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IS THE END OF MAGNETIC TICKETING IN SIGHT?

In May 2015 an article in the publication *Rail Staff News* posed the question as to how long magnetic strip paper tickets would be around on the UK rail network and then went on to speculate that magnetic ticketing could be phased out within 5 years.

So 4 years down the line, are we any nearer seeing LU and the other rail operators move completely away from using magnetic tickets? Without doubt, on LU the transition away from magnetic tickets is well advanced, with the mandating of season tickets onto Oyster and the pricing of PAYG journeys and the introduction of PAYG capping causing major switches away from traditional ticketing.



More recently the growth in contactless payments has also further reduced the number of customers that still buy a magnetic ticket from our POMs.

Currently the use of magnetic tickets sits at around 12% of LU journeys made, but about half of this figure is made up of magnetic tickets used by NR customers, many who travel from NR stations outside of the London area.

On LU the composition of the remaining magnetic tickets we issue, is split between Day Travelcard sales to visitors or those resistant to Oyster and Single / Return tickets many of which are bought by customers making odd journeys and aren't too worried about the price (e.g. those claiming on expenses), so these two categories would need to be further reduced before we could stop selling magnetic tickets altogether.

On [Page 12](#), we outline a proposed trial of card only gates at a number of LU stations outside Zone 1 and on [Page 20](#) we provide details of the latest TOC to launch their own brand of ITSO card. The drive towards ITSO and mobile ticketing for NR customers is key to reducing the current volume of NR magnetic tickets, so watch this space.

KEY STORIES INSIDE

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We run through some of the main changes due to be happening on 19 May.

Page 5 [FUTURE PAYG EXPANSION](#)

We look ahead to some further planned expansions of PAYG acceptance on NR services.

Page 9 [DEALING WITH INVALID CURRENCY](#)

We run through some changes to procedures for accounting and banking invalid coins and notes.

Pages 13 [MANUAL GATE REPLACEMENT](#)

We look in more detail at plans to replace Manual Gates at a number of sites.

Page 16 [UPDATE ON MFM BNA TRIALS](#)

We provide an update on the trial of three types of replacement note units for our MFMs.

MAY FARES REVISION

MAY FARES REVISION

The next fares revision is due to take effect from Sunday 19 May. There will be few actual changes to fares this time, but we will be making a number of other changes as part of the fares revision.



We outlined some of the planned changes in our May Fares Revision preview in [TRU116](#), but over the next three pages of this edition, we provide further details on what is changing and a couple of additional items that were not covered in our last edition.

Please note that the withdrawal of 2 and 3 Day Visitor tickets from the trial stations has been deferred until the September Fares Revision.

FARES CHANGES

Although fares set by TfL remain “frozen” as part of the Mayor’s election fares promise, some fares that are set by Train Operating Companies (TOCs) may change from Sunday 19 May. This will mean that there may be price changes for tickets we sell from our POMs to NR destinations outside the zonal area and for certain wholly NR journeys where NR services serve our stations.

As part of the fares revision changes there will also be changes to the PAYG charges for certain rail journeys to and from Epsom, as a result of some charging anomalies being identified since the expansion of PAYG to Epsom in February. For a number of short distance journeys the PAYG charge exceeded the cost of a Single ticket.

There will also be some changes to the PAYG charges on River services:

- *Within West Zone*
- *Between West Zone and Central Zone*

RIVER FARES	CENTRAL	CENTRAL + WEST	CENTRAL + EAST	EAST	WEST	ALL ZONES
SINGLE FARE	£8.70	£10.00	£10.00	£4.80	£4.80	£10.30
PAYG	£7.00	£8.20	£7.30	£4.40	£4.40	£9.00

The above fares supersede those shown on Page 13 of the *January 2019 Fares Revision Circular* and include other price changes implemented since January. *T&R Book Appendix 1* will also be updated to reflect these changes.

STAFF FARES LISTS FOR MAY 2019

As a result of a number of local TOC and through fares from LU to NR destinations changing, as outlined above, new versions of the staff NR fares lists showing the updated May 2019 fares will be available to print off or download to your iPad via the T&R intranet pages or by [clicking here](#) from Week ending 11 May.

Fares lists are broken down by line and when the appropriate line is selected will show the current Areas and stations within each. Most stations have two separate documents which we have described below. However please note that only the fares lists in bold and italic font have been updated;

- the first starting SOO followed by the last 3 digits of the station NLC – containing fares to LU, DLR and other stations on the TfL fare scale for which “Station of Origin” tickets are issued – **No change**
- the second starting SOD followed by the last 3 digits of the station NLC – containing fares NR stations for which “Point to Point” or “Station of Destination” tickets are issued.
- Stations with multiple NLCs, now only have one version.

Please remember that there are no changes to the staff LU fares lists, so you should continue to use the January 2019 edition of these.

ENTRY THRESHOLD CHANGES

At a small number of stations, the Entry Threshold (the amount of PAYG a customer must have on their Oyster card to be allowed to enter through a gate) will be changing from Sunday 19 May.

HEATHROW (TfL Rail and HEx)

The entry threshold applied on the gates serving the TfL Rail and HEx platforms at each of the airport stations will be changed from the current £0.00 to match the Heathrow to Hayes & Harlington fare.



Standard PAYG	Reduced PAYG
£6.20	£6.00

There will still be free travel for customers within the airport, but if the journey between the various airport terminals is made using TfL Rail or HEx services, customers and airport staff will now have to have at least the minimum fare of £6.20 on their card.

There will no change to the Entry Threshold or Entry and Exit charges at Heathrow Terminals 2&3 or Heathrow Terminal 4 LU stations, or on the gates leading to the LU platforms at Heathrow Terminal 5.

RSLU STATIONS

The Entry threshold will also be changed at the five Bakerloo line stations listed on the right, where the current Entry Threshold is higher than the cost of some short distance fares, for which non-standard charges apply.

NORTH WEMBLEY
QUEENS PARK
SOUTH KENTON
STONEBRIDGE PARK
WEMBLEY CENTRAL

From Sunday 19 May, the Entry Threshold will be reduced to reflect the lowest fare journey possible from the station.

POM SCREEN CHANGES

As we outlined in [TRU116](#), we are taking the opportunity at this fares revision to make further changes to customer screens on our POMs.

A number of changes will be made to POM screens, including further corrections to the messages displayed when an Extension ticket is selected after presentation of a Freedom Pass or Staff Oyster card to the reader.

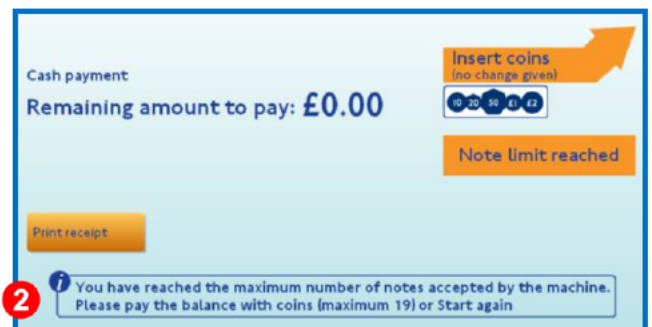
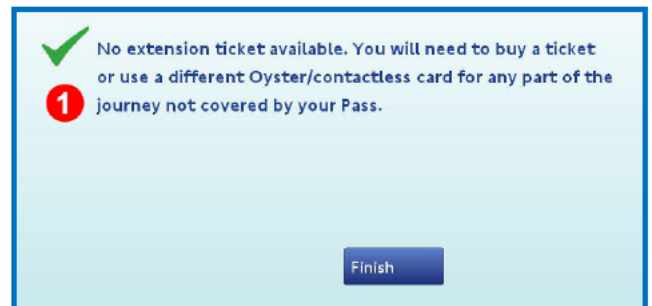
The text that incorrectly stated “You can use your existing Travelcard to travel to your destination” will be replaced with a comprehensive message that states (1);
“No extension ticket available. You will need to buy a ticket or use a different Oyster/contactless card for any part of the journey not covered by your Pass.”

Changes will also be made to the screens which are displayed to customers when the maximum number of coins or notes are inserted into a POM with the message (2);

“You have reached the maximum number of notes accepted by the machine. Please pay the balance with coins (maximum 19) or Start again.”

Screens that are displayed to highlight availability of refunds will also be changed when a new Oyster card is purchased and instead of stating “Please note that Oyster card refunds can only be paid after 24 hours; will now display the following message (3);

“Note that Oyster card refunds are not available within 24 hours”.



MAY FARES REVISION



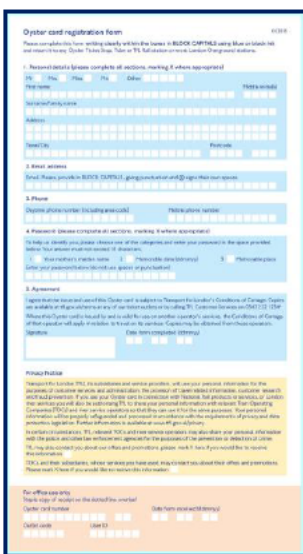
CHARGEABLE ROUTES

As previously outlined in [TRU116](#), a further batch of journeys will have their chargeable routes changed, to only give customers the benefit of the cheaper “non- Zone 1” fare if they have used a Route Validator when changing train.

This may mean that a number of customers regularly making unusual cross London journeys avoiding Zone 1, who have may not have got into the habit of using route validators when changing trains, will in future find that they are charged a Zone 1 extension fare.

The advice to customers using a Travelcard that doesn't include Zone 1 to make non-Zone 1 journeys after 19 May, is that they must validate on a Route Validator when changing trains to avoid being charged a Zone 1 extension fare.

In future there will be very few journeys remaining with Alternative Chargeable Routes, where the customer will continue to be given the 'benefit of doubt' as to which route they have taken to complete a cross London journey.



OYSTER REGISTRATION FORMS WITHDRAWN

Just a final reminder that from Sunday 19 May, Oyster Registration forms will be withdrawn from all outlets and any unused forms at LU stations should be destroyed on that date.

Any completed forms on hand at the time of withdrawal, must be despatched in a multi-safe bag and placed in the V&C Transportation Sack in the normal way.

After Sunday 19 May, customers wishing to register their Oyster card must be advised to do this via an online account. The registration flag can be set via the staff screens on the front of the POM for all discounts except Privilege discounts, which must only be set on the TOM.

Holders of TfL PTACs or NR Staff Travel Cards wishing to have a Privilege discount added to a new unregistered card, can have their Oyster card fully registered on the TOM using the details recorded on their application form.

NEW STATION APPEARS

A new station Meridian Water, situated on the Greater Anglia line between Tottenham Hale and Cheshunt will be added to the ticketing system from Sunday 19 May, in preparation for its planned opening on or shortly after the fare revision.

This new station situated in Zone 4, between Northumberland Park and Ponders End, will eventually replace the current Angel Road station, but there may be a short period that both stations are open before the final closure of Angel Road takes place.

The new station (NLC 6599) has been added to an updated version of [T&R Book Appendix 2](#), which is due to be published for the May Fares Revision and to an updated version of the PAYG map.



Part 1 – Following on from the story above...



Prior to the opening of the new Meridian Water station, what was the last station to be added within the Travelcard zones? (As a bit of a clue, it is not that far away!)



Answers on [Page 19](#)

FUTURE PAYG EXPANSION

Within the scope of the forthcoming fares revision, there are provisions being made in readiness for some further planned expansions of PAYG acceptance later this year. The necessary fares data will be loaded ready to allow testing and the later public launches of these, but settings will initially make these unavailable to standard Oyster cards and general contactless payment cards.

These planned changes basically fall into four phases and although the precise dates for each phase are yet to be finalised, the current plans are:

Phase I

TOCs	Description	PAYG Acceptance for
	On Thameslink services between the current boundary of PAYG acceptance at Elstree & Borehamwood and Radlett , which will be in Zone B for capping purposes.	
	On Great Northern / Thameslink services from the current limit of PAYG acceptance Hadley Wood to Brookmans Park and Potters Bar (also Zone B for capping purposes)	

Both of these expansions are currently scheduled for **25 June 2019** and will include PAYG acceptance at these stations for both Oyster and contactless users. Later in the year further phases are planned which will only be for contactless payment – *not Oyster*.

Phase II

TOCs	Description	PAYG Acceptance for
	A further extension on Thameslink services northwards to St Albans City , Harpenden and Luton Parkway . This is currently scheduled for 22 October 2019 but will only be for contactless payment users and Oyster will not be accepted beyond Radlett.	

Phase III

TOCs	Description	PAYG Acceptance for
	The third phase will see a further expansion of PAYG acceptance for contactless users only, on Great Northern/Thameslink services north of Potters Bar to Welham Green , Hatfield and Welwyn Garden City . This phase is currently scheduled for 26 November 2019 . Oyster PAYG acceptance will continue to be only as far as Potters Bar.	

Although there has been much news coverage of the further delays to the full opening of the Elizabeth line, later this year TfL Rail are scheduled to take over the operation of further services on the Paddington to Reading line from the current operator Great Western Railway.

Phase IV

TOCs	Description	PAYG Acceptance for
	This will see acceptance of both Oyster and contactless payment on TfL Rail services to Slough , M Maidenhead , Reading and intermediate stations. As previously mentioned last year in TRU115 , as part of our coverage of the Elizabeth line before the opening was delayed, this will also mean that TfL Staff and Dependent Oyster cards will become available for travel on the TfL Rail services to these stations.	

The date for the transfer of these services and the acceptance of Oyster and contactless is yet to be announced.

*Please note that Oyster, contactless payment and TfL Staff facilities will **not** be valid for travel on the longer distance services between Paddington and those stations operated by Great Western Railway.*

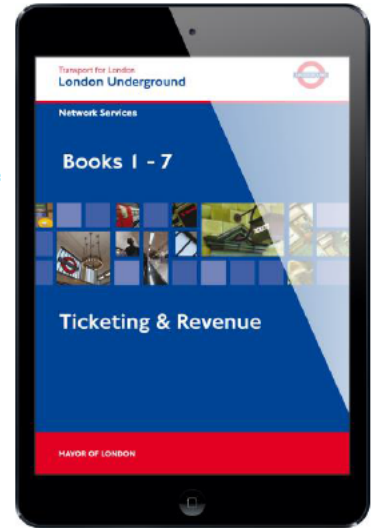
All of the above planned expansions are to stations which fall outside of the Travelcard Zones 1-6 and they like other sections where PAYG is already accepted, will therefore have non-standard fares.

T&R BOOK CHANGES

Some late changes have resulted in the planned publication of new online editions of several of the T&R Books to be postponed until early June. Updated versions of Book 2, 3 and 6 will then be published on the T&R intranet pages.

A brand new edition of Book 5 which will now cover gateline and ticket hall issues (to replace the current Book 8) will also then be published. This will incorporate the new design of SCU (featured on [Page 19](#)).

T&R Books 1 and 4 which are still supplied to stations as printed copies, will be updated later in the year, probably to coincide with the September Fares Revision, by which time a review of the current Validation & Control (V&C) despatch arrangements will have been completed.



A number of the T&R Book Appendices have recently been updated to take account of changes that have occurred since January, or are included within the forthcoming May Fares Revision Changes.

The updated T&R Book Appendices which can be viewed or printed from the T&R Books page of the intranet are:

Current Appendix	New name	Outline of Updates
Appendix 1 – LU Fares	TRB Appendix 1 – LU Fares	Changes to include fare changes from the May Fares Revision and corrections to some areas of text and formatting
Appendix 2 – NLC Numbers and Fare Zones	TRB Appendix 2 – NLC Numbers and Fare Zones	Updated to include new PAYG extensions added as part of the May Fares Revision and to also add known information for stations added later in the year.
Appendix 6 – Travel Irregularities	TRB Appendix 6 – Travel Irregularities	Updated to include scenarios relating to Contactless and ITSO acceptance and the removal of outdated text and scenarios.

It is expected that these appendices will be added to the T&R Intranet between now and mid-May and will be announced in the Hot Issues Bulletin once loaded.

REVIEW OF CASH COLLECTION SCHEDULES

We have recently started the annual process of reviewing the current cash collection schedules for each of our stations against the actual cash take during the last year. Initial proposals indicate around 30 sites will see a reduction in the current collection frequency with about half of these locations moving from weekly to fortnightly collection schedules. This reflects a slow but continual drop off in the percentage of sales made using cash at most locations, particularly as a result of more customers switching to contactless payment.

There are however, a couple of locations where cash volumes over the last year have increased and these will see additional collections added when the collection schedules are revised.

All of the proposals are based on the existing collection triggers, so any proposed reduction in the frequency of collections at these sites, should not lead to any greater volumes of cash being held on site than we already hold at other stations.

The initial proposals will be circulated for comment to the areas affected shortly. At some locations where there is to be a reduction in the number of collections per week, we will take the opportunity to spread the remaining collection days more evenly, which may result in changes to collection days and the times of the contractual collection window.



The exercise is also an opportunity to consider changes to the current schedule which may either help us operationally, or overcome issues that we have experienced with the current schedule. Following this we will need to discuss the planned changes with G4S, before revised schedules are introduced later in the summer. Formal notification of any change will be communicated well in advance of the final implementation date.

FORGED £2 COINS

In several previous editions of TRU we focussed on the problem of forged £1 coins, which eventually resulted in the new design of £1 coin with more security features being introduced on 28 March 2017.

It has recently become apparent that there are currently significant numbers of fake £2 coins in circulation. The quality of some of these can be very poor, but to the untrained eye they may not easily be detectable.

Fortunately this does mean that our POMs and CHDs will generally reject them, but we are aware of cases of fake £2 coins being delivered to our stations as part of change deliveries.

Although our equipment does a good job in identifying potential fakes, we thought it would be useful to highlight what to look out for when you receive a £2 coin, either at work or when making transactions elsewhere.

Fake £2 coins may:

- *Not be the correct weight (a genuine coin weighs 12g)*
- *Not be made from 2 different alloys (the outer ring may be painted to look different)*
- *Not have the inscription around the edge of the coin, or it may be indistinct*
- *Not have the silver inner core flush with the gold coloured outer ring*
- *Be missing some of the series of fine dots around the perimeter of the inner silver core*
- *Have an inferior quality portrait of the Queen, with little detail in the hair and little distinction between her hair and the crown.*
- *Be missing the designers initials below the Queen's portrait (genuine coins have IRB for Ian Rank Broadley)*
- *Make a distinctly different noise when dropped onto a hard surface, due to the inferior metal used.*



Although there are many different designs of £2 coins in circulation, the vast majority of the fake coins are the standard design with a heavily patterned rear face.

There are at least two designs of commemorative £2 coins for which fakes are in circulation. These include the Isambard Kingdom Brunel coin featuring the Paddington station roof and the 300th anniversary of the Act of Union (1707-2007) featuring the portcullis design.



Any suspected fake £2 coins received within change deliveries should be notified to the FSC and remitted within an Invalid Currency bag clearly marked with the source of the coin (as outlined in the article on [Page 9](#).)

Full details for dealing with invalid and counterfeit coins are included in [TRB4 – Secure Suite Procedures](#).

Part 2 – Picking up on the £2 coin theme above and without looking at the change in your pocket...

- Q2) What is the inscription that appears around the edge of a genuine example of the standard design of £2 coin (illustrated on the right)?



Ticketing & Revenue
T&R
Trivia

Answer on [Page 19](#)

WHAT DOES THE CHANGE IN YOUR POCKET SPELL?



You may not be aware that in addition to a series of commemorative £2 coins and 50p pieces, the Royal Mint has recently re-launched a series of 26 different 10p pieces, each featuring a different letter of the alphabet.

This might be the April / May edition of TRU, but for once this is not one of our traditional April Fool's day stories!



This series of coins celebrate the best of Britain, featuring images of subjects as diverse as the World Wide Web and Fish & Chips, with public transport represented by D for Double Decker Bus. 10 of the 26 designs were selected following a public consultation exercise.

The limited batch of these designs were originally issued in March 2018 and even though there were 100,000 of each coin issued, amounting to 2.6million in total, they were quickly snapped up by coin collectors some paying inflated prices online.

The latest batch of 2.6 million coins were released on Wednesday 27 February and carry a 2019 date next to the Queen's head, rather than 2018 on the original batch. That sounds a lot, but it is actually a very limited run of coins, so they are likely to be quite scarce.

In case you haven't yet seen any of these new designs, we have included some images to the left and below.

So in the 10p coin alphabet, the T&R team equates to Tea and Robin. It's true we are known to drink a lot of tea, but we don't currently have anyone called Robin in the team.



The subjects represented by each letter A-Z are:

Letter	Subject
A	Angel of the North
B	Bond... James Bond
C	Cricket
D	Double Decker Bus
E	English Breakfast
F	Fish & Chips
G	Greenwich Mean Time
H	Houses of Parliament
I	Ice Cream
J	Jubilee
K	King Arthur
L	Loch Ness Monster
M	Mackintosh

Letter	Subject
N	National Health Service
O	Oak Tree
P	Post Box
Q	Queuing
R	Robin
S	Stonehenge
T	Tea
U	Union Jack Flag
V	Village
W	World Wide Web
X	X Marks the Spot
Y	Yeoman
Z	Zebra Crossing



ACCOUNTING FOR INVALID CURRENCY

Following on from the theme of invalid coins, covered in our *Special Feature* on [Page 7](#), a recent review of invalid currency submitted by various stations has highlighted some confusion around how invalid coins and notes should be dealt with.



Although improvements to the coin validators in our POMs have drastically reduced the volumes of invalid coins being accepted by our POMs, it has become difficult to identify the source of certain coins which have been banked as invalid currency.

This makes it very difficult to identify coins that could potentially sneak through the current validator settings.

One point to highlight here is that a sterling coin or note rejected by the CHD does not necessarily mean that it is not a valid note or coin. Sometimes it is necessary to retry the item several times in different orientations, before it is finally accepted by the device.

Items that are repeatedly rejected should be checked for damage, marks, dirt etc. and if they appear to be genuine but imperfect coins or notes these should be banked as valid currency in a counted cash multi-safe bag.

To clarify how items confirmed as being invalid currency should be processed, we have made some minor changes to procedures and summarised how individual items should be processed in the table below.

Source of invalid currency	Action to be taken	Additional action
Invalid coin or note from a POM service.	Remit in a Counted bag selecting "Invalid currency" as contents. Value = the value that the coins were accepted as.	Clearly mark the bag with details of the POM that the invalid currency was removed from.
Invalid coins within a change delivery.	Advise the FSC of the discrepancy within the change delivered. Remit in a Counted bag, selecting "Invalid currency" as the contents.	Clearly mark the bag with the; <ul style="list-style-type: none"> FSC reference number, change delivery bag number date of the change delivery it was delivered in.
Foreign or invalid coins cleared from the POM validator or slug box etc.	Remit within "Other bag" selecting "Withdrawn invalid currency" as the contents. These are accounted for at a zero value.	Clearly mark the bag as "Invalid currency not accepted".
Foreign or invalid coins forming part of a charity collection, authorized to be processed via the CHD.	Return any rejected coins and notes directly to the charity collector.	

These changes will be incorporated into forthcoming updates of the T&R Books, which we plan to issue in conjunction with the forthcoming fares revision.

Part 3 – And following on from this month's coinage theme... There are legal tender limits which determine the maximum number of coins that have to be accepted in a transaction.

Ticketing & Revenue
T&R
Trivia

Q3) What is the maximum number of each of these coins which constitute legal tender?

A 2p **B** 10p **C** £1



Answers on [Page 19](#)



Got a ticketing and revenue related question, problem or simply noticed something you think your colleagues should know about?
Why not test the knowledge of Olly - our resident ticketing guru.



From: [REDACTED]
Sent: 04 February 2019 17:44
To: Ask Olly
Subject: Replacing failed Oyster cards

Hi Olly,

I have just replaced a failed Oyster card that had Pay As You Go on it and a 7 Day ticket that expired today.

The machine automatically gives the customer two days on the Travelcard, with no facility to change it.

This is a flaw in the system as the customer now has free travel for an extra day. Is there any way to get around this?

Regards

[REDACTED]
CSA Archway Area

Hi [REDACTED],

Thank you for your email and query.

The facility to replace a failed Oyster card on a POM is very limited and as you correctly point out will automatically offer 2 days validity if you attempt to load a Travelcard.

Now that Faster Universal Load has been implemented, the most efficient way to deal with a failed card is to get the customer to buy a new card and then go online to link their old and new cards. Products will then be transferred onto the new card within about 30 minutes.

The TOM within the POM Room still has the facility to copy a card that is still readable or to replace a failed card using the Authorised copy process.

Regards

Olly Oyster

Hi [REDACTED]

Thank you for your email and query.

The omission of these locations from the POMs at Hounslow West is not an error, but is historical and based on the locations you have listed being much easier to reach via local buses or via services from Hounslow (NR) station.

The direct rail route for such a journey would require the customer to change at Acton Town, Turnham Green and Richmond covering Zones 3-5 (or Zone 3-6 in the case of Kingston). Whereas the NR fare from Hounslow to Twickenham is a Zone 5 only fare, to Brentford is Zone 4-5 and to Kingston a Zone 5-6 fare.

Although our POMs now offer a much larger range of NR destinations, there are still limitations to the range of stations they can offer, so we tend give priority to those destinations which are the most likely options for customers to select.

Regards

Olly Oyster

From: [REDACTED]
Sent: 17 February 2019 18:34
To: Ask Olly
Subject: Missing fares from Hounslow West

Hi Olly,

Recently at Hounslow West, several customers have wished to buy Single tickets to destinations such as Kingston, Twickenham, Brentford etc., but none of these are offered on the POMs at the station.

Can you advise either a route or explain why these stations are not available?

Regards

[REDACTED]
CSAI
Hatton Cross Area

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From: [REDACTED]
 Sent: 25 April 2019 10:14
 To: Ask Olly
 Subject: Oyster Off Peak Daily Cap (Zones 1 – 4)

Hi Olly,

I am writing regarding the new Oyster fare increase 2019.

Last year, the Oyster Off Peak Daily cap for Zones 1-4 was £9.80, which we didn't have any issues when customers wanted to pay by credit/debit card, they paid £10.00 for it. Now the Daily Cap for Zones 1-4 is £10.10, so if they have to pay by credit/debit card they now have to pay at least £15.00 which most of the customers are not happy to do, as it is an extra £4.90. As a result, they start grumbling and shouting at frontline staff, which is not pleasant in front of other daily commuters.

I would like to give my opinion on this:

- A) *It would have been better if the fare increased only to £10 instead of £10.10 (but I understand the revenue lost on this).*
- B) *At present POMs allow payment by credit / debit card for any combination of £5, £10, £15, £20, £30, £35, £45, £50 only. Since the Oyster fare increase in 2019, Daily cap for Z1-4 is £10.10. If we could re-program POMs to allow payment by card of any amount above £10.00 it will resolve the above issue.*

Kind regards

[REDACTED]
 CSA, Wanstead Area

Hi [REDACTED]

Thank you for your email and observations.

The setting of prices at the fares revision is a very complex exercise and in the case of Day Travelcards and caps, involves other operators such as the Train Operating Companies (TOCs) who receive a portion of this revenue. Fares are also regulated by the government in line with the Retail Price Index and to achieve the general level of fares increase allowed, some fares have to be increased more than others. This can often mean that we end up with a product priced at an amount that you would not ideally choose and even when we end up with a product priced at a round pound, we know that it will almost certainly change to something less favourable at the next fares revision.

The basic principle of Oyster PAYG is for customers to pre-load an amount of money onto their card and then use this as they travel until the amount is exhausted and then top-up again. Clearly some customers are loathe to put more money on their card than they need for the journeys they intend to make that day, but that isn't really the way PAYG is designed to work.

We would not therefore really want to encourage customers just to load £10.10 for their Zone 1-4 cap. The ability to load that or the exact amount of one of the other Daily Caps would also imply that the card's balance was zero. If there is money still on the card from previous days, it is likely that a customer might also want to add an amount to bring their balance just up to the appropriate daily cap. This isn't really something we would want to encourage customers to do, as having the bare minimum on their card doesn't cover for eventualities such as an incomplete journey, or an unexpected journey to a different zone.

Customers intent on just loading amounts like £10.10, can do so by loading £10 and paying by bankcard and then adding the odd amount (in this case 10p) in cash. POMs allow customers to top-up by any amount when using cash.

We are currently looking at the amounts available on the PAYG top-up buttons and to implement a change on the POMs allowing customers using a bankcard to clear a negative PAYG balance on their card, when purchasing a season ticket. Currently this has to be done in two transactions and like in your example often requires the customer to load more PAYG than they want to.

Regards

Olly Oyster

Hi [REDACTED]

Thank you for your email and for raising this issue.

It looks as if the problems you have outlined are due to an Emergency gateline setting that has been applied at Liverpool Street between 10.00 and 19.00 hrs each day due to works at the station. This can mean that when a customer who has visited Liverpool Street for a very short period, touches back in to make their return journey to Farringdon, their original journey is re-opened. Consequently when they arrive back at Farringdon the gate sees this as a journey starting and finishing at Farringdon which exceeds the same station exit time and results in two incomplete journeys.

This is an issue that we have had flagged up from time to time and has resulted in a number of previous [Ask Olly](#) enquiries. It is quite difficult to avoid such occurrences and is a bit of a balancing act between ensuring customers affected by the temporary closure or service disruption are charged correctly and possibly quite small numbers of customers like the one you describe, that may end up having their return journey treated as one continuous journey.

Regards

Olly Oyster

From: [REDACTED]
 Sent: 28 December 2018 19:42
 To: Ask Olly
 Subject: Same Station travel

Hi Olly,

I have noticed that customers traveling to the same stations e.g. Farringdon to Liverpool Street and back, then get charged as follows, if they come back to the station they exited within 15 minutes. When exiting the customers get a code 36 and have a difficulty exiting.

1st journey Farringdon - Liverpool Street £0.00.
2nd journey Liverpool Street - No touch out - £5.50

Shouldn't the customer be charged for one journey?

Can Cubic sort the problem as customers are charged maximum fare?

Thank you,

[REDACTED]
 CSA Farringdon Area

REVENUE PROJECTS

DEVICE UPGRADES

We are currently in a bit of a lull in terms of on-going rollout programmes. The restrictions on making device changes in the run-up to the forthcoming May Fares Revision, has meant that a number of the projects we have been working on have stopped at the Vanguard stage, or have been delayed due to completion for testing and base data resources.

Undoubtedly once the fares revision has come and gone, we will see a major upturn in the amount of work going on and feverish activity as various projects vie for development, testing and installation resources.

Over the next few pages we bring you up to date with progress on a number of planned upgrades and changes affecting Gates and POMs.

E2 LID UPGRADE COMPLETED



One project that did manage to cross the finishing line at the end of March was the E2 gate and WAG lid upgrade. The final stations had their WAG lids replaced on Sunday 31 March, with two sites where WAGs had previously been missed being picked up in the following days.

The good news is that all of our WAGs and E2 gates should now have the safer design of soft closing and self-locking lid. Please remember you now no longer need to leave the gate key within the lock once you have opened the lid.



TRIAL OF CARD ONLY GATES

Cubic and TfL are currently looking at potential savings in the cost of maintaining the automatic gates at LU stations.

Currently about 88% of LU customers use the card reader for Oyster, ITSO or contactless transactions. The remaining 12% is made up of roughly equal proportions of magnetic tickets sold by LU (Singles and Day Travelcards), and magnetic tickets sold by the Train Operating Companies.

The number of magnetic tickets is expected to reduce further as contactless continues to grow, and the Train Operating Companies (TOCs) increase the volume of tickets issued on ITSO smartcards, as outlined in our article on [Page 20](#).

In addition to the reduction in magnetic ticket volumes, the vast majority of magnetic tickets are currently being used within Zone 1 (about 75%). Whilst about 60% of our automatic gates are located outside of Zone 1.

This means that many of the ticket handling units (THUs) within gates outside of Zone 1 are very rarely used, but these have the same maintenance costs as the more heavily used gates inside Zone 1.



E1 GATE
TICKET HANDLING UNIT

It is proposed to restrict magnetic ticket acceptance on gates at around 10 lightly used stations outside of Zone 1, for a period of 6 weeks. After this the results and impacts on staff and customers will be reviewed. The stations currently being considered are:

CHALFONT & LATIMER	CHIGWELL	CANONS PARK	DOLLIS HILL	FAIRLOP
GRANGE HILL	NEASDEN	NORTHWOOD	OAKWOOD	PLAISTOW
QUEENSBURY	RICKMANSWORTH	UPTON PARK	WEST ACTON	WEST FINCHLEY
WOODSIDE PARK				

The proposal is to restrict magnetic ticket acceptance on the 2 non-reversible gates at stations that have 3 gates and 1 WAG, and to restrict 2-3 gates at locations that have 5 gates and 2 WAGs.

MANUAL GATES

Further to our article in [TRU115](#), we have now reviewed all of the sites that still currently have Manual Gates and have proposed the removal and replacement of the existing Manual Gates with fixed barriers at the following locations:

ANGEL	GREAT PORTLAND STREET		OAKWOOD	TURNPIKE LANE	
ARSENAL	HEATHROW T2&3 (Entry)		SOUTHWARK (East)		WATERLOO (Auxiliary)
BANK (Monument)	KINGS CROSS	(Northern)	TEMPLE		
CANARY WHARF (West)		(Pentonville Rd)	TOTTENHAM (Northern)		WEMBLEY PARK
BAKER STREET (Met)	NORTH GREENWICH		COURT ROAD (Central)		WESTMINSTER
FINCHLEY CENTRAL	PADDINGTON	(Main)	VICTORIA	(District Exit)	WEST RUISLIP
GOODGE STREET (Entry)		(Suburban)		(North)	

Details have been emailed to the Area Managers concerned to allow them to consult with staff and their local Health & Safety representatives.

In addition to the above locations, at a number of ticket halls where we had intended to retain the existing Manual Gate due to the absence of a WAG, Cubic have now suggested that the project may be able to remove the Manual gate and install a WAG at a couple of locations.

These have yet to be finalised but are likely to include:

BAKER STREET (Chiltern St)	BANK (Waterloo & City)
EUSTON SQUARE	LIVERPOOL STREET (C&H)



EI GATE BEAM IMPROVEMENTS

In [TRU115](#), we reported on the successful conclusion of a Vanguard of changes to the Beam Logic Unit (BLU) arrangements on a number of EI gates at Swiss Cottage, Paddington (Main), Manor House and London Bridge. Various changes made during the project, culminating in the fitting of new shrouds over the light beams which detect movement of customers through the walkway, had significantly reduced instances of Error 246 being reported by the Vanguard gates at these stations.

Cubic are currently preparing for the start of a rollout of the new shroud to all other EI gates, which has required the preparation and recent delivery of tooling to produce the new shrouds.

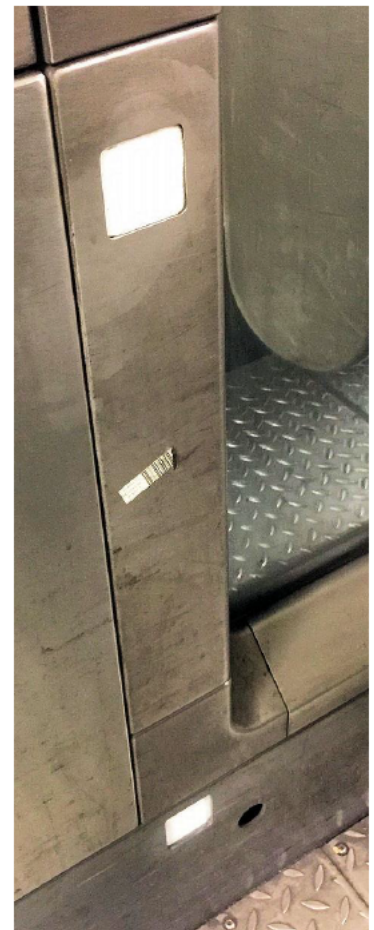
The next phase will see the production of samples of the new shroud in a number of different materials, which will then be evaluated over the next couple of weeks. Once a final decision has been made, Cubic will place an order for sufficient shrouds to upgrade the entire fleet of EI gates.

In parallel with this, Cubic have also been looking at the reflectors which reflect each light beam back to the unit. A test of a new reflective tape was recently undertaken on two gates at Swiss Cottage and two at Paddington (Main) which had previously been upgraded with the new shroud.

Unfortunately although good results had been achieved on gates within the Cubic test facility, the test at the two stations proved to be unsuccessful.

When the new tape was presented as a reflector with its backing paper on, it performed well, but when the backing paper was peeled off and placed over the original reflector it failed to return a strong enough signal, resulting in the gates reporting "beam blocked" errors.

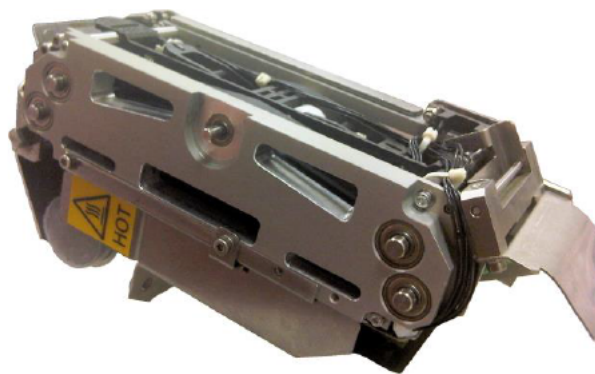
So on this particular aspect its back to the drawing board, but there should be sufficient time to source an alternative material before the first of the new shrouds is delivered in June.



REVENUE PROJECTS

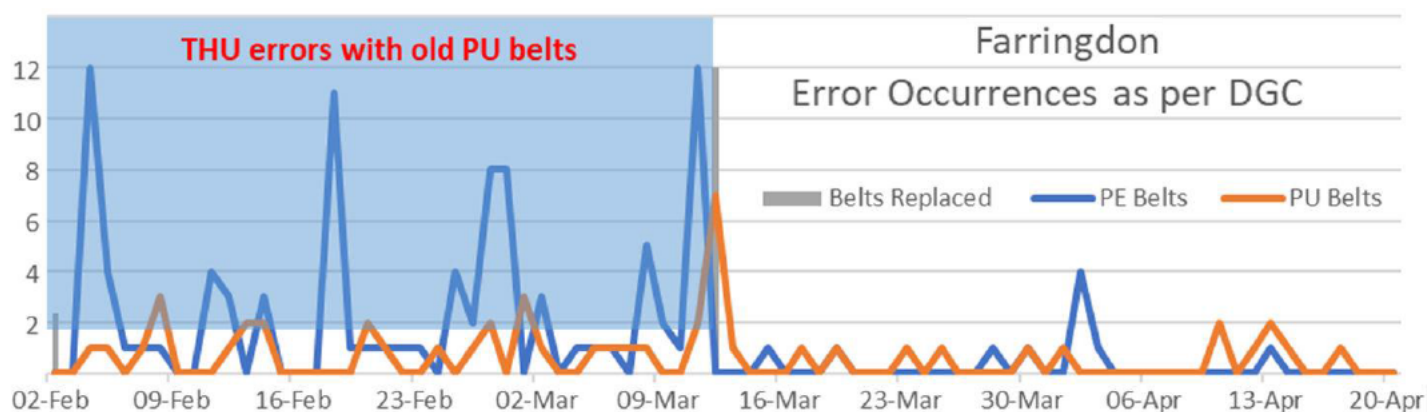
E2 GATE BELTS

In an effort to further improve reliability and reduce the number of ticket jams and ticket handling unit (THU) faults on E2 gates, Cubic have been looking at the use of an improved design of belt, made of a slightly different material, which is felt to be better at coping with higher temperatures. This followed a number of failures during the hot weather last summer, when some belts were found to have become sticky.



The first batch of this new type of belt have been deployed as an initial Vanguard on E2 gates at Farringdon, Kings Cross (Northern) and some of the gates at Liverpool Street (Main).

Initial results from these sites have shown a reduction in THU related faults on gates fitted with the new belts, as shown in the graph below, which shows THU errors reported by gates at Farringdon before and after the fitting of the new belts. Average errors per day have fallen from 2.38 to 0.25 at Farringdon and from 2.95 to 0.75 at Kings Cross (Northern).



A further batch of these belts is currently being manufactured and are due for delivery in early June. This will allow expansion of the current Vanguard to the remaining gates at Liverpool Street (Main) and to the additional stations listed below during June and July.

BLACKFRIARS	KINGS CROSS (Tubes)	KINGS CROSS (Western)
STRATFORD (North)	TOTTENHAM COURT ROAD	WEMBLEY PARK

If the new material continues to be satisfactory during the extended Vanguard, Cubic would then aim to procure further belts for a wider rollout to other E2 gates.

READER REGRESSION



In [TRU116](#), we reported on the rollout of upgrade gate reader (RTD) software to all of our gates on the night of Sunday 17 March, to facilitate the future launch of a simplified validation process for Apple Pay users.

Unfortunately since publication, some issues have been seen affecting the performance of readers on both buses and on the rail network, which resulted in a marked increase in reader failures and resets. The issues were worse on buses, most of which only have one RTD and this resulted in a decision to revert all bus readers back to the previous software version between 27 March and 03 April.

A decision was subsequently taken to also revert all rail readers to the previous software version, with small batches of devices being reverted on Tuesday 02 and Wednesday 03 April, to check that this downgrading process didn't cause any issues. All went smoothly with these initial stations and all rail devices were reverted back to the previous software on the night of Sunday 07 April.

A further version of RTD software including fixes for the above issues has since been developed and is currently being tested, but we will not be able to start the deployment of this until after the May Fares Revision has been implemented.

QBM SOFTWARE VANGUARD



As we reported in [TRU116](#), since Tuesday 19 March QBMs at five stations have been operating with a new version of software aimed at reducing the number of PED faults reported, which had previously resulted in the device going out of service for a period of time whilst it went through a full reset.

Subsequent testing at the Vanguard stations established that if a card was left in the reader the PED reset itself rather than the whole device, with the “Closed” screen only being displayed for a short period of time.

Rollout of the new QBM software has been deferred whilst an issue that was identified and fixed during the subsequent development of similar software for the AFM (see [Page 17](#)) is reviewed.

With the current freeze on device changes in the run up to the May Fares Revision, the current QBM Vanguard has been extended to run until the end of May.

PED BLOCKS

Since completion of the rollout of the new design of Chip & PIN unit, or PIN Entry Devices (PEDs) as they are known, one of the outstanding issues has been the fitting of around 60 missing blocks that should fill the gap in the metal casting that holds the new PED keypad. On the previous design of Chip & PIN unit, this space was filled by the green throat of the card reader.

We had a number of these blocks which were not stuck properly and subsequently went missing, whilst it was found that although all of the POM castings were supposed to be identical, on a number of devices, there were minor differences in the actual dimensions of the gap into which the block was designed to fit. This prevented the standard block being fitted into a number of devices until a slightly smaller version had been manufactured.

Last year we trialled an alternative design of block, initially on devices at Charing Cross, Green Park and Piccadilly Circus, using screws rather than adhesive to secure the PED block in place. As a result these blocks have a couple of small bumps in the top to cover these fixings.

We have recently completed a review of a majority of the sites where staff had previously reported PED blocks as being missing, to check whether they have yet been replaced. We have also visited around 100 stations to double check the POMs, which has uncovered a small number of additional devices that have PED blocks missing, but which had not previously been reported.

Cubic are now producing sufficient quantities of the new PED block to enable them to complete the installation of PED blocks on all the devices that have been confirmed as needing them. Hopefully all devices will finally be completed within the next couple of months.



LAL MXIDE PU

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

Ticketing & Revenue
T&R
Trivia

(a)

RIP LOAF

(b)

IN FOR GRAND

(c)

FRENCH YELL ANTIC

(d)

FALCONRY HIDE

(e)

DO HALFWAY RUMBA

What is the connection?

Answers on [Page 19](#).

REVENUE PROJECTS

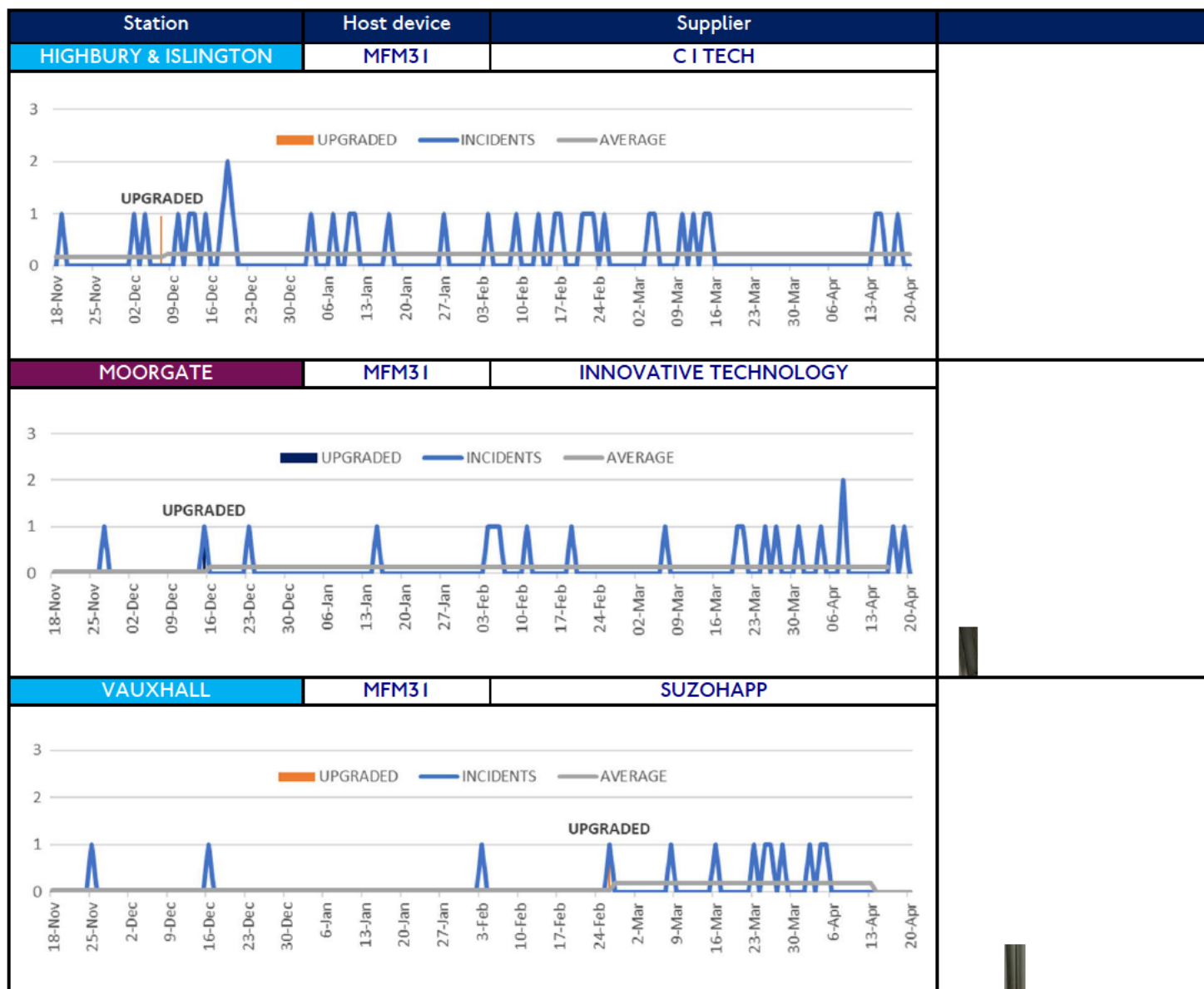
MFM BNA TRIAL ...UPDATE

The formal trial of the three different designs of Note Handling Units which are being considered as possible replacements for our current and ageing Bank Note Acceptor (BNA) units, officially started on Sunday 24 March.

All three units had been installed prior to this and had varying lengths of time to bed in, during which a number of modifications and upgrades were undertaken.

The comparative trial was scheduled to run until Friday 19 April, but it has since been extended for a further month until Friday 24 May, to allow more time for us to gather data to feed into the decision making process around which of the models to opt for.

The three devices being trialled and their recent performance are summarised below.



After a large number of failures after its initial installation, the unit at Highbury & Islington seems to have settled down, with only 2 BNA related incident occurring during the official trial period.

In contrast, the unit at Moorgate appears to have got worse, with a high number of kept cash failures even after this unit was downgraded not to dispense notes.

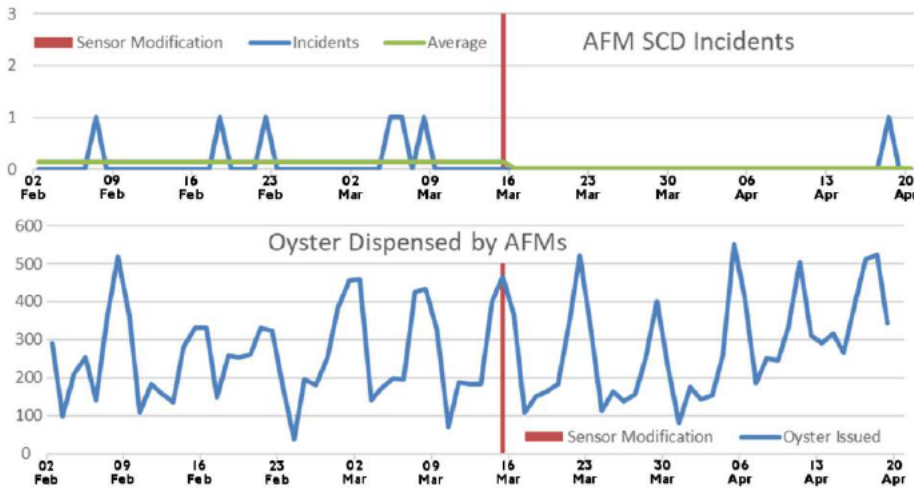
There were 7 separate failures during the trial period and it is likely that we will ask for this unit to be removed as soon as possible, due to the impact on customers.

Finally the unit at Vauxhall has also had a number of recent note jams. However, there have been a few incidents where technicians have not been able to resolve a fault properly and is therefore re-occurring.

OYSTER CARD DISPENSER MODIFICATION

As we outlined in [TRU116](#), a Vanguard of the relocation of one of the sensors within the Oyster card dispenser in all of the POMs at Liverpool Street (Main) commenced in mid-March.

The aim of this change was to try and maintain a higher level of Oyster card stock within the dispensers in each POM, the greater weight of the cards ensuring that the cards at the bottom of the stack and due to be issued are laying flat.



Initial results from the Vanguard at Liverpool Street have been very encouraging with only one card dispenser related fault recorded on the 12 AFMs, despite slightly higher volumes of issues, as shown in the two graphs on the left.



Two of the five MFM's modified did report a total of five card dispenser faults between them, so the improvement in performance here has not been as clear cut.

Cubic will continue to monitor the impact of this change until a decision is made as to whether to alter the position of the sensor on the card dispensers of our other POMs as part of a wider rollout, ideally focussing on stations which currently have higher card dispenser failure rates.

AFM SOFTWARE



Following on from the QBM software upgrade outlined on [Page 15](#), an updated version of AFM software has been developed and tested by Cubic.

This again principally addresses two common PED failures (Errors 91 and 96), but this software release will also include a number of others fixes for issues that have been identified on the network or in the test environment since the current software version was deployed.

Following on from the current QBM Vanguard, we had hoped to be able to also commence a Vanguard of this new software version on a number of our AFMs.

However, at the last minute it was identified that a base data change was required to load a new table to each device, to enable them to use a new POM bankcard pack which is now common to all devices.

Unfortunately due to the base data change freeze which is in place before the forthcoming fares revision, the necessary table cannot be produced until after the 19 May Fares Revision and the earliest date which it could be deployed is not until the base data update scheduled for Sunday 02 June.

This new table will also facilitate the later deployment of a new version of MFM software when available.

Once the new table has been deployed to all POMs, it should enable us to commence the planned AFM Vanguard from the first week of June. The devices to be used for the Vanguard are yet to be finalised but will focus on around 20 AFMs that have a recent history of reporting high numbers of errors 91 and 96.

CHD UPGRADE

A round of Cash Handling Device (CHD) audits at some of our bigger stations has recently been undertaken by Suzohapp and the T&R team, to verify that the actual contents of the coin hoppers on each device, matched what was being reported by the unit. During these audits a number of inconsistencies and some minor issues were highlighted, which will now be addressed on all devices by Suzohapp in the coming months.

CHD
Category 'A' Device

The actual contents of a number of the hoppers on the CHDs audited were found to be slightly higher than reported. This was not down to the devices being inaccurate, but almost certainly down to previous coin jams which had resulted in one or two coins spilling into the hopper without being counted, when the jam was cleared.

These discrepancies of one or two coins, obviously accumulate over a period of time and many devices had not been completely purged of all their coins since they were installed.

The audit visits also established some very poor rates of £1 coin processing on certain devices, with large numbers of valid coins being sent to the reject tray and requiring re-insertion on several occasions before finally being accepted.

The cause of this has been identified as being down to a combination of the two coin sorting wheels rotating at different or incorrect speeds on some CHDs and the tolerance for the acceptance of £1 coins on the validator being sent too tightly on other units.



A couple of recent repeat failures on CHDs at Green Park and St Pauls also highlighted a potential incompatibility between the latest version of software produced by the manufacturers of the CHD note units and the older control boards within some devices. Checks will therefore be made to ensure that devices only have the new software loaded onto the newer type of board.



CHD
Category 'B'
Device

Starting from week commencing *Monday 13 May 2019*, Suzohapp engineers will commence a programme of CHD upgrades to update software and hardware on each CHD to ensure each device is fully up to date and has the correct software and settings applied.

Engineers will use a checklist of items identified during the audit process and will commence with stations that have the larger "Type A" devices with a Note Acceptor and a Note Recycler, before moving on to complete the smaller "Type B" devices line by line.

The visits will be programmed to take place during traffic hours, generally in the period between the morning and evening peak periods.

Details of these programmed visits will be emailed to the relevant areas the week before the visit is due and will be included within the "Dates for Diary" section of the weekly T&R Hot Issues Bulletin.



HELP US



TO HELP YOU

Staff wishing to report any queries relating to any equipment, travel documents or journey information can help speed up the resolution process by providing;

- a photo of the equipment or a ticket taken on an iPad or iPhone which can be emailed to the T&R team and can help pinpoint an issue and can also be used as evidence to the equipment maintainer.
- a record of the device number and type (e.g. MFM 33)
- a record of an Oyster card number (rather than a photo of a POM screen) which can help to quickly check the customer's history relating to an issue.

Please do not take a record or photograph of any personal data or items belonging to a customer such as a bankcard, as these are not LU or TfL property and could leave a member of staff open to allegations of improper behaviour.

SCU UPDATE

Unfortunately following our last update on the SCU Upgrade in [TRU116](#), the planned Vanguard has been further delayed and to date only one of the new SCUs has been installed within the ticket hall at East Putney.

Plans to install further units at the other 5 Vanguard stations were suspended over concerns around the new Windows 10 operating system used by the new equipment.

A number of the main concerns have since been addressed by a new software release, which was recently successfully deployed to the Vanguard device at East Putney.



As a result, approval has recently been given by TfL's Tech & Data team, for the expansion of the Vanguard to other sites to resume.

New installation dates are yet to be finalised, but we are hopefully to at least be able to install the new SCU equipment at the second Vanguard station Southfields before the 19 May Fares Revision, during week commencing Monday 06 May, as the SCU does not have any impact on fare tables which may be changed as part of the fares revision.

Station staff on the area will already be familiar with the new SCU at East Putney.



Provisional dates for each of the other 5 Vanguard locations are shown in the table on the right:


EMBANKMENT	Tuesday 14 May
EUSTON	Monday 20 May
EUSTON SQUARE	Wednesday 22 May
LONDON BRIDGE (Borough High St)	Monday 27 May
LONDON BRIDGE (Main)	Tuesday 28 May

We are hopeful that once the new SCU has been deployed to these stations, we will be able to get greater feedback on the new hardware and software from users there, to assist us in making a decision on when to deploy the new SAF to other LU stations.

The Vanguard is scheduled to run for four weeks from the date of the final Vanguard device being installed, taking us up until the end of June.

So realistically we are probably now looking at this rollout commencing in in mid-July at the earliest and then running on until the end of 2019 before all sites have been completed.

ANSWERS TO T&R TRIVIA

Pt.1	LEA BRIDGE	This was a re-opening of a previously closed station (TRU91)	
Pt.2	STANDING ON THE SHOULDERS OF GIANTS		
Pt.3	Q.3A	10 (maximum 20p)	Q.3B 50 (maximum £5.00)
	Q.3C	There is no limit for either £1 or £2 coins	

Pt.4 **LAL MXIDE PU**



Connection— All are stations beginning with the letter "F".

How did you do?

KEEPING AN EYE ON THE NEIGHBOURS

ITSO EXPANSION CONTINUES

The latest train operator to launch their own brand of smartcard ticketing is the Cross Country franchise. Although their services do not serve London directly/are mainly on routes avoiding travel through London, their new ITSO ticketing will include the issue of Travelcards valid on LU and other rail services within the London area.

Initially customers will only be able to purchase 7 Day Travelcards and Point to Point tickets, but during the summer this will be expanded to include longer period season tickets, eventually including annual tickets.

Although issued by Cross Country, these cards are interoperable with those issued by other TOCs, so they could also be used to purchase ITSO products from other Train Operators.



As with all other designs of ITSO card, this latest version will be accepted by automatic gates at our stations, if a valid product is loaded onto the card.

Although these cards can also be checked on our POMs, it will not be possible for customers to load products onto an ITSO card at our stations.

One feature being promoted by Cross Country is the ability for customers to purchase products online and then download them directly from their Android mobile phone onto their ITSO card, rather than having to collect the product from a device at a nominated station.



We will cover the expansion of ITSO ticketing in greater detail in our next edition, TRU 118.



LOOKING AHEAD TO...

The next edition of TRU is scheduled to be published towards the end of June 2019.

TRU 118, will include our customary review of the May Fares Revision and what went well and what didn't go quite as well as we would have liked.

In addition we are also looking to include:

- A further in depth look at ITSO ticketing developments
- The latest presentation of the proceeds of our charity Oyster card donation scheme
- An update on Fraud Survey results (which we were unable to include within this edition)
- Updates on a whole raft of projects which are scheduled to start or recommence after the fares revision



Plus there will also be the a further selection of your letters to Ask Olly, other T&R news and a selection of our other regular features.