all LU station Computers will be on this latest version of software.

A further SC software upgrade is planned before the end of the year, with this update containing a change to help eliminate TSID cards being repeatedly deactivated, as a result of local blacklists not being cleared and reset correctly at certain times.

SCU UPGRADE… UPDATE!

We had hoped that in this edition we would be able to provide an update on the start of the Vanguard of the new PC based SCU. Unfortunately, the project has been hit by a further delay.

Although all of the necessary testing had been completed within Cubic’s System Test facility without any major issues, there remained a slight under lying concern regarding the possibility of the new screens freezing. This was something that had been observed during initial development work and when devices had been set up for demonstration purposes. This issue is currently being investigated by the screen manufacturers.

At present the project is now targeting November for the start of the delayed Vanguard. However, we are currently pushing for the Vanguard to start earlier at a couple of sites, as there are some indications that the screen doesn’t freeze when in constant use. Deployment in the live environment is likely to give us considerably better information on the software and hardware changes than in the artificial test environment.

On a station, even if staff are not using the SCU, the device is being continuously updated by the SC, so is effectively always working. Most incidents of freezing that have been seen have occurred when equipment had been left idle without a live data feed to it, so there is every chance that we will not experience the symptoms that were seen earlier in the development of the project.

LAL MXIDE PU Part 4 – We’ve mixed up the letters in these station names. Can you work them out?

(a) RAW EDGE
(b) DOG AND PINT
(c) TINY PUG BREED
(d) ANY LEARNERS
(e) ON STREAM

Answers on Page 19.
AFM OYSTER CARD DISPENSER MODIFICATION

Since the completion of the recent upgrade of the AFM Oyster card dispenser, Cubic have undertaken a review of the card dispenser performance and identified a further possible improvement by repositioning the stock low sensor.

Historically when the unit was initially deployed on AFMs, the cassette was designed to use a weight, to maintain pressure on the stack of cards when the stock got low, and ensure cards were laying flat in the cassette.

During development of the AFM card dispenser it was established that use of the weight was impractical, as the location of the dispenser cassette made it impossible to remove the weight once inserted, without removal of the whole cassette.

Re-fill cassette before cards reach this level

A stock level label (as illustrated left) was therefore used instead, to ensure the weight of cards in the cassette acts in the same manner as the weight.

Within the card dispenser the position of the “Card Stock Low” sensor is still based on the use of the weight, but the manufacturers have now identified a way in which it could be repositioned to give the Error 233 (Card Stock Low warning), at the point that matches the label height on the cassette (180 cards left).

In this way the error will be displayed to station staff earlier than the present warning (50 cards left), enabling them to refill the cassette, rather than wait for the out of stock error.

A Vanguard of this change to the position of the sensor is planned to take place on AFMs at Liverpool Street (Main) once relevant approvals have been obtained.

AFM SOFTWARE UPGRADE

In another potential change to the AFM, the deployment of a new version of software is being considered.

The new software includes enhanced logging to capture extra information from the device when an error 96 is detected.

The last AFM software upgrade was supposed to have resolved the high levels of error 96 previously seen, but although things have improved the problem has not been eliminated.

The plan was to deploy this new version of software to around 10 AFMs that had recently reported high volumes of error 96. This was due to happen at around the same time that we were vanguarding the new MFM software (as outlined in the article on Page 18).

However, as the MFM software also incorporates similar event logging, Cubic have deferred the release of the new AFM software, as they are hopeful that the deployment to the MFMs will provide them with more detailed logs, which will enable Cubic and Barclaycard who process all of our card payments, to identify the cause of these issues.

If the MFMs fail to deliver the required information, we at least have this AFM to fall back to as another avenue for gathering data from devices.

Once the cause of these error 96 issues is identified, a further version of software will need to be developed to include the relevant changes to alleviate the problem.
TOM/SAF UPGRADE COMPLETED

One bit of good news on a device upgrade / project front is that on the night of Thursday 13 September, we saw the completion of the TOM/SAF upgrade programme, with the completion of upgrades to the TOM and SAFs at Bayswater, Covent Garden and Swiss Cottage.

Although the rollout has now been completed, there are five sites where devices are yet to be upgraded, for a number of different reasons (as listed below).

<table>
<thead>
<tr>
<th>Station/Ticket Hall</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOND STREET (Marylebone Lane)</td>
<td>Awaiting TVM and CHD installation</td>
</tr>
<tr>
<td>NORTH GREENWICH</td>
<td>Awaiting decision on POM relocation</td>
</tr>
<tr>
<td>BROMLEY BY BOW</td>
<td>Leak in roof and outstanding building works</td>
</tr>
<tr>
<td>WHITECHAPEL</td>
<td>Relocation to new ticket hall</td>
</tr>
<tr>
<td>ELEPHANT &amp; CASTLE (Northern)</td>
<td>Vermin contamination</td>
</tr>
</tbody>
</table>

We will be working through these sites with Cubic in order that they are also updated with the new hardware and software, as soon as the outstanding issues at these sites have been resolved.

It is likely that the work at Whitechapel will not be completed as part of the upgrade programme, as the new ticket hall currently being constructed will receive the new equipment.

If you spot any of the old white / cream coloured SAF cabinets anywhere else, please let us know.

PORTUGUESE RETURNS

As we reported in TRU111, although the Vanguard of the reinstatement of Portuguese onto all of the AFMs at Kings Cross, Liverpool Street and Stratford was successful, it was necessary to remove the language from these devices as part of the fares revision implementation on Sunday 02 September.

The regression of these devices was necessary as the Vanguard had been undertaken using bespoke tables that had just been loaded to the three stations involved.

The number of changes to be implemented at the fares revision prevented the Cubic base data team from being able to update these as part of the revision, so devices were loaded with the standard tables sent to all other AFMs.

Following the lifting of the fares revision change freeze during the first week of September, approval was given for the restarting of the AFM Portuguese Vanguard, using another set of bespoke tables which were reloaded to the Vanguard stations as part of the first scheduled base data update after the fares revision. This took place on Sunday 23 September.

A further period of monitoring the vanguard devices was then scheduled to take place to ensure that changes made at the fares revision, have not caused any unexpected issues on the AFMs.

All being well, approval will be given for Portuguese to be reinstated on all AFMs as part of the base data update scheduled for Sunday 21 October.
MFM SOFTWARE VANGUARD

A new version of MFM software is shortly to be Vanguarded on the 11 MFM's listed in the table below.

<table>
<thead>
<tr>
<th>Station</th>
<th>MFM</th>
<th>Station</th>
<th>MFM</th>
</tr>
</thead>
<tbody>
<tr>
<td>KINGS CROSS (Northern)</td>
<td>33</td>
<td>LAMBETH NORTH</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>32</td>
<td>WATERLOO (Colonnade)</td>
<td>31</td>
</tr>
<tr>
<td>KINGS CROSS (Western)</td>
<td>33</td>
<td>WESTMINSTER</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>34</td>
<td>PADDINGTON (Main)</td>
<td>35</td>
</tr>
<tr>
<td>LIVERPOOL STREET (Main)</td>
<td>32</td>
<td>WHITE CITY</td>
<td>30</td>
</tr>
</tbody>
</table>

* Mon 01 Oct  * Tue 02 Oct

The Vanguard is scheduled to start on the night of Monday 01 October and will run for around two weeks. The new software has primarily been developed to allow the MFM to interact with new designs of Note Handling Unit, as Cubic are currently evaluating options for the possible replacement of our current Bank Note Acceptor (BNA) units.

This work is in its very early stages, but the new software also includes a number of fixes to address current issues. The most prominent issue which will hopefully be resolved in the new build is one that affects MFM's fitted with Bank Note Recycler BNR units and results under certain circumstances in the vault contents being displayed incorrectly when the service panel is interrogated.

This appears to occur due to a communication issue between the BNR unit and the MFM PC and has resulted in older vault contents information being added to the actual vault contents. Instances of this happening are easily detectable through the device reports, as the increase in the vault contents is reported without a transaction taking place and the value of sales made by the device are a lot less than the expected vault contents.

The new software also includes some enhanced event logging to assist in addressing a high level of error 96 events seen on certain devices. A similar investigation is being pursued on AFMs and a limited software upgrade on certain devices is being considered, depending on feedback from the MFM deployment (as outlined on Page 16).

GATE UPGRADES

A number of separate initiatives are underway to improve the performance of our gates. Below and on Page 19 (opposite) we outline some of the work which will be undertaken over the next few months:

E2 GATE LID

It has taken a long time to get there, but following two Vanguards and a number of false starts, we are shortly to commence a programme to replace the lids on all of our E2 gates and WAGs.

The new design, currently in use at Kings Cross (Western), features both a soft close and a new self-locking mechanism, which avoids the risk of the lid containing the ticket transporter (UTT) dropping down onto the users fingers when accessing the UTT and also allows the gate panel key to be removed from the lock once the lid has been released.

When shutting the lid, gentle pressure applied to the lid in its “almost closed position” will cause it to fully shut and then lock, without the need for a key to be reinserted.

The upgrade programme is scheduled to start on Sunday 07 October initially concentrating on the other two ticket halls at Kings Cross and then moving on to complete Victoria and a number of other stations with large numbers of E2 type gates.
EI BEAM REPLACEMENT TRIAL

The trials at Swiss Cottage and Paddington (Main) continue and since the beginning of Phase II of the trial when all of the beams were replaced, we have seen very few instances of error 246 at either station, as illustrated in the updated graph for Swiss Cottage below. There have been a couple of reports in the last week or so, but these have been resolved by the removal of dust from the lenses of the beams.

The third phase of the trial which involves the fitting of a new design of shroud has been delayed, as the initial design which had been developed, was found to hamper the correct operation of the beams during testing. So Cubic had to go “back to the drawing board” with a revised design and we now face a further delay of around six weeks before the new design of unit will be available for installation.

In the meantime, we will continue to monitor the second phase, as the longer this continues, the better indication we will get of whether the changes implemented so far have had a long term benefit on gate performance.

E2 GATE SOFTWARE VANGUARD

A further software Vanguard is planned for E2 type gates, to hopefully address the on-going issue with gates failing with Error 0 indicated. The initially deployment is expected in early October and if successful will then be quickly extended onto other types of gate, before a full rollout takes place.

GATE READER UPGRADE

Following the deployment of some enhanced software containing an increased level of event logging on the gates at London Bridge, Cubic believe they have now identified the cause of some of the RTD (card reader) freezes which have been seen on gates at stations across the network.

A new version of RTD software has now been developed which includes a change to prevent these incidents occurring and to assist the gate to recover more quickly should an issue arise. This new software was remotely deployed to all gates in the ticket halls listed below on the night of Wednesday 19 September, to take effect from start of traffic on Thursday 20 September.

<table>
<thead>
<tr>
<th>Station</th>
<th>P Gates</th>
<th>E1 Gates</th>
<th>E2 Gates</th>
<th>E2 WAGs</th>
</tr>
</thead>
<tbody>
<tr>
<td>LONDON BRIDGE (Main)</td>
<td>All 28 gates</td>
<td>40-54 &amp; 57-69</td>
<td>72-78</td>
<td>20, 25, 55, 70, 87</td>
</tr>
<tr>
<td>LONDON BRIDGE (BHS)</td>
<td></td>
<td></td>
<td></td>
<td>23 &amp; 24</td>
</tr>
<tr>
<td>WATERLOO (Main &amp; Auxiliary)</td>
<td>40-46 &amp; 50-58</td>
<td></td>
<td></td>
<td>2 WAGs</td>
</tr>
<tr>
<td>LEICESTER SQUARE</td>
<td></td>
<td></td>
<td>47</td>
<td>21-24</td>
</tr>
</tbody>
</table>

ANSWERS TO T&R TRIVIA

Pt.1  Q1  1 C Kings Cross - £54.7M  4 F Paddington - £28.8M
       2 A Victoria - £35.2M  5 D Stratford - £28.3M
       3 B Liverpool St - £30.6M  6 E Heathrow T2&3 - £23.5M

Pt.2  Q2  1 A Kings Cross - £9.4M  3 A Heathrow T2&3 - £6.1M
       2 D Victoria - £6.9M  4 C Paddington - £5.4M

Pt.3  Q3  A Rotherhithe  B Surrey Quays

(a)  LAL  (b)  (b)  (c)  (d)  (e)  MXIDE  PU

EDGWARE  PADDINGTON  PUTNEY BRIDGE  RAYNERS LANE  STANMORE
LU TVM

Further to our last report on the LU version of the Cubic TVM in TRU111, the current Vanguard involving two devices at Stratford (Mezzanine) is continuing. The performance of these devices is continuing to be monitored and although it has been broadly similar to the overall performance of other devices installed at RSLU stations and on other modes, concerns over the general performance of TVMs as a whole has prevented the go-ahead being given for a rollout to other LU sites for the time being.

In the meantime, Cubic are progressing a number of software and hardware modifications which will be applied to TVMs that have already been installed, in an effort to raise performance to a more acceptable level.

In a separate development, approval has been given for the extension of the current LU Vanguard, with the installation of two further devices in the new Bond Street (Marylebone Lane) ticket hall, the opening of which we featured in TRU105.

Since it opened in November 2017, this new entrance to Bond Street station has operated without any ticket issuing devices, pending the arrival of the new TVMs. The new TVMs are scheduled to be installed at Bond Street during the week commencing 01 October, but will initially operate in card only mode until TSID card holders have been briefed on the new device.

On Page 3 of TRU111 we told you about changes to be implemented as part of the September Fares Revision, which would allow Staff and Staff Nominee Oyster cards to allow entry and exit on the National Rail gateline at London Bridge.

Inter-availability between LU and NR Thameslink services means that under existing arrangements TfL Staff Oyster card holders can travel free on Thameslink services between London Bridge, Blackfriars, City Thameslink, Farringdon, St Pancras International and Kentish Town.

The body of text in the article was correct, however in what can only be described as a lapse of concentration, we misleadingly displayed an image of a Bus Operator and Bus Nominee Oyster cards which are not valid for travel on any NR services.

As soon as we were aware of our mistake we were able to amend the online version of TRU111, but unfortunately we were too late to stop the print run of copies that we send to stations.

One we were able to catch before printing, but just a tad too late for one of our distribution lists was a formatting error with the “Gate Issues” article on Page 18, which resulted in some important text being hidden. However this was corrected and reissued to the recipients concerned.

We apologise for any misunderstanding these minor errors may have caused.

LOOKING AHEAD TO TRU113

The next edition of TRU is scheduled to be published in early November and will include:

- Further information on the implementation of Weekly Capping for Oyster users, including a further Oyster Explained feature
- An early preview of the January Fares Revision changes
- A Special Feature on Surplus & Loss and reducing the number

Plus a selection of our other usual features.