

TfL Operations

Closure of Kentish Town for 10 months for escalator replacement

23rd May 2022

Submitted by: [REDACTED]

Purpose: Endorse the recommendation of a closure of Kentish Town Station (including the ticket hall) for a period of 10 months, starting from the end of April 2023 (at the earliest) finishing early March 2024 (exact dates to be confirmed) to undertake the replacement of both escalators

TfL Operations/Chief Operating Officer is asked to:

1	Endorse the recommendation of a closure of Kentish Town Station for a period of 10 months starting from the end of April 2023	ENDORSE
2	Endorse that the LU ticket hall will be closed, with access to Thameslink services at Kentish Town station will be via the 'night gate' for the duration of the works	ENDORSE
3	Note the impact of the proposed non-stopping of the Northern line on customers and the requirement for customer communications campaign and external stakeholder engagement.	NOTE



Kentish Town

Emergency Works

5th May 2022 station was closed due to a failed step on E1

This failure mode is one where the asset cannot remain in active passenger use without corrective maintenance. This is predicted to happen again in the next 6 months

Background

- The two escalators at Kentish Town are in urgent need of replacement due to safety concerns, very poor condition and performance risk (39 faults in 20/21). They are two of the worst performing escalators on the network.
- The escalators have had 40 maintenance interventions in the last 10 years and are at high risk of a failure leading to unplanned closures.
- Kentish Town E1 was removed from service on the 5th May 2022 following an In Situ Non-Destructive Test, a step was found with a snapped yoke arm (picture across)
- The station was closed whilst the remainder of steps on both escalators were tested/inspected. This took 5 days with the station closed for the duration of the works. The station was then open on an 'up service' only for an additional 4 days. 24 steps were replaced (which is `over a third of the spare stock)
- Steps were also replaced only 13 months ago after a full step change was carried out in 2019
- Looking back at the history of these escalators it is extremely likely we will have more situations like this in the next 6 to 18 months and therefore have unplanned long closures
- We knew this risk and others were present due to deferral of renewals and have acceptance that in a managed decline scenario we will have failures and closures across the Network. Holloway Road (Amber scope) is in a similar state of condition and we should expect similar conversations regarding this asset down the line.
- We are fortunate that the inspection did its job and prevented an accident in service



Executive summary

Kentish Town forms part of the Pan TfL Escalator Replacement Programme. It falls within the Managed Decline Scenario as prioritised renewals. These works are included in the Capital prioritisation as a GREEN expenditure in the FY23 budget.

Length of closure - Given the extensive civil works involved, shaft closures (which allow work to take place on all escalators in the barrel in parallel) are the safer and more affordable method of installation. Carrying out replacements sequentially is not considered feasible at Kentish Town. Physical constraints in the 115-year-old ticket hall mean that escalator 2 cannot be replaced with escalator 1 in situ. Therefore both machines will need to be out of service simultaneously and the Northern line to non-stop the station for a period of **10 months**. It should be noted there were significant delays to the works at South Kensington due to liquidation of the civils project, therefore a full assessment of the financial stability of the contractor must be carried out before we start these works.

Impacts - The LU ticket hall will also be closed as part of the preferred option, which is cheapest with the shortest duration. This will mean that customers will need to access Thameslink services at Kentish Town via the 'night gate' for the duration of the works (illustrated on the right).

Customers will be able to access the Northern line at Tufnell Park or Camden Town stations, both approximately a ten minute walk. Both are accessed by four bus routes. Tufnell Park has sufficient capacity, however some local buses and increased demand at Camden Town will require a demand management customer communications campaign.

Stakeholder Risks - Engagement with local boroughs (Camden/ Islington) in late summer (July/August 2022). With other stakeholders following in Autumn assuming funding to support an April 2023 start on site date is confirmed. Note Kentish Town is the Leader of Camden Council's ward, along with high-profile members of Parliament including Sir Kier Starmer, Jeremy Corbyn, Emily Thornberry & Tulip Siddiq.

We have discussed our proposals with Thameslink. Their primary concern is ticketless travel/fare evasion due to the station no longer being accessed via a gate line and there only being one accessible Oyster reader. Options for reconfiguring the gate line at Kentish Town around the escalator renewal have been examined but are impractical or unduly expensive. Therefore the budget includes the installation of three additional Oyster readers.



Opportunities

We would take as much opportunity as funding allows to deliver additional works at Kentish Town.

This would assist the stakeholder engagement with the station re-opening with improved ambience.

This will be investigated in line with possible 3rd party funding from development adjacent to the site

Station Improvement works – ambience, energy efficiency and circulation space

The opportunity to undertake other works whilst the station is closed is under investigation. However this will be constrained by the escalator works site limiting access. Funding sources both internally and externally are currently being explored.

Possible range of scope is shown below with initial cost indications – subject to detailed review..

Area	Scope	Cost (excluding design and management costs – circa 50% uplift)
Platforms	Redecorate soffit, portals and tunnel headwalls repaint barriers	£150k/platform
Escalator Shaft	Redecorate soffit and portal Relamp with energy efficient LED lights	£50k £350k
Ticket Hall (minimal)	Redecorate walls at high level and ceiling Relamp with energy efficient LED lights	£25k £150k
Ticket Hall (enhanced)	Demolish disused ticket office to increase circulation space Install additional gate Replace existing tiling to walls and floor throughout Redecorate walls at high level and ceiling Replace existing lighting fixtures and fittings with energy efficient	£1.5m £150k £150k £25k £150k
Exterior	Replace tiling tow the two bays either side of station Minor repairs to the original ox blood tiling	£50k



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Options

Deliver immediate maintenance from in house spares. Reduces immediate impacts, reliability risk continues.

Decision needed on:

Heavy Maintenance: Major step renewal with long lead items ordered now. Renewal deferred 3 year.

Renewal: Full station closure (as planned) with full renewal of both escalators.

We do not have sufficient budget to do both which may have been the option in the past. Under managed decline we expect and will have to accept reliability issues and further closures.

	Option 1: Unplanned closures/Short term solution	Option 2: Ongoing heavy maintenance	Option 3: Pan TfL Escalator replacement during shaft closure (ticket hall remains open)	Option 4: Full Station closure. Pan TfL Escalator replacement (ticket hall closed)
Status	Not Recommended	Not Recommended	Not Recommended	Preferred Safest Option
Description	Continue with the current maintenance regime with no capital intervention. Multiple unplanned closures over the years at this station due to numerous defects with the escalators. The excess maintenance cost to the business has been significant (Circa £300k per year on labour alone) as has the service disruption.	Order additional long lead items now and progress to a full step change Underlying design flaw induces greater stress on the trailing arm, thereby reducing the step life	Escalators replaced at the same time, Northern Line non stopping for the duration of the works. LU ticket hall remains open for access to Thameslink services.	Escalators replaced at the same time, Northern Line non stopping and station to remain closed for the duration of the works. Access to Thameslink services via the "night gate".
Project Cost (outturn)	39 steps currently in stock + circa £300k per annum on labour	£0.53m	£8.2m	£7.7m £2m of Amber budget set aside for this in 22/23.
Duration of works	Unplanned week+ closures	10 days (full closure - 3 months lead time for materials)	50 weeks	42 weeks (see appendix A)



Appendix A

Timescales

10 month non-stopping is principally driven by the requirement for extensive civils works to install Pan-TfL Escalators.

- Comparable with previous Pan TfL escalator replacements such as Embankment (E5-8) which took 12 months to complete.
- Kentish Town is a particularly complex site due its small footprint and limited available working area at the top and bottom of the escalators.



Step 1: 20 weeks Escalator removal and civils works

- Strip out existing machines
- Break out the old truss
- Removal of material (160 tonnes of waste will need to be removed from site)
- Old machines are oversized, welded / rivetted compared to modern designs and require extensive cutting to enable station removal.
- Modification of incline, upper and lower landing civils structures to accept new escalators.

Step 2: 2 weeks Escalator Delivery

- Delivery by train is not possible the routes from the platforms are not large enough to fit a Pan-TfL escalator section.
- The only viable delivery route is from the street; via the station entrance.
- 2 escalators broken down into sections, ranging from 1.5T to 5.5T
- Temporary lifting gantries must be constructed to enable safe delivery down the escalator barrels.

Step 3: 17 weeks Escalator Installation

- Once the new Escalator Truss' are in position 10.5 tonnes of Steps and drive chain are installed.
- The Escalator handrail systems and cladding systems are then assembled.
- New Controllers are installed within the Machine Chamber & the plug n play wiring can be connected and checked.
- New Machine Chamber lighting, power and fire detection & suppression systems can be installed.

Step 4: 3 weeks Testing and Commissioning

- Escalator Testing & Commissioning
- Premises interfaces with the existing concourse floors and escalator barrel finishes are fitted.
- Integration commissioning for Comms and Fire systems
- Station Staff Familiarisation
- Site demobilisation
- Removal of Hoardings and deep clean