

# **Treasury Management Strategy Statement**

Annual Investment Strategy

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2022/23

# 1. INTRODUCTION

## 1.1 Background

Transport for the North is required to operate a balanced budget, which broadly means that cash raised during the year will meet cash expenditure. Part of the treasury management operation is to ensure that this cash flow is adequately planned, with cash being available when it is needed. Surplus monies are invested in low risk counterparties or instruments commensurate with Transport for the North's low risk appetite, providing adequate liquidity initially before considering investment return.

The second main function of the treasury management service is the funding of Transport for the North's capital plans. As Transport for the North does not have the power to raise short or long-term credit, this activity is limited to ensuring grant drawdowns are aligned to expenditure plans.

The contribution the treasury management function makes to Transport for the North is critical to ensure liquidity and the ability to meet spending commitments as they fall due, either on day-to-day revenue or for larger capital projects. Since cash balances generally result from reserves and balances, it is paramount to ensure adequate security of the sums invested, as a loss of principal will in effect result in a loss to Transport for the North.

CIPFA defines treasury management as:

*"The management of the local authority's borrowing, investments and cash flows, its banking, money market and capital market transactions; the effective control of the risks associated with those activities; and the pursuit of optimum performance consistent with those risks."*

Transport for the North has not engaged in any commercial investments and has no non-treasury investments.

## 1.2 Reporting requirements

### 1.2.1 Capital Strategy

A capital strategy report is designed to show how local authorities will finance and fund long-term investment plans. They are designed to evidence that investment plans are both affordable in the short-term and sustainable in the long-term.

Transport for the North has no powers to enter into credit liabilities, so cannot borrow to finance investment. Transport for the North also owns no assets which could be disposed of to generate capital receipts. Finally, Transport for the North has no revenue raising powers, which could be used to raise cash for capital investment.

Instead, Transport for the North is an entirely grant funded organisation. All capital investments are grant funded, with no additional financing or funding issues.

Transport for the North's capital expenditure profiles are outlined later in this appendix.

## 1.2.2 Treasury Management reporting

Transport for the North Board is currently required to receive and approve, as a minimum, three main treasury reports each year, which incorporate a variety of policies, estimates and actuals.

- a. **Prudential and treasury indicators and treasury strategy** (this report) - The first, and most important report is forward looking and covers the aspects relevant to Transport for the North – notably management of cash and investments:
  - the capital plans, (including prudential indicators);
  - the treasury management strategy, (how the investments are to be organised), including treasury indicators; and
  - an investment strategy, (the parameters on how investments are to be managed).
- b. **A mid-year treasury management report** – This is primarily a progress report and will update members on the capital position, amending prudential indicators as necessary, and whether any policies require revision
- c. **An annual treasury report** – This is a backward looking review document and provides details of a selection of actual prudential and treasury indicators and actual treasury operations compared to the estimates within the strategy.

### Scrutiny

The following bodies within TfN's governance receive Treasury Management Reporting:

- The Scrutiny Committee;
- The Audit & Governance Committee;
- The Executive Board; and,
- The TfN Board.

## 1.1 Treasury Management Strategy for 2022/23

The strategy for 2022/23 covers two main areas:

### Capital issues

- the capital expenditure plans and the associated prudential indicators.

### Treasury management issues

- the current treasury position;
- treasury indicators which limit the treasury risk and activities of Transport for the North;
- prospects for interest rates;
- the investment strategy;
- creditworthiness policy; and
- the policy on use of external service providers.

These elements cover the requirements of the Local Government Act 2003, the CIPFA Prudential Code, the CIPFA Treasury Management Code and MHCLG Investment Guidance.

## **1.2 Training**

The CIPFA Code requires the responsible officer to ensure that members with responsibility for treasury management receive adequate training in treasury management. Transport for the North will review training requirements for members in the new financial year.

The training needs of finance officers involved in treasury management are periodically reviewed.

## **1.3 Treasury management consultants**

Transport for the North uses Link Treasury Services, Treasury solutions as its external treasury management advisors.

Transport for the North recognises that responsibility for treasury management decisions remains with the organisation at all times and will ensure that undue reliance is not placed upon the services of our external service providers. All decisions will be undertaken with regards to all available information, including, but not solely, our treasury advisers.

It also recognises that there is value in employing external providers of treasury management services in order to acquire access to specialist skills and resources. Transport for the North will 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.

## 2 THE CAPITAL PRUDENTIAL INDICATORS 2021/22 – 2023/24

Regulation requires Transport for the North to present its capital prudential indicators. This reflects that, for most authorities, capital expenditure plans are a key driver of treasury management activity. This is principally because those plans will be underpinned by financing strategies that use debt or cash balances to finance activity.

Transport for the North's statutory position means that it is not able to raise credit, and its funding environment means that it is unlikely to generate significant long-term cash surpluses. Instead, Transport for the North's capital investment plans will be funded from grant awards.

These factors mean the capital prudential indicators are largely insignificant, though they do reflect the parameters in which Transport for the North operates.

### 2.1 Capital expenditure

This is a summary of Transport for the North's capital expenditure plans, both those agreed previously, and those forming part of this budget cycle. Members are asked to approve the capital expenditure forecasts:

Capital expenditure £m	2019/20 Actual	2020/21 Estimate	2021/22 Estimate	2022/23 Estimate	2023/24 Estimate
	£m	£m	£m	£m	£m
<b>Total</b>	£6.95m	£4.45m	£0.00m	£0.00m	£0.00m

The table below summarises the above capital expenditure plans and how these plans are being financed by capital or revenue resources.

Financing of capital expenditure £m	2019/20 Actual	2020/21 Estimate	2021/22 Estimate	2022/23 Estimate	2023/24 Estimate
Grants	£6.95m	£4.45m	£0.00m	£0.00m	£0.00m
<b>Net financing need for the year</b>	£0m	£0m	£0m	£0m	£0m

The reduction in capital expenditure reflects movements in TfN's Integrated and Smart Ticketing programme.

### 2.2 Core funds and expected investment balances

Transport for the North's cash balances are largely determined by its reserve strategy and working capital fluctuations. Transport for the North is funded on a needs basis, so only draws upon grant it requires to meet its expenditure plans. It does, however, hold cash in reserve to guard against financial shock. In the table below working capital is assumed at £0m on a prudent basis, though it is likely that cash owed to creditors will be held from one accounting period to the next. The estimated reserve balances are indicative as budget and business planning for 2022/23 has yet to be finalised:

Year End Resources £m	2019/20 Actual	2020/21 Estimate	2021/22 Estimate	2022/23 Estimate	2023/24 Estimate
Fund balances / reserves	£5.89m	£4.59m	£4.00m	£3.50	£3.00m
<b>Total core funds</b>	£5.89m	£4.59m	£4.00m	£3.50	£3.00m
Working capital*	£4.11m	£0m	£0	£0m	£0m

<b>Expected investments</b>	£10.00m	£4.59m	£4.00m	£3.50	£3.00m
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\*Working capital balances shown are estimated year-end; these may be higher mid-year

### 2.3 Prospects for interest rates

TfN has appointed Link Treasury Services as its treasury advisor in part to assist in formulating a view on interest rates. The following table gives Link's central view.

Link Group Interest Rate View 20.12.21														
	Dec-21	Mar-22	Jun-22	Sep-22	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24	Mar-25
<b>BANK RATE</b>	0.25	0.25	0.50	0.50	0.50	0.75	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.25
3 month ave earnings	0.20	0.30	0.50	0.50	0.60	0.70	0.80	0.90	0.90	1.00	1.00	1.00	1.00	1.00
6 month ave earnings	0.40	0.50	0.60	0.60	0.70	0.80	0.90	1.00	1.00	1.10	1.10	1.10	1.10	1.10
12 month ave earnings	0.70	0.70	0.70	0.70	0.80	0.90	1.00	1.10	1.10	1.20	1.20	1.20	1.20	1.20
5 yr PWLB	1.40	1.50	1.50	1.60	1.60	1.70	1.80	1.80	1.80	1.90	1.90	1.90	2.00	2.00
10 yr PWLB	1.60	1.70	1.80	1.80	1.90	1.90	2.00	2.00	2.00	2.10	2.10	2.10	2.20	2.30
25 yr PWLB	1.80	1.90	2.00	2.10	2.10	2.20	2.20	2.20	2.30	2.30	2.40	2.40	2.50	2.50
50 yr PWLB	1.50	1.70	1.80	1.90	1.90	2.00	2.00	2.00	2.10	2.10	2.20	2.20	2.30	2.30

Over the last two years, the coronavirus outbreak has done huge economic damage to the UK and to economies around the world. After the Bank of England took emergency action in March 2020 to cut Bank Rate to 0.10%, it left Bank Rate unchanged at its subsequent meetings until raising it to 0.25% at its meeting on 16<sup>th</sup> December 2021.

As shown in the forecast table above, the forecast for Bank Rate now includes four increases, one in December 2021 to 0.25%, then quarter 2 of 2022 to 0.50%, quarter 1 of 2023 to 0.75%, quarter 1 of 2024 to 1.00% and, finally, one in quarter 1 of 2025 to 1.25%.

### Investment and borrowing rates

- **Investment returns** are expected to improve in 2022/23. However, while markets are pricing in a series of Bank Rate hikes, actual economic circumstances may see the MPC fall short of these elevated expectations.

## 3 ANNUAL INVESTMENT STRATEGY

### 3.1 Investment policy – management of risk

Transport for the North's investment policy has regard to the following: -

- DLUHC's Guidance on Local Government Investments ("the Guidance")
- CIPFA Treasury Management in Public Services Code of Practice and Cross Sectoral Guidance Notes 2017 ("the Code")
- CIPFA Treasury Management Guidance Notes 2018

Transport for the North's investment priorities will be security first, portfolio liquidity second and then yield, (return).

The above guidance from the MHCLG and CIPFA place a high priority on the management of risk. Transport for the North has adopted a prudent approach to managing risk and defines its risk appetite by the following means: -

1. Minimum acceptable **credit criteria** are applied in order to generate a list of highly creditworthy counterparties. This also enables diversification and thus avoidance of concentration risk. The key ratings used to monitor counterparties are the short term and long-term ratings.
2. **Other information:** ratings will not be the sole determinant of the quality of an institution; it is important to continually assess and monitor the financial sector on both a micro and macro basis and in relation to the economic and political environments in which institutions operate. The assessment will also take account of information that reflects the opinion of the markets. To achieve this consideration Transport for the North will engage with its advisors to maintain a monitor on market pricing such as "**credit default swaps**" and overlay that information on top of the credit ratings.
3. **Other information sources** used will include the financial press, share price and other such information pertaining to the banking sector in order to establish the most robust scrutiny process on the suitability of potential investment counterparties.
4. Transport for the North has defined the list of **types of investment instruments** that the treasury management team are authorised to use. There are two lists in appendix 4.3 under the categories of 'specified' and 'non-specified' investments.
  - **Specified investments** are those with a high level of credit quality and subject to a maturity limit of one year.
  - **Non-specified investments** are those with less high credit quality, may be for periods in excess of one year, and/or are more complex instruments which require greater consideration by members and officers before being authorised for use. Transport for the North will not use these investment categories.
5. **Non-specified investments limit.** Transport for the North has determined that it will not invest in any non-specified investment categories.
6. **Lending limits**, (amounts and maturity), for each counterparty will be set through applying the matrix table in paragraph 3.3.
7. **Transaction limits** are set for each type of investment in paragraph 3.3.

8. Transport for the North will set a limit for the amount of its investments which are invested for **longer than 365 days**, (see paragraph 3.5).
9. Investments will only be placed with counterparties from countries with a specified minimum **sovereign rating**, (see paragraph 3.4).
10. Transport for the North has engaged **external consultants**, (see paragraph 1.5), to provide expert advice on how to optimise an appropriate balance of security, liquidity and yield, given the risk appetite of Transport for the North in the context of the expected level of cash balances and need for liquidity throughout the year.
11. All investments will be denominated in **sterling**.
12. As a result of the change in accounting standards for 2022/23 under **IFRS 9**, Transport for the North will consider the implications of investment instruments which could result in an adverse movement in the value of the amount invested and resultant charges at the end of the year to the General Fund. (In November 2018, the Ministry of Housing, Communities and Local Government, [MHCLG], concluded a consultation for a temporary override to allow English local authorities time to adjust their portfolio of all pooled investments by announcing a statutory override to delay implementation of IFRS 9 for five years commencing from 1.4.18.)

However, Transport for the North will also pursue **value for money** in treasury management and will monitor the yield from investment income against appropriate benchmarks for investment performance, (see paragraph 3.5). Regular monitoring of investment performance will be carried out during the year.

### **3.2 Changes in risk management policy from last year.**

The above criteria are unchanged from last year

Transport for the North continues to engage treasury management advisors to shape its investment strategy. It currently uses Link Treasury Services creditworthiness service to choose investment counterparties.

### **3.3 Creditworthiness policy**

Transport for the North applies the creditworthiness service provided by Link Treasury Services. This service employs a sophisticated modelling approach utilising credit ratings from the three main credit rating agencies - Fitch, Moody's and Standard & Poor's. The credit ratings of counterparties are supplemented with the following overlays:

- credit watches and credit outlooks from credit rating agencies;
- CDS spreads to give early warning of likely changes in credit ratings;
- sovereign ratings to select counterparties from only the most creditworthy countries.

This modelling approach combines credit ratings, credit Watches and credit Outlooks in a weighted scoring system which is then combined with an overlay of CDS spreads for which the end product is a series of colour coded bands which indicate the relative creditworthiness of counterparties. These colour codes are used by Transport for the North to determine the suggested duration for investments.

This approach is then tempered by Transport for the North's funding environment, and in particular its funding relationship with the Department for Transport. This environment sees

Transport for the North directly funded every quarter for activity, and thus negates the need for, and the possibility of, running up significant cash balances over a long duration.

Transport for the North will therefore use counterparties within the following durational bands:

- Yellow 3 months
- Dark pink 3 months
- Light pink 3 months
- Purple 3 months
- Blue 3 months
- Orange 3 months
- Red 3 months
- Green 1 month
- No colour not to be used

The Link Treasury Services creditworthiness service uses a wider array of information other than just primary ratings. Furthermore, by using a risk weighted scoring system, it does not give undue preponderance to just one agency's ratings.

Before consideration of underlying sovereign rating, typically the minimum credit ratings criteria Transport for the North use will be a Short Term rating (Fitch or equivalents) of F1 and a Long Term rating of A-. There may be occasions when the counterparty ratings from one rating agency are marginally lower than these ratings but may still be used. In these instances, consideration will be given to the whole range of ratings available, or other topical market information, to support their use.

All credit ratings will be monitored weekly. Transport for the North is alerted to changes to ratings of all three agencies through its use of the Link Treasury Services' creditworthiness service.

- if a downgrade results in the counterparty / investment scheme no longer meeting Transport for the North's minimum criteria, its further use as a new investment will be withdrawn immediately.
- in addition to the use of credit ratings Transport for the North will be advised of information in movements in credit default swap spreads against the iTraxx benchmark and other market data on a daily basis via its Passport website, provided exclusively to it by Link Treasury Services. Extreme market movements may result in downgrade of an institution or removal from Transport for the North's lending list.

Sole reliance will not be placed on the use of this external service. In addition Transport for the North will also use market data and market information, information on any external support for banks to help support its decision-making process.

Y	Pi1	Pi2	P	B	O	R	G	N/C
1	1.25	1.5	2	3	4	5	6	7
Up to 5yrs	Up to 5yrs	Up to 5yrs	Up to 2yrs	Up to 1yr	Up to 1yr	Up to 6mths	Up to 100days	No Colour

<b>See Appendix 4.7 for an indicative counterparty list</b>	<b>Colour (and long term rating where applicable)</b>	<b>Money and/or % Limit</b>	<b>Transaction limit</b>	<b>Time Limit</b>
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<b>Banks *</b>	<b>yellow</b>	<b>100%</b>	<b>£5m</b>	<b>3 months</b>
<b>Banks</b>	<b>purple</b>	<b>100%</b>	<b>£5m</b>	<b>3 months</b>
<b>Banks</b>	<b>orange</b>	<b>100%</b>	<b>£5m</b>	<b>3 months</b>
<b>Banks – part nationalised</b>	<b>blue</b>	<b>100%</b>	<b>£5m</b>	<b>3 months</b>
<b>Banks</b>	<b>red</b>	<b>100%</b>	<b>£5m</b>	<b>3 months</b>
<b>Banks</b>	<b>green</b>	<b>100%</b>	<b>£5m</b>	<b>1 month</b>
<b>Banks</b>	<b>No colour</b>	<b>Not to be used</b>	<b>£0m</b>	<b>-</b>
<b>Limit 3 category – TfN’s banker^</b>	<b>n/a</b>	<b>100%</b>	<b>n/a</b>	<b>3 days</b>
<b>DMADF</b>	<b>UK sovereign rating</b>	<b>unlimited</b>	<b>n/a</b>	<b>3 months</b>
<b>Local authorities</b>	<b>n/a</b>	<b>100%</b>	<b>£5m</b>	<b>3 months</b>
	<b>Fund rating</b>	<b>Money and/or % Limit</b>		<b>Time Limit</b>
<b>Money Market Funds CNAV</b>	<b>AAA</b>	<b>100%</b>	<b>£5m</b>	<b>liquid</b>
<b>Money Market Funds LVNAV</b>	<b>AAA</b>	<b>100%</b>	<b>£5bm</b>	<b>liquid</b>

*\* Please note: the yellow colour category is for UK Government debt, or its equivalent, money market funds and collateralised deposits where the collateral is UK Government debt*

*^ Transport for the North retains the ability to directly invest its cash surpluses with its own bank above the defined transaction limit where necessary. This includes managing unexpected cash flows, dealing with urgent matters, or where other options are not available to.*

### **UK banks – ring fencing**

The largest UK banks, (those with more than £25bn of retail / Small and Medium-sized Enterprise (SME) deposits), are required, by UK law, to separate core retail banking services from their investment and international banking activities by 1st January 2019. This is known as “ring-fencing”. Whilst smaller banks with less than £25bn in deposits are exempt, they can choose to opt up. Several banks are very close to the threshold already and so may come into scope in the future regardless.

Ring-fencing is a regulatory initiative created in response to the global financial crisis. It mandates the separation of retail and SME deposits from investment banking, in order to improve the resilience and resolvability of banks by changing their structure. In general, simpler activities offered from within a ring-fenced bank, (RFB), will be focused on lower risk, day-to-day core transactions, whilst more complex and “riskier” activities are required to be housed in a separate entity, a non-ring-fenced bank, (NRFB). This is intended to ensure that an entity’s core activities are not adversely affected by the acts or omissions of other members of its group.

While the structure of the banks included within this process may have changed, the fundamentals of credit assessment have not. Transport for the North will continue to assess the new-formed entities in the same way that it does others and those with sufficiently high ratings, (and any other metrics considered), will be considered for investment purposes.

### 3.4 Country limits

Due care will be taken to consider the exposure of Transport for the North's total investment portfolio to non-specified investments, countries, groups and sectors.

- a) **Non-specified investment limit.** Transport for the North has determined that it will not use non-specified investment products.
- b) **Country limit.** Transport for the North has determined that it will only use approved counterparties from the UK and from countries with a **minimum sovereign credit rating of AA-** from Fitch. The list of countries that qualify using this credit criteria as at the date of this report are shown in Appendix 4.4. This list will be added to, or deducted from, by officers should ratings change in accordance with this policy.

### 3.5 Investment strategy

#### Investment Durations

Transport for the North's approach to investments is influenced by its funding environment. Transport for the North has no revenue raising powers, nor ability to raise credit. This limits its ability to raise surplus cash unilaterally, and also obviates the need for retaining significant amounts of cash to pay down debt obligations.

Transport for the North is funded on a needs basis from the Department for Transport, receiving periodical grants to meet its cash requirements. This funding arrangement is supplemented by a reserve strategy that enables Transport for the North to retain cash balances from its flexible Core Grant to mitigate against financial shock.

These arrangements mean that it is unlikely Transport for the North will have significant amounts of surplus cash that does not have a short-term call upon it. This in turn engenders a short-term view on investments, with the primacy of consideration being on security and liquidity.

Transport for the North considers that it will not invest for time-periods beyond 3 months.

#### Investment returns expectations.

The suggested budgeted investment earnings rates for returns on investments placed for periods up to about three months during each financial year are as follows:

2022/23	0.50%
2023/24	0.75%
2024/25	1.00%
2025/26	1.25%
Later years	2.00%

**Investment treasury indicator and limit** - total principal funds invested for greater than 365 days. These limits are set with regard to Transport for the North's liquidity requirements and to reduce the need for early sale of an investment, and are based on the availability of funds after each year-end. Transport for the North's funding environment is such that it will limit itself to investments of periods not greater than 3 months.

Transport for the North is asked to approve the following treasury indicator and limit:

<b>Upper limit for principal sums invested for longer than 365 days</b>			
<b>£m</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>
Principal sums invested for longer than 365 days	£0m	£0m	£0m
Current investments as at 15.01.22 in excess of 1 year maturing in each year	£0m	£0m	£0m

### **3.6 Investment risk benchmarking**

These benchmarks are simple guides to maximum risk, so they may be breached from time to time, depending on movements in interest rates and counterparty criteria. The purpose of the benchmark is that officers will monitor the current and trend position and amend the operational strategy to manage risk as conditions change. Any breach of the benchmarks will be reported, with supporting reasons in the mid-year or Annual Report.

Security – Transport for the North has opted for a particularly prudent approach to security  
Liquidity – in respect of this area Transport for the North seeks to maintain:

- Liquid short-term deposits of at least £1m available with a day's notice in its own bank.
- Weighted average life benchmark is expected to be no greater than 3 months.

Yield - local measures of yield benchmarks are:

- Investments – internal returns above the 7-day LIBID rate

### **3.7 End of year investment report**

At the end of the financial year, Transport for the North will report on its investment activity as part of its Annual Treasury Report.

## 4 APPENDICES

1. Prudential and treasury indicators and MRP statement
2. Economic background and interest rate forecasts
3. Treasury management practice 1 – credit and counterparty risk management (option 1)
4. Treasury management practice 1 – credit and counterparty risk management  
Approved countries for investments
5. Treasury management scheme of delegation
6. The treasury management role of the section 151 officer
7. Indicative counterparty list

#### 4.1 THE CAPITAL PRUDENTIAL AND TREASURY INDICATORS 2022/23 – 2024/25

Transport for the North's capital expenditure plans are the key driver of treasury management activity. The output of the capital expenditure plans is reflected in the prudential indicators, which are designed to assist members' overview and confirm capital expenditure plans.

##### 4.1.1 Capital expenditure

Capital expenditure £m	2019/20 Actual	2020/21 Estimate	2021/22 Estimate	2022/23 Estimate	2023/24 Estimate
Integrated & Smart Ticketing Programme	£6.95m	£4.45m	£0.00m	£0.00m	£0.00m
<b>Total</b>	<b>£6.95m</b>	<b>£4.45m</b>	<b>£0.00m</b>	<b>£0.00m</b>	<b>£0.00m</b>

##### 4.1.2 Affordability prudential indicators

###### Ratio of financing costs to net revenue stream

This indicator identifies the trend in the cost of capital, (borrowing and other long term obligation costs net of investment income), against the net revenue stream. Transport for the North does not have powers to raise credit, so has no costs of capital.

%	2018/19 Actual	2019/20 Estimate	2020/21 Estimate	2021/22 Estimate	2022/23 Estimate
<b>Total</b>	0%	0%	0%	0%	0%

## 4.2 ECONOMIC BACKGROUND

### COVID-19 vaccines.

These were the game changer during 2021 which raised high hopes that life in the UK would be able to largely return to normal in the second half of the year. However, the bursting onto the scene of the Omicron mutation at the end of November, rendered the initial two doses of all vaccines largely ineffective in preventing infection. This has dashed such hopes and raises the spectre again that a fourth wave of the virus could overwhelm hospitals in early 2022. What we now know is that this mutation is very fast spreading with the potential for total case numbers to double every two to three days, although it possibly may not cause so much severe illness as previous mutations. Rather than go for full lockdowns which heavily damage the economy, the government strategy this time is focusing on getting as many people as possible to have a third (booster) vaccination after three months from the previous last injection, as a booster has been shown to restore a high percentage of immunity to Omicron to those who have had two vaccinations. There is now a race on between how quickly boosters can be given to limit the spread of Omicron, and how quickly will hospitals fill up and potentially be unable to cope. In the meantime, workers have been requested to work from home and restrictions have been placed on large indoor gatherings and hospitality venues. With the household saving rate having been exceptionally high since the first lockdown in March 2020, there is plenty of pent-up demand and purchasing power stored up for services in sectors like restaurants, travel, tourism and hotels which had been hit hard during 2021, but could now be hit hard again by either, or both, of government restrictions and/or consumer reluctance to leave home. Growth will also be lower due to people being ill and not working, similar to the 'pingdemic' in July. The economy, therefore, faces significant headwinds although some sectors have learned how to cope well with Covid. However, the biggest impact on growth would come from another lockdown if that happened. The big question still remains as to whether any further mutations of this virus could develop which render all current vaccines ineffective, as opposed to how quickly vaccines can be modified to deal with them and enhanced testing programmes be implemented to contain their spread until tweaked vaccines become widely available.

### A SUMMARY OVERVIEW OF THE FUTURE PATH OF BANK RATE

- In December, the Bank of England became the first major western central bank to put interest rates up in this upswing in the current business cycle in western economies as recovery progresses from the Covid recession of 2020.
- The next increase in Bank Rate could be in February or May, dependent on how severe an impact there is from Omicron.
- If there are lockdowns in January, this could pose a barrier for the MPC to putting Bank Rate up again as early as 3<sup>rd</sup> February.
- With inflation expected to peak at around 6% in April, the MPC may want to be seen to be active in taking action to counter inflation on 5<sup>th</sup> May, the release date for its Quarterly Monetary Policy Report.
- The December 2021 MPC meeting was more concerned with combating inflation over the medium term than supporting economic growth in the short term.
- Bank Rate increases beyond May are difficult to forecast as inflation is likely to drop sharply in the second half of 2022.
- However, the MPC will want to normalise Bank Rate over the next three years so that it has its main monetary policy tool ready to use in time for the next down-turn; all rates under 2% are providing stimulus to economic growth.

- We have put year end 0.25% increases into Q1 of each financial year from 2023 to recognise this upward bias in Bank Rate - but the actual timing in each year is difficult to predict.
- Covid remains a major potential downside threat in all three years as we ARE likely to get further mutations.
- How quickly can science come up with a mutation proof vaccine, or other treatment, – and for them to be widely administered around the world?
- Purchases of gilts under QE ended in December. Note that when Bank Rate reaches 0.50%, the MPC has said it will start running down its stock of QE.

### **MPC MEETING 16<sup>th</sup> DECEMBER 2021**

- The Monetary Policy Committee (MPC) voted 8-1 to raise Bank Rate by 0.15% from 0.10% to 0.25% and unanimously decided to make no changes to its programme of quantitative easing purchases due to finish in December 2021 at a total of £895bn.
- The MPC disappointed financial markets by not raising Bank Rate at its November meeting. Until Omicron burst on the scene, most forecasters, therefore, viewed a Bank Rate increase as being near certain at this December meeting due to the way that inflationary pressures have been comprehensively building in both producer and consumer prices, and in wage rates. However, at the November meeting, the MPC decided it wanted to have assurance that the labour market would get over the end of the furlough scheme on 30<sup>th</sup> September without unemployment increasing sharply; their decision was, therefore, to wait until statistics were available to show how the economy had fared at this time.
- **On 10<sup>th</sup> December we learnt of the disappointing 0.1% m/m rise in GDP** in October which suggested that economic growth had already slowed to a crawl even before the Omicron variant was discovered in late November. Early evidence suggests growth in November might have been marginally better. Nonetheless, at such low rates of growth, the government's "Plan B" COVID-19 restrictions could cause the economy to contract in December.
- **On 14<sup>th</sup> December, the labour market statistics** for the three months to October and the single month of October were released. The fallout after the furlough scheme was smaller and shorter than the Bank of England had feared. The single-month data were more informative and showed that LFS employment fell by 240,000, unemployment increased by 75,000 and the unemployment rate rose from 3.9% in September to 4.2%. However, the weekly data suggested this didn't last long as unemployment was falling again by the end of October. What's more, the 49,700 fall in the claimant count and the 257,000 rise in the PAYE measure of company payrolls suggests that the labour market strengthened again in November. The other side of the coin was a further rise in the number of vacancies from 1.182m to a record 1.219m in the three months to November which suggests that the supply of labour is struggling to keep up with demand, although the single-month figure for November fell for the first time since February, from 1.307m to 1.227m.
- These figures by themselves, would probably have been enough to give the MPC the assurance that it could press ahead to raise Bank Rate at this December meeting. However, the advent of Omicron potentially threw a spanner into the works as it poses a major headwind to the economy which, of

itself, will help to cool the economy. The financial markets, therefore, swung round to expecting no change in Bank Rate.

- **On 15th December we had the CPI inflation** figure for November which spiked up further from 4.2% to 5.1%, confirming again how inflationary pressures have been building sharply. However, Omicron also caused a sharp fall in world oil and other commodity prices; (gas and electricity inflation has generally accounted on average for about 60% of the increase in inflation in advanced western economies).
- **Other elements of inflation are also transitory** e.g., prices of goods being forced up by supply shortages, and shortages of shipping containers due to ports being clogged have caused huge increases in shipping costs. But these issues are likely to clear during 2022, and then prices will subside back to more normal levels. Gas prices and electricity prices will also fall back once winter is passed and demand for these falls away.
- Although it is possible that the Government could step in with some **fiscal support for the economy**, the huge cost of such support to date is likely to pose a barrier to incurring further major economy wide expenditure unless it is very limited and targeted on narrow sectors like hospitality, (as announced just before Christmas). The Government may well, therefore, effectively leave it to the MPC, and to monetary policy, to support economic growth – but at a time when the threat posed by rising inflation is near to peaking!
- This is the adverse set of factors against which the MPC had to decide on Bank Rate. For the second month in a row, the MPC blind-sided financial markets, this time with a **surprise increase in Bank Rate from 0.10% to 0.25%**. What's more, the hawkish tone of comments indicated that the MPC is now concerned that inflationary pressures are indeed building and need concerted action by the MPC to counter. This indicates that there will be more increases to come with financial markets predicting 1% by the end of 2022. The 8-1 vote to raise the rate shows that there is firm agreement that inflation now poses a threat, especially after the CPI figure hit a 10-year high this week. The MPC commented that “there has been significant upside news” and that “there were some signs of greater persistence in domestic costs and price pressures”.
- On the other hand, it did also comment that “**the Omicron variant is likely to weigh on near-term activity**”. But it stressed that at the November meeting it had said it would raise rates if the economy evolved as it expected and that now “these conditions had been met”. It also appeared more worried about the possible boost to inflation from Omicron itself. It said that “the current position of the global and UK economies was materially different compared with prior to the onset of the pandemic, including elevated levels of consumer price inflation”. It also noted the possibility that renewed social distancing would boost demand for goods again, (as demand for services would fall), meaning “global price pressures might persist for longer”. (Recent news is that the largest port in the world in China has come down with an Omicron outbreak which is not only affecting the port but also factories in the region.)
- On top of that, there were no references this month to inflation being expected to be below the **2% target in two years' time**, which at November's meeting the MPC referenced to suggest the markets had gone too far in expecting interest rates to rise to over 1.00% by the end of the year.

- These comments indicate that there has been a material reappraisal by the MPC of the inflationary pressures since their last meeting and the Bank also increased its forecast for inflation to peak at 6% next April, rather than at 5% as of a month ago. However, as the Bank retained its guidance that only a **“modest tightening”** in policy will be required, it cannot be thinking that it will need to increase interest rates that much more. A typical policy tightening cycle has usually involved rates rising by 0.25% four times in a year. “Modest” seems slower than that. As such, the Bank could be thinking about raising interest rates two or three times next year to 0.75% or 1.00%.
- In as much as a considerable part of the inflationary pressures at the current time are indeed **transitory**, and will naturally subside, and since economic growth is likely to be weak over the next few months, this would appear to indicate that this tightening cycle is likely to be comparatively short.
- As for the timing of the next increase in Bank Rate, the MPC dropped the comment from November’s statement that Bank Rate would be raised “in the coming months”. That may imply another rise is unlikely at the next meeting in February and that May is more likely. However, much could depend on how adversely, or not, the economy is affected by Omicron in the run up to the next meeting on 3<sup>rd</sup> February. Once 0.50% is reached, the Bank would act to start shrinking its stock of QE, (gilts purchased by the Bank would not be replaced when they mature).
- **The MPC’s forward guidance on its intended monetary policy** on raising Bank Rate versus selling (quantitative easing) holdings of bonds is as follows:
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  - Raising Bank Rate as “the active instrument in most circumstances”.
  - Raising Bank Rate to 0.50% before starting on reducing its holdings.
  - Once Bank Rate is at 0.50% it would stop reinvesting maturing gilts.
  - Once Bank Rate had risen to at least 1%, it would start selling its holdings.
- **US.** Shortages of goods and intermediate goods like semi-conductors, have been fuelling increases in prices and reducing economic growth potential. In November, **CPI inflation hit a near 40-year record level of 6.8%** but with energy prices then falling sharply, this is probably the peak. The biggest problem for the Fed is the mounting evidence of a strong pick-up in cyclical price pressures e.g., in rent which has hit a decades high.
- **Shortages of labour** have also been driving up wage rates sharply; this also poses a considerable threat to feeding back into producer prices and then into consumer prices inflation. It now also appears that there has been a sustained drop in the labour force which suggests the pandemic has had a longer-term scarring effect in reducing potential GDP. Economic growth may therefore be reduced to between 2 and 3% in 2022 and 2023 while core inflation is likely to remain elevated at around 3% in both years instead of declining back to the Fed’s 2% central target.
- Inflation hitting 6.8% and the feed through into second round effects, meant that it was near certain that the **Fed’s meeting of 15<sup>th</sup> December** would take aggressive action against inflation. Accordingly, the rate of tapering of monthly \$120bn QE purchases announced at its November 3<sup>rd</sup> meeting, was doubled so that all purchases would now finish in February 2022. In addition, Fed officials had started discussions on running down the stock of QE held by the Fed. Fed officials also expected three rate rises in 2022 of 0.25% from near zero currently, followed by three in 2023 and two in 2024, taking rates back above 2% to a neutral level for monetary policy. The first increase could come as soon as March 2022 as the

chairman of the Fed stated his view that the economy had made rapid progress to achieving the other goal of the Fed – “maximum employment”. The Fed forecast that inflation would fall from an average of 5.3% in 2021 to 2.6% in 2023, still above its target of 2% and both figures significantly up from previous forecasts. What was also significant was that this month the Fed dropped its description of the current level of inflation as being “transitory” and instead referred to “elevated levels” of inflation: the statement also dropped most of the language around the flexible average inflation target, with inflation now described as having exceeded 2 percent “for some time”. It did not see Omicron as being a major impediment to the need to take action now to curtail the level of inflationary pressures that have built up, although Fed officials did note that it has the potential to exacerbate supply chain problems and add to price pressures.

- **EU.** The slow roll out of vaccines initially delayed **economic recovery** in early 2021 but the vaccination rate then picked up sharply. After a contraction of -0.3% in Q1, Q2 came in with strong growth of 2%. With Q3 at 2.2%, the EU recovery was then within 0.5% of its pre Covid size. However, the arrival of Omicron is now a major headwind to growth in quarter 4 and the expected downturn into weak growth could well turn negative, with the outlook for the first two months of 2022 expected to continue to be very weak.
- **November’s inflation figures** breakdown shows that the increase in price pressures is not just due to high energy costs and global demand-supply imbalances for durable goods as services inflation also rose. Headline inflation reached 4.9% in November, with over half of that due to energy. However, oil and gas prices are expected to fall after the winter and so energy inflation is expected to plummet in 2022. Core goods inflation rose to 2.4% in November, its second highest ever level, and is likely to remain high for some time as it will take a long time for the inflationary impact of global imbalances in the demand and supply of durable goods to disappear. Price pressures also increased in the services sector, but wage growth remains subdued and there are no signs of a trend of faster wage growth which might lead to *persistently* higher services inflation - which would get the ECB concerned. The upshot is that the euro-zone is set for a prolonged period of inflation being above the ECB’s target of 2% and it is likely to average 3% in 2022, in line with the ECB’s latest projection.
- **ECB tapering.** The ECB has joined with the Fed by also announcing at its meeting on 16th December that it will be reducing its QE purchases - by half from October 2022, i.e., it will still be providing significant stimulus via QE purchases for over half of next year. However, as inflation will fall back sharply during 2022, it is likely that it will leave its central rate below zero, (currently -0.50%), over the next two years. The main struggle that the ECB has had in recent years is that inflation has been doggedly anaemic in sticking below the ECB’s target rate despite all its major programmes of monetary easing by cutting rates into negative territory and providing QE support.
- The ECB will now also need to consider the impact of **Omicron** on the economy, and it stated at its December meeting that it is prepared to provide further QE support if the pandemic causes bond yield spreads of peripheral countries, (compared to the yields of northern EU countries), to rise. However, that is the only reason it will support peripheral yields, so this support is limited in its scope.
- The EU has entered into a **period of political uncertainty** where a new German government formed of a coalition of three parties with Olaf Scholz replacing Angela Merkel as Chancellor in December 2021, will need to find its feet both within the EU and in the three parties successfully working together. In France there is a presidential election coming up in April 2022 followed by the legislative election in June. In addition, Italy needs to elect a new president in January with Prime Minister Draghi being a favourite due to having suitable gravitas for this post.

However, if he switched office, there is a significant risk that the current government coalition could collapse. That could then cause differentials between Italian and German bonds to widen when 2022 will also see a gradual running down of ECB support for the bonds of weaker countries within the EU. These political uncertainties could have repercussions on economies and on Brexit issues.

- **CHINA.** After a concerted effort to get on top of the virus outbreak in Q1 2020, economic recovery was strong in the rest of **2020**; this enabled China to recover all the initial contraction. During 2020, policy makers both quashed the virus and implemented a programme of monetary and fiscal support that was particularly effective at stimulating short-term growth. At the same time, China's economy benefited from the shift towards online spending by consumers in developed markets. These factors helped to explain its comparative outperformance compared to western economies during 2020 and earlier in 2021.
- However, the pace of economic growth has now fallen back in **2021** after this initial surge of recovery from the pandemic and looks likely to be particularly weak in 2022. China has been struggling to contain the spread of the Delta variant through using sharp local lockdowns - which depress economic growth. Chinese consumers are also being very wary about leaving home and so spending money on services. However, with Omicron having now spread to China, and being much more easily transmissible, this strategy of sharp local lockdowns to stop the virus may not prove so successful in future. In addition, the current pace of providing boosters at 100 billion per month will leave much of the 1.4 billion population exposed to Omicron, and any further mutations, for a considerable time. The **People's Bank of China** made a start in December 2021 on cutting its key interest rate marginally so as to stimulate economic growth. However, after credit has already expanded by around 25% in just the last two years, it will probably leave the heavy lifting in supporting growth to fiscal stimulus by central and local government.
- Supply shortages, especially of coal for power generation, were causing widespread power cuts to industry during the second half of 2021 and so a sharp disruptive impact on some sectors of the economy. In addition, recent regulatory actions motivated by a political agenda to channel activities into officially approved directions, are also likely to reduce the dynamism and long-term growth of the Chinese economy.
- **JAPAN.** 2021 has been a patchy year in combating Covid. However, recent business surveys indicate that the economy has been rebounding rapidly in 2021 once the bulk of the population had been double vaccinated and new virus cases had plunged. However, Omicron could reverse this initial success in combating Covid.
- The Bank of Japan is continuing its **very loose monetary policy** but with little prospect of getting inflation back above 1% towards its target of 2%, any time soon: indeed, inflation was actually negative in July. New Prime Minister Kishida, having won the November general election, brought in a supplementary budget to boost growth, but it is unlikely to have a major effect.
- **WORLD GROWTH.** World growth was in recession in 2020 but recovered during 2021 until starting to lose momentum in the second half of the year, though overall growth for the year is expected to be about 6% and to be around 4-5% in 2022. Inflation has been rising due to increases in gas and electricity prices, shipping costs and supply shortages, although these should subside during 2022. While headline inflation will fall sharply, core inflation will probably not fall as quickly as central bankers would hope. It is likely that we are heading into a period where

there will be a **reversal of world globalisation** and a decoupling of western countries from dependence on China to supply products, and vice versa. This is likely to reduce world growth rates from those in prior decades.

- **SUPPLY SHORTAGES.** The pandemic and extreme weather events, followed by a major surge in demand after lockdowns ended, have been highly disruptive of extended worldwide supply chains. Major queues of ships unable to unload their goods at ports in New York, California and China built up rapidly during quarters 2 and 3 of 2021 but then halved during quarter 4. Such issues have led to a misdistribution of shipping containers around the world and have contributed to a huge increase in the cost of shipping. Combined with a shortage of semi-conductors, these issues have had a disruptive impact on production in many countries. The latest additional disruption has been a shortage of coal in China leading to power cuts focused primarily on producers (rather than consumers), i.e., this will further aggravate shortages in meeting demand for goods. Many western countries are also hitting up against a difficulty in filling job vacancies. It is expected that these issues will be gradually sorted out, but they are currently contributing to a spike upwards in inflation and shortages of materials and goods available to purchase.

### 4.3 TREASURY MANAGEMENT PRACTICE (TMP1) – CREDIT AND COUNTERPARTY RISK MANAGEMENT OPTION 1

**SPECIFIED INVESTMENTS:** All such investments will be sterling denominated, with **maturities up to maximum of 3 months**, meeting the minimum 'high' quality criteria where applicable.

**NON-SPECIFIED INVESTMENTS:** These are any investments which do not meet the specified investment criteria. Transport for the North will not use investment classes that fall under this category.

	Minimum credit criteria / colour band	Max % of total investments/	Max. maturity period
<b>DMADF – UK Government</b>	UK sovereign rating	<b>100%</b>	<b>3 months</b>
UK Government gilts	UK sovereign rating	100%	3 months
UK Government Treasury bills	UK sovereign rating	100%	3 months
Bonds issued by multilateral development banks	AAA (or state your criteria if different)	100%	3 months
Money Market Funds CNAV	AAA	100%	Liquid
Money Market Funds LNAV	AAA	100%	Liquid
Local authorities	N/A	100%	3 months
Term deposits with banks and building societies	Blue Orange Red Green No Colour		3 months 3 months 3 months 1 month Not for use

**Accounting treatment of investments.** The accounting treatment may differ from the underlying cash transactions arising from investment decisions made by Transport for the North. To ensure that Transport for the North is protected from any adverse revenue impact, which may arise from these differences, we will review the accounting implications of new transactions before they are undertaken.

#### 4.4 APPROVED COUNTRIES FOR INVESTMENTS

*Based on lowest available rating*

AAA

- Australia
- Canada
- Denmark
- Germany
- Luxembourg
- Netherlands
- Norway
- Singapore
- Sweden
- Switzerland

AA+

- Finland
- U.S.A.

AA

- Abu Dhabi (UAE)
- France
- Hong Kong
- U.K.

AA-

- Belgium
- Qatar

## **4.5 TREASURY MANAGEMENT SCHEME OF DELEGATION**

### **(i) Transport for the North Board**

- receiving and reviewing reports on treasury management policies, practices and activities;
- approval of annual strategy.
- approval of/amendments to the organisation's adopted clauses, treasury management policy statement and treasury management practices;
- budget consideration and approval;
- approval of the division of responsibilities;
- receiving and reviewing regular monitoring reports and acting on recommendations;

### **(ii) Scrutiny Committee**

- reviewing the treasury management policy and procedures and making recommendations to the responsible body.

### **(iii) Audit and Governance Committee**

- reviewing the treasury management policy and procedures and making recommendations to the responsible body.

#### **4.6 THE TREASURY MANAGEMENT ROLE OF THE SECTION 151 OFFICER**

##### **The S151 (responsible) officer (Transport for the North Finance Director)**

- recommending clauses, treasury management policy/practices for approval, reviewing the same regularly, and monitoring compliance;
- submitting regular treasury management policy reports;
- submitting budgets and budget variations;
- receiving and reviewing management information reports;
- reviewing the performance of the treasury management function;
- ensuring the adequacy of treasury management resources and skills, and the effective division of responsibilities within the treasury management function;
- ensuring the adequacy of internal audit, and liaising with external audit;
- recommending the appointment of external service providers.

4.7 INDICATIVE COUNTERPARTY LIST

List of Suggested Counterparties for Lending for Transport for the North  
 Any values highlighted in yellow have undergone a change in the past 14 days

Country	Counterparty	Euro Denom		Multiple Denom		GBP Denom		Bank Name	CR	CR2	CR3	CR4	CR5	CR6	CR7	CR8	CR9	CR10	CR11	CR12	CR13	CR14	CR15	CR16	CR17	CR18	CR19	CR20	CR21	CR22	CR23	CR24	CR25	CR26	CR27	CR28	CR29	CR30	CR31	CR32	CR33	CR34	CR35	CR36	CR37	CR38	CR39	CR40	CR41	CR42	CR43	CR44	CR45	CR46	CR47	CR48	CR49	CR50	CR51	CR52	CR53	CR54	CR55	CR56	CR57	CR58	CR59	CR60	CR61	CR62	CR63	CR64	CR65	CR66	CR67	CR68	CR69	CR70	CR71	CR72	CR73	CR74	CR75	CR76	CR77	CR78	CR79	CR80	CR81	CR82	CR83	CR84	CR85	CR86	CR87	CR88	CR89	CR90	CR91	CR92	CR93	CR94	CR95	CR96	CR97	CR98	CR99	CR100	CR101	CR102	CR103	CR104	CR105	CR106	CR107	CR108	CR109	CR110	CR111	CR112	CR113	CR114	CR115	CR116	CR117	CR118	CR119	CR120	CR121	CR122	CR123	CR124	CR125	CR126	CR127	CR128	CR129	CR130	CR131	CR132	CR133	CR134	CR135	CR136	CR137	CR138	CR139	CR140	CR141	CR142	CR143	CR144	CR145	CR146	CR147	CR148	CR149	CR150	CR151	CR152	CR153	CR154	CR155	CR156	CR157	CR158	CR159	CR160	CR161	CR162	CR163	CR164	CR165	CR166	CR167	CR168	CR169	CR170	CR171	CR172	CR173	CR174	CR175	CR176	CR177	CR178	CR179	CR180	CR181	CR182	CR183	CR184	CR185	CR186	CR187	CR188	CR189	CR190	CR191	CR192	CR193	CR194	CR195	CR196	CR197	CR198	CR199	CR200	CR201	CR202	CR203	CR204	CR205	CR206	CR207	CR208	CR209	CR210	CR211	CR212	CR213	CR214	CR215	CR216	CR217	CR218	CR219	CR220	CR221	CR222	CR223	CR224	CR225	CR226	CR227	CR228	CR229	CR230	CR231	CR232	CR233	CR234	CR235	CR236	CR237	CR238	CR239	CR240	CR241	CR242	CR243	CR244	CR245	CR246	CR247	CR248	CR249	CR250	CR251	CR252	CR253	CR254	CR255	CR256	CR257	CR258	CR259	CR260	CR261	CR262	CR263	CR264	CR265	CR266	CR267	CR268	CR269	CR270	CR271	CR272	CR273	CR274	CR275	CR276	CR277	CR278	CR279	CR280	CR281	CR282	CR283	CR284	CR285	CR286	CR287	CR288	CR289	CR290	CR291	CR292	CR293	CR294	CR295	CR296	CR297	CR298	CR299	CR300	CR301	CR302	CR303	CR304	CR305	CR306	CR307	CR308	CR309	CR310	CR311	CR312	CR313	CR314	CR315	CR316	CR317	CR318	CR319	CR320	CR321	CR322	CR323	CR324	CR325	CR326	CR327	CR328	CR329	CR330	CR331	CR332	CR333	CR334	CR335	CR336	CR337	CR338	CR339	CR340	CR341	CR342	CR343	CR344	CR345	CR346	CR347	CR348	CR349	CR350	CR351	CR352	CR353	CR354	CR355	CR356	CR357	CR358	CR359	CR360	CR361	CR362	CR363	CR364	CR365	CR366	CR367	CR368	CR369	CR370	CR371	CR372	CR373	CR374	CR375	CR376	CR377	CR378	CR379	CR380	CR381	CR382	CR383	CR384	CR385	CR386	CR387	CR388	CR389	CR390	CR391	CR392	CR393	CR394	CR395	CR396	CR397	CR398	CR399	CR400	CR401	CR402	CR403	CR404	CR405	CR406	CR407	CR408	CR409	CR410	CR411	CR412	CR413	CR414	CR415	CR416	CR417	CR418	CR419	CR420	CR421	CR422	CR423	CR424	CR425	CR426	CR427	CR428	CR429	CR430	CR431	CR432	CR433	CR434	CR435	CR436	CR437	CR438	CR439	CR440	CR441	CR442	CR443	CR444	CR445	CR446	CR447	CR448	CR449	CR450	CR451	CR452	CR453	CR454	CR455	CR456	CR457	CR458	CR459	CR460	CR461	CR462	CR463	CR464	CR465	CR466	CR467	CR468	CR469	CR470	CR471	CR472	CR473	CR474	CR475	CR476	CR477	CR478	CR479	CR480	CR481	CR482	CR483	CR484	CR485	CR486	CR487	CR488	CR489	CR490	CR491	CR492	CR493	CR494	CR495	CR496	CR497	CR498	CR499	CR500	CR501	CR502	CR503	CR504	CR505	CR506	CR507	CR508	CR509	CR510	CR511	CR512	CR513	CR514	CR515	CR516	CR517	CR518	CR519	CR520	CR521	CR522	CR523	CR524	CR525	CR526	CR527	CR528	CR529	CR530	CR531	CR532	CR533	CR534	CR535	CR536	CR537	CR538	CR539	CR540	CR541	CR542	CR543	CR544	CR545	CR546	CR547	CR548	CR549	CR550	CR551	CR552	CR553	CR554	CR555	CR556	CR557	CR558	CR559	CR560	CR561	CR562	CR563	CR564	CR565	CR566	CR567	CR568	CR569	CR570	CR571	CR572	CR573	CR574	CR575	CR576	CR577	CR578	CR579	CR580	CR581	CR582	CR583	CR584	CR585	CR586	CR587	CR588	CR589	CR590	CR591	CR592	CR593	CR594	CR595	CR596	CR597	CR598	CR599	CR600	CR601	CR602	CR603	CR604	CR605	CR606	CR607	CR608	CR609	CR610	CR611	CR612	CR613	CR614	CR615	CR616	CR617	CR618	CR619	CR620	CR621	CR622	CR623	CR624	CR625	CR626	CR627	CR628	CR629	CR630	CR631	CR632	CR633	CR634	CR635	CR636	CR637	CR638	CR639	CR640	CR641	CR642	CR643	CR644	CR645	CR646	CR647	CR648	CR649	CR650	CR651	CR652	CR653	CR654	CR655	CR656	CR657	CR658	CR659	CR660	CR661	CR662	CR663	CR664	CR665	CR666	CR667	CR668	CR669	CR670	CR671	CR672	CR673	CR674	CR675	CR676	CR677	CR678	CR679	CR680	CR681	CR682	CR683	CR684	CR685	CR686	CR687	CR688	CR689	CR690	CR691	CR692	CR693	CR694	CR695	CR696	CR697	CR698	CR699	CR700	CR701	CR702	CR703	CR704	CR705	CR706	CR707	CR708	CR709	CR710	CR711	CR712	CR713	CR714	CR715	CR716	CR717	CR718	CR719	CR720	CR721	CR722	CR723	CR724	CR725	CR726	CR727	CR728	CR729	CR730	CR731	CR732	CR733	CR734	CR735	CR736	CR737	CR738	CR739	CR740	CR741	CR742	CR743	CR744	CR745	CR746	CR747	CR748	CR749	CR750	CR751	CR752	CR753	CR754	CR755	CR756	CR757	CR758	CR759	CR760	CR761	CR762	CR763	CR764	CR765	CR766	CR767	CR768	CR769	CR770	CR771	CR772	CR773	CR774	CR775	CR776	CR777	CR778	CR779	CR780	CR781	CR782	CR783	CR784	CR785	CR786	CR787	CR788	CR789	CR790	CR791	CR792	CR793	CR794	CR795	CR796	CR797	CR798	CR799	CR800	CR801	CR802	CR803	CR804	CR805	CR806	CR807	CR808	CR809	CR810	CR811	CR812	CR813	CR814	CR815	CR816	CR817	CR818	CR819	CR820	CR821	CR822	CR823	CR824	CR825	CR826	CR827	CR828	CR829	CR830	CR831	CR832	CR833	CR834	CR835	CR836	CR837	CR838	CR839	CR840	CR841	CR842	CR843	CR844	CR845	CR846	CR847	CR848	CR849	CR850	CR851	CR852	CR853	CR854	CR855	CR856	CR857	CR858	CR859	CR860	CR861	CR862	CR863	CR864	CR865	CR866	CR867	CR868	CR869	CR870	CR871	CR872	CR873	CR874	CR875	CR876	CR877	CR878	CR879	CR880	CR881	CR882	CR883	CR884	CR885	CR886	CR887	CR888	CR889	CR890	CR891	CR892	CR893	CR894	CR895	CR896	CR897	CR898	CR899	CR900	CR901	CR902	CR903	CR904	CR905	CR906	CR907	CR908	CR909	CR910	CR911	CR912	CR913	CR914	CR915	CR916	CR917	CR918	CR919	CR920	CR921	CR922	CR923	CR924	CR925	CR926	CR927	CR928	CR929	CR930	CR931	CR932	CR933	CR934	CR935	CR936	CR937	CR938	CR939	CR940
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