



MARCH 2022

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SPRING CHANGES

The clocks have gone forward, the evenings are getting lighter, and spring is upon us, even though the last few days have seen flurries of snow at regular intervals and some very cold winds!

The spring looks as if it is going to be quite a busy time in the world of Ticketing and Revenue with the recent fares revision at the beginning of March being closed followed by a number of other changes over the next couple of months.



In this month's slightly delayed edition of TRU, we provide a more in-depth review on Pages 3 & 4, than we were able to include in our last edition, of some of the main fare changes implemented on Tuesday 01 March,

Looking forward, to some forthcoming changes which are likely to happen during the spring, we have a two-page [Special Feature](#) on [Pages 8 & 9](#), previewing some of the main T&R related aspects of the forthcoming opening of the Elizabeth Line and how it will impact on some journeys once services begin.



A further change is covered on [Page 7](#), where we take a look at the forthcoming expansion of PAYG acceptance to a number of services operated by Great Western Railway (GWR) within the Thames Valley.

This will mark the first expansion of stations at which PAYG can be used for several years.

The last of the main changes planned for spring 2022, sees the traditional May Fares Revision this year being delayed until Sunday 12 June.



This is being done to allow sufficient time between the completion of the March (late January) changes and the date of this next fare revision, for Cubic to complete the required changes and the necessary testing.

KEY STORIES INSIDE

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[MARCH FARES REVISION](#)

Our traditional review of what went well and what didn't go quite to plan!

Pages 8&9

[ELIZABETH LINE PREVIEW](#)

Ahead of the announcement of an opening date, we preview some of the T&R aspects of the new line.

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An update on recent progress, as we approach the conclusion of the current round of device removals and POM consolidation.

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[GATE UPDATES](#)

A round up on a number of current initiatives to improve gate performance and reliability.

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[CRIMEWATCH UPDATE](#)

We provide an update on a recent development in the battle against skimming device attacks on our POMs.

March Fares Revision

MARCH 2022 FARES REVISION – WHAT WENT WELL?

Given the uncertainty about the date of the fares revision and the very late final decision, which reduced the amount of time to prepare for the changes, the fares revision on Tuesday 01 March went extremely smoothly. Apart from for the second year running, it taking place two months later than the traditional 02 January date, the unusual nature of this particular revision was further augmented by the RMT selecting 01 March as the first of two strike days.



The combination of the two probably wasn't a great experience for our customers travelling on that day, but it also meant that some of the on-system testing was made more difficult and subsequently had to be undertaken later in the week.

As with other recent fares revisions, the process of loading new tables to all LU devices again went extremely well. On the morning of the fare revision, there was only one device (AFM27 at East Ham) which had not switched over to the new 2022 fare tables. As a result, this device was closed until a Cubic engineer could attend and rectify the issue.

We had one further report from staff at Hillingdon, where the MFM was observed to correctly show the new Day Travelcard price, but when the customer progressed to the payment screen, the price changed back to the old price. This seems to have been a one-off and was rectified by Cubic remotely resetting the device.

So overall, it turned out to be a pretty smooth fares revision, given the very difficult lead up to it.

MARCH 2022 FARES REVISION – WHAT DIDN'T GO SO WELL?



Although all but one LU device switched over to their new tables, on the morning of the fares change, a number of buses were identified to still be charging PAYG customers £1.55 rather than the new fare of £1.65. Implementation on buses is more difficult and some of the vehicles involved will have left their garages before the change was implemented at 04.30 hours. So, a few lucky bus customers got the benefit of a 10p discount on their journey on 01 March. By the following morning, only one vehicle was identified as not charging the correct fares.



Probably the biggest fares revision issue we encountered was with the distribution of the new fares posters to LU stations.

The shortened timescales made production and distribution before the revision almost impossible, so most deliveries had to be programmed during the days following the 01 March change.

This was further hampered by the loss of two of the days that week due to the strikes we mentioned earlier.

Unfortunately, when posters were delivered an issue was identified at Zone 2 / 3 boundary stations, who received posters with incorrect prices on them. All of these had to be reprinted by Cubic to show the correct fare values.

We also had a couple of cases of stations receiving the wrong size of fares poster and at a couple of locations where having been delivered, the fares poster was lost or misplaced and if not located, these will have to be reprinted at a cost to the area concerned.

Part I – This issues trivia theme is the introduction of free travel for certain customers, with the first of these for London residents who are over the age of 60...

Q1) ...but can you remember when the 60+ Oyster card was introduced?

- | | | | |
|---|-------------------|---|------------------|
| A | 02 September 2009 | B | 02 January 2010 |
| C | 09 May 2011 | D | 01 November 2012 |



Ticketing & Revenue
T & R
Trivia

[Answers on Page 11](#)

~~March~~ FARES REVISION

MARCH FARES REVISION IN SUMMARY

Further to our brief coverage of the main items included within this year's fares changes in [TRU136](#), in this edition we have summarised some of the main fare changes below. Space doesn't permit us to include everything here, but you can obtain full details of all the 2022 fares from the *2022 Fares Revision Circular* which can be accessed by [clicking here](#).

DAY TRAVELCARDS

From Monday 01 March 2022, the prices of both the Anytime and Off-Peak versions of the Day Travelcard increased, as outlined in the table below.

DAY TRAVELCARD	ADULT				CHILD			
	PREVIOUS	01 MAR 2022	CHANGE	PREVIOUS	01 MAR 2022	CHANGE		
ANYTIME	ZI-4	£13.90	£14.40	+50p	3.6%	£6.90	£7.20	+30p 4.3%
	ZI-6	£19.60	£20.30	+70p	3.6%	£9.80	£10.10	+30p 3.1%
	ZI-9	£24.80	£25.70	+90p	3.6%	£12.40	£12.80	+40p 3.2%
OFF PEAK	ZI-6	£13.90	£14.40	+50p	3.6%	£6.90	£7.20	+30p 4.3%
	ZI-9	£14.70	£15.30	+60p	4.1%	£7.30	£7.60	+30p 4.1%

DAILY PRICE CAPS

Daily PAYG price caps for Oyster and contactless payment users also increase, as shown in the table on the right.

As in previous years, PAYG caps continue to be cheaper and offer better value than the equivalent Day Travelcard prices.

PAYG DAILY CAP	ADULT		
	PREVIOUS	01 MAR 2022	CHANGE
ANYTIME	ZI-2	£7.40	+30p 4.0%
	ZI-3	£8.70	+30p 3.4%
	ZI-4	£10.60	+40p 3.8%
	ZI-5	£12.70	+40p 3.2%
	ZI-6	£13.50	+60p 4.4%
	ZI-9	£19.30	+70p 3.6%
OFF PEAK	ZI-9	£13.60	+50p 3.7%

SINGLE JOURNEYS

The prices of LU Single tickets also increased, and the changes saw a further flattening of the fare scale, a Zones 1-6 ticket now covering most LU journeys and meaning that even if a paper season ticket is held, the price of an extension will be the same price as a ticket for the whole journey.

LU SINGLE FARES	ADULT		
	PREVIOUS	01 MAR 2022	CHANGE
ZI-3	£5.50	£6.30	+80p 14.5%
ZI-6	£6.00		+30p 5.0%

Just a reminder that Singles for wholly NR journeys and for through journeys to NR destinations issued from our POMs, did not increase from Monday 01 March, although the corresponding tickets sold by the relevant Train Operator (TOC) did increase in price by an average of 3.8%.

SEASON TICKET PRICES

The prices of both season tickets and Weekly PAYG caps also increased from Monday 01 March.

The prices of Monthly and longer period tickets also increased in proportion to the changes to the 7 Day prices shown on the right.

As Travelcard prices are set in conjunction with other operators, they have generally increased in line with the July Retail Price Index which was 3.8%, rather than fares set wholly by TfL which averaged 4.8% (RPI+1%).

7 DAY TRAVELCARD / WEEKLY CAP	ADULT		
	PREVIOUS	01 MAR 2022	CHANGE
ZI-2	£37.00	£38.40	+140p 3.8%
ZI-3	£43.50	£45.20	+170p 3.9%
ZI-4	£53.20	£55.20	+200p 3.8%
ZI-5	£63.30	£65.70	+240p 3.8%
ZI-6	£67.70	£70.30	+260p 3.8%
ZI-9	£96.50	£100.20	+370p 3.8%

March Fares Revision

TfL PAYG FARES

On TfL services Zones 1-6 PAYG fares generally increased by between 10p and 30p.

The previous flat PAYG charge which applied to journeys outside Zone 1, when the reduced PAYG rate applies, are further split, with the graduated scale of fares now split into four price bands, depending upon the number of zones travelled through.

ADULT PAYG FARES	STANDARD			REDUCED		
	PREVIOUS	01 MAR 2022	CHANGE	PREVIOUS	01 MAR 2022	CHANGE
Including Zone 1	Z1	£2.40	£2.50	+10p	£2.40	£2.50
	Z1+2	£3.00	£3.20	+20p	£2.50	£2.60
	Z1-3	£3.40	£3.60	+20p	£2.80	£2.90
	Z1-4	£4.00	£4.30	+30p	£2.90	£3.10
	Z1-5	£4.80	£5.00	+20p	£3.20	£3.40
	Z1-6	£5.30	£5.50	+20p	£3.30	£3.50
Not including Zone 1	1 Zone	£1.70	£1.80	+10p	£1.50	£1.60
	2 Zones	£1.80	£2.00	+20p	£1.60	£1.70
	3 Zones	£2.50	£2.70	+20p	£1.80	+10p
	4 Zones	£2.80	£2.90	+10p	£1.70	£1.90
	5 Zones	£3.00	£3.30	+30p		



TRIUNews

REISSUE OF NR STAFF TRAVELCARDS

From the beginning of April, NR Staff Travel will be issuing new 2022/23 NR Staff Travelcards to staff eligible to Privilege rate travel.

The cards which are valid from 01 April 2022 through to 30 June 2023 will be printed on an off-white background and this year features a teal banner across the top, as in the image on the right.

TSID card holders are reminded that the discount **must** be updated as follows.

- Note the new NR Staff Travel Card number.
- Ensure you select the correct Discount entitlement option; Priv All Rail for employee and child dependents and Priv All Rail N for spouse / partner.
- Update the Priv discount entitlement expiry date to 30 June 2023 to match the expiry date of their new NR Staff Travel card.
- Ensure the new NR Staff Travel Card number is correctly recorded in the Photocard field.
- Confirm the details.
- Ask the customer to touch their card onto the reader to finalise the transaction.
- Holders of the NR Only Leisure card are **not** entitled to have a Priv discount set at LU stations.

THIS CARD NUMBER MUST BE ENTERED INTO THE PHOTOCARD FIELD ON THE POM



↑ New 22/23 card – valid from 01 April



↑ Current 21/22 card – Valid until end of June 2022

FREEDOM PASS RENEWAL

On Thursday 31 March 2022, approximately 45,000 Freedom Passes will expire and will no longer work the automatic gates at LU stations, instead displaying **Reject Code '57'**.

London Councils started the renewals process back in February, but around 4,000 eligible holders did not apply for a new Freedom Pass in time to receive their new card before their current one expires.

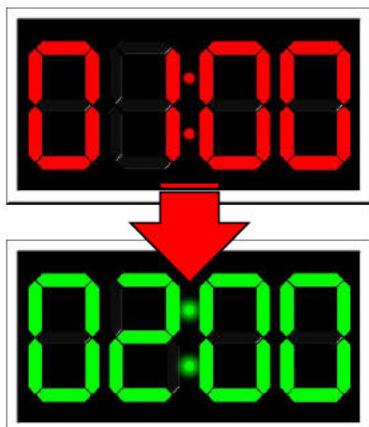
TfL has agreed to continue to accept Freedom Passes with an expiry date of 31 March 2022 until **Friday 06 May 2022** for cards displaying Code 57 and Staff should:

- **Visually check both the Freedom Pass and the reject code.**
- **Allow the customer to travel / complete their journey if it would otherwise be valid.**
- **Advise the customer they must apply for a new Freedom Pass as soon as possible, if they haven't done so already.**
- **Do not advise customers they can continue to use their expired pass until 06 May.**
- **Cards showing other reject codes must not be accepted for travel.**



SPRING FORWARD TIME CHANGE – GMT to BST

We have very quickly reached the part of 2022, when we finally say goodbye to the long dark cold winter nights and welcome in the first signs of Spring.



The switch from Greenwich Mean Time to British Summer Time took place at 01:00 hours on **Sunday 27 March 2022**, and went forward to 02:00 hours, resulting in people having one less hour in bed or losing an hour of their day.



At the time of writing, no reports have been received of ticketing related devices failing to switch over to the new time, but any found should be reported to the Cubic Helpdesk. Staff who are returning from leave should check their devices, when first switched on and RCIs should check their RIDs.

Any CHDs that failed to switch over to the new time should be reported to Pay Complete on Auto 12261.



In the Northern Hemisphere, the *March (or Spring) equinox* determines the first day of Spring and put simply, it is the moment in time when the sun is in direct alignment with the equator and everywhere on Earth will experience an equal 12 hours of day and night on that date. This year that date is *Sunday March 20...* at 4.33pm to be precise!

Spring travels from southwest to northeast at a speed of around 2mph. This means that Springtime will arrive in Yorkshire almost 6 days after it first appeared in Cornwall and takes about 3 weeks to cover the whole of the United Kingdom.

A study by the University of Coventry, the BBC and the Woodland Trust, studied over 20,000 records between 1891 and 2021 to reach this summation, and also discovered that Springtime now arrives around 11 days earlier today than it did in the 19th century.

2mph

Part 2 – And continuing the theme of free travel...

Q2) ...when was free travel for 5-10 year olds introduced on LU?

- | | | | |
|---|---------------|---|---------------|
| A | 02 April 2002 | B | 02 April 2004 |
| C | 02 April 2006 | D | 02 April 2008 |



[Answers on Page 11](#)

DENIED EXIT UPDATE

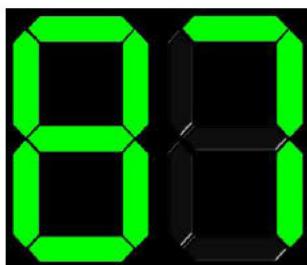
Further to our article in [TRU136](#), covering the implementation of the Denied Exit change for contactless payment users at most LU stations, a further update was completed as part of a base data update on Sunday 20 March.

The latest changes saw the extension of this facility to both Nine Elms and Battersea Power Station, as these two Northern line extension stations were omitted from the original scope of the project in error.



Contactless users who have failed to validate on entry at stations elsewhere, will now be able to exit through the gates at these stations and will incur an incomplete journey charge, rather than being prevented from exiting.

Within the same set of changes, the Denied Exit functionality was removed from Gates / PVals at both Amersham and Stratford stations, which had been incorrectly included in the original implementation list.



Both of these sites have direct interfaces with TOC services and a commercial agreement on the apportionment of revenue from incomplete journeys at these stations will be required between TfL and the relevant Train Operating Companies (TOCs), before this change can be reimplemented.

In line with other LU sites that are served by NR services, contactless users will be rejected when they attempt to exit, if their card would not have been accepted for travel and they failed to validate on entry.

CHANGES TO OYSTER AUTO TOP-UP

The Auto top-up (ATU) facility on Oyster cards currently automatically tops up a customer's PAYG balance by either £20 or £40 whenever their balance falls below £20.

From Wednesday 30 March 2022 customers who have registered for Auto top-up will now also be able to add amounts of £10 automatically.



New customers will be able to select £10, £20 or £40 when setting up the facility and existing customers can change their top-up amount using the 'Manage Auto top-up' option on their online account.

T&R TEAM AVAILABILITY

Due to non-availability of team members, the T&R Team will be operating at a much-reduced capacity over the next few weeks. As a result, we will have to prioritise the resources available to provide the best service that we can. Priority will be given to dealing with TSID card requests, activations, PIN reminders and relinking existing cards to replacement Staff Oyster cards.

To avoid unnecessary delay, all TSID requests must be emailed to the TSID mailbox SMBTSID@tfl.gov.uk. Please ensure the email includes the following details of the member of staff the request relates to:

- Name
- Employee number
- Staff Oyster card number (full 12 digits)
- Existing TSID card number (if applicable)



Any issues related to limited functionality CSID PINs (for staff that do not hold a TSID card), should be emailed to the CSID mailbox, SMBCSID@tfl.gov.uk. However, we will not be issuing any new CSID PINs until after Sunday 01 May 2022. Any requests received before then, will be dealt with as soon as we can after this date.

An acknowledgement will be sent to confirm receipt of each email and we will then contact you to advise you when the request has been actioned. Please do not send further requests or chase for a response on the same issue.

PAYG EXPANSION

It has recently been announced that Great Western (GWR) who operate train services out of London Paddington to destinations in the Thames Valley and the west of England, will shortly be expanding the acceptance of contactless payments to a number of their branch lines to the west of London.



The lines concerned link into the existing TfL Rail services serving Slough, Maidenhead and Twyford.

This will be the first major expansion of PAYG acceptance for contactless users since a number of expansions took place in 2019 and the acceptance of contactless payment on the TfL Rail (shortly to become Elizabeth Line) services to Reading, which was implemented as part of the 02 January 2020 Fares Revision.

As with previous expansions of the PAYG area, the forthcoming expansion will be for contactless users only and Oyster cards which are not valid, west of West Drayton, will not be valid at any of the stations below.

The following branch lines affected are:

Slough to Windsor & Eton Central (not accepted on SWR services to Windsor & Eton Riverside)

Maidenhead to Marlow

Twyford to Henley on Thames

PAYG (both Oyster and contactless) is already valid on the branch line between West Ealing and Greenford and on the branch to Heathrow Airport.

The exact date from which contactless payments will be accepted at each of the stations affected, is yet to be confirmed and is dependent on the commissioning of validators at each station.

It is therefore possible that stations / branches may go live on different dates. We will try to provide more detailed information in the weekly *Hot Issues Bulletin* as dates are confirmed.



The fares to / from these destinations were included in previous fares revision changes in readiness for this planned expansion.

As these stations are all outside of the TfL zonal area, separate Peak and Off-Peak fares will be set by GWR, but these will be included in the [TfL Single fares finder](#).

As with the previous expansions on GTR services, capping will initially not apply to journeys to and from these new stations, but it is planned to implement capping to / from these destinations at a later date.

As these stations are not served by TfL, Oyster and other concessions shown in the table above will not be valid.

Ticket or card type	Validity	Comments
Contactless payments	✓	Valid
Retail Oyster cards		
Staff, Bus Operator Nominees, Retired Staff Oyster cards		
5-10 and 11-15 Oyster Photocard		
16+ and 18+ Oyster Photocard		
Police and Contractor Oyster cards		
Freedom Passes and 60+ Oyster Photocard		
Apprentice and Veterans Oyster Photocard		
Elite Athlete Oyster Photocard		
Armed Forces (full uniform + ID)		

SPECIAL FEATURE

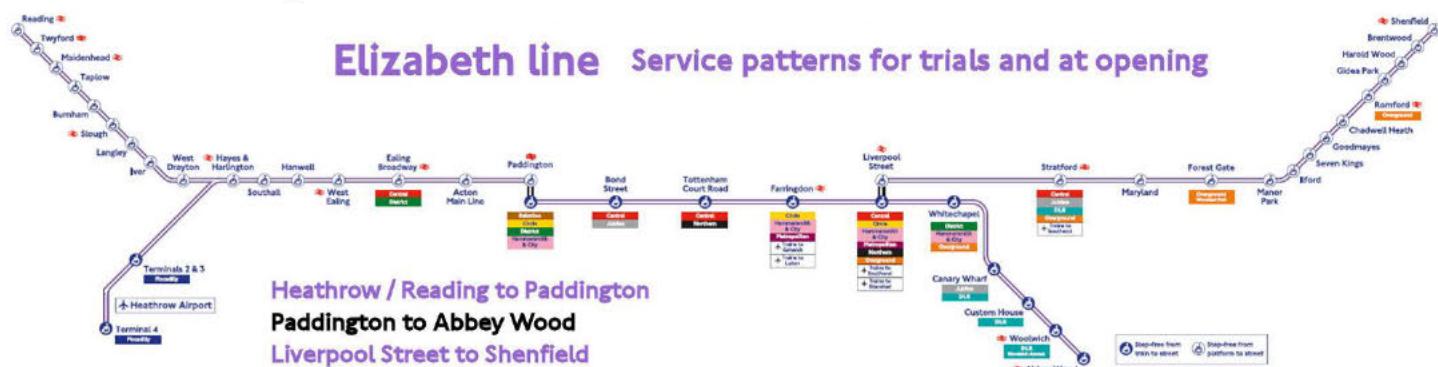
COUNTDOWN TO THE ELIZABETH LINE OPENING

It seems that the wait is almost over...



It's an item that has been on Olly Oyster's wish-list for several years and which was originally scheduled to open in December 2018. There have been a number of well-publicised delays to the opening of the central section of the Elizabeth line.

Services are already operating under the TfL Rail banner at the eastern end of the line (between Liverpool Street and Shenfield) and at the western end (between Paddington and Heathrow Airport and Reading). Following completion of a number of recent test events, plans are now being prepared for the opening of the central section of the line, on a date yet to be announced. The line will initially operate in three overlapping sections, as indicated in the diagram below.



The eastern and western ends of the line will operate as now, with a third service running between Abbey Wood and new low-level platforms at Paddington serving the central part of the line. This will mean that customers wishing to travel on to Heathrow or other stations west of Paddington will for the time being, need to change trains at Paddington. This will be facilitated by Out of Station Interchanges (OSIs) configured between the new Elizabeth line entrance and other parts of Paddington station.

Building work at Bond Street is yet to be completed, so when the line does open, trains will initially non-stop at Bond Street until works there are completed, and the two new ticket halls are ready to open to customers.

The line opening will, however, see the opening of three new LU ticket halls:

LIVERPOOL STREET (Broadgate)

FARRINGDON (East)

TOTTENHAM COURT ROAD (Dean Street)

All of these have been equipped with TVMs, although those at Liverpool Street (Broadgate) will operate as card only devices. Customers wanting to use cash to buy tickets or top-up their Oyster cards will be able to do so in one of the other ticket halls of the adjacent LU station. We will provide further information on these new ticket halls when they finally open.

A feature of the new Elizabeth line stations is that the central London stations will all be 'double ended.' The Elizabeth line platforms at Liverpool Street stretch from the Broadgate ticket hall at Liverpool Street and join it to nearby Moorgate station, where a new Moorgate (Met) ticket hall was opened last year.



This will mean that customers will be able to walk between these two stations at platform level, in a similar way to how they can walk between Bank and Monument via the Northern line platforms (when they are open!).

This has already resulted in some confusion regarding the location of devices and where parts need to be delivered, with devices at Moorgate (Met) wrongly being recorded by Cubic as being at Liverpool Street. This issue has now hopefully been resolved.

Similarly the new Elizabeth line platforms at Farringdon link the existing Farringdon station with the new Farringdon (East) ticket hall and a connection onto the platforms at Barbican. Tottenham Court Road gains a second entrance further along Oxford Street and when Bond Street finally opens, the eastern ticket hall will be situated at Hanover Square, only just around the corner from Oxford Circus station.

SPECIAL FEATURE

COUNTDOWN TO THE ELIZABETH LINE OPENING... continued

Ticketing wise, the central section of the Elizabeth line will operate in a similar way to other LU and TfL services, with fares being charged on the TfL fare scale and the normal range of passes and discounts valid on TfL services being accepted.

Ticket or card type	Validity	Comments
Oyster Travelcard Season		✗ Extension ticket required for journeys beyond Zone 6
Oyster PAYG		✗ Not valid beyond West Drayton
Contactless payment	✓	Valid
Staff, Bus Operator Nominees, Retired Staff Oyster cards	✓	On Elizabeth line services only. Visual inspection required at stations beyond West Drayton
5-10, 11-15 Oyster Photocard		✗ Buy Child rate Extension ticket or Single ticket
16+ Oyster Photocard		✗ Holders of 16-17 Saver can buy half adult rate tickets
18+ Oyster Photocard		✗
Apprentice Oyster Photocard		✗
60+ Oyster Photocard		✗ Buy Adult rate ticket
Elite Athlete Oyster Photocard		✗
Freedom Pass	✓	On Elizabeth line services only.
Veterans Oyster Photocard	✓	Visual inspection required at stations beyond West Drayton
Armed Forces (full uniform + ID)	✓	On Elizabeth line services only. Not valid if not in uniform.

Through fares to all Elizabeth line destinations are already available on our POMs, but in some cases, the amount paid by PAYG customers will change as a result of new routes being available when the line opens. Some examples of this are shown below:

From	To	Current	Future
TOTTENHAM COURT ROAD	ABBEY WOOD	TfL+NR (via Charing Cross or Waterloo)	TfL
CANARY WHARF	ABBEY WOOD	TfL+NR (via Greenwich or Woolwich)	TfL

The direct interchange between the Elizabeth line and the Bakerloo line platforms at Paddington via a new low-level subway, will mean that when through service from the west end of the line to the east commence, some journeys will no longer require customers to validate when interchanging at Paddington. It will therefore not be possible to tell which route a customer has travelled, either via Zone 1 or avoiding Zone 1.



The opening of the central section of the line is scheduled to be marked by the release of a further 2 limited edition Oyster cards, the stock of which has been in store since the postponement of the original planned opening date.

Further information on these cards will be provided in a future edition of TRU.

As a result new Route Validators are being installed at Ealing Broadway to allow customers changing onto the District and Central lines there to validate to indicate the route they have taken.

Changes to the chargeable routes for a large number of PAYG journeys are due to be made as part of the next fare revision on Sunday 12 June and we will cover these changes in more detail in a future edition of TRU.

Some sample fares for journeys on the Elizabeth line are included in the table below and full fares information is available via the TfL Single fares finder.

From	To	Standard	Reduced
Zone 1	HEATHROW AIRPORT	£12.70	£10.80
Zone 1	SLOUGH	£11.80	£8.20
Zone 1	READING	£28.50	£13.80
Zone 1	CUSTOM HOUSE	£3.60	£2.90
Zone 1	ABBEY WOOD	£4.30	£3.10
Zone 1	SHENFIELD	£13.00	£10.30

REVENUE PROJECTS

POM REDUCTION UPDATE

As we go to print with this edition of TRU, Cubic are completing the final parts of the second phase of the POM reduction programme, which has seen the removal of a further 45 devices, comprising of:

AFM	MFM	QBM	PVal	SAF	TOM
6	1	31	2	2	3

In addition to these, a further 2 AFMs and 2 MFMs at Heathrow Terminal 4 have been temporarily mothballed whilst that station remains closed.

Recent works have seen the consolidation of POMs into one POM suite at the stations listed below, saving on equipment and freeing up several areas for alternative uses.

CHANCERY LANE
HOLBORN
PICCADILLY CIRCUS
WATERLOO



The completion of this latest phase means that we have now removed a total of 97 QBMs from stations since February 2021, now leaving only a small number of around 20 devices operational.



A majority of those remaining are free standing devices located within ticket halls where no other POMs are available, so their removal would potentially leave these locations with no facilities for customers to top-up, if they were also withdrawn.

However, going forward we will need to look at whether there are viable options to remove / replace some of these, as maintaining such a small core number of devices is expensive in terms of resources needed for testing any software or data changes that need to be implemented.

A third phase of the POM Reduction programme is scheduled to commence in the new financial year, when it is planned to mothball a total of 54 AFMs. These devices are all situated at sites that have multiple devices and where predictions of future POM usage have highlighted that demand can be met by fewer devices.

No dates for the start of this third phase have yet been confirmed, but we are optimistic that it can be completed quite quickly in April / May.

There will be no reductions to the number of POMs at the large number of smaller stations which have the standard configuration of 1 AFM and 1 MFM.

Part 3 – The Veterans Oyster card allows former armed forces personnel free and discounted travel on LU services...



Q3) ...but when was it first introduced

- A 02 September 2008
- B 02 September 2009
- C 02 September 2010
- D 02 September 2011



[Answers on Page 11](#)

MFM NHU UPGRADE

Two separate pieces of work are currently taking place as part of the on-going project to replace all of the existing Note Handling Units (NHU) on our Multifare machines, with the new units supplied by Pay Complete.

Following on from the rollout of a modification to all of the devices that had previously been fitted with the new Pay Complete NHU to work as a Bank Note Acceptor, to resolve a potential issue with the alignment of the NHU within the device, Cubic has commenced a programme to deploy a similar modification to the 100 MFM's with the new NHU fitted to work as a Bank Note Recycler (BNR).

To minimise disruption, this particular upgrade has been scheduled to be undertaken during traffic hours (10.00-16.00 Monday to Friday) to avoid the need to empty devices of cash for what is a minor adjustment.

We had hoped to be able to report upon the completion of this short rollout in this edition, but unfortunately due to some engineer resource issues the final two days of the programme on 28 and 29 March had to be postponed at short notice.



These together with a small number of devices which could not be upgraded on the planned dates during the first week of the programme, leaves us with 32 devices that are yet to be upgraded, representing just under a third of the BNR fleet. Cubic aim to programme the upgrading of the outstanding devices during the first week of April.

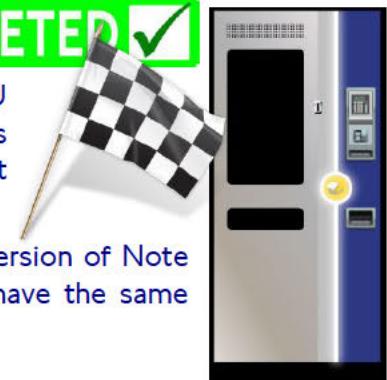
The second workstream saw the restart of the programme to replace the remaining BNA units with the new Pay Complete version on the rest of the MFM fleet. Installations commenced on the night of Thursday 17 March with one of the training devices at Ashfield House, before commencing at the west end of the Central line on the night of Sunday 20 March. The plan is to upgrade 4 devices per night during engineering hours, with installations being completed (generally) line by line by early June.

TVM FIRMWARE

We are pleased to report that the rollout of new Note Handler firmware to all LU TVMs has recently been completed. This resolves the issue that led to devices incorrectly accepting the new £50 polymer note, whilst wrongly accounting for it as a £20 note.

During the deployment, the final devices which were still fitted with an older version of Note Handling Unit had these upgraded to the current version. So, all TVMs now have the same hardware and software.

COMPLETED ✓



POM OYSTER CARD DISPENSER UPGRADE

A further upgrade programme which is now close to completion involves the installation of modified Oyster card dispenser units.



This particular upgrade was largely completed as units were swapped out as a result of maintenance jobs, with modified units being supplied as replacement parts by the Cubic workshop. Currently the percentage of devices which have been fitted with the new units are:

AFM	MFM	TVM
96%	93%	13%

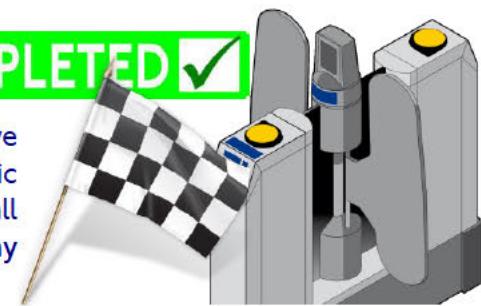
Most AFMs and MFMs have now been upgraded and Cubic have suggested that the remaining devices will be picked up during future preventative maintenance visits. We have a little further to go before all TVMs have been upgraded as the rate of replacement through fault calls has been lower on these devices.

REVENUE PROJECTS

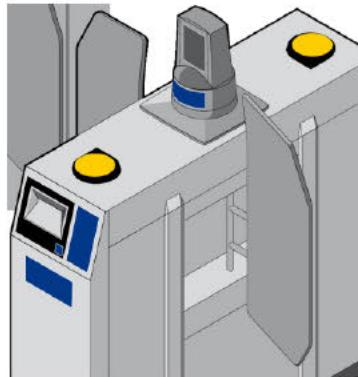
EI GATE BLU UPGRADE

COMPLETED 

As anticipated in our last update on this project in [TRU136](#), Cubic have successfully completed the rollout of the modification to the Beam Logic Unit (BLU) and implementation of the new paddle control software on all of our EI gates. The final devices were completed on the night of Sunday 20 February.



PNEUMATIC GATE BLU



The planned start of a similar programme to improve the performance and reliability of the BLU on the older Pneumatic gates at central London stations, has unfortunately had to be pushed back.

This is as a result of a decision taken by Cubic to make some final modifications to the solution which we have had on Vanguard on the gates at three of our stations; Bank (Central), Pimlico and Waterloo (Main), since the beginning of November.

The modifications will now be the subject of a further short Vanguard which is due to run between Monday 11 April and Tuesday 26 April, before the start of a phased rollout of the solution to all other stations with pneumatic gates. The rollout is currently scheduled to start around Wednesday 04 May.

P GATE POD UPGRADE

As previously reported in [TRU136](#), following a failed attempt to implement new Pneumatic gate LCP software to overcome an on-going issue with the display of information on the rear of single direction Entry gates and some further testing undertaken at Cubic's System Test facility, a further attempt to install the new software was made on Monday 21 February on gates at Bank (Monument), with a Cubic engineer present on site to restart each gate and observe whether the issues seen previously reoccurred.

Unfortunately, the problem did appear again, and a decision was quickly made to revert the gates back to standard LCP software.

Further investigations have been continuing since then, but to date Cubic have been unable to replicate the problem in their test environment.



This is not the first time that we have seen issues on our stations that have not been identified during extensive off system testing.

It will mean that it is going to take much longer than we had anticipated to isolate the problem and implement an appropriate fix, before we can make a further attempt to vanguard the new software and then deploy it to other stations with single direction pneumatic gates.

WAG MOTOR UPGRADE



As previously outlined in [TRU134](#), Cubic are planning to commence a further Vanguard of a combination of new ruggedised motors, replacement paddle shafts and implementation of the new design of light weight composite paddles on a further 6 WAGs which have a history of high levels of motor failures and related problems.

We had hoped that this would commence at the beginning of April, but the start of the rollout has been delayed by a delay to the delivery of parts required for the replacement paddle shafts.

This package of improvements which will hopefully improve reliability and reduce the level of failures, are scheduled to be implemented on WAGs at the following locations:

BURNT OAK	DAGENHAM EAST	DAGENHAM HEATHWAY	DOLLIS HILL
	NEASDEN	TURNPIKE LANE	

FINSBURY PARK GATELINE

After a long period of waiting, during which the station was ungated for many years, the final piece of the jigsaw was completed recently, with the commissioning of a new gateline at the entrance to the National Rail platforms in Station Place



The new gateline replaced the NR gates which had previously been installed on the NR platforms upstairs, which since the opening of the new LU Finsbury Park (Western) ticket hall had resulted in a number of problems with PAYG customers who wanted to exit the station via our Western gateline, after already having touched out to complete their journey on the NR gateline at platform level. Rather confusingly for customers, this required them to touch back in on one of the Passenger Validators in the interchange subway before touching out on our gateline.



Thankfully this issue has now been resolved, although the PVals have been retained for the small number of NR customers travelling on trains to/from stations outside the PAYG area, who wish to touch-in/out when transferring to / from the Underground. The validators will be monitored over the next few months to determine the level of genuine usage against customers validating when they don't really need to do so. The number may then be reduced, in line with the policy of generally avoiding the siting of PVals inside the gateline, where this can be avoided.

Any customers that out of habit continue to validate on the PVals before exiting the station, will not be adversely affected as the PVal validation will be ignored when the customer exits through a gate at the station.

CHD ISSUES AGAIN

Further to our last update in [TRU136](#), after a period when failures had dropped off and we had sufficient spare parts to resolve the small number of failures that did occur, we again find ourselves in a position where Pay Complete are unable to rectify a number of Cash Handling Devices (CHDs) that have failed recently.



The particular component is within the note validating section of the Note Acceptor/Note Recycler unit of the CHD. Since the pandemic and the restart of cash acceptance at LU stations, we have seen a much higher rate of failures of this component, than we had seen during the first 4 years of the CHD contract.

At the moment contractual discussions are taking place between TfL and Pay Complete regarding liability for the cost of further replacement parts, as it is believed that the sharp rise in failures may be attributable to chemicals within hand sanitising gels causing the deterioration of rubber components within the units. Whilst these discussions have been continuing, the last of the available spares from the last delivery have been used and we are now again in the situation where around 8 devices are currently not able to accept notes.

In the short term we are hoping to get approval to purchase a further batch of replacement units to increase the available stocks of this particular part and ensure that we are able to replace any further units that should fail over the next few months.

We will be updating the sites that are affected by this issue on the specific problem and progress towards returning devices to full service, once parts are available.

ANSWERS TO T&R TRIVIA

Pt.1 D 01 November 2012

Pt.2 C 02 April 2006

Pt.3 A 02 April 2008

How did you do?

...AND FINALLY!



CRIMEWATCH



LOOKING AHEAD TO TRU138

We are planning for our next edition of TRU to be published in early in May, in which we will be looking to include:

- *Preview of 12 June Fares Revision changes*
- *Update on barcoded ticketing*
- *Update on the replacement RID*

Plus other ticketing and revenue news stories and a selection of our other regular features.

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