

# Transport for London

## Revenue Collection Services

### **Schedule 4.3 – LU Services**

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# 1 Introduction

## 1.1 Scope and Purpose

1.1.1 This Schedule 4.3 (LU Services) sets out the scope, performance regime, monitoring and reporting requirements for the LU Services.

1.1.2 The "**LU Services**" are:

- (a) the Primary Services provided in relation to all Devices located at LU Sites but excluding the Card Readers associated with Gates and Validators at London Overground Stations (which fall within the scope of the Rail Services as set out in Schedule 4.4 (Rail Services));
- (b) the provision of rubber seals to fill the gap between any POM and the aperture in the structure for such POM at LU Sites and the maintenance of appropriate stock of the same; and
- (c) the provision and the maintenance of an appropriate stock of spare kick panels for each type of POM at all LU Sites in order to maintain operational requirements.

1.1.3 The Contractor shall provide the LU Services in accordance with this Schedule, Schedule 4.1 (Service Delivery) and the terms of the Contract.

## 1.2 Device Categories

1.2.1 The Devices used by the Contractor to deliver the LU Services fall into four (4) categories:

- (a) "**Validation Devices**" – the Devices which determine whether a Token permits travel in accordance with the defined Business Rules as set out in Schedule 5.2 (Validation and Access Control) and interact with that Token in relation to the travel journey, which include:
  - (i) Gates including their associated Card Reader (except for those on LO Stations); and
  - (ii) Validators (except for those on LO Stations);
- (b) "**Retail Devices**" – the Devices which enable Customers to purchase Travel Products, which include:
  - (i) Passenger Operated Machines (POMs); and
  - (ii) Retail Terminals (RTs);
- (c) "**Other Devices**" – the Devices which support the operation of Validation Devices, Retail Devices or otherwise support the delivery of the LU Services, which include:
  - (i) Ticket Office Machines (TOMs);
  - (ii) Manual Gates;
  - (iii) Station Control Units (SCUs); and

- (iv) Station Accounting Facility (SAF); and
  - (d) the Ethernet Local Area Network (ELAN) including the Station Computers (SCs).
- 1.2.2 Schedule 5.2 (Validation and Access Control), Schedule 5.3 (Retail) and Schedule 5.4 (Control Systems and Networks) contain the functional specifications for the Validation and Retail Devices, Other Devices and the ELAN.
- 1.2.3 The LU Sites at which the LU Services are delivered vary in scale and in the types of Devices through which the LU Services there are delivered. In order to effectively monitor, manage and report on the performance of the LU Services they have been divided into a number of different measurement categories, as set out in the Schedule of Sites and Zones:
- (a) "**LU Devices**" – this comprises all the Devices to deliver the LU Services at all the LU Sites;
  - (b) "**Station Zone**" – the Devices at each LU Site are logically grouped into one or more Station Zones which reflect the layout and business operating methodology at the LU Site;
  - (c) "**Validation Zone**" – the Validation Devices within each Station Zone are logically grouped into one or more Validation Zones which reflect the layout and business operating methodology in the Station Zone;
  - (d) "**Retail Zone**" – the Retail Devices within each Station Zone are logically grouped into one or more Retail Zones which reflect the layout and business operating methodology in the Station Zone;
  - (e) "**Device Group**" – all of the Devices of the same type within the LU Services;
  - (f) "**Underground Group**" – all of the Devices to deliver the LU Services at LU Sites operated by London Underground;
  - (g) "**Underground Line Group**" – all of the Devices to deliver the LU Services at LU Sites operated by London Underground on a specific London Underground line (e.g. Victoria line, Jubilee line, Metropolitan line);
  - (h) "**Overground Group**" – all of the Gates (excluding their Card Readers) to deliver the LU Services at LU Sites operated by London Overground;
  - (i) "**EAL Group**" – all of the Devices to deliver the LU Services at LU Sites operated by Emirates Air Line; and
  - (j) "**TIC Group**" – all of the Devices at Travel Information Centres,
- each of (e) to (j) above being a "**Group**".

## 2 Performance

### 2.1 Generally

- 2.1.1 The Primary Services are set out in Schedule 4.1 (Service Delivery). Details of the financial impact of the Service Credit and Service Bonus regime are set out in Schedule 12.1 (Charges and the Financial Model).
- 2.1.2 Availability shall be measured during the LU Service Day other than for the TIC Group which shall be measured during the TIC Service Day.
- 2.1.3 The "**LU Service Day**" shall be between 05:00 to 01:00 the following day, seven (7) days per week including Bank Holidays but excluding Christmas Day.
- 2.1.4 The "**TIC Service Day**" shall be between 08:00 to 18:00, seven (7) days per week including Bank Holidays but excluding Christmas Day.
- 2.1.5 In this Schedule where time periods are expressed in Service Hours this shall be measured within the LU Service Day other than for the TIC Group which shall be measured within the TIC Service Day.
- 2.1.6 The measurement of the Availability of any Gate includes the correct functioning of any associated dump valves, air mains and 'Emergency Manual Open' (EMO) circuits.

### 2.2 LU Devices

- 2.2.1 The Availability of the LU Devices shall be the aggregate of the Availability of all the Retail Devices and Validation Devices used to deliver the LU Services at all the LU Sites.
- 2.2.2 The Contractor shall measure and report to TTL on the Availability of the LU Devices each Period in accordance with paragraph 5.
- 2.2.3 The target level for the Availability of the LU Devices each Period for reporting purposes shall be ninety-eight point four per cent (98.4%).
- 2.2.4 Where the Availability of the LU Devices falls below the LU Devices Unacceptable Performance Threshold set out in paragraph 2.2.5, TTL may issue a Major Warning pursuant to Schedule 12.4 (Contract Management).
- 2.2.5 The "**LU Devices Unacceptable Performance Threshold**" shall be ninety-five per cent (95%).

### 2.3 Station Zone

- 2.3.1 Each Station Zone is made up of a number of Validation Devices and Retail Devices (as set out in the Schedule of Sites and Zones). The Availability of each Station Zone shall be the aggregate of the Availability of all Validation Devices and Retail Devices within that Station Zone.
- 2.3.2 The Contractor shall measure and report to TTL on the Availability of each Station Zone each Period in accordance with paragraph 5.

- 2.3.3 The Service Level for the Availability of each Station Zone each Period shall be ninety-eight point four per cent (98.4%).
- 2.3.4 If the Availability of any Station Zone for a Period is greater than the Station Zone Bonus Threshold set out in paragraph 2.3.5, then Service Bonuses as set out in paragraph 3 shall be applied.
- 2.3.5 The "**Station Zone Bonus Threshold**" shall be ninety-eight point six five per cent (98.65%).
- 2.3.6 If the Availability of any Station Zone for a Period is less than the Station Zone Credit Threshold set out in paragraph 2.3.7 then Service Credits as set out in paragraph 3 shall be applied.
- 2.3.7 The "**Station Zone Credit Threshold**" shall be ninety-eight point three per cent (98.3%).
- 2.3.8 Where the Availability of a Station Zone falls below the Station Poor Performance Threshold set out in paragraph 2.3.9 then additional Service Credits as set out in paragraph 3 shall be applied.
- 2.3.9 The "**Station Zone Poor Performance Threshold**" shall be ninety-four per cent (94%).

## 2.4 Validation and Retail Zone

- 2.4.1 The Availability of each Validation Zone shall be the aggregate of the Availability of all Validation Devices within that Validation Zone. The Availability of each Retail Zone shall be the aggregate of the Availability of all Retail Devices within that Retail Zone.
- 2.4.2 The Contractor shall measure and report to TTL on the Availability of each Validation Zone and each Retail Zone each Period in accordance with paragraph 5.
- 2.4.3 The target level for the Availability of each Validation Zone each Period for reporting purposes shall be ninety-eight point four per cent (98.4%).
- 2.4.4 The target level for the Availability of each Retail Zone each Period for reporting purposes shall be ninety-eight point four per cent (98.4%).

## 2.5 Group Availability

- 2.5.1 The Availability of a Group shall be the aggregate of the Availability of all Devices within that Group.
- 2.5.2 The Contractor shall measure and report to TTL on the Availability of each Group each Period in accordance with paragraph 5.
- 2.5.3 Where the Availability of one of the Groups falls below the relevant Group Poor Performance Threshold set out in paragraph 2.5.4 in any Period then TTL may issue a Minor Warning as set out in Schedule 12.4 (Contract Management) requiring the Contractor to:
- (a) ensure that Availability of the relevant Group in the following Period exceeds the relevant Group Poor Performance Threshold set out in paragraph 2.5.4; and

- (b) detail what actions the Contractor shall take and within what time periods to ensure that the Availability is maintained above the relevant Group Poor Performance Threshold in future.

2.5.4 The "**Group Poor Performance Threshold**" for each Group shall be:

- (a) Device Group:
  - (i) Validation Devices: ninety-seven per cent (97%); and
  - (ii) Retail Devices: ninety-six per cent (96%);
- (b) Underground Group: ninety-seven per cent (97%);
- (c) Underground Line Group: ninety-seven per cent (97%);
- (d) Overground Group: ninety-seven per cent (97%);
- (e) EAL Group: ninety-seven per cent (97%); and
- (f) TIC Group: ninety-seven per cent (97%).

## 2.6 Primary Events

2.6.1 The concept of a Primary Event is to recognise that multiple Service Affecting Faults to Devices sometimes occur together at a single location, which creates significant operational problems to Station staff and Customer services.

2.6.2 Any Service Affecting Fault:

- (a) where more than sixty per cent (60%) of the POMs in any Retail Zone are not Available;
- (b) where multiple Gates or Validators in any Validation Zone are not Available such that the Station Customer flows are materially affected as determined by TTL acting reasonably; or
- (c) where the number of Devices in a Retail Zone or Validation Zone as set out in the Schedule of Sites and Zones are not Available,

shall be considered a "**Primary Event**". For the avoidance of doubt, paragraph 2.6.2(c) above shall be the minimum level at which a Primary Event can occur.

2.6.3 Primary Events are triggered against each Retail Zone and Validation Zone, and not against the relevant Station Zone.

2.6.4 If a Primary Event occurs the Contractor shall restore full functionality to the affected Devices within four (4) Service Hours. If the Primary Event continues for more than four (4) Service Hours, Service Credits as set out in paragraph 3 shall be applied. The Contractor shall report each Primary Event and the number of Service Hours taken to restore full functionality to the affected Devices following the Primary Event to TTL each Period in accordance with paragraph 5.

2.6.5 The number of Devices within each Validation Zone or Retail Zone which triggers a Primary Event is set out in the Schedule of Sites and Zones and shall be subject to review by the Parties every six (6) months through discussion and agreement in the

Service Review Meeting and as part of any Variation (if applicable) which affects the relevant Devices. Where the Contractor can demonstrate to TTL's reasonable satisfaction that the overall outcome of the review will result in a material change to the Contractor's costs, such change shall be addressed through a Variation.

## **2.7 Other Device Performance**

- 2.7.1 Where a Service Affecting Fault occurs on an Other Device the Contractor shall repair the Service Affecting Fault and return the Other Device to full operation within the number of Service Hours specified below for that Other Device.
- 2.7.2 In the event of a System Fault to any Ticket Office Machine within an LU Site set out in Appendix 1, the Contractor shall restore full functionality to the Device within eight (8) Service Hours or Service Credits as set out in paragraph 3 shall be applied.
- 2.7.3 In the event of a System Fault to any Ticket Office Machine other than at a Ticket Office Nominated Site, the Contractor shall restore full functionality to the Device within twelve (12) Service Hours.
- 2.7.4 The Contractor shall report each System Fault to any TOM and the period taken to restore Services to the Device to TTL each Period in accordance with paragraph 5.
- 2.7.5 Ticket Office Nominated Sites are subject to review by TTL every six (6) months and as part of any Variation which affects the relevant Devices. TTL shall inform the Contractor of its decision as to whether to amend the Ticket Office Nominated Sites within a reasonable timeframe. Where the Contractor can demonstrate to TTL's reasonable satisfaction that the overall outcome of the review will result in a material change to the Contractor's costs, such change shall be addressed through a Variation.
- 2.7.6 In the event of a System Fault to any SAF or its associated equipment, the Contractor shall restore full functionality to the SAF within eight (8) Service Hours. If the SAF is not restored to full functionality within eight (8) Service Hours, Service Credits as set out in paragraph 3 shall be applied. The Contractor shall report each SAF with a System Fault and the period in which full functionality was restored to TTL each Period in accordance with paragraph 5.
- 2.7.7 In the event of a System Fault to any SCU, the Contractor shall restore full functionality to the SCU within eight (8) Service Hours. If the SCU is not restored to full functionality within eight (8) Service Hours, Service Credits as set out in paragraph 3 shall be applied. The Contractor shall report each SCU with a System Fault and the period in which full functionality was restored to TTL each Period in accordance with paragraph 5.
- 2.7.8 In the event of a System Fault to any Manual Gate the Contractor shall remedy such System Fault within twelve (12) Service Hours or, if a complete replacement of the Manual Gate is necessary, within forty-eight (48) Service Hours.

## **2.8 ELAN**

- 2.8.1 The LU Devices are usually connected by an ELAN which includes the cabling, network switching and routing equipment and the Station Computer. The requirements for the performance of the ELAN are set out in Schedule 4.1 (Service Delivery).

## **2.9 Card Reader Availability**

2.9.1 The Contractor shall measure and report to TTL separately on the Availability for:

- (a) all Card Readers in Validation Devices; and
- (b) all Card Readers in Retail Devices,

used to deliver the LU Services across all LU Sites each Period in accordance with paragraph 5, irrespective of whether the Card Readers are not Available as a result of a System Fault on another Device.

2.9.2 The target level for the Availability of all Card Readers for each Period for reporting purposes shall be ninety-nine point nine per cent (99.9%).

## **2.10 Repeat Failures**

2.10.1 The Contractor shall ensure that no individual Device has more than eight (8) System Faults in any single Period.

2.10.2 In the event that any individual Device has more than eight (8) System Faults in any single Period, the Contractor shall prepare and issue a Corrective Action Plan as set out in Schedule 12.4 (Contract Management).

2.10.3 The Contractor shall report to TTL the number of Devices that have had more than eight (8) System Faults in any single Period in accordance with paragraph 5.

## **2.11 Safety Related Requirements**

2.11.1 The Contractor shall make safe a Critical Failure in accordance with paragraph 2.11.2 within sixty (60) minutes of notification (or seventy-five (75) minutes if the Critical Failure occurs outside Zone 1). The Contractor shall report each Critical Failure and the time taken to make safe such Critical Failure to TTL each Period in accordance with paragraph 5.

2.11.2 The Contractor shall make safe a Critical Failure by ensuring that:

- (a) there is no cause for Customers to be physically harmed in any way in the course of them using the System and/or the Transport Network;
- (b) there is no cause for Operator Personnel to be physically harmed in any way in the course of them discharging any operational duties;
- (c) the area in which the Critical Failure has occurred shall be made clear of any hazards; and
- (d) the Critical Failure area is made safe in accordance with safety Standards as set out in Schedule 9.3 (Standards).

2.11.3 Service Credits as set out in paragraph 3 shall apply if the Critical Failure is not made safe within the time frames as set out in paragraph 2.11.1.

## **2.12 Vandalism**

2.12.1 Graffiti shall not be considered vandalism for the purposes of this Schedule but shall be dealt with in accordance with paragraphs 2.12.2 and 2.12.3.

- 2.12.2 Where graffiti does not affect the functionality of Devices it shall be considered to be "minor" and the Site Operator shall address such instances of graffiti.
- 2.12.3 If graffiti affects the functionality of Devices or the graffiti is deemed by TTL to be offensive or the Parties otherwise agree that it should not be classified as "minor", this shall be a "major" instance of graffiti. For a major instance of graffiti, TTL may request the Contractor to perform works to return the Site affected to normal operation at TTL's cost.
- 2.12.4 The Contractor shall have a clearance time of twenty-four (24) hours including weekends and all Bank Holidays but excluding Christmas Day for the resolution of Minor Vandalism and/or Glass Replacement where such Glass Replacement is able to be made from the Contractor's stock of the relevant glass panel where TTL has been Assured of the adequacy of the levels of such stocks.
- 2.12.5 If Minor Vandalism and/or Glass Replacement is not cleared within twenty-four (24) hours this shall be escalated in accordance with the Escalation Process. In the event of Major Vandalism the Contractor and TTL shall agree in the Daily Status Review Meetings as set out in Appendix 5 to Schedule 4.1 (Service Delivery) a clearance time for the resolution of each incident of Major Vandalism. The Contractor shall remedy the Major Vandalism within such agreed period.

## 3 Service Credits and Bonuses

### 3.1 Calculation of Service Credits and Bonuses

3.1.1 Service Credits and Service Bonuses shall be applied in accordance with the following:

Para.	Event / Criteria	Service Credits	Service Bonuses
2.3.4	Station Zone Availability above the Station Zone Bonus Threshold	N/A	Seven (7) Service Bonuses per zero point two per cent (0.2%) increment
2.3.6	Station Zone Availability below the Station Zone Credit Threshold	Seven (7) Service Credits per zero point two per cent (0.2%) increment	N/A
2.3.8	Station Zone Availability below the Station Poor Performance Threshold	Fifty (50) Service Credits per instance	N/A
2.6.4	Each Primary Event which continues for more than four (4) Service Hours	Six (6) Service Credits for the first Service Hour or part thereof; and Three (3) Service Credits per Service Hour (or part thereof) thereafter	N/A
2.7.2	Failure to restore Services to a TOM with a System Fault at a Ticket Office Nominated Site within eight (8) Service Hours	Three (3) Service Credits per Service Hour or part thereof	N/A
2.7.6	Failure to restore Services to a SAF or its associated equipment with a System Fault within eight (8) Service Hours	One (1) Service Credit per Service Hour or part thereof	N/A
2.7.7	Failure to restore Services to a SCU with a System Fault within eight (8) Service Hours	Three (3) Service Credits per Service Hour or part thereof	N/A
2.11.3	Failure to make safe a Critical Failure within sixty (60) minutes (or seventy-five (75) minutes if the Critical Failure occurs outside of Zone 1)	One (1) Service Credit per Service Hour or part thereof	N/A

3.1.2 The Contractor shall report on Service Credits and Services Bonuses as set out in paragraph 5.

## 4 TTL Obligations

### 4.1 Generally

- 4.1.1 TTL shall be responsible for cleaning the external surfaces of Devices including where there has been an instance of minor graffiti in accordance with paragraph 2.12.2.

### 4.2 Note, ticket and coin jams

- 4.2.1 In the event of a note, ticket and/or coin being jammed in a Device, Operator Personnel shall use reasonable endeavours to attempt to clear the System Fault in the first instance.
- 4.2.2 Where Operator Personnel are unable to clear the System Fault in accordance with paragraph 4.2.1, Operator Personnel shall notify the Level 1 Help Desk and if the Level 1 Help Desk is unable to assist the Operator Personnel to resolve the System Fault, the Contractor shall investigate and resolve the System Fault.
- 4.2.3 Where in accordance with paragraph 4.2.1, Operator Personnel repeatedly clear System Faults on a single Device, the Contractor shall also investigate and resolve any further instances of notes, tickets and/or coins jamming in the same Device (being a Device which can accept notes, tickets and/or coins) occurring within the period from when the first instance occurred to the end of the following LU Service Day. As set out in Schedule 4.1 (Service Delivery) such instances shall be logged as a Service Affecting Fault.

### 4.3 Underground Group

- 4.3.1 TTL shall be responsible for fingertip maintenance of all Devices within the Underground Group which comprises:
- (a) loading ticket stock, receipt paper and printer ribbons;
  - (b) cash servicing including the availability of staff to dump Devices in preparation for System Fault fixing; and
  - (c) undertaking any reasonable request made by the Contractor's Level 1 Help Desk to assist in System Fault resolution which can be carried out by Operator Personnel with due consideration for their level of training and without creating a risk to health and safety.

### 4.4 Overground Group

- 4.4.1 TTL shall be responsible for undertaking any reasonable request made by the Contractor's Level 1 Help Desk to assist in System Fault resolution related to the Overground Group.

### 4.5 EAL Group

- 4.5.1 TTL shall be responsible for fingertip maintenance of all Devices within the EAL Group which comprises:
- (a) loading ticket stock and printer ribbons; and

- (b) undertaking any reasonable request made by the Contractor's Level 1 Help Desk to assist in System Fault resolution which can be carried out by Operator Personnel with due consideration for their level of training and without creating a risk to health and safety.

#### **4.6 TIC Group**

4.6.1 TTL shall be responsible for fingertip maintenance of all Devices within the TIC Group which comprises:

- (a) loading ticket stock and printer ribbons; and
- (b) undertaking any reasonable request made by the Contractor's Level 1 Help Desk to assist in System Fault resolution which can be carried out by Operator Personnel with due consideration for their level of training and without creating a risk to health and safety.

## 5 Reporting

### 5.1 The Service Performance Report

5.1.1 In respect of the LU Services the Contractor shall, as a minimum, report to TTL on the following in each Service Performance Report delivered as set out in Schedule 4.1 (Service Delivery):

Para.	Report
2.2.2	Availability of the LU Services
2.3.2	Availability of each Station Zone, grouped by Underground Group, Overground Group, EAL Group and TIC Group
2.4.2	Availability of each Validation Zone and Retail Zone, grouped by Underground Group, Overground Group, EAL Group and TIC Group
2.5.2	Availability of each Group
2.6.4	List of the instances of Primary Events and in each instance the number of Service Hours taken to restore full functionality to the affected Devices
2.7.4	TOM System Faults and the period taken to restore full functionality to the affect TOMs
2.7.6	SAF System Faults and the period taken to restore full functionality to the affected SAFs
2.7.7	SCU System Faults and the period taken to restore full functionality to the affected SCUs
2.9.1	Availability of all Card Readers separately for Validation Devices and Retail Devices used to deliver the LU Services across all LU Sites
2.10.3	The number of Devices that have had more than eight (8) System Faults in any single Period
2.11.1	Critical Failures and the time taken to make safe such Critical Failure
3.1.2	The specific performance and/or events giving rise to the application of Service Credits and/or Service Bonuses, the number of Service Credits and/or Service Bonuses to be applied in the Period, grouped by Underground Group, Overground Group, EAL Group and TIC Group

5.1.2 Each report set out in the table above shall be provided in respect of the Period prior to the date of provision of the Service Performance Report, unless otherwise specified by TTL.

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## Appendix 1 – Ticket Office Nominated Sites

The table below sets out the LU Sites which are Ticket Office Nominated Sites, as at the Date of Contract.

Ealing Broadway	Stratford	Heathrow (123)	Wembley Central	Hammersmith
Finsbury Park	Piccadilly Circus	Oxford Circus	Tottenham Court Road	Bond Street
Baker Street	Leicester Square	Bank	Blackfriars	Liverpool Street
Kings Cross St Pancras	Euston	Green Park	Paddington	Victoria
Waterloo	Charing Cross	Embankment	Canary Wharf	Farringdon