

GREATER**LONDON**AUTHORITY

Dated: 1st April 2017

GREATER LONDON AUTHORITY

and

LONDON FIRE AND EMERGENCY PLANNING AUTHORITY

and

LONDON LEGACY DEVELOPMENT CORPORATION

and

MAYOR'S OFFICE FOR POLICING AND CRIME

and

LONDON PENSIONS FUND AUTHORITY

GIS INVESTMENT STRATEGY 2017-18

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GIS Investment Strategy 2017-18

This investment strategy applies to investments pooled under GIS 1 (short term liquidity) and GIS 2 (strategic reserves)

Limits and Compliance

- 1.0 All limits, unless explicitly stated otherwise, refer to the composition of the daily balance of the GIS; for compliance purposes, all limits will be assessed daily.
- 2.0 The making of any investment which causes a breach of limits is not permitted and constitutes an **active exception**.
- 3.0 **Active exceptions of any size will be reported immediately** upon identification to the CIO, Syndics and their nominated substitutes. Relevant committees or boards will be notified as specified in each Participant's TMSS.
- 4.0 Additionally, breaches of daily limits may occur due to changes in the GIS balance or the credit assessment of existing investments, including the credit status of the country of domicile. Such an occurrence constitutes a **passive exception**. Passive exceptions will be reported immediately to the CIO, the GLA's statutory CFO and his deputy. Subsequent reporting will be threshold based as follows:

Passive Exception Level (lower of)	Temporary: ≤ 3 consecutive days	Persistent: >3 days
<5% or £25m	Logged and reported quarterly to Syndics within 1 month of quarter end	Logged and reported quarterly to Syndics within 1 month of quarter end
5-10% or £50m	Logged and reported quarterly to Syndics within 1 month of quarter end	Reported to Syndics immediately
>10% or £50m	Reported to Syndics immediately	Reported to Syndics immediately

The percentage limits above apply to total daily balance of the GIS or the total number of days in the case of limits expressed as days.

- 5.0 As an additional, prudent measure, forward looking diversification limits for new, internally-managed investments shall be maintained. These limits **apply to the forecast average GIS balance over the life of the investment being considered**; for operational expediency the forecasts shall be

produced up to the last day of the following maturity ‘buckets’ given in days and limits applied accordingly:

O/N	2	8	31	61	91	12	151-	181-	211-	241-	271-	301-	331-	398-
	-	-	-	-	-	-	180	210	240	270	300	330	397	730
	7	30	60	90	120	150								

- 6.0 If an investment is made in breach of these forward-looking limits, it is an active breach of investment strategy and will be reported per 3.0. Where changes in cash flow forecasts or counterparty and/or instrument status result in forward-looking limits being exceeded by existing investment positions, the CIO will be notified, who may then modify investment tactics to reduce the likelihood of a passive exception as defined in 4.0 occurring. Such an occurrence does not constitute an exception of any kind and need not be reported further.
- 7.0 Mitigating actions for all breaches will in the first instance be taken at the discretion of the CIO (or the GLA’s statutory CFO, or his deputy). Such decisions must be supported by an analysis of the costs and benefits of attempting to reduce the overexposure in question versus tolerating it. In all cases a file note of the decision will be retained and circulated to the Syndics. A majority of the Syndics may instruct alternative action.

Risk Appetite Statement

- 8.0 Capital preservation is the primary GIS objective at the portfolio level, followed by provision of liquidity to meet Participants’ cash flow needs.
- 9.0 In order to deliver best value on public funds, the Participants are prepared to take some investment risk to the extent outlined below, where such risk is rewarded by yields above UK government securities held to maturity.
- 10.0 The risk of loss through default in the entire portfolio (or any subsection delegated to an external manager) should not exceed risk of loss through default equivalent to a 1 year exposure to a typical AA- rated issuer.
- 11.0 No individual instrument/investment should pose a greater risk of loss through default than a 90 day exposure to a typical BBB issuer.
- 12.0 The Participants will tolerate price volatility where there is an expectation of holding an investment to maturity; where the expectation is that sale before maturity is likely or where the investment is in

a variable NAV fund, the combined risk of loss through default and crystallised falls in price should not exceed the risk tolerance specified in 10.0.

- 13.0 This strategy sets out risk controls and limits that, in the opinion of the Participants, deliver these objectives.
- 14.0 Alternative controls and limits, save for the overarching requirements of 15.0-17.0 and 21.0, may be used by external managers appointed in accordance with 18.0, if those limits are judged by the Syndics, on the advice of the CIO or other independent professional advice, to be appropriately effective.

Permissible Investments

- 15.0 All investments must be Sterling-denominated financial instruments
- 16.0 Specified Investments (i.e. 'low risk' instruments as defined by Statutory Guidance) shall constitute at least 50% of the portfolio at any time.

17.0 Approved Specified (S) and non-Specified (NS) Investments:

Investment type	Eligibility criteria	≤ 1 year to maturity at time of investment	> 1 year to maturity at time of investment	Maximum total exposure as a proportion of daily balance
Senior Unsecured Debt <ul style="list-style-type: none"> • UK Gilts and T-Bills • Deposits • Call Accounts • Notice Accounts • Certificates of Deposit • Loans • Commercial Paper • All other senior unsecured bonds 	<p>Issuer (and security where separately rated) Investment Grade (IG) defined per 36.0</p> <p>OR</p> <p>UK Government (including the Debt Management Account Deposit Facility, Local Authorities and bodies eligible for PWLB finance)</p> <p>OR</p> <p>Issuer not meeting general criteria but instruments explicitly guaranteed by IG entity or sovereign national government meeting acceptable sovereign ratings per 32.0</p>	S	NS	100%
Constant Net Asset Value Money Market Funds	<p>Fitch AAA_{mmf} or above</p> <p>See 36.0 for equivalents from other agencies.</p> <p>Daily liquidity</p>	S	N/A	<p>100%</p> <p><i>Not more than 20% per fund</i></p>
Other Collective Investment Schemes structured as Open Ended Investment Companies (OEICs)	<p>Fitch AAA_f</p> <p>or equivalent from other agencies per 36.0</p>	NS	<i>Not permitted.</i>	20%

Investment type	Eligibility criteria	≤ 1 year to maturity at time of investment	> 1 year to maturity at time of investment	Maximum total exposure as a proportion of daily balance
Senior UK Prime or Buy to Let Residential Mortgage Backed Securities (RMBS)	Bond rating Fitch AA+ _{sf} or above or equivalent from other agencies per 36.0	NS	NS	20%
Covered bonds	Bond rating Fitch AA+ _{sf} or equivalent from other agencies per 36.0 AND Issuer rated Fitch A- or above or equivalent from other agencies per 36.0	NS	NS	20%
Repurchase Agreements (Repo)	Counterparty meets senior unsecured criteria AND proposed collateral (Min 100%) itself meets permitted investment criteria Or Collateralisation is >102% with UK Gilts / T-Bills	S – UK gilts or T-Bills AND Counterparty meets senior unsecured criteria NS – other	<i>Not permitted.</i>	S – 100% NS – 20%, and not more than 10% with counterparties not meeting senior unsecured criteria.

18.0 The Syndics may delegate the management of a portion, not exceeding the forecast minimum GIS balance for the next 12 months, of the GIS to external fund managers if this is deemed prudent.

Liquidity and Maturity Limits

19.0 Portfolio Weighted Average Maturity (WAM) ≤ 91days (GIS 1) ; ≤ 3 years (GIS 2)

[Maturity here refers to the final expected maturity or if relevant the first call option of the instrument; in the case of funds the maturity will be the redemption period; in the case of call or notice accounts, the notice period].

20.0 Sub-portfolio (managed by an external manager) WAM \leq 3years

Individual maturity limit, internally managed instruments: \leq 2 years

[In the exceptional event of the internal team taking possession of repo collateral, e.g. gilts that exceed this limit, the expectation is that these will be sold at the earliest opportunity, subject to market conditions]

21.0 Individual maturity limit, externally managed instruments: \leq 5 years

[Note – in the case of RMBS these limits apply to the date by which all principal is expected to be received, based on analysis of the underlying mortgage pool and indicated call dates – the legal maturity date, based on the longest dated mortgage in the relevant pool, is not limited given the extremely low probability of the bond failing to be repaid by that time;

In the case of covered bonds, these limits apply to the expected maturity date, which may not include the exercise of the extension option]

22.0 Limit for total exposure >12months: \leq 25% of total daily balance.

23.0 Forward Dealing limit: aggregate value of outstanding forward deals \leq 20% of daily balance; forward deals must not be struck with an individual counterparty if the limit forecasts defined in 5.0 indicate this is likely to cause an exception. See also 42.0 for credit risk management of forward deals.

[The GIS defines 'forward' as negotiated more than 4 banking days in advance of delivery. The CIO may make exceptions to this limit where the counterparty is a GIS Participant and the forward period is less than 3 months]

24.0 Internally managed investments should only be made where GIS cash flow forecasts or best estimates suggest the instrument may be held to maturity. Externally managed investments may be purchased with lower certainty subject to the provisions of 12.0

Counterparty Concentration Limits

(Apply individually and cumulatively to groups)

25.0 The total exposure to a group of companies (a parent company and any subsidiaries, i.e. companies of which it owns 20% or more of authorised share capital) shall not exceed the maximum individual exposure limit of the constituents of the group.

26.0 Maximum unsecured exposure to company or group: $\leq 5\%$ (subject to enhancements below)

27.0 Enhanced limits apply for UK Government (including the Debt Management Account Deposit Facility, Local Authorities and bodies eligible for PWLB finance) and institutions covered by Capita's Colour Banding Methodology:

Cash Exposure Limits – applied to individual counterparties		
Band	Overnight	> 1 day
UK Sovereign	100%	100%
Yellow	50%	25%
Purple	50%	20%
Orange	25%	15%
Red	25%	10%
Green	10%	5%
No Colour	5%	5%

28.0 The Bands above are calculated based on a range of credit ratings data, including published rating Watches and Outlooks. Where the price of 5 year Credit Default Swaps for a given counterparty exceeds barrier levels proposed by Capita with regard to market history, the Band will normally be adjusted downwards. The CIO may postpone such adjustments in consultation with the Syndics, for instance, if it is felt that changes in CDS prices do not reflect an increase in the individual credit risk of a particular counterparty.

29.0 Additionally, an enhanced overnight limit of 100% applies to the GIS banker, RBS.

30.0 If, in the judgement of the Chief Investment Officer, the structure of a bond associated with a local authority is such that the credit risk is not identical to a bilateral loan with that authority, the rating of the bond itself will be used and the 5% limit will apply.

31.0 Maximum aggregate exposure including indirect or collateralised exposures:

Security Type	Cumulative Enhancement
Non-specified Repo	2.5%
Covered Bond	5%
RMBS	7.5%
Specified Repo	10%

[These enhancements are cumulative so the maximum possible total enhancement is 10% above is the counterparty's senior unsecured limit]

Geo-political risk limits [under review]

32.0 Maximum exposures to non-UK institutions apply by country, based on the relevant sovereign ratings outlined in the table below:

Max. Aggregate Exposure (%)	Fitch Sovereign Rating	S&P Sovereign Rating	Moody's Sovereign Rating
25	AAA	AAA	Aaa
15	AA+	AA+	Aa1
5	AA	AA	Aa2

33.0 Where more than one rating is available the lowest common denominator will be used, unless in the opinion of the CIO there is an overriding reason to favour or disregard a particular agency's view. The use of this discretion will be reported immediately to the Syndics.

34.0 If 5y CDS spreads for the relevant country's central government bonds exceed barrier levels from time to time agreed by the Syndics on the advice of Capita or the CIO, the aggregate exposure limit will normally be reduced to that of the lower rating, or in the case of a AA sovereign, further investment will be suspended. The CIO may postpone such adjustments in consultation with the Syndics.

35.0 The Participants recognise that the approach above does not perfectly mitigate geopolitical risks, therefore the CIO is empowered to suspend investment in any particular country should concerns arise. The use of this discretion will be reported immediately to the Syndics.

Credit Risk Limits

36.0 Permitted issuer credit ratings and equivalence mappings

Senior Unsecured Bond and/or Issuer Ratings					
Long term			Short term		
Fitch	Moody’s	S&P	Fitch	Moody’s	S&P
AAA	Aaa	AAA			
AA+	Aa1	AA+			
AA	Aa2	AA	F1+	P-1	A-1+
AA-	Aa3	AA-			
A+	A1	A+			
A	A2	A	F1	P-1	A-1
A-	A3	A-			
BBB+	Baa1	BBB+			
BBB	Baa2	BBB	F2	P-2	A-2
Structured Finance Ratings					
Fitch		Moody’s		S&P	
AAA _{sf}		Aaa (sf)		AAA (sf)	
AA+ _{sf}		Aa1(sf)		AA+ (sf)	
Money Market Fund Ratings					
Fitch		Moody’s		S&P	
AAA _{mmf}		Aaa-mf		AAAm	
Other Permitted Fund Ratings					
Fitch		Moody’s		S&P	
AAA _f		Aaa-bf		AAAf	

37.0 Where more than one rating is available the lowest common denominator will be used, unless in the opinion of the CIO there is an overriding reason to favour or disregard one particular agency's view. The use of this discretion will be reported immediately to the Syndics.

38.0 For internally managed investments Credit Factors will also be calculated individually and Portfolio Credit Factor (PCF) on a book value weighted average basis with reference to the following tables:

Credit Factors based on Issuer Default Rating (Fitch and Fitch Equivalents)
Use instrument rating or if not rated, rating of Issuer.

Days	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB
O/N	0.01	0.01	0.01	0.01	0.02	0.03	0.04	0.07	0.10
2-7	0.02	0.04	0.06	0.10	0.15	0.20	0.30	0.50	0.80
8-30	0.10	0.15	0.25	0.40	0.60	0.75	1.30	2.10	3.50
31-60	0.20	0.30	0.50	0.80	1.20	1.50	2.60	4.20	7.00
61-90	0.25	0.50	0.75	1.25	1.50	2.50	5.00	7.50	10.00
91-120	0.35	0.65	1.00	1.50	2.30	3.30	6.60	10.00	13.50
121-150	0.40	0.80	1.25	2.10	2.90	4.20	8.30	12.50	16.50
151-180	0.50	1.00	1.50	2.50	3.50	5.00	10.00	15.00	20.00
181-210	0.60	1.20	1.75	3.00	4.00	5.80	11.70	17.50	23.50
211-240	0.70	1.30	2.00	3.30	4.70	6.60	13.30	20.00	27.00
241-270	0.75	1.50	2.25	3.75	5.25	7.50	15.00	22.50	30.00
271-300	0.80	1.70	2.50	4.20	5.80	8.30	16.70	25.00	33.50
301-330	0.90	1.85	2.75	4.60	6.50	9.20	18.50	27.50	37.00
331-397	1.00	2.00	3.00	5.00	7.00	10.00	20.00	30.00	40.00
398-730	2.70	5.30	8.00	13.00	19.00	27.00	43.00	69.00	106.00

Other treatments	
UK Government (including the Debt Management Account Deposit Facility, Local Authorities and bodies eligible for PWLB finance)	<p>Treat as AAA above</p> <p>Except:</p> <p>If, in the judgement of the Chief Investment Officer, the structure of a bond associated with a local authority is such that the credit risk is not identical to a bilateral loan with that authority, the rating of the bond itself will be used</p>
Instruments explicitly guaranteed by IG entity or sovereign national government meeting acceptable sovereign ratings per 32.0	Use Credit Factors appropriate to guarantor strictly for the period of the guarantee, reverting to rating of issuer thereafter
Repo	<p>Use Credit Factors appropriate to repo counterparty, not collateral;</p> <p>Unrated or sub-BBB counterparty with >102% Gilt/T-bill collateralisation – treat as BBB</p>
Approved fund, e.g. AAA _{mmf}	Use Credit Factor of 1.5
Covered Bonds or RMBS	Use Credit Factor of 5

39.0 Where a counterparty's (or its country of domicile's) 5 year CDS spreads exceed barrier levels from time to time agreed by the Syndics on the advice of Capita or the CIO, the Credit Factor used for the PCF calculation will be from the factor set of one or more notches below the issuer or security rating (e.g. If a AA+ counterparty's CDS spread exceeds the first barrier level, AA factors will be used to the PCF).

40.0 The following limits apply at all times:

- Maximum Credit Factor of any single security: 10.00
- Maximum PCF: 5.00

41.0 The PCF will be calculated and recorded daily.

42.0 The total contractual exposure of any transaction with counterparty, i.e. in the case of a forward deal, the forward period PLUS the eventual length of the deal should be considered at the time of the

transaction and compared to table 38.0 – the Credit Factor for the total exposure period at the counterparty's credit rating at the time of the deal must not exceed 10.

Deposit Facility of Last Resort

- 43.0 In the circumstance of being unable to place funds with counterparties within approved limits, the Investment Manager will attempt to place the surplus funds with the Debt Management Account Deposit Facility (DMADF). This facility may, of course, also be used in other circumstances if it offers rates above equivalent market levels, though in past experience this is unlikely.
- 44.0 In the instance of technical failures or unexpected monies being received after the cut-off time for sending payments, the GLA, as the GIS Investment Manager, will have no choice but to leave the funds with the GLA's bankers, RBS. In such circumstances, the funds will be moved to the GLA's call account at RBS.

Custody Arrangements

- 45.0 Internally or externally managed securities may be held by a Custodian; in such circumstances:
- a. The Custodian or any Sub-Custodian employed by the Custodian (whichever actually holds the GIS securities) must be Fitch A- rated or equivalent
 - b. Any cash held by the Custodian or any Sub-Custodian pending transactions must be properly identified as an unsecured deposit and consolidated into the PCF calculation
 - c. The Custodian or any Sub-Custodian shall not be entitled to invest such cash in any money market fund or other product without the permission of the GIS. Any such investment must meet the criteria of 17.0.
- 46.0 The above applies to any Custodian or Sub Custodian holding collateral on behalf of the GIS in respect of a Repo transaction. Note – 'Held in Custody' Repos where collateral is held at the borrower's custodian in the borrower's title are NOT permitted.

CIO Discretions

- 47.0 The CIO may restrict the use of any counterparty for any reason related to the management of risk, including reputational risk to any Participant. Such restrictions may be overturned by any majority of Syndics.
- 48.0 When postponing CDS-driven adjustments to exposure limits, the Group Treasury team will notify the Syndics of the CIO's decision immediately. Syndics will have until 12pm to register concerns otherwise the decision will be implemented for that day. Any majority of Syndics may reverse the decision subsequently.

49.0 All above mentioned CIO discretions may also be exercised by the GLA's statutory CFO and his deputy.

Responsible Investment

50.0 All investment will be made in accordance with the following policy with respect to fossil fuel companies:

GLA Group Responsible Investment Statement on Climate Change

The Greater London Authority is committed to a number of principles which guide their investment decisions. The Greater London Authority will consider non-financial factors when investing, such as alignment of the activities of investment counterparties with Mayoral policy on environmental and social impact, providing no compromise of fiduciary duty arises from such considerations.

Regarding climate change in particular, the Authority will not actively invest in companies or projects ("fossil fuel companies" and "fossil fuel projects") that derive more than 10% of revenues from the extraction of fossil fuels, ignore the impact and risks associated with the use of fossil fuels, and are unable to demonstrate a commitment to achieving environmental benefits, in particular through a plan to limit climate change in line with the Paris Agreement:

http://unfccc.int/paris_agreement/items/9485.php

The Authority notes a distinction between Natural Gas, which will continue to play a valuable role out to 2030, both for heating and for electricity generation, and other fossil fuels; nevertheless the Authority would expect a demonstrable commitment to achieving environmental benefits from companies involved in gas extraction.

In order to assess the level of commitment to achieving environmental benefits, the Authority will make use of the Transition Pathway Initiative, as adopted by a range of leading institutional investors:

<http://www.lse.ac.uk/GranthamInstitute/tpi/about/>

Where such investments are already in place, and opportunities for engagement and reform of the company or project do not exist, the Authority will make all reasonable efforts to divest provided that this will result in no material financial detriment (either through cost or increased investment risk).

The Authority views divestment and avoidance of any long term financial exposure to such companies or projects as entirely consistent with its fiduciary duty to protect and obtain best value from public funds.

This is also consistent with the Mayor of London's climate change goals and commitment to ensuring that optimum low carbon investment decisions are taken, to help to maximise social and economic benefits. .

To explain these statements concisely the Authority makes the following definitions, with examples of application:

"invest" – in this context, investment means the acquiring ownership of all or part of a fossil fuel company or otherwise providing financial support to such a company or any project which ignores the environmental impact and risks associated with Fossil Fuels;

“actively” – means making a choice to invest based on a direct assessment of that company or project or to knowingly create a long term economic interest in such companies or projects.

“environmental benefits” – means reducing net carbon emissions over time.

“opportunities for engagement” – means the ability to meaningfully influence the strategy or development of the company or project. This might be through the exercise of voting rights, either individually or alongside like-minded investors or other routes;

“ignoring the impact and risks associated with fossil fuels” – means continuing or developing new business activities contributing to climate change through fossil fuel emissions or environmental damage resulting from relevant fuel extraction without regard to development of new and sustainable alternatives or other transition planning towards a lower environmental impact.

“long term financial exposure” – means exposure for more than 12 months, either through actual investment or commitments to invest (contingent or otherwise) where the length of the commitment plus the expected duration of the investment exceeds this period.

Examples of application:

- Making a loan to a fossil fuel company in order fund expansion of conventional extraction activities would meet the definition of investment for these purposes; making a loan to a fossil fuel company to develop an alternative technology would not.
- Purchasing a fossil fuel company bond, from another bond holder would not meet the definition as it does not lead to ownership or engagement, nor provide new financial assistance to the company. Participating in the purchase of newly issued long term bonds may or may not classify as investment depending on the proposed use of proceeds.
- Commercial Paper or other debt instruments with less than a year to maturity would not constitute investment in this context as there is no associated ownership or engagement, nor do the longer term risks associated with exposure to unsustainable industries (which this strategy seeks to mitigate) apply over the life of such instruments.
- Directly purchasing equity in a fossil fuel company would constitute an active investment.
- Buying units in an exchange-traded tracker fund, where the index is known to contain fossil fuel companies may or may not constitute an active investment. It would be active if the intent was for the allocation to be a permanent part of the investment portfolio *and* the composition of the index was weighted more than 10% towards fossil fuel companies; it would not if the purchase was made to maintain broad market exposure, for instance during a transition between active portfolios. In any circumstance, the Authority seeks to influence the composition of the market (reflected in passive investments) through its own active decisions and those of likeminded partners.
- Circumstances involving conglomerates with a mixture of subsidiaries, some of which may meet the fossil fuels company definition (whereas others may, for example, be focused on renewable energy), would be considered on a case-by-case basis, with investment being possible if the overall

corporate strategy appears to be environmentally sustainable and offset the financial risks this statement seeks to mitigate.

Explanatory Notes

Background to the GIS Investment Strategy

- i. The GIS is a vehicle for investing pooled short term cash balances belonging to ‘participants’, currently the Greater London Authority (GLA), the London Fire and Emergency Planning Authority (LFEPA), the London Legacy Development Corporation (LLDC), the London Pensions Fund Authority (LPFA) and the Mayor’s Office for Policing and Crime (GLA). The GLA acts as the Investment Manager under the supervision of the Syndics (the participants’ respective chief financial officers).
- ii. By pooling resources, the participants can achieve economies of scale through larger individual transactions; can exploit the greater stability of pooled cash flows to obtain better returns and can achieve greater levels of diversification.
- iii. A risk sharing agreement ensures risk and reward relating to each investment within the jointly controlled portfolio are shared in direct proportion to each participant’s daily investment.
- iv. The Investment manager (the GLA) operates the GIS cash balances in accordance with the GIS Investment Strategy

4.0

- i. Reporting thresholds are capped at £25m and £50m, these limits are conservative based on the expected scale of the GIS – based on the GIS composition as at 30 June the absolute exposure reporting thresholds for each participant would be:

£m	25	50
GLA	20.4	40.8
LFEPA	0.2	0.5
MOPAC	0.2	0.3
LPFA	2.8	5.7
LLDC	0.2	0.4

17.0

- i. The concept of “Specified” and “Non–Specified” Investments is defined in the DCLG Guidance on Local Government Investments (revised 2010).

Specified Investments

- ii. An investment is a Specified investment if all of the following apply:
 - a) The investment is denominated in sterling and any payments or repayments in respect of the investment are payable only in sterling;
 - b) The investment is not a long-term investment (i.e. due or required to be repaid within 12 months);

- c) The making of the investment is not defined as capital expenditure by virtue of regulation 25(1)(d) of the Local Authorities (Capital Finance and Accounting) (England) Regulations 2003 (SI 3146 as amended) (i.e. the investment is not share capital in a body corporate)
- d) The investment is made with a body or in an investment scheme of high credit quality (defined by the minimum credit ratings outlined in table 17.0) or with one of the following public-sector bodies:
 - The United Kingdom Government
 - A local authority in England or Wales (as defined in section 23 of the 2003 Local Government Act) or a similar body in Scotland or Northern Ireland
 - A parish council or community

Non Specified Investments

- iii. Non-Specified Investments are defined as investments assessed by the GIS Participants to be appropriate and prudent, but not meeting the one or more of the Specified Investments criteria.

New instruments introduced since previous strategy

- iv. Reflecting increased market risk and difficulties in diversifying, this strategy introduces the new and highly secure option of UK Residential Mortgage Backed Securities, which provides a genuine diversification away from institutional credit risk and additional options for secured lending, enabling limits to be increased with existing counterparties in exchange for security of some sort of asset in the event of the borrower becoming insolvent.
- v. RMBS

- Since the approval of the GIS Participants' Treasury Strategies, which all set out the rationale for senior UK Prime and Buy to Let RMBS, the GLA has appointed two managers to manage £100m each of GLA core cash in this asset class.

Almost half of the investments were made prior to the market turbulence following the EU referendum, enabling the GLA to reduce its exposure to banks; additionally, this action has provided an excellent market test of extreme conditions for the asset class. Unlike a number of banks and the UK itself, the ratings of UK RMBS were untouched by the negative market perception of the UK's actions and liquidity in the asset class was no worse than any other within the current investment strategy. Yield remains higher than other available options.

- 15 UK Banks and Building Societies have over £100bn of AAA-rated RMBS outstanding, via bankruptcy-remote issuing companies, which ensures full credit de-linkage
- This report therefore recommends inclusion of UK RMBS in the GIS subject to the limits proposed and the overall GIS WAM limit, in order to reduce risk and improve returns. The 20% limit reflects the fact that the GIS currently has a 91 day WAM limit and most of these instruments will have a WAM > 1 year.

- Only senior RMBS are permitted at this stage, i.e. the GIS has first priority over the cash flows from the underlying pools of thousands of diversified UK residential prime or buy-to-let mortgages. These to date have always been AAA rated at inception with some isolated cases of downgrades to AA+ due to lower ratings of associated counterparties within the RMBS structure such as the bank servicing the mortgages, rather than the underlying mortgages, reflecting the increased risk of possible payment disruption should the servicing bank fail (though no increased risk of non-payment). The strategy does not exclude these downgraded senior notes as the risk of loss is still very low but it should be noted that changes to RMBS structures since 2008 make this circumstance very unlikely in future.
- The cash flows from RMBS are generated by both interest and principal repayments of the mortgages in the relevant pool. In particular, when homeowners refinance (or move house) the pool experiences principal inflows, which are then passed through to the RMBS bondholders (which the most senior tranches, proposed here, receive before all others). Refinancing typically occurs much earlier than the final date of the mortgage, therefore it is not proposed to limit the legal maturity of RMBS, as these are set with reference to the longest dated mortgage in the pool and do not reflect the expected maturity date. In addition, RMBS deals are structured with financial penalties for the issuer beyond the expected maturity date, to ensure that deals mature as expected.
- The strong cash flow characteristics of senior RMBS mean that principal is repaid incrementally, therefore a proposed WAM limit of 3 years per security for the whole RMBS portfolio is proposed alongside a 5 year expected final maturity limit per security.

vi. Covered Bonds

- Covered bonds are also secured on mortgage assets, but do not depend on mortgages for the cash flows. They are more like a normal bond issued by the relevant bank or building society except that should the issuer default, the covered bond holders will have security over the banks' mortgage assets, which could be sold to another bank to meet the obligation.
- Whilst the credit risk is clearly lower than unsecured lending to the issuer, the situation is different to RMBS and when the issuer is downgraded, covered bonds are typically downgraded too. Accordingly, the strategy does not permit the use of covered bonds issued by counterparties who do not themselves meet approved investment criteria.
- Another feature of covered bonds are extension clauses, typically of 2 years. For this reason, the strategy only permits the use of counterparties of A- rating or above to allow for downgrades over the extension period, should it be invoked.
- Because they are lower risk than unsecured lending to a given counterparty, covered bond yields are generally lower. Accordingly, the main circumstance in which they would be used in the current environment is to increase exposure to a strong and well understood counterparty already at its unsecured concentration limit.

vii. Repurchase Agreements "Repos"

- Repos are a form of secured lending whereby rather than lend directly to a counterparty, the GIS would buy from them a security e.g. a bond and agree to sell it back at an agreed (higher) price at a future date. The profit on this transaction replaces interest in a normal lending agreement but there is the additional feature that if the borrower becomes insolvent, the GIS may keep the security, which is referred to as collateral.
- For this reason, only securities that meet GIS criteria may be accepted as collateral, however the duration limits of 21.0 and 20.0 do not apply since the expectation is that the collateral will be disposed of at the first opportunity and over-collateralisation provides mitigation for any price movement.
- Furthermore, if such a default occurred, the GIS may need to sell the collateral for cash flow reasons so there may be some price risk between the default and the sale. Therefore, minimum levels of collateral, expressed as a percentage of the market value of collateral relative to the purchase price, are proposed.
- The strategy permits very limited repo exposure (2.5% and 10% in aggregate) to counterparties not meeting unsecured investment criteria. In this case, minimum collateral is set at 102% (in line with minimum standards for repo use by AAA rated money market funds) and the provision is designed to enable transactions with pension funds engaged in liability hedging activities, to mutual advantage.
- There are a number of ways to implement a repo. This is delegated to officers and their advisors or external managers, however per 46.0, legal title to the collateral must be unequivocally obtained and safe custody arrangements be in place.
- Repos will provide a further tool for balancing GIS risk and return: the risk is very much lower than unsecured lending to banks and others, although not as low as T-bills, however repo returns are slightly higher than T-Bills and there is more flexibility with maturity dates.

20.0

- i. For the purposes of this limit, WAM is the sum of each expected nominal cashflow and its respective expected incidence in days from the calculation date, divided by the total nominal cashflows; the use of expectations rather than contractual maturities reflects the use of instruments like RMBS which are subject to uncertain repayments. The Syndics place reliance on the systems and investment process of appointed managers to monitor and implement this limit.

28.0

- i. Credit Default Swaps (CDS) are effectively insurance contracts against a given counterparty defaulting; their price (typically expressed as an additional interest cost or 'spread' in basis points – i.e. 100ths of one percent). Higher prices may therefore reflect greater market perception of risk, although other supply and demand factors can distort this, including the

activity of speculators. For this reason, the CIO has discretion to propose postponements to the impact of CDS data on limits.

- ii. Although the GIS typically participates in short term investments, it refers to 5 year CDS prices as this market has higher volumes of trading and therefore more accurately reflects market sentiment.
- iii. The GIS's advisor and data provider, Capita, proposes barrier levels dependent on market conditions as indicated by one of the main CDS indices, ITRAXX 5 year senior financials.
- iv. When the ITRAXX is below 100 basis points, a counterparty's limit band will be adjusted down one notch if their CDS price is between 100 and 150 or to 'no colour' if above 150
- v. When the ITRAXX is above 100, a counterparty's limit band will be adjusted down one notch if their CDS price between 1 and 50 basis points above the ITRAXX or to 'no colour' if more than 50 basis points above.

38.0

- i. Book value weighted average here means the sum of the products of principal sums invested (plus any capitalised interest, less any impairments or partial repayments but excluding any accrued interest or unrealised gains or losses) and the respective Credit Factors at the date of calculation, divided by the sum of principal sums invested (plus any capitalised interest, less any impairments or partial repayments but excluding any accrued interest or unrealised gains or losses)

49.0

- i. In the absence of the CIO, the senior member of the Group Treasury team present should assume responsibility for reviewing circumstances where discretion might be used, and make appropriate recommendations to the CFO or deputy, who will decide whether to exercise their powers under this strategy.

Approved by Signatories:

MARTIN CLARKE

Syndic, GLA

Date:

SUE BUDDEN

Syndic, LFEPA

Date:

GERRY MURPHY

Syndic, LLDC

Date:

SIOBHAN PETERS

Syndic, MOPAC

Date:

DAVID GALLIE

Syndic, LPFA

Date:

Appendix 6: Treasury Management Practices: Main Principles

1.0 INTRODUCTION

- 1.1 The Treasury Management Practices (TMPs): Main Principles below set out the manner in which the Authority will seek to achieve its Treasury policies and objectives. These TMPs: Main Principles follow the wording recommended by the latest edition of the CIPFA Treasury Management Code.
- 1.2 TMPs: Main Principles are supported by TMPs: Schedules, which provide specific details of the systems and routines employed and the records to be maintained to deliver the TMPs: Main Principles. These Schedules are maintained and updated as necessary, being operational procedures and forming an integral part of the Authority's treasury management manual.
- 1.3 Approval and monitoring of TMPs is a matter for local decision. As such the TMPs: Principles will be approved by the Authority and monitored by the Executive Director of Resources and annually reviewed by the Authority before the start of the year.
- 1.4 TMPs: Schedules will be approved, monitored and annually reviewed by the Executive Director of Resources.
- 1.5 Scrutiny of the approval and monitoring of TMPs will be performed by the Budget and Performance Committee following recommendations by the Executive Director of Resources.

2.0 TMP1 RISK MANAGEMENT

2.1 General statement

- 2.1.1 The Executive Director of Resources will design, implement and monitor all arrangements for the identification, management and control of treasury management risk, will report at least annually on the adequacy/suitability thereof, and will report, as a matter of urgency, the circumstances of any actual or likely difficulty in achieving the Authority's objectives in this respect, all in accordance with the procedures set out in TMP6 'Reporting requirements and management information arrangements'.
- 2.1.2 In respect of each of the following risks, the arrangements which seek to ensure compliance with these objectives are set out in the TMPs: Schedules.

2.2 Credit and counterparty risk management

- 2.2.1 The Executive Director of Resources regards a key objective of the Authority's treasury management activities to be the security of the principal sums it invests. Accordingly, he/she will ensure that its counterparty lists and limits reflect a prudent attitude towards organisations with whom funds may be deposited, and will limit investment activities to the instruments, methods and techniques referred to in the TMP4 Approved instruments, methods and techniques and listed in the TMPs: Schedules. The Executive Director of Resources also recognises the need to have, and will therefore maintain, a formal counterparty policy in respect of those organisations from which the Authority may borrow, or with whom it may enter into other financing arrangements.

2.3 Liquidity risk management

- 2.3.1 The Executive Director of Resources will ensure the Authority has adequate though not excessive cash resources, borrowing arrangements, overdraft or standby facilities to enable it at all times to have the level of funds available to it which are necessary for the achievement of its business /service objectives.
- 2.3.2 The Executive Director of Resources will only borrow in advance of need where there is a clear business case for doing so and will only do so for the current capital programme or to finance future debt maturities.

2.4 Interest rate risk management

- 2.4.1 The Executive Director of Resources will manage Authority exposure to fluctuations in interest rates with a view to containing its interest costs, or securing its interest revenues, in accordance with the amounts provided in its budgetary arrangements as amended in accordance with TMP6 'Reporting requirements and management information arrangements'.
- 2.4.2 The Executive Director of Resources will achieve this by the prudent use of Authority approved instruments, methods, and techniques, primarily to create stability and certainty of costs and revenues, but at the same time retaining a sufficient degree of flexibility to take advantage of unexpected, potentially advantageous changes in the level or structure of interest rates. This should be subject to the consideration and, if required, approval of any policy or budgetary implications.

2.5 Exchange rate risk management

- 2.5.1 The Executive Director of Resources will manage its exposure to fluctuations in exchange rates, so as to minimise any detrimental impact on its budgeted income/expenditure levels.

2.6 Refinancing risk management

- 2.6.1 The Executive Director of Resources will ensure that Authority borrowing, private financing and partnership arrangements are negotiated, structured and documented, and the maturity profile of the monies so raised are managed, with a view to obtaining offer terms for renewal or refinancing, if required, which are competitive and as favourable to the Authority as can reasonably be achieved in the light of market conditions prevailing at the time.
- 2.6.2 The Executive Director of Resources will actively manage Authority relationships with its counterparties in these transactions in such a manner as to secure this objective, and will avoid overreliance on any one source of funding if this might jeopardise achievement of the above.

2.7 Legal and regulatory risk management

- 2.7.1 The Executive Director of Resources will ensure that all Authority treasury management activities comply with statutory powers and regulatory requirements. He/She will demonstrate such compliance, if required to do so, to all parties with whom the Authority deals in such activities. In framing its credit and counterparty policy under TMP[1] 'credit and counterparty risk management', he/she will ensure that there is evidence of

counterparties' powers, authority and compliance in respect of the transactions they may effect with the Authority, particularly with regard to duty of care and fees charged.

- 2.7.2 The Executive Director of Resources recognises that future legislative or regulatory changes may impact on treasury management activities and, so far as it is reasonably able to do so, will seek to minimise the risk of these impacting adversely on the Authority.

2.8 Fraud, error and corruption, and contingency management

- 2.8.1 The Executive Director of Resources will ensure that he/she has identified the circumstances which may expose the Authority to the risk of loss through fraud, error, corruption or other eventualities in its treasury management dealings. Accordingly, he/she will maintain effective contingency management arrangements, to these ends.

2.9 Market risk management

- 2.9.1 The Executive Director of Resources will seek to ensure that the Authority's stated treasury management policies and objectives will not be compromised by adverse market fluctuations in the value of the principal sums it invests, and will accordingly seek to protect the Authority from the effects of such fluctuations.

3.0 **TMP2 PERFORMANCE MEASUREMENT**

- 3.1 The Executive Director of Resources is committed to the pursuit of value for money in the Authority's treasury management activities, and to the use of performance methodology in support of that aim, within the framework set out in the Authority's treasury management policy statement.
- 3.2 Accordingly, the treasury management function will be the subject of ongoing analysis of the value it adds in support of the organisation's stated business or service objectives. It will be the subject of regular examination of alternative methods of service delivery, of the availability of fiscal or other grant or subsidy incentives, and of the scope for other potential improvements. The performance of the treasury management function will be measured using the criteria set out in the TMPs: Schedules.

4.0 **TMP3 DECISION-MAKING AND ANALYSIS**

- 4.1 The Executive Director of Resources will maintain full records of Authority treasury management decisions, and of the processes and practices applied in reaching those decisions, both for the purposes of learning from the past, and for demonstrating that reasonable steps were taken to ensure that all issues relevant to those decisions were taken into account at the time. The issues to be addressed and processes and practices to be pursued in reaching these decisions are detailed in the TMPs: Schedules.

5.0 **TMP4 APPROVED INSTRUMENTS, METHODS AND TECHNIQUES**

- 5.1 The Executive Director of Resources will undertake Authority treasury management activities by employing only those instruments, methods and techniques detailed in the schedule to this document, and within the limits and parameters defined in TMP1 'Risk management'.

6.0 TMP5 ORGANISATION, CLARITY AND SEGREGATION OF RESPONSIBILITIES, AND DEALING ARRANGEMENTS

- 6.1 The Executive Director of Resources considers it essential, for the purposes of the effective control and monitoring of the Authority's treasury management activities, for the reduction of the risk of fraud or error, and for the pursuit of optimum performance, that these activities are structured and managed in a fully integrated manner, and that there is at all times a clarity of treasury management responsibilities.
- 6.2 The principal on which this will be based is a clear distinction between those charged with setting treasury management policies and those charged with implementing and controlling these policies, particularly with regard to the execution and transmission of funds, the recording and administering of treasury management decisions, and the audit and review of the treasury management function.
- 6.3 If and when the Authority intends, as a result of lack of resources or other circumstances, to depart from these principles, the Executive Director of Resources will ensure that the reasons are properly reported in accordance with TMP6 'Reporting requirements and management information arrangements', and the implications properly considered and evaluated.
- 6.4 The Executive Director of Resources will ensure that there are clear written statements of the responsibilities for each post engaged in treasury management, and the arrangements for absence cover. The Executive Director of Resources will also ensure that at all times those engaged in treasury management will follow the policies and procedures. The present arrangements are detailed in the TMPs: Schedules.
- 6.5 The Executive Director of Resources will ensure there is proper documentation for all deals and transactions, and that procedures exist for the effective transmission of funds. The present arrangements are detailed in the TMPs: Schedules
- 6.6 The delegations to the Executive Director of Resources in respect of treasury management are set out in the TMPs: Schedules. The Executive Director of Resources will fulfil all such responsibilities in accordance with the Authority's policy statement and TMPs and if a CIPFA member, the 'Standard of Professional Practice on Treasury Management'.

7.0 TMP6 REPORTING REQUIREMENTS AND MANAGEMENT INFORMATION ARRANGEMENTS.

- 7.1 The Executive Director of Resources will ensure that regular reports are prepared and considered on the implementation of Authority treasury management policies; on the effects of decisions taken and transactions executed in pursuit of those policies; on the implications of changes, particularly budgetary, resulting from regulatory, economic, market or other factors affecting its treasury management activities; and on the performance of the treasury management function.
- 7.2 As a minimum:
- The Authority will receive
- an annual report on the proposed strategy and plan to be pursued in the coming year

- a mid-year review
- an annual report on the performance of the treasury management function, on the effects of the decisions taken and the transactions executed in the past year, and on any circumstances of non-compliance with the organisation's treasury management policy statement and TMPs.

7.3 The GLA Audit Panel, as the body with responsibility for the scrutiny of treasury management policies and practices, will receive regular monitoring reports on treasury management activities and risks.

7.4 The GLA Audit Panel responsible for scrutiny, such as an audit or scrutiny committee, will have responsibility for the scrutiny of treasury management policies and practices.

7.5 Local authorities should report the treasury management indicators as detailed in their sector-specific guidance notes.

7.6 The present arrangements and the form of these reports are detailed in the TMPs: Schedules.

8.0 TMP7 BUDGETING, ACCOUNTING AND AUDIT ARRANGEMENTS

8.1 The Executive Director of Resources will prepare, and the Authority will approve and, if necessary, from time to time will amend, an annual budget for treasury management, which will bring together all of the costs involved in running the treasury management function, together with associated income. The matters to be included in the budget will at minimum be those required by statute or regulation, together with such information as will demonstrate compliance with TMP1 'Risk management', TMP2 'Performance measurement', and TMP4 'Approved instruments, methods and techniques'.

8.2 The Executive Director of Resources will exercise effective controls over this budget, and will report upon and recommend any changes required in accordance with TMP6 'Reporting requirements and management information arrangements'.

8.3 The Executive Director of Resources will account for the Authority's treasury management activities, for decisions made and transactions executed, in accordance with appropriate accounting practices and standards, and with statutory requirements in force for the time being.

9.0 TMP8 CASH AND CASH FLOW MANAGEMENT

9.1 Unless statutory or regulatory requirements demand otherwise, all monies in the hands of this Authority will be under the control of the Executive Director of Resources, and will be aggregated for cash flow and investment management purposes. Cash flow projections will be prepared on a regular and timely basis, and the Executive Director of Resources will ensure that these are adequate for the purposes of monitoring compliance with TMP1 (1.3) 'Liquidity risk management'. The present arrangements for preparing cash flow projections, and their form are set out in the TMPs: Schedules.

10.0 TMP9 MONEY LAUNDERING

- 10.1 The Executive Director of Resources is alert to the possibility that the Authority may become the subject of an attempt to involve it in a transaction involving the laundering of money. Accordingly, it will maintain procedures for verifying and recording the identity of counterparties and reporting suspicions, and will ensure that staff involved in this are properly trained. The present arrangements, including the name of the officer to whom reports should be made, are detailed in the TMPs: Schedules.

11.0 TMP10 TRAINING AND QUALIFICATIONS

- 11.1 The Executive Director of Resources recognises the importance of ensuring that all staff involved in the treasury management function are fully equipped to undertake the duties and responsibilities allocated to them. He/She will therefore seek to appoint individuals who are both capable and experienced and will provide training for staff to enable them to acquire and maintain an appropriate level of expertise, knowledge and skills. The Executive Director of Resources will recommend and implement the necessary arrangements.
- 11.2 The Executive Director of Resources will ensure that Authority members tasked with treasury management responsibilities, including those responsible for scrutiny, have access to training relevant to their needs and those responsibilities.
- 11.3 Those charged with governance recognise their individual responsibility to ensure that they have the necessary skills to complete their role effectively.
- 11.4 The present arrangements are detailed in the TMPs: Schedules.

12.0 TMP11 USE OF EXTERNAL SERVICE PROVIDERS

- 12.1 The Authority recognises that responsibility for the treasury management decisions remains with the Authority at all times. It recognises that there may be potential value in employing external providers of treasury management services, in order to acquire access to specialist skills and resources. When it employs such service providers, it will ensure it does so for reasons which have been submitted to a full evaluation of the costs and benefits. It will also ensure that the terms of their appointment and the methods by which their value will be assessed are properly agreed and documented, and subjected to regular review. And it will ensure, where feasible and necessary, that a spread of service providers is used, to avoid overreliance on one or a small number of companies. Where services are subject to formal tender or re-tender arrangements, legislative requirements will always be observed. The monitoring of such arrangements rests with the Executive Director of Resources, and details of the current arrangements are set out in the TMPs: Schedules.

13.0 TMP12 CORPORATE GOVERNANCE

- 13.1 The Authority is committed to the pursuit of proper corporate governance throughout its businesses and services, and to establishing the principals and practices by which this can be achieved. Accordingly, the treasury management function and its activities will be undertaken with openness and transparency, honesty, integrity and accountability.
- 13.2 This Authority has adopted and implemented the key principles of the TM Code. This, together with the other arrangements detailed in the TMPs; Schedules, are considered vital to the achievement of proper corporate governance in treasury management, and the

Executive Director of Resources will monitor and, if and when necessary, report upon the effectiveness of these arrangements.

Appendix 7: Treasury Management Outturn position for 2015-16 and mid-year position for 2016-17

1. Summary Portfolio Position

Current Treasury Management Position	Actual as at 31 March 2015		Actual as at 31 March 2016		Actual as at 30 September 2016	
	£m	Av. Rate	£m	Av. Rate	£m	Av. Rate
External Borrowing						
Long Term Borrowing	3,563.25	3.50%	3,595.38	3.50%	3,686.38	3.43%
Short Term Borrowing	35.00	0.75%	112.00	0.57%	116.00	0.60%
Total External Borrowing (A)	3,598.25		3,707.38		3,802.38	
Other Long Term Liabilities						
PFI Liability	0.00		0.00		0.00	
Finance Lease Liability	0.00		0.00		0.00	
Total Other Long Term Liabilities (B)	0.00		0.00		0.00	
Total Gross Debt (A+B)	3,598.25		3,707.38		3,802.38	
Capital Financing Requirement*	3,630.12		3,619.18		3,678.50	
Less Other Long Term Liabilities	0.00		0.00		0.00	
Underlying Capital Borrowing Requirement (C)	3,630.12		3,619.18		3,678.50	
Under/(Over) Borrowing (C-A)	31.87		-88.20		-123.88	
Investments (D)	998.95	0.72%	1,752.59	0.72%	1,648.57	0.69%
Net Borrowing/(Investments) (A-D)	2,599.30		1,954.79		2,153.81	

2. Treasury Management Budget

	2015-16 Opening Estimate £m	2015-16 Year End Actual £m	Variance between Opening Estimate and Year end Actual £m	2016-17 Opening Estimate £m	2016-17 Actual as at 30.9.15 £m	2016-17 Revised Estimate £m	Variance between Opening Estimate and Revised Estimate £m
PWLB Interest payable	125.10	125.51	0.41	125.10	63.30	126.46	1.36
Interest receivable	-8.30	-9.97	-1.67	-8.00	-6.05	-8.76	-0.76
Minimum Revenue Provision & Vol Revenue Provision	101.10	101.10	0.00	101.10	19.00	101.10	0.00
Total	217.90	216.64	-1.26	218.20	76.25	218.80	0.60

3. Prudential Code Indicators and Treasury Management Limits

i) Capital Financing Requirement

	2015-16 Original Estimate £m	2015-16 Year End Actual £m	2015-16 Variance between Original Estimate and Year End Actual £m	2016-17 Original Estimate £m	2016-17 Revised Estimate £m	2016-17 Variance between Original Estimate and Revised Estimate £m
Total CFR	3,464.40	3,619.10	154.70	3,764.00	3,678.50	(85.50)

ii) Authorised Limit for External Debt

	2015-16 Final Authorised Limit £m	2015-16 Actual External Debt £m	Headroom £m	2016-17 Original Authorised Limit £m	2016-17 Actual External Debt As At 30.09.15 £m	Headroom £m	2016-17 Revised Authorised Limit £m
Borrowing	4,600.00	3,707.38	892.62	4,800.00	3,802.38	997.62	4,800.00
Other long term liabilities	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	4,600.00	3,707.38	892.62	4,800.00	3,802.38	997.62	4,800.00

iii) Operational Boundary for External Debt

	2015-16 Final Operational Boundary £m	2015-16 Actual External Debt £m	Headroom £m	2016-17 Original Operational Boundary £m	2016-17 Actual External Debt As At 30.09.15 £m	Headroom £m	2016-17 Revised Operational Boundary £m
Borrowing	4,290.00	3,707.38	582.62	4,300.00	3,802.38	497.62	4,300.00
Other long term liabilities	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	4,290.00	3,707.38	582.62	4,300.00	3,802.38	497.62	4,300.00

iv) Net Borrowing Upper Limits to Fixed and Variable Interest Rate Exposure

	Opening 2015-16	As at 31.03.16	Opening 2016-17	As at 30.09.16
	%	%	%	%
Fixed rate	100.00	189.66	100.00	167.26
Variable rate	20.00	-89.66	0.00	-67.26

NB: when the limits were set they were set on the basis of Gross debt, whilst the definition of the indicator refers to net debt. All current long term debt is on a fixed rate basis whilst by definition investments will be variable as they are set for less than one year. The use of the net indicator therefore logically will always result in a fixed rate upper limit in excess of 100%.

v) Limits for Maturity Structure of Borrowing

	Upper Limit	Lower Limit	As at 31.03.2016
	%	%	%
Under 12 months	100.00	0.00	4.07
12 months and within 24 months	100.00	0.00	1.83
24 months and within 5 years	100.00	0.00	9.58
5 years and within 10 years	100.00	0.00	25.43
10 years and above	100.00	0.00	59.09

4. Crossrail Monitoring

	Totals as at		
	31/03/2016 £m	30/09/2016 £m	31/03/2017 £m
Total borrowing of project	3,251.25	3,226.25	3,138.00
In year interest paid	118.30	58.20	116.35
In year interest receivable	0.12	0.06	0.13
Net in year interest paid	118.18	58.14	116.22
In year BRS receipts	218.30	106.80	219.00
In year payments to TfL	-	-	-

5. NLE Monitoring

	Totals as at		
	31/03/2016 £m	30/09/2016 £m	31/03/2017 £m
Total borrowing of project	201.10	321.10	321.10
In year interest paid	0.38	-	2.10
In year interest receivable	- 0.71	- 0.40	- 0.68
Net in year interest paid	- 0.33	0.40	1.42
In year payments to TfL	121.00	76.30	160.50