



Business Operations Agreement

Schedule 2

Management Information System (MIS) Statement of Requirements

Service Operations Directorate
Transport for London
4th Floor, Palestra
197 Blackfriars Road
Southwark London SE1 8NJL

Copyright on the whole and every part of this document is owned by Transport for London. No reproduction of the whole or any part of this document is to be made without the authority of Transport for London. This document is confidential to Transport for London. No part of this document or information contained in this document may be disclosed to any party without the prior consent of Transport for London.

Table of Contents

Appendices.....	3
Statement of requirements.....	4
Introduction.....	6
1 Management information systems.....	7
1.1 General.....	7
1.2 Performance Indicator, Operational Chargeable Process and Financial Reporting.....	7
1.3 Ad Hoc Reporting	8
1.4 System Design	10
1.5 Testing.....	11
1.6 Service Management.....	14
1.7 Financial Data.....	15
1.8 User Requirements.....	16

APPENDICES

Appendix 03: Volumetrics

Appendix 11: Data Retention

Appendix 13: Interface Catalogue

Appendix 14: MIS Data Requirements Overview

STATEMENT OF REQUIREMENTS

This document, along with its appendices, is part of Schedule 2 (Statement of Requirements) of the Business Operations Agreement. Schedule 2 provides the requirements for the Business Operations, MIS, Finance, Interoperability, VoSI and General Service Elements.

This document should be read in conjunction with other component documents of the Agreement as these play an integral part in understanding the requirements set out in this document.

Definitions of terms used in this document are contained in Schedule 1: Definitions.

In meeting the Requirements set out in this Schedule 2: Statement of Requirements (MIS) the Service Provider shall, at all times, ensure that the Requirements are delivered in accordance with Clause 4 (*TfL Objectives*) of this Agreement.

The structure and layout of this document is ordered into sections. Each section has a heading with an introductory statement. This is followed by sub-headings containing requirements. Each requirement has two rows containing the following information (see example of layout of Statement of Requirements):

- Requirement number;
-
- Mandatory; and
- Requirement detail.

Example of Layout of Statement of Requirements

M1.1.1		Mandatory
Individual requirements are located from here onwards.		

The Requirement number indicates the number of the individual Requirement and is made up of one (1) letter and three (3) numbers. The letter indicates the Statement of Requirements to which this requirement relates to (e.g. M = MIS). The first number relates to the section number, the second number relates to the sub-section and the third number relates to the Requirement number within that sub-section.

The Service Provider shall ensure that a mandatory Requirement is met.

Where a new requirement has been created it may have a letter added at the end of the requirement number, for example F 4.1.1b. The letter has been added to the requirement to ensure correct sequencing; it does not indicate a sub-requirement.

INTRODUCTION

The MIS is a centralised Management Information System which provides TfL and the Service Provider with an end-to-end reporting function across all aspects of the operation.

The MIS solution shall allow complex analytical queries to be produced efficiently by TfL via a secure web-based client access tool.

The MIS shall be; clearly defined with appropriate supporting documentation; comprehensive enough to source all pre-defined reports and any reasonably foreseeable Ad Hoc Reports; flexible enough to cope with changes and additions to the Scheme(s); and robust enough to provide a consistent, complete and accurate set of Data on a daily basis.

The MIS shall source Data directly from the other Service Systems to ensure a consistent set of Data between the front-end operational processes and the back-end reporting functions.

The appropriate use of common identifiers and primary keys is required to ensure the MIS is stable and efficient.

The MIS shall be used by the Service Provider to produce defined Performance Indicator Reports, Operational Chargeable Process Reports and Financial Reports (which shall be verifiable via the MIS by TfL), as well as allowing authorised TfL users to create Ad Hoc Reports as required (on either a regular or one-off basis).

The Service Provider shall involve TfL during the early design stages of the MIS to ensure that it meets TfL's requirements. The MIS shall be fully Tested and made available prior to the Operational Commencement Date for report development purposes.

During the Operational Phase, the MIS shall be appropriately maintained and supported, with prompt identification, communication and resolution of any MIS Data failures or inconsistencies.

1 MANAGEMENT INFORMATION SYSTEMS

1.1 General

The MIS shall provide both TfL and the Service Provider with an integrated source of Data that can be used for regular and ad hoc reporting.

M1.1.1.

Mandatory

The Service Provider shall provide a Management Information System (the MIS) for use by TfL and the Service Provider.

M1.1.2.

Mandatory

The Service Provider shall ensure that the MIS is a single integrated source of Data to be used by the Service Provider and TfL.

M1.1.3.

Mandatory

The Service Provider shall ensure that the MIS is used as the sole Data source for the following report types:

- Performance Indicator Reports;
- Operational Chargeable Process Reports;
- Financial Reports; and
- any reasonably foreseeable Ad Hoc Reports.

M1.1.4.

Mandatory

The Service Provider shall provide comprehensive technical and user documentation to support the understanding and operation of the MIS in accordance with Schedule 3: Milestones and Deliverables.

M1.1.5.

Mandatory

The Service Provider shall, as part of the user documentation described in requirement M1.1.4, provide TfL with a documented reporting Schema and Data Dictionary to support the use of the MIS for non-technical users.

M1.1.6.

Mandatory

The Service Provider shall ensure that the reporting Schema and Data Dictionary documentation described in requirement M1.1.5 is updated and submitted to TfL whenever changes are made to the MIS, within four (4) weeks of the changes being released into the production environment.

M1.1.7.		Mandatory
---------	--	-----------

The Service Provider shall ensure that the MIS receives, stores and processes the high-level categories of Data as set out in Appendix 14: MIS Data Requirements Overview. During the Implementation Phase, detailed Data requirements shall be defined, developed and submitted to TfL for Approval by the Service Provider.

M1.1.8.		Mandatory
---------	--	-----------

The Service Provider shall migrate historic MIS Data from the Incumbent Service Provider and any other legacy data sources in accordance with section 9, Schedule 2: Statement of Requirements (General).

M1.1.9.		Mandatory
---------	--	-----------

The Service Provider shall provide evidence of the process used to generate any automated report output on request from TfL at any time.

M1.1.10.		Mandatory
----------	--	-----------

The Service Provider shall ensure that TfL can witness the production of any MIS report at any time in accordance with Schedule 4: Testing Regime.

M1.1.11.		Mandatory
----------	--	-----------

The Service Provider shall retain all MIS Data and reports in accordance with Appendix 11: Data Retention.

1.2 Performance Indicator, Operational Chargeable Process and Financial Reporting

The Service Provider shall provide several defined Reports to an agreed specification and within an agreed regular delivery timetable. This section outlines the requirements for the design, production and verification of these defined Reports.

M1.2.1.		Mandatory
---------	--	-----------

The Service Provider shall use the MIS as the sole Data source to create the Performance Indicator Reports for TfL in accordance with Schedule 5: Service Level Agreement.

M1.2.2.		Mandatory
---------	--	-----------

The Service Provider shall provide all Performance Indicator Reports for each month within the timescales outlined in Schedule 5: Service Level Agreement.

M1.2.3.		Mandatory
---------	--	-----------

The Service Provider shall ensure that TfL can verify all Performance Indicator Reports using the MIS.

M1.2.4.		Mandatory
---------	--	-----------

The Service Provider shall use the MIS as the sole Data source to create the Operational Chargeable Process Reports for TfL in accordance with Schedule 7: Charging and Operational Pricing.

M1.2.5.		Mandatory
---------	--	-----------

The Service Provider shall provide all Operational Chargeable Process Reports for each month within the timescales outlined in Schedule 7: Charging and Operational Pricing.

M1.2.6.		Mandatory
---------	--	-----------

The Service Provider shall ensure that TfL can verify all Operational Chargeable Process Reports using the MIS.

M1.2.7.		Mandatory
---------	--	-----------

In accordance with Schedule 32: Revenue Collection and Payment (Annex A: Financial Reports), the Service Provider shall:

- make the specified Financial Reports available in the MIS with drill down facility; and
- publish the specified Financial Reports in the MIS one day after the frequency date.

M1.2.8.		Mandatory
---------	--	-----------

The Service Provider shall provide all Financial Reports for each reporting Period within the timescales outlined in Schedule 32: Revenue Collection and Payment and Schedule 10: Contract Management and Reporting.

M1.2.9.		Mandatory
---------	--	-----------

The Service Provider shall ensure that the Financial Reports made available in the MIS with drill down facility, in accordance with Schedule 32: Revenue Collection and Payment (Annex A: Financial Reports), can be verified by TfL using the MIS.

M1.2.10.		Mandatory
----------	--	-----------

The Service Provider shall produce functional specifications for each of the defined

Performance Indicator Reports, Operational Chargeable Process Reports and Financial Reports. The Service Provider shall ensure that the proposed features and specifications are Approved by TfL prior to being implemented and when submitting these for Approval shall include explanations of how the Reports are constructed, including:

- the source of the Data;
- the logic and approach used to obtain the Data;
- any constraints or exclusions applied to the Data;
- any transformation applied to the Data, including calculations and business rules applied to the Data;
- the presentation of the Data;
- the process and tools used to generate the report; and
- any input parameters to the report and report frequency if generated automatically.

M1.2.11.		Mandatory
<p>The Service Provider shall use MIS to specify, design, build and Test all new and amended Performance Indicator Reports, Operational Chargeable Process Reports and Financial Reports. The Service Provider shall ensure that the proposed features and functionality of the Reports are Approved by TfL prior to being implemented.</p>		

1.3 Ad Hoc Reporting

In addition to the defined Reports set out in section 1.2 above, the Service Provider shall ensure that the MIS allows authorised TfL users to create Ad Hoc Reports at any time. In exceptional circumstances, Data may be requested that cannot be sourced solely from the MIS. In these cases, the Service Provider shall create an Ad Hoc Report to satisfy the Data request using alternative source(s).

M1.3.1.		Mandatory
<p>The Service Provider shall ensure that the MIS allows authorised TfL users to write, change and store Ad Hoc Reports.</p>		

M1.3.2.		Mandatory
---------	--	-----------

The Service Provider shall ensure that the MIS allows authorised TfL users to obtain all underlying transactional Data from which summarised Data is derived.

M1.3.3.

Mandatory

The Service Provider shall ensure that the MIS allows authorised TfL users to reference user data sets in Microsoft Excel (version 2007 and above) in conjunction with MIS Data, for the purpose of generating Ad Hoc Reports.

M1.3.4.

Mandatory

The Service Provider shall provide TfL with Ad Hoc Reports upon request from TfL and at no additional cost to TfL. This will only apply where part or all of the data required is not available via the MIS.

M1.3.5.

Mandatory

The Service Provider shall deliver new Ad Hoc Reports to TfL within forty eight (48) hours of TfL's request for the same, unless otherwise agreed with TfL (for example where an urgent Ad Hoc Report is required more quickly or where the Service Provider can reasonably demonstrate that due to the complexity of a report it requires more time for delivery).

M1.3.6.

Mandatory

The Service Provider shall provide Intra-Day Reporting of live data to TfL, from the Service System(s), on an exceptional basis on request or within the timescales stipulated by TfL.

1.4 System Design

The MIS shall be designed to produce efficient and consistent Data. The functionality of the MIS shall include a regular ETL update, the ability to produce dashboard and other automated reports, a mechanism for report scheduling and automated report delivery and the ability to export Data in a variety of formats. Scalability and flexibility need to be considered during system design.

M1.4.1.

Mandatory

The Service Provider shall design the MIS to ensure the completeness, consistency and accuracy of the Data loaded, efficiency of Data retrieval, and reliability and robustness of

the system.

M1.4.2.

Mandatory

The Service Provider shall ensure that the MIS solution allows for all analysis and reports to be executed within four (4) hours or such other time period as agreed with TfL from time to time.

M1.4.3.

Mandatory

The Service Provider shall select a COTS MIS Query and Reporting Tool. The Service Provider shall ensure that the proposed features and functionality of such tool are Approved by TfL prior to being implemented.

M1.4.4.

Mandatory

The Service Provider shall ensure that the MIS can be used for reporting and analysis without affecting the performance of any other Service System

M1.4.5.

Mandatory

The Service Provider shall ensure that the MIS has the functionality to provide Dashboard Reporting.

M1.4.6.

Mandatory

The Service Provider shall ensure that the MIS has the functionality to provide automated scheduled report delivery for regular reporting at a Parameterised frequency.

M1.4.7.

Mandatory

The Service Provider shall ensure that the MIS has the functionality to enable authorised TfL users to:

- schedule and execute reports at any time;
- select the option for an automatically generated email notification, confirming that the report has been completed, to be sent to an email address (or email addresses) entered by the TfL user in a free form email address field; and
- select the option for an automatically generated email, containing a copy of the completed report (where the report is non-customised and can be exported as a flat file in Excel, CSV or PDF format), to be sent to an email address (or email addresses) entered by the TfL user in a free form email address field.

M1.4.8.

Mandatory

The Service Provider shall ensure that the MIS provides the functionality for TfL users to export Data from the MIS in a wide range of formats, including Microsoft Excel, CSV and PDF, and that these formats are compatible with versions of the software used by TfL

from time to time.

M1.4.9.

Mandatory

The Service Provider shall ensure that Data which has been exported from the MIS can be saved directly to TfL network drives in accordance with the Interface described in Appendix 13: Interface Catalogue.

M1.4.10.

Mandatory

The Service Provider shall ensure that the MIS publishes consistent Data to all users of MIS at all times.

M1.4.11.

Mandatory

The Service Provider shall ensure that the format and structure for MIS Data is Approved by TfL prior to implementation.

M1.4.12.

Mandatory

The Service Provider shall ensure that by 07:00 each calendar day, the MIS accurately reflects all Data up to midnight the previous calendar day. The Service Provider shall ensure that any failure in this daily update process causes a MIS Incident to be raised in accordance with Schedule 5: Service Level Agreement.

M1.4.13.

Mandatory

The Service Provider shall provide a mechanism for determining all changes that have occurred to the Service System(s) and providing this information to the MIS. For the avoidance of doubt this information shall include all intra-day changes to the Data, such as a change to the status of an Auto Pay account (e.g. Active -> Suspended -> Active).

M1.4.14.

Mandatory

The Service Provider shall ensure that the MIS is available for use by TfL and the Service Provider at all times except within the timescales stipulated by TfL for the purposes of system maintenance and modification and also in accordance with Schedule 5: Service Level Agreement.

M1.4.15.

Mandatory

If the MIS cannot be accessed by TfL users, for any continuous period of longer than four (4) hours, the Service Provider shall (at no cost to TfL) provide TfL with required reports.

M1.4.16.

Mandatory

The Service Provider shall ensure that the MIS has Capacity to manage the Data volumes outlined in Appendix 3: Volumetrics.

M1.4.17.		Mandatory
The Service Provider shall ensure that the MIS has the functionality to be scalable in accordance with Schedule 2: Statement of Requirements and Appendix 3: Volumetrics.		

M1.4.18.		Mandatory
The Service Provider shall design and consistently maintain the MIS so that it reflects any changes to the other Service Systems.		

M1.4.19.		Mandatory
The Service Provider shall ensure that the MIS has the functionality to incorporate new Data sources upon request from TfL.		

M1.4.20.		Mandatory
The Service Provider shall ensure that the MIS operates in accordance with TfL approved security procedures as set out in Schedule 14: Security to safeguard all MIS Data.		

M1.4.21.		Mandatory
The Service Provider shall ensure that all users are assigned appropriate levels of access to the MIS, and that access to Data is controlled in accordance with Schedule 14: Security.		

1.5 Testing		
To ensure that the MIS meets TfL's requirements, thorough Testing will be carried out on all MIS processes with any resulting issues being resolved prior to the Operational Commencement Date. Authorised TfL users shall be involved throughout such Testing and shall have the opportunity to design and test required reports.		

M1.5.1.		Mandatory
The Service Provider shall ensure that all MIS processes are Tested in accordance with Schedule 4: Testing Regime.		

M1.5.2.		Mandatory
The Service Provider shall ensure that the MIS, including relevant test data, is made available to authorised TfL users prior to the Operational Commencement Date to allow time for TfL to develop and test all relevant reports, in accordance with Schedule 3: Milestones and Deliverables.		

M1.5.3.		Mandatory
---------	--	-----------

The Service Provider shall provide MIS technical support to authorised TfL users throughout the Testing period.

M1.5.4.

Mandatory

The Service Provider shall remedy all software bugs, issues, errors and omissions identified during Testing before the MIS is released into the production environment, unless otherwise agreed in writing by TfL.

1.6 Service Management

The Service Provider shall monitor all automated MIS processes with any Incidents and Defects being logged and tracked via an agreed Incident management process. Support personnel shall maintain and administrate the MIS and provide assistance to authorised TfL users as required.

M1.6.1.

Mandatory

The Service Provider shall, using an automated tool, monitor and log all automated MIS processes, including but not limited to the following:

- ETL;
- Reports; and
- operational maintenance processes.

The Service Provider shall ensure that all Incidents and Defects are processed in accordance with section 6, Schedule 2: Statement of Requirements (General).

M1.6.2.

Mandatory

The Service Provider shall provide a system to record, track, communicate and resolve Incidents relating to the MIS in accordance with section 6, Schedule 2: Statement of Requirements (General).

M1.6.3.

Mandatory

The Service Provider shall correct any erroneous and/or incomplete MIS Data, including historical Data which relates to the period on or after the Operational Commencement Date. All such changes to MIS Data must be authorised by TfL in advance (in writing) and logged for audit purposes.

M1.6.4.

Mandatory

The Service Provider shall manage all functional changes to the MIS, including a rigorous Testing and assurance process before release of changes into the production environment.

M1.6.5.		Mandatory
The Service Provider shall provide competent MIS support personnel to maintain and administrate the MIS. These Personnel should be fully involved from the Implementation Phase through to the Operational Phase.		

M1.6.6.		Mandatory
The Service Provider shall ensure that the MIS support personnel shall be available to authorised TfL users during Working Hours.		

1.7 Financial Data		
The Service Provider shall ensure that all reconciled Financial Data is available via the MIS.		

M1.7.1.		Mandatory
The Service Provider shall ensure that the Master Key(s) included in financial transactions are made available in the MIS.		

M1.7.2.		Mandatory
The Service Provider shall ensure that all Financial Data contained in the Service Systems is integrated into the MIS.		

M1.7.3.		Mandatory
The Service Provider shall notify TfL and resolve any reconciliation differences between Financial Data in the MIS and Financial Data in the Finance System immediately.		

M1.7.4.		Mandatory
The Service Provider shall ensure that Financial Data sourced from the Service Systems is synchronised with the MIS.		

M1.7.5.		Mandatory
The Service Provider shall ensure that the Finance System(s) reconcile all Financial Data with the MIS at the Parameterised frequency specified by TfL from time to time.		

M1.7.6.		Mandatory
The Service Provider shall reconcile Financial Data with the MIS at the Parameterised frequency specified by TfL from time to time.		

1.8 User Requirements

The MIS shall provide secure, concurrent access for multiple trained users based at several locations. The Service Provider shall ensure that access for each MIS user type is controlled and maintained.

M1.8.1.

Mandatory

The Service Provider shall provide concurrent access for all users of the MIS at all times.

M1.8.2.

Mandatory

The Service Provider shall provide licenses and access for twelve (12) authorised TfL users of the MIS in accordance with Schedule 14: Security.

M1.8.3.

Mandatory

The Service Provider shall ensure that the MIS has the functionality to add additional TfL users upon request from TfL.

M1.8.4.

Mandatory

The Service Provider shall provide necessary training and documentation to authorised TfL users to enable them to develop and test any required reports prior to and during Acceptance Testing of the MIS.

M1.8.5.

Mandatory

The Service Provider shall provide authorised TfL users with remote web-based client access to the MIS in accordance with Schedule 14: Security.

M1.8.6.

Mandatory

The Service Provider shall ensure that the MIS is accessible from the following locations:

- all TfL offices;
- secure remote access via TfL Systems;
- Service Provider UK Premises; and
- all UK premises used by TfL and the Service Provider for business continuity purposes.

M1.8.7.

Mandatory

The Service Provider shall ensure that the MIS has the functionality to accommodate several user types including:

- 6 x TfL MIS User – read-only access to all underlying transactional Data, ability to create simple ad hoc queries/regular reports/dashboards and the ability to schedule reports; and
- 6 x TfL MIS Advanced User – read-only access to all underlying transactional Data, ability to create complex ad hoc queries/regular reports/dashboards and publish these reports to public areas for use by other MIS users, ability to schedule reports and the ability to reference user data sets.