

## Issue 151 - March 2024

# Ticketing & Revenue Update

It's Fares Revision Time!  
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How well do you understand  
Auto Completion and Auto  
Continuation? - Pages 10 + 11

King Charles banknotes will  
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## CERTAIN FARES & SEASON TICKET RATES MARCH FARES REVISION

Introducing the "Care  
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Front cover - A T&R take on  
enter by [redacted]

A trial is about to start for  
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# MARCH FARES REVISION

Since the publication of TRU150, details of the revised Travelcard prices that will apply from Sunday 03 March 2024, have been confirmed.

To support Londoners during the current cost-of-living crisis and ensure that public transport is as affordable as possible, the Mayor Sadiq Khan announced a freeze on all fares set by TfL, covering buses and trams, (LU, and the DLR, Fares will also be frozen on the London Overground and on the central section of the Elizabeth line services where LU fares apply and on a small number of Train Operating Company (TOC) services where fares are wholly set by TfL.



As this will provide less revenue than assumed in TfL's 2024 Business Plan, the Mayor will provide additional funding to address the shortfall created by freezing TfL-regulated fares, which is assessed to be around £123m.

## TRAVELCARD SEASON TICKETS

The table below lists the Season ticket prices within Zones 1-9, which are set in conjunction with the National Rail Train Operating Companies.

As a result, they generally reflect the 4.9% average increase, subject to the need to round fares to 10 pence denominations.

7 Day Travelcard	Adult		Change (£)	Change (%)	Child / 16-17*		Change (£)	Change (%)
	Current	March 2024			Current	March 2024		
12	£40.70	<b>£42.70</b>	2.00	4.9%	£20.40	<b>£21.40</b>	1.00	4.9%
123	£47.90	<b>£50.20</b>	2.30	4.8%	£24.00	<b>£25.10</b>	1.10	4.6%
1234	£58.50	<b>£61.40</b>	2.90	4.9%	£29.30	<b>£30.70</b>	1.40	4.8%
12345	£69.60	<b>£73.00</b>	3.40	4.9%	£34.80	<b>£36.50</b>	1.70	4.9%
123456	£74.40	<b>£78.00</b>	3.60	4.8%	£37.20	<b>£39.00</b>	1.80	4.8%
1234567	£81.00	<b>£85.00</b>	4.00	4.9%	£40.50	<b>£42.50</b>	2.00	4.9%
12345678	£95.60	<b>£100.30</b>	4.70	4.9%	£47.80	<b>£50.20</b>	2.40	5.0%
123456789	£106.10	<b>£111.30</b>	5.20	4.9%	£53.10	<b>£55.70</b>	2.60	4.9%
2-3, 3-4, 4-5, 5-6	£30.50	<b>£32.00</b>	1.50	4.9%	£15.30	<b>£16.00</b>	0.70	4.6%

## DAY TRAVELCARD

Prices of Day Travelcards will also increase, generally in line with the 4.9% average increase being applied, as these like Travelcard season tickets, are again set in conjunction with the Train Operating Companies (TOCs).

	Adult		Change		Child		Change		
	Current	March 2024	(£)	(%)	Current	March 2024	(£)	(%)	
<b>Day Travelcard (Off-Peak)</b>									
123456	£15.20	<b>£15.90</b>	0.70	4.6%	£7.60	<b>£7.90</b>	0.30	4.0%	
123456789	£16.20	<b>£17.00</b>	0.80	4.9%	£8.10	<b>£8.50</b>	0.40	4.9%	
<b>Day Travelcard (Anytime)</b>									
1234	£15.20	<b>£15.90</b>	0.70	4.6%	£7.60	<b>£7.90</b>	£0.30	4.0%	
123456	£21.50	<b>£22.60</b>	1.10	5.1%	£10.70	<b>11.30</b>	£0.60	5.6%	
123456789	£27.20	<b>£28.50</b>	1.30	4.8%	£13.60	<b>14.20</b>	0.60	4.4%	

# MARCH FARES REVISION

## PAYG DAILY CAPS

Although the prices of PAYG journeys on LU will be frozen until 2025, due to the increases being implemented for NR journeys, the PAYG Daily Caps will be increased by an average of 4.9%, as follows:

	Adult				Child / 16+		NR Railcard	
	Current	2024	Change	%	Current	2024	Current	2024
1-2	£8.10	£8.50	0.40	4.9%	£4.05	£4.25	£5.30	£5.60
1-3	£9.60	£10.00	0.40	4.2%	£4.80	£5.00	£6.30	£6.60
1-4	£11.70	£12.30	0.60	5.1%	£5.85	£6.15	£7.70	£8.10
1-5	£13.90	£14.60	0.70	5.0%	£6.95	£7.30	£9.15	£9.95
1-6	£14.90	£15.60	0.70	4.7%	£7.45	£7.80	£9.80	£10.30

## PAYG WEEKLY CAPS

Weekly caps (Monday to Sunday) will also increase in line with the price increases for 7 Day Travelcards outlined on (Page 2 opposite)

Zones	Current	2024	Change	%	Zones	Current	2024	Change	%
1-2	£40.70	£42.70	2.00	4.9%	2+3	£30.50	£32.00	1.50	4.9%
1-3	£47.90	£50.20	2.30	4.8%	2-4	£33.80	£35.50	1.7	5.0%
1-4	£58.50	£61.40	2.90	4.9%	2-5	£40.50	£42.50	2.00	4.9%
1-5	£69.60	£73.00	3.40	4.9%	2-6	£50.90	£53.40	2.50	4.9%
1-6	£74.40	£78.00	3.60	4.8%	Bus & Tram	£24.70	£24.70	0	0%

## MAXIMUM FARE

From Sunday 03 March the PAYG Entry / Exit charge made at the gate and which determines the maximum fare charged for an incomplete journey, will increase from £9.40 to £9.90 at all stations in Zones 1-9 to reflect the increase in the Z1-9 TfL + NR PAYG charge.

## FURTHER INFORMATION

Most customer fares posters should have been delivered to station Areas by now and it is very important that upon receipt of delivery, posters are distributed to other stations immediately.

At the end of traffic hours on **Saturday 02 March**, Supervisors must remove all existing fares posters and replace them with the new posters prior to start of traffic on **Sunday 03 March**.

Any stations not receiving their poster in time, should remove the current poster at the end of Saturday 02 March and leave the frame empty until their delivery is received.

Staff fares lists have been updated to reflect the new fares that will apply after Sunday 05 March. Pre-printed versions are no longer provided directly to stations and are ready and available to download from the T&R pages on Platform. The link to the SharePoint site can be accessed by [clicking here](#)

The Fares Revision Circular (FRC), containing details of all fares affecting LU from Sunday 03 March is running slightly late and is currently expected to be published on Monday 04 March. Copies will be sent out to all operational staff, along with a link to the T&R Platform page.



## CHEAPER TRAVEL ON FRIDAYS

Further to the brief article in TRU150 and following on from the announcement of the Mayor's proposal for a trial of "Off Peak fares all day on Fridays", it has now been confirmed that this will commence from Friday 08 March.

Aimed at increasing ridership on services on Fridays, which since the Pandemic have seen much lower numbers of customers than days earlier in the week, it was announced that there would be an initial trial for 12 Fridays between 08 March and 31 May, where the Reduced rate of PAYG will apply all day.

The period actually covers 13 Fridays, but one of these is the Good Friday holiday on 29 March (shown in green on the image), when Off Peak fares would already apply.

The promotion is aimed at increasing the numbers of customers commuting into work on a Friday and will be achieved by designating each of these Fridays as "special days", so they will effectively be treated in the same way as a bank holiday.

Although the promotion is primarily aimed at increasing PAYG journeys in the peak periods, the use of special days will also mean that other Off-peak restrictions will not be in force on LU on these dates.

The main impact for customers will be:

- *Reduced rate PAYG fares will apply for all journeys during the morning and evening peak periods (except between Heathrow Airport and Zone 1)*
- *Day Travelcard (Off Peak) will be sold from POMs before 09.30 and will also be accept by gates for travel before 09.30.*
- *Off Peak caps will apply for the whole day*
- *Freedom Pass and 60+ Oyster Photocards will be accepted by gates all day (no 09.00 or 09.30 restrictions)*
- *PAYG users with a NR Railcard discount set on their Oyster card will get discounted rate journeys all day*

Please note that on these dates the higher standard PAYG charge will still continue to apply to journeys to and from Heathrow Airport.

Although primarily aimed at increasing ridership on TfL services, the method used to implement this promotion will also mean that the Reduced rate of PAYG will also apply on NR services.

One of the reasons for the delay in announcing the full details of the scheme, was due to the need to agree arrangements for the apportionment of revenue with other train operators, who will potentially be impacted by this promotion.

The other major point to note is that POMs at stations served by NR services will offer Off Peak tickets before 09.30 which will not actually be valid for travel on NR trains until later in the day.

At these stations, customers wishing to travel on NR services during the morning peak period, should be advised, where possible, to purchase their ticket from an NR outlet on these Fridays.

The trial will aim to better understand whether lower fares could help increase ridership on TfL and other rail services on Fridays, and will also assess what impact this might have on travel on other days of the week, as well as any changes to London's wider economy.

To support the trial the Mayor has allocated £24m, which will be fully funded by increasing TfL's retained business rates income for 2024-25.

MARCH 2024						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

APRIL 2024						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

MAY 2024						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

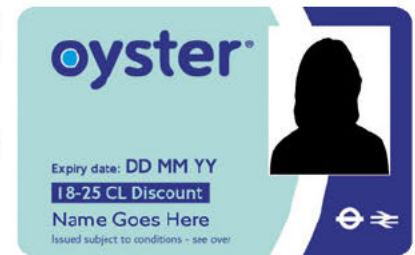
# OFF PEAK FRIDAYS

## CARE LEAVERS

Wednesday 21 February saw the introduction of a new Oyster concessionary photocard scheme aimed at 18-25 young adults who have previously been in care with a London local authority.

Eligible holders will be entitled to use the discount to get a 50% reduction within the TfL area on,

- *Adult-rate PAYG fares on Bus and Tram services,*
- *Adult Bus & Tram Season tickets*



The discount will be valid from when they leave care, until the day before their 26th birthday, when the discount will automatically expire. Applicants must apply online and their applications will be validated by the appropriate borough. To qualify they must be,

- *A London Care leaver aged between 18 and 25*
- *Living in a London Borough*
- *Not receiving any other form of free or discounted travel on TfL.*

Customers asking about this scheme should be directed to the TfL website - [www.photocard.tfl.gov.uk](http://www.photocard.tfl.gov.uk)

Please note that holders of this new Oyster Photocard will not be entitled to any discount on LU or other rail services. As one of the conditions of issue is that they are not in receipt of any other form of travel discount, they will not be able to have any other form of discount loaded onto their card.

## FREEDOM PASS RENEWALS

In our last issue of the TRU, we told you about the reissue of replacement Freedom Passes that are due to expire on Sunday 31 March 2024.

This started with the 84,000 Older Persons passes on Monday 05 February, and was followed by all other passes from Monday 12 February and is expected to take until approximately Friday 15 March to complete the rollout.

As a reminder, the new Freedom Passes will have an expiry date of 31 March 2029 and can be used for travel immediately.

Although every effort is being made to reissue all passes, the sheer scale and nature of the process means that unfortunately some customers still may not receive their replacement cards before they expire.

It is estimated that up to 7,000 holders may need to travel with an expired Freedom Pass whilst awaiting a new pass.

As such, TfL (and other Train Operating Companies within the London area) have agreed to continue to accept Freedom Passes with an expiry date of 31 March 2023 until Thursday 02 May.

Any staff who are presented with an out of date Freedom Pass must:

- *check the Freedom Pass, ensuring compliance with safe working practices*
- *allow the customer to travel, if the Freedom Pass would otherwise be valid*
- *advise the customer to apply for a new Freedom Pass as soon as possible (do not advise them they can continue to use their expired pass until 02 May)*



## OYSTER REFUND CHANGE

As of Friday 16 February 2024, Oyster online customers will no longer receive refunds from TfL via,

- Cheques or
- Web Account Credits (WAC) – allowing customers to transfer “credits” as PAYG direct to their Oyster card



These two methods are now quite outdated and more importantly, are reasonably slow and as such don't offer best customer service.

These changes also apply to the TfL Customer Service Team using the OPUS internal system.

Refunds via Oyster online or OPUS will now only be processed onto a payment card, Faster Universal Load (FUL) and in some instances by bank transfer, which all ensure customers will receive their payments quicker.



## KING CHARLES NOTES

The Bank of England are due to release a new series of banknotes this year, carrying the image of King Charles III for the first time.

The new notes were originally due to appear in the spring, but the release has been pushed back and we now believe that the first of the new notes will now be released in the summer.

Ahead of the launch, we need to modify all of our note accepting equipment to be able to recognise and validate the new notes.

As there will be both Queen Elizabeth II and King Charles III version in circulation for some time, it will be necessary for equipment to have a larger note set that carries both sets of notes.

Cubic have started preparatory work for the updating of our MFMs and TVMs which is likely to require an engineer visit to each device to load the new note set into each device.

In parallel to this Pay Complete will need to load a modified note set onto each of our CHD Note Recycler and Note Acceptor units, to allow them to process the new notes once they are accepted by our POMs.



## PayComplete

The CHD upgrade is currently planned to be completed in conjunction with the planned software upgrade and PC replacement, as outlined on Page 15.



This should minimise the need for additional engineer visits, other than to around 25 locations which are already operating on the new software.

These are likely to be visited to update their note sets before the software rollout to the rest of the network starts.

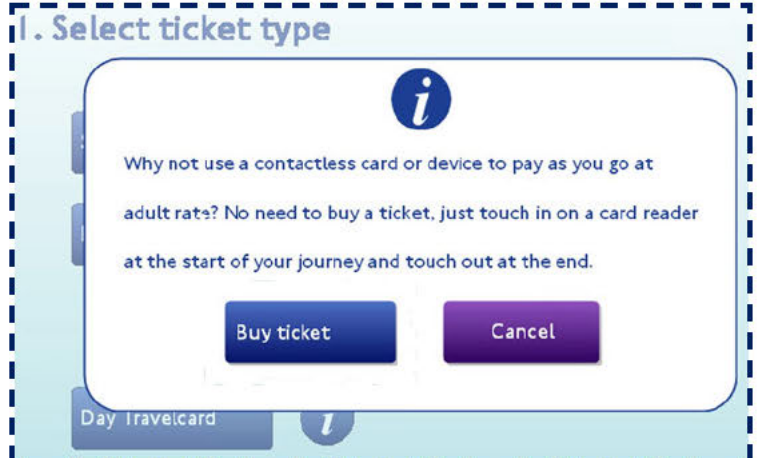
# SPECIAL FEATURE

## SINGLE TICKET SALES

Back in TRUI46, we outlined some changes that we were planning to make as part of the September 2023 fare Revision.

Amongst these was the addition of a “pop-up message” on the screen, if the attempted to buy a Single or Return ticket to a destination to which contactless payment could be used.

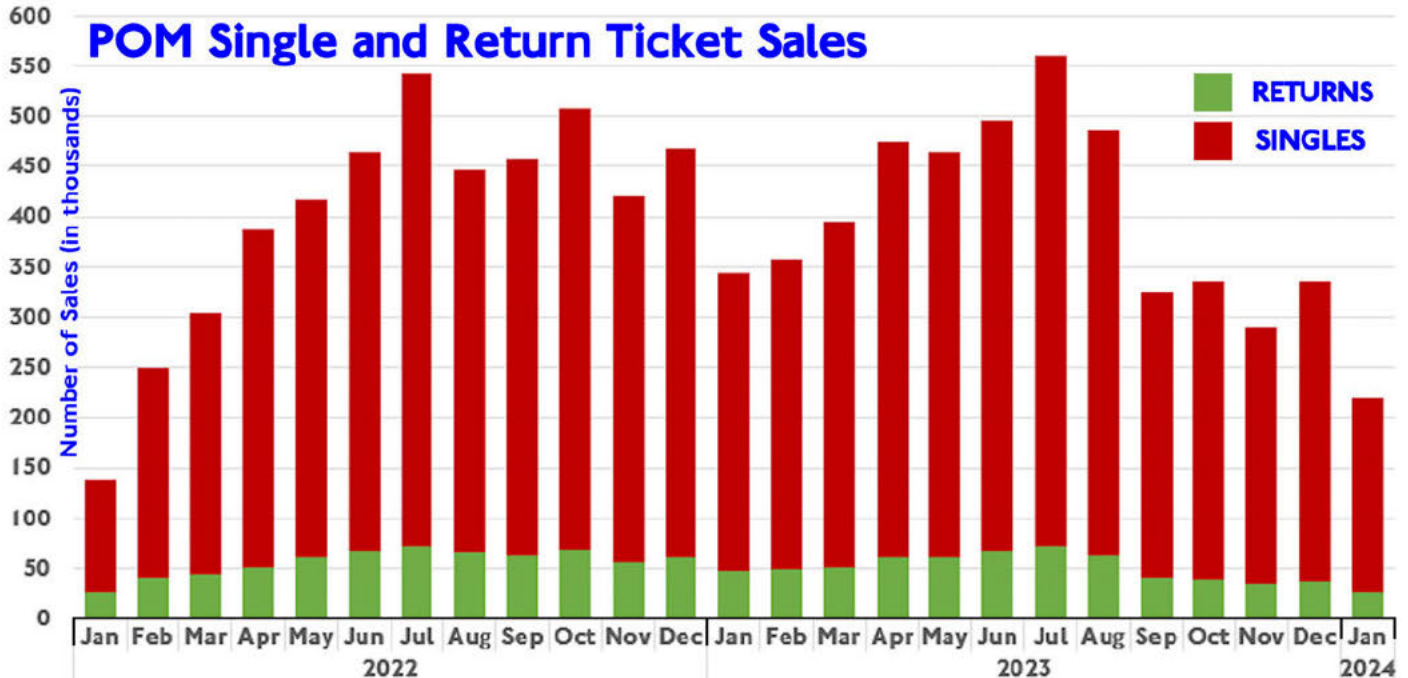
The aim was to highlight the availability of contactless payment to customers that might be unfamiliar with the network and the options available to pay for their travel.



It followed on from a number of observations of customers attempting to buy a Single ticket and pay with a contactless bankcard which they actually could have used to make the journey (and at a cheaper price!).

Since the changes were implemented, we have been tracking sales of Single and Return tickets from our POMs and as you will see from the graph below, there has been a significant fall in the sales of Singles and Returns since the autumn.

Apart from helping to promote the use of contactless and reducing magnetic ticket sales, it also means that customers are potentially getting a better deal than they would have had if they had gone on to blindly purchase the ticket that they thought they needed.



When we eventually get to the point that the phases of Project Oval are implemented and the number of NR locations accepting contactless payment increases, the POM software will be updated to include these additional locations.

Therefore, just like the current range of stations, if one of the Oval sites is selected, the customer will be advised of the possibility of using contactless for their planned journey.



From: [Redacted]  
Sent: 01 February 2024 17:28  
To: Ask Olly  
Subject: Auto Completion

Dear Olly,

Please can we have some clear rules around 'Auto Completion'. When our gates crash and we advise customers to walk through and auto completion has been set: Do we tell customers their journey will be automatically resolved to the correct fare only if-

- Their journey is a regular trip and their history will show this, and this will give them a correct fare? (For Oyster and Bank Cards etc)
- When they next use their card later that day it will rectify?

If they are not a regular customer, will their card take the maximum fare and they will need to call up TfL Customer Services to have it refunded? It is a kind of unclear, and it would be a great help if you could set out the correct information.

Many thanks

[Redacted]



Hi [Redacted]

Briefly in answer to your questions, Auto completion:

- will only complete a previously unfinished journey
- cannot resolve a journey where the customer has not touched in (un-started journey)
- will resolve any incomplete journey that has occurred earlier that day, when the card is next used to enter a station where the setting is in place
- assumes that the previous unfinished journey ended at the station concerned and will charge the appropriate fare
- only applies that day, whilst the setting is in place
- doesn't discriminate between regular customers and those who may just be making one journey

There are two other features which can only be applied centrally:

- Selective Auto-completion - to resolve unfinished journeys occurring within a certain time band on a previous day
- Auto-fill - conducted within the back office to assume what a customer had done, based on their journey pattern and then refund any Maximum fares charged accordingly.

We have decided to re-run a previous TRU feature explaining these in more detail on Pages 10 and 11 of this edition.

Regards

*Olly Oyster*

From: [Redacted]  
Sent: 06 February 2024 17:41  
To: Ask Olly  
Subject: Stickers for new WAG gate paddles

Hello Olly,

We have our shiny new WAG gate paddles installed at Northfields (and the other stations on our area) and we were wondering – will we be getting special stickers for the new gates or do we use the pre-existing stickers, as outlined in a previous TRU feature (LUSS/107A and LUSS 107B)?

If we continue to use the stickers as were on the old WAG gates, do you know where we could get some as there are none listed on the CDL website.

Many thanks in anticipation of a reply

[Redacted]



Hi [Redacted]


The information in the older edition of TRU you mentioned is no longer completely up to date, as stations that have step free access now have a different WAG sticker.

We are in the process of getting Cubic to supply all of the commonly used Gate and POM stickers and we are also looking at a potential reprint of the missing WAG stickers to get these reinstated on the newly installed paddles.

Regards

*Olly Oyster*



From:   
Sent: 15 February 2024 13:42  
To: Ask Olly  
Subject: Re:TRU150 – barcode ticketing

Good afternoon Olly,

Kindly advise on your message re NR barcode tickets for West Ham Station.

"As an interim measure, we are continuing to pursue a trial of handheld barcode reading equipment at a number of stations served by NR services."

West Ham Station have many customers with NR barcode willing to use LU services, probably we can be considered thanks.

Regards,  




Hi 


Thanks for your email and for highlighting the issues you are currently having at West Ham.

I think your station has been overlooked in discussions so far, as we had mainly been concentrating on stations served by the Elizabeth line and Thameslink / Great Northern.

However, we will see if provision can be made to add West Ham to the list of trial stations.

Regards

*Olly Oyster*

From:   
Sent: 20 February 2024 09:50  
To: Ask Olly  
Subject: Linking Railcards

Hi Olly,

I'm a CSA and every day I am asked to link railcards and add discounts.

The problem is everyone says they have registered their cards but then once placed on the machines it states it's not registered. As I am getting conflicting answers from colleagues, what is the right procedure in this situation?

Regards  




Hi 

Thank you for your email and query.

This is an issue that does seem to cause some confusion and largely stems from the fact that when a customer protects their card by registering it to their online account, this does not result in the registration flag being set on their actual card. As a result, when the card is presented to a POM it appears to not be registered.

For Railcard holders the solution is to set the registration flag on the POM, which requires the customer to enter their postcode and password into the appropriate fields when prompted.

You can then set the Railcard discount onto their Oyster card.

The only exception to this is where the customer wants a Privilege discount set, where if the card is not registered it needs to be fully registered on a TOM before the discount can be set.

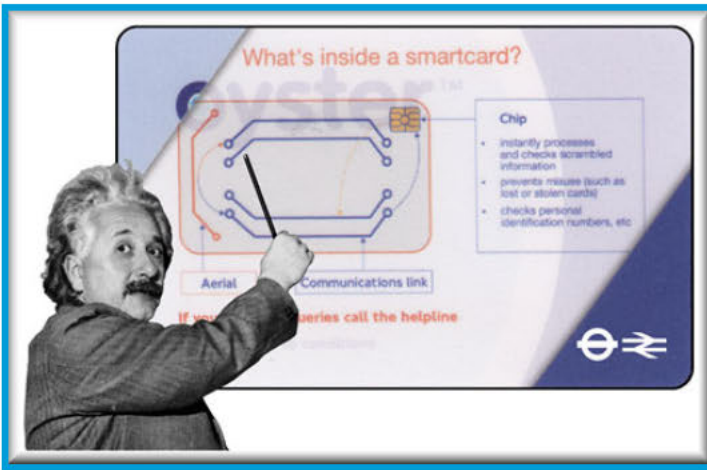
Hope this clarifies things for you.

Regards

*Olly Oyster*

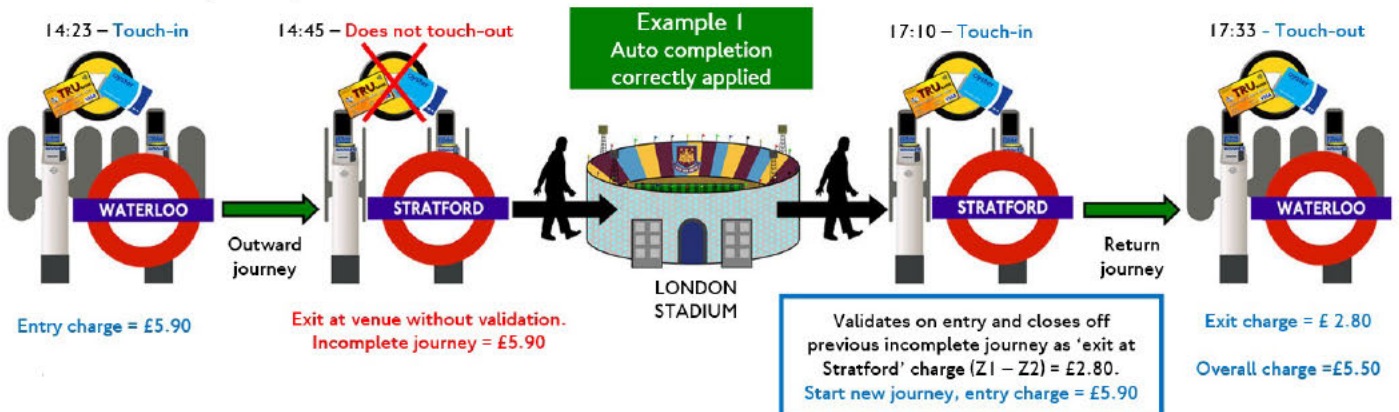
# OYSTER EXPLAINED

From time to time we receive requests to cover a particular topic in one of our Oyster Explained features. This month as a result of such a request we revisit a topic that we last covered in TRUI26. Over time people forget the finer details of things and since then we have also had a lot of new staff join our stations team, so it's certainly worth going over things again.



## AUTO COMPLETION AND AUTO CONTINUATION

Probably many of you will be familiar with the “Auto Completion” facility, as it is often used in conjunction with major events near stations or at times of disruption when it is not possible for customers to validate at the end of their journey.



The facility automatically closes off an unfinished journey that has occurred that day, when the customer touches-in at the start of their return journey.

This works for situations where there is a need to get customers out of the station as quickly as possible, including use of emergency exits, but where the way-in flow needs to be more controlled to avoid over-crowding.

For the “Auto Completion” facility to work, there are some key points that you need to remember ➔.

A variant of “Auto Completion” is “Selective Auto Completion” (SAC) which can only be set centrally and allows unfinished journeys occurring within certain time bands to be automatically closed off, over a period longer than the same traffic day.

This helps where an incident happens late at night and affects customers that are unlikely to be making a further rail journey during that traffic day. The facility is very useful for events like Notting Hill Carnival where customers may not make a return rail journey on the event day.

Auto Completion can be set by the Cubic Help Desk or at station level from the SCU. If set locally it must be applied for the right reasons and then removed when it is no longer required. If left on for too long, it will potentially resolve an incomplete journey that occurred elsewhere, and customers might be charged incorrectly.

When setting Auto Completion, the SCU displays the following array button...



### THE KEY POINTS



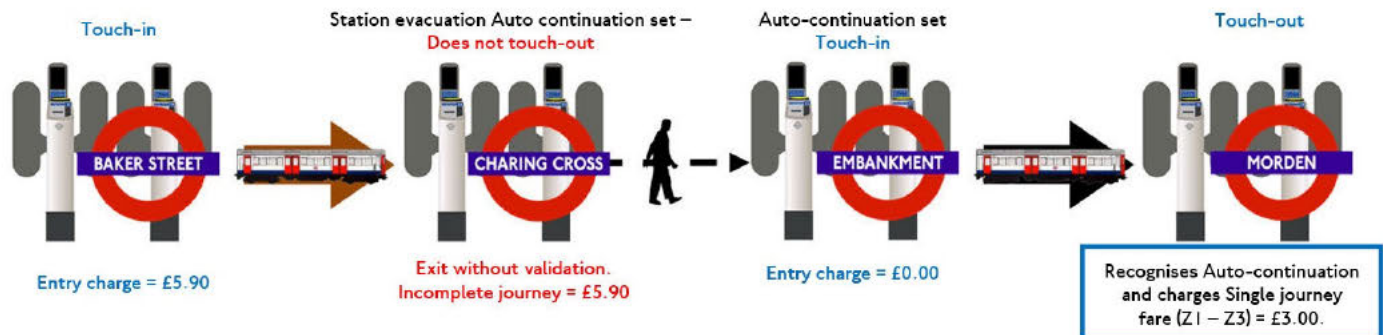
- ▶ The facility only works for “Unfinished journeys”, it will not resolve an “unstarted journey” where the customer failed to touch-in.
- ▶ To work effectively, customers must touch-in at the start of their return journey. There have been occasions where customers have been prevented or discouraged from validating on the way in and this has prevented the setting working correctly and resulted in large numbers of customers being overcharged.
- ▶ It will only resolve an incomplete journey that has occurred on the same traffic day. Using the facility in the morning will not resolve unfinished journeys that happened the night before.
- ▶ The setting needs to be left in place to cover the period during which affected customers are likely to be returning to the station (this is likely to be considerably longer than the actual event that triggered the setting being used)

“Auto Continuation” is perhaps a less well known feature and one that has caused some confusion amongst users. However, a few stations have used the facility recently where it has been necessary for interchange customers to leave the station without validating and re-enter through the gateline.

This facility basically allows PAYG customers that have a current open journey, to enter a station and continue their original journey without incurring a further entry charge. It therefore works in a similar way to the Out of Station Interchange (OSI) function, but in this case the customer doesn't have to have touched out at a station where an interchange setting is in place.

**Example 2**  
Auto continuation correctly applied

Auto Continuation isn't used as frequently as Auto Completion, but is particularly useful where a large number of customers are ejected from the network without being able to touch out and then want to continue their journey from another station close by.



So in the event of a major power failure closing Charing Cross LU station resulting in the evacuation of the station and preventing any customers from being able to touch-out when leaving the station, the setting of Auto Continuation on the gates at Embankment would enable any customers who wanted to continue their journey from Embankment, to enter that station and continue their journey (as in the example above).

As with Auto Completion, the Auto Continuation facility is normally set centrally by the Cubic Help Desk, but can be set at station level on the SCU. However, particular care should be taken that it is applied correctly and promptly removed when no longer required.



When setting Auto Continuation, the SCU will display the following button on the array...

Unfortunately we have come across cases of gatelines having Auto Continuation wrongly applied, instead of the Auto Completion facility. This could have the effect of allowing a customer who had failed to touch out, being able to continue their original journey and if they return to the station where they originally touched-in, this will then be treated as a “Same Station Exit” or “here to here journey” and is likely to result in them incurring two separate maximum fares.

More worryingly one of the side effects of incorrect use of Auto Continuation is that the facility potentially allows an Oyster card to be used more than once on entry, without being blocked by the “Passback” restriction on gates.

This is due to the fact that after the initial usage to touch-in, if the same card is represented, the gate will detect that the card already has a current open journey and will allow the customer to touch-in again ignoring the fact that the journey commenced at the same station.

This has resulted in a couple of previous reports from stations that they had seen customers using the same card more than once and following investigation, this was traced back to an erroneous setting still being applied to a Gate Array.

Under normal operating conditions the Gate Array buttons should not have any symbols displayed. If they do, these can be removed by selecting the Ticket Checking button and then the Normal button and selecting the Ticket Monitoring button and then the ‘Normal’ button.



# REVENUE PROJECTS

## POM UPGRADES

### AFM UPS UPGRADE

Following the fares revision, Cubic will be starting a programme to replace the batteries within the Uninterruptible Power Supply (UPS) of all of our AFMs. This device provides a back-up and ensures that the device will shut down in a controlled manner in the event of the power supply to the device failing.



The upgrade programme which is due to start on Sunday 10 March. It follows on from a similar programme which replaced the batteries in the UPS units in all of our MFM's last year.



The work will be completed on day shifts (starting at 10.00 hours) rather than during engineering hours, as it will require each AFM to be serviced and emptied of cash by a TSID card holder.

From experience, this is more easily achieved during the day when we have more staff available and avoids devices being left in card only mode for extended periods awaiting an engineer to attend.

A TSID card holder may also be required if the device does not immediately recover after the upgrade has taken place and the engineer needs to cold-start the device, as this requires an LU staff sign on to reinitialise the machine.

As with other upgrade programmes, details will be sent to the areas affected the week before the planned visits are due to take place, to allow coverage arrangements to be planned. We will be scheduling the upgrades to avoid any potential conflicts with the other upgrades to the AFM.

### AFM SOFTWARE VANGUARD

A further piece of work which is due to start after the fare revision has been completed, will see the start of a Vanguard of a new version of AFM software which will initially be deployed to around 64 AFMs at the stations listed below.

BAKER STREET (Bakerloo)	DAGENHAM HEATHWAY	EUSTON	HAMMERSMITH D&P
KINGS CROSS (Northern)	OXFORD CIRCUS	STRATFORD	TOWER HILL
	VICTORIA	WILLESDEN GREEN	

Like previous POM software upgrades, this will be undertaken remotely, with the new software being downloaded by Cubic during the course of the evening and then automatically switching in just before end of day.



This particular upgrade will include some changes to address an issue which has caused some devices to go offline, a fix to reduce the number of short duration faults on the Oyster Card dispenser unit and a modification to the table that holds details of "Special days".

The impact of this particular upgrade should be fairly unnoticeable to customers or staff but will hopefully improve device reliability and availability once completed.

Stations involved in the Vanguard will be notified in advance of the dates that their devices will receive the new software.

The Vanguard is scheduled to run for 4 weeks during which time the impact will be monitored by Cubic before a decision is taken to deploy the software to the remaining AFMs.

# REVENUE PROJECTS

## MFM SOFTWARE ROLLOUT

Another software upgrade which is due to take place after fares revision has been completed, affects the MFM.

In this case the MFM is a little ahead of the AFM, in that the new software has already been out on Vanguard on around 32 MFMs since the beginning of February.



Approval has now been given for the software to be deployed to the remaining devices, but we were unable to start this prior to the fare revision due to the possible impact on the loading of new tables.

The upgrade will be completed remotely and does not require an engineer visit or any specific LU staff action and all being well should be complete in around 7 nights with approximately 40 MFMs receiving the update each night.

Each station will be advised of the planned upgrade dates in advance and details will also be published in the 'Dates for Diary' section of the *Hot issues Bulletin*.



## GATE UPGRADES

We will soon be approaching the completion of two programmes of work to improve our gates.

### EI Gates

In mid-March we should have completed the upgrade of the light beams that monitor customer movements through the walkways.

### Wide Aisle Gates

Around about the same time a separate team of Cubic engineers are due to upgrade the last of the LU WAGs with the new light weight paddles, ruggedised motors and reworked paddle shafts, to hopefully improve their resilience to misuse by customers intent upon not paying their fares.



## STICKERS .....UPDATE!

Another item that has hung around for a number of months but never seems to get over the line, might just be near to completion... and that is the subject of gateline and POM stickers.

As a reminder, all our stickers used to be supplied via two paths, one by CDL and the other by Cubic. We found out some time ago that the contract with CDL had expired and gone unnoticed, until all of their stock had been used up. The scramble was then on to have all stickers supplied by Cubic and make ordering that little bit easier.

The good news is that the Variation order has now been cleared by TfL Commercial and is now with Cubic to complete. We will hopefully provide more news shortly via the HIB and the next issue of TRU.

# REVENUE PROJECTS

## FEDS UPGRADE .....UPDATE!

Further to the update in TRU150, there have been some changes in the plans to deploy the next phases of the Frontline Device Security (or FEDS) upgrade.



## SC & SCU ROLLOUT

Having successfully completed a Vanguard of changes to the Station Computer (SC) and Station Control Unit (SCU), we are now ready to start the rollout of this upgrade to all other stations.



As this involves work on the SC, this cannot commence until after the fares revision has been completed on Sunday 03 March, as we do not want to risk any disruption to the process of loading new fares tables to devices.

Currently the FEDS upgrades to SCs and SCUs is now scheduled to commence during week commencing Monday 18 March.

Like the Vanguard sites, this will see Cubic engineers attending stations during the day to access the SC (below right) to undertake a modification which will allow the Cubic System Support team to remotely download new software to the SC later during the evening.

During the same visit each SCU will be swapped out with a unit that has already been upgraded with new software at the Cubic workshop.



## POM VANGUARD

At the same time as we are starting to rollout the upgrade to the SC and SCU, we will also be commencing a Vanguard of the second phase of the FEDS upgrade work which will see a "POM Watchdog" device fitted to each POM.

This additional piece of equipment will initially lay dormant in the device until a further software upgrade takes place.



After that has happened, the device will be used when large software or security patches need to be downloaded to devices, as currently there is a time limit, which if exceeded causes the device to restart itself, thereby preventing the full upgrade pack being received,

For simplicity we have opted to vanguard these POM installations at sites that we have previously used for the Vanguard of the recent MFM software upgrade and will tie these into the locations selected for the start of the SC and SCU rollout (as outlined above).

The list of sites is shown in the table below.

ALDGATE EAST	ALDGATE	BAKER STREET	BARBICAN
ELEPHANT & CASTLE	EUSTON SQUARE	FARRINGDON	GT PORTLAND ST
LAMBETH NORTH	LIVERPOOL STREET	MOORGATE	TOWER HILL

## CHD UPGRADES

It hasn't been that long since our last update in TRU150, but in that time quite a bit has happened on the Cash Handling Device (CHD) front.

Having said that, there has not been huge progress towards the rollout of the new CHD software and new device PCs, other than that we were finally able to complete the upgrade of the final device at Waterloo, with the upgrade of the Waterloo (Assist) CHD on Monday 26 February. This finally completes the first two Vanguard sites.



Where there has been significant progress, is in the migration of devices from the use of a fixed line connection to the CHD back office, to the use of a 4G router. When the Cash Handling Devices were rolled out about 7 years ago, surveys were completed to identify which sites could be connected via 3G and which would need a fixed line connection. This ended up with around 80 devices needing fixed lines, although some of these were quite puzzling as to why a signal could not be found.

As we have documented in previous editions of TRU, we have had a number of on-going issues with the provision of new fixed lines, getting faults on these connections fixed and more recently in modifying firewalls to allow the devices using the new software to communicate with the new back office.

To complete the extension of the CHD Vanguard at the east end of the Central line before Christmas, Pay Complete successfully migrated a couple of sites from fixed line to use of a 4G modem connection.

Since then Pay Complete have undertaken surveys at all of the remaining fixed line CHD sites and over the last couple of weeks have been installing new 4G modems at these stations.

Happily at the time of writing, we have successfully managed to migrate all by 3 sites onto modem connections. Further work will be done at the remaining locations to see if the signal strength can be boosted, to provide a stable connection for data to be transmitted to / from the back office.



There are a couple of reasons why we have managed to successfully migrate so many stations;

- Replacement of 3G networks with 4G has provided better signal coverage
- Pay Complete have procured better routers which again provide a better connection,
- A switch of service provider has allowed modems to switch to networks with better coverage.

The switch now allows Pay Complete to remotely connect to each CHD, allowing them to investigate and clear some faults without having to send an engineer to the station. It will also allow the change to increase the maximum collection sack contents from £20k to £30k to be completed remotely within 2 or 3 days, rather than having to visit around 80 stations.

Unfortunately, one downside of this recent migration of devices was, that for a number of days, although devices were generally functioning, we were unable to see data on the CHD back office.

This arose due to a new security certificate being loaded, which was subsequently found to be incompatible with the old Windows 7 platform used in most of the CHDs. Fortunately, a workaround was applied to allow all CHDs to be reconnected.

Hopefully now that nearly all sites are connected via modems and we are not dependent on Capita the IT sub-contractor to complete configuration and firewall changes, we will soon be able to restart the rollout of the new CHD software and PCs.



# ...AND FINALLY!

## BARCODE TICKETING UPDATE

It hasn't been very long since our last update in TRU150, but we are pleased to tell you that we now seem to be inching forward towards the start of a trial of handheld barcode reading equipment within the next few months.

The TfL Tech & Data team are currently engaged in discussions with the Rail Delivery Group (RDG) who are due to fund the trial with the aim to commence a trial by early May and hopefully run for a period of 3 months.



At the moment RDG are engaging with a number of prospective suppliers of handheld reading equipment and software and we are hopeful of being able to test more than one potential solution at our designated trial stations, This should then assist us in developing our final requirements and enable comparison between different solutions that are available.

By mid-April, we hopefully will be able to confirm timescales and arrangements for the forthcoming trial. In the meantime, we will be considering how best to deliver staff briefings at the stations affected, as well as firm up arrangements for the issue and control of devices, and the support arrangements for the repair / replacement of units during the trial,

## IT'S THE END OF THE LINE FOR QBMs

After a period of very little progress, we now seem to be moving forward towards the next phase of the POM reduction programme, with a Variation shortly to be issued to Cubic to remove the final 20 QBMs from around the network.

Some devices will be replaced by TVMs, offering customers a much better range of options than the limited QBM facilities currently do. At locations where demand and usage are low, we will just be removing the QBM. Details of the proposed changes are summarised below.

Station	QBM	Proposal	Station	QBM	Proposal
EUSTON SQUARE	19	Replace with 1x TVM	FINSBURY PARK	19	Replace with 1x TVM
FARRINGDON (Turnmill Street)	18-19	Replace with 1x TVM	CANARY WHARF (East)	19	Relocate 1x TVM
KINGS CROSS (Pentonville Rd)	18-19	Remove	CANNING TOWN	19	Remove
FULHAM BROADWAY	19	Remove	HARLESDEN	19	Remove
HIGH STREET KENSINGTON	19	Remove	KENTON	19	Remove
KEW GARDENS	19	Replace with 1x TVM	NORTH WEMBLEY	19	Remove
BANK (Bloomberg)	18-19	Replace with 1x TVM	SOUTH KENTON	19	Remove
LEYTONSTONE	19	Remove			

The final 2 QBMs are currently located at DLR locations and will also be removed as part of this phase of work. In addition to savings on the maintenance costs of the devices to be removed, we will also be able to make savings on other projects. The last of the QBMs have already been removed from the scope of the forthcoming PED (Chip & PIN replacement) project and have recently been removed from the scope of the FEDS programmed outlined on Page 14.

## LOOKING AHEAD TO TRU152

TRU152 is expected to be published in mid-April when we will provide you with updates on:

- A review of the March Fares Revision
- Progress on planned POM upgrades
- Further update on Project Oval
- Updates on other projects going on around the network

We also intend to include more of your questions sent in to *Ask Olly*, plus a selection of our other features.



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