



## **COPYRIGHT**

**Greater London Authority  
December 2017**

Published by  
Greater London Authority  
City Hall, The Queen's Walk  
More London  
London SE1 2AA

www.london.gov.uk  
Enquiries 020 7983 4100  
Minicom 020 7983 4458

ISBN 978-1-84781-675-7

All photos in this report are copyright  
Greater London Authority

Copies of this report are available from  
www.londonsdc.org.uk

Other formats and languages: for a large print,  
Braille, disc, sign language video or audio-  
type version of this document, or if you would  
like a summary of this document in your  
language please contact us at this address:

### **London Sustainable Development Commission**

City Hall  
4th Floor  
The Queen's Walk  
London SE1 2AA

www.londonsdc.org.uk

You will need to supply your name, your  
postal address and state the format and title  
of the publication you require.

Printed on 100 per cent recycled fibre content  
from post consumer reclaimed material.

## **ACKNOWLEDGEMENTS**

**The LSDC would like to thank the following  
individuals for their help in compiling  
this report.**

**Authors:** The London Sustainable  
Development Commission, in association  
with CAG Consultants.

**Steering Group:** Paul Toyne, Ashok Sinha,  
Maria Adebawale-Schwarte, Anna Coote,  
David Elliott, Julie Hirigoyen, Samantha  
Heath, Malini Mehra, Claudia Webbe,  
Charlotte Wood, LSDC Secretariat,  
and GLA Officers (Joseph Colombeau,  
Kristen Guida, and Vivienne Avery).

**CAG Consultants:** Denny Gray, Emma Jones,  
Gerard Couper, Bill Kirkup.

We are also grateful for the contribution  
and input from staff at the GLA, Transport  
for London, the Environment Agency and  
Greenspace Information for Greater London.

# CONTENTS

---

<b>Acknowledgements</b>	<b>2</b>	<b>4. Summary analysis</b>	<b>24</b>
<b>Background</b>	<b>4</b>	4.1. Overall direction of travel	26
<b>Foreword</b>	<b>6</b>	4.2. A closer look at the data; exploring links between indicators	29
<b>1. Introduction</b>	<b>8</b>	<b>5. Next steps for the Commission</b>	<b>46</b>
1.1. Purpose	10	5.1. Recommendations for future QoL indicator sets	48
1.2. About this report	11	5.2. Feedback	49
1.3. Sustainable development and quality of life	11	<b>Notes and References</b>	<b>50</b>
1.4. Context	12		
<b>2. 2017 Indicator Set</b>	<b>14</b>		
<b>3. How the assessment is made</b>	<b>18</b>		
3.1. Summary of changes: a guide	20		
3.2. More about the assessments	21		

# BACKGROUND

---

## **LONDON SUSTAINABLE DEVELOPMENT COMMISSION**

**The London Sustainable Development Commission (LSDC)** was established in 2002 to provide independent advice to the Mayor of London on ways to make London a sustainable, world-class city. The Commission is an independent body, challenging policy-makers to promote a better quality of life for all Londoners, both now and in the future, whilst also considering London's wider global impacts. The Commission is made up of individual experts from the economic, social, environmental and London governance sectors. Commissioners give their time voluntarily, promoting sustainable development, embedding sustainability into London-wide strategies, and helping make sustainability a meaningful and understandable concept for all Londoners.

## **CAG CONSULTANTS**

Founded in 1983, CAG Consultants are leaders in evidence-based research, advice and engagement for environmental, economic and social sustainability. Delivered by our nationwide team of independent experts for over 30 years, our work informs and supports positive change.

For more information, see  
[www.cagconsultants.co.uk](http://www.cagconsultants.co.uk)



## FOREWORD

---

How can we ensure London lives within its environmental means, and in doing so increases quality of life for every Londoner, present and future? How can we increase equity and widen prosperity whilst helping to avert the existential threat humanity has created for ourselves - and much else that co-habits with us on this planet - through our unsustainable relationship with the natural environment?

Before we can even begin to address this enormous challenge, we need to understand it. What are we doing well? Where are we falling behind? How wide are the gaps between where we are now and where we need to be? Proper recognition of success and effective action to remediate deficiencies is not possible without access to these metrics.

The 2017 Quality of Life Indicators Report is an attempt to provide decision-makers at all levels of London's governance, the private and public sectors, and across civil society, with those metrics. Published by the newly reconstituted London Sustainable Development Commission (LSDC), it provides those decision-makers with the information they need to set policies and remould business practices. It also provides a benchmark for the present Mayor of London, Sadiq Khan, at a time when he is consulting on a range of strategies that will interweave to facilitate "good growth". Finally, the report also provides London's citizenry, consumers and entrepreneurs with the necessary knowledge to set expectations of our leaders, innovate and intervene in the marketplace.

Assuredly this has been no easy task: the necessary data from which to construct the indicators are often hard to find and update. It is manifestly also a matter of judgement as to which indicators to choose, so as to paint



the most informative picture. But my fellow Commissioners and I are confident that the 2017 Quality of Life Indicators represent the best available snapshot of London's vital signs, and give a dependable description of how things have changed since our last report in 2012, and indeed since the first Quality of Life Report in 2004.

We have lighted on 32 social, environmental and economic indicators to gauge progress, which are described both in summary form and in depth. We would like to have gone both deeper and wider, for example by drilling down to assess progress at the borough level and comparing London's overall performance with other world cities. This is something that we aim to address in future reports. Moreover, it is the LSDC's intention that these indicators will be regularly updated, expanded, deepened and refined - with the results interrogable via a new online page. We welcome everyone's feedback to help us do so.



It is important to remember that these indicators – which are best understood not in isolation but in their interconnectedness – provide pointers towards, not prescriptions for, action. Our objective is to inform and stimulate debate around quality of life, and we therefore strongly encourage everyone to reflect on the data and draw their own conclusions from them so as to develop better policies and greater innovations to make London more sustainable. After all, improving performance across these indicators is not just the responsibility of the Mayor, but also the boroughs, businesses, central government and decision-makers within the private and public sectors in general.

That said, amidst the positive storylines in many areas such as sustainable transport and economic growth, the LSDC believes major areas of concern rise ineluctably from the data. An example is the rise of social inequalities, highlighted by the widening of gaps in educational outcomes and access to affordable housing. Another example is economic fairness: the report further evidences the continuing and growing gulf between the financial haves and the have nots.

The report also highlights notes of caution where the LSDC believes progress is heading in the right direction but where a question mark hangs over the pace of progress. Among those areas is climate change: London's direct carbon emissions are decreasing but we have substantial concern as to whether the current rate of reduction is consistent with meeting the goal of limiting global warming to 2 degrees Centigrade, let alone the 1.5 degrees Centigrade aspiration of the Paris Agreement.

From the LSDC point of view, taking all these issues into consideration raises concern about London's resilience. We believe there is a real risk that our city is not sufficiently socially,

environmentally or economically robust to withstand future shocks and stresses, not least from a burgeoning population.

In highlighting these issues we recognise that, as noted above, the Mayor is in the midst of consulting on strategies to tackle these and other pressing challenges. We greatly welcome this, and hope that our report adds grist to the mill: it is in all our interests that these strategies are as impactful as possible. But this broad-brush reflection on what the data are telling us is just the view of the recently reconstituted LSDC, albeit one that will help inform our work as we develop a new programme of activities to meet our central remit of advising the mayor of the day in meeting her or his sustainable development obligations. We very much look forward to hearing others' interpretations.

“The environment is where we all live; and development is what we all do in attempting to improve our lot within that abode. The two are inseparable.” So said Gro Harlem Brundtland in the seminal report of the UN's World Commission on Environment and Development that she chaired, which is 30 years old this year. Cities, including megacities like London, are crucibles of innovation that will be in the vanguard of finding ways to improve our lot within that abode. We commend these updated Quality of Life Indicators to all those shaping the future of London, this most creative and vibrant of cities.



**Ashok Sinha**

Chair, London Sustainable Development Commission







# 1. INTRODUCTION

---

The London Sustainable Development Commission (LSDC) was established in 2002 to advise the Mayor of London on how best to make London a 'sustainable world city'. Sustainable development matters because it offers an integrated economic, social and environmental framework for creating a London that secures quality of life for its citizens and neighbours, both now and in the future.



### 1.1. PURPOSE

This report is designed to help answer the question, "how do we know if London is making progress towards becoming a sustainable world city?" Its purpose is to provide a snapshot of London's quality of life and to identify how sustainably London is developing. It provides baseline data that will inform the Commission's future work programme and the advice they provide to the Mayor. It also provides a benchmark for the new Mayor and a review of the issue of quality of life in the round.

The report is the fifth in a series of Quality of Life (QoL) Indicators Reports produced by the LSDC. The first report was published in 2004 and subsequent reports were produced in 2005, 2008-09 and 2012. These reports can be found at [www.londonsdc.org.uk](http://www.londonsdc.org.uk). Many of the indicators used in this report were used in these previous reports such as child poverty, household recycling and decent housing. This continuity has enabled the LSDC to track London's progress on key quality of life issues since the beginning of the Commission's existence.

The analysis of each indicator uses time series data, which varies by indicator, to understand indicator progress over the last five years for which data are available (i.e. progress compared to data used within the 2012 QoL report) and long-term progress. The report also compares the performance of each indicator with national performance.

The LSDC hopes that the QoL indicators provide a useful assessment tool that might be used by others across London. It should be noted that these indicators are the responsibility of a range of organisations and bodies across London including the Mayor, boroughs, business, central government and other stakeholders in the private and public sectors. All of these will need to put into practice a series of actions in collaboration with the Mayor in order to make progress on the key quality of life issues over the coming years.





## 1.2. ABOUT THIS REPORT

This summary report provides an overview of the findings from the assessments of the 32 indicators in the 2017 QoL indicator set. Section 2 provides an overview of the indicator set. Section 3 explains how the indicator assessments have been made. Then in section 4, we present a high-level analysis of QoL indicator performance. Top-level findings for each of the individual indicators are set out at the end of section 4. Section 5 presents the LSDC's recommendations for the future and how it intends to build on the evidence provided in this report.

A separate Evidence Report presents more detailed assessments of performance for each of the QoL indicators.

## 1.3. SUSTAINABLE DEVELOPMENT AND QUALITY OF LIFE

The most widely accepted definition of sustainable development comes from the 1987 report *Our Common Future*, also known as the Brundtland Report<sup>1</sup>:

*“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”*

Sustainable cities are cities that operate in accordance with this principle. ICLEI Local Governments for Sustainability<sup>2</sup>, for example, uses this definition:

*“Sustainable cities work towards an environmentally, socially, and economically healthy and resilient habitat for existing populations, without compromising the ability of future generations to experience the same.”*

What is the relationship between sustainable development and quality of life? A good starting point is the definition of sustainable development used in the UK's 2005 sustainable development strategy<sup>3</sup> which included quality of life within its definition:

*“The goal of sustainable development is to enable all people throughout the world to satisfy their basic needs and enjoy a better quality of life, without compromising the quality of life of future generations.”*

Quality of life definitions are manifold but the essence of the concept is that quality of life is about the general well-being of a person or society<sup>4</sup>. Sustainable development is related to quality of life in that it is concerned with whether the environmental, social and economic systems in a community are providing its citizens, both now and in the future, with the opportunity to lead a good quality life.

London's quality of life changes over time and depends on many complex interdependencies that are not apparent when looking at individual aspects of quality of life in isolation. Whilst this report focuses on a specific set of QoL indicators, it also enables consideration of the many connections between them.

## 1.4. CONTEXT

London is a leading global city, demonstrating excellence in multiple areas including the arts, commerce, education, entertainment, research and development, fashion, finance, media, and tourism.

The city is also an economic powerhouse and has been ranked as having the fifth largest economy of any city in the world<sup>5</sup>. London accounts for 22.7% of the UK's economic output and a third of its growth. It contributes an estimated 21% of all UK tax, is home to a quarter of the UK's start-ups and employs more people than all three devolved nations combined<sup>6</sup>.

London is also a global cultural capital which has been ranked as the world's most-visited city<sup>7</sup>. It hosts arguably the world's leading financial services centre, Europe's fastest growing technology hub and several of the world's highest ranking universities<sup>8</sup>. It is inhabited by an incredibly diverse range of people and cultures. For example, London had the highest number, as well as proportion, of non-UK born residents out of all the regions of England and Wales in both 2001 and 2011. Furthermore, the main language spoken by 22% of London's population was not English<sup>9</sup>.

The 2011 Census found that the total population of London stood at just over 8 million, 37% of whom had been born outside of the UK<sup>10</sup>. According to the ONS<sup>11</sup>, London's population has grown every year since 1988 and is expected to continue to grow. In the London Plan (2016) the Greater London Authority (GLA) predicted that by 2036 the population will have grown to over 10 million<sup>12</sup>.

The GLA also projects that London's population will change in composition in future years. It will continue to be younger than elsewhere in England and Wales but, at the same time, the number of people over 64 is projected to increase by over 60% to reach nearly 1.5 million by 2036. London's population will also continue to diversify. Black, Asian and other minority ethnic communities are expected to grow strongly as a result of natural population growth and continued migration from overseas. By 2036, an additional twelve London boroughs are likely to have a majority of their population from these groups, joining Brent and Newham which have had such majorities since 2001.





## London since the last QoL report in 2012

Like any global city, London continues to evolve at a fast pace, and much has changed in the city since the last report in 2012. The trends in the indicators reflect aspects of these changes but there are also a number of local, national and global developments that provide a useful context when considering London's progress to improving quality of life up to 2017.

On a global scale, perhaps the most significant issue since 2012 has been the continuing worldwide economic downturn with variable recovery across the globe. As a global city, the impacts of the financial crisis and the subsequent varied recovery across different sectors has been wide-ranging, particularly given London's position as a financial centre for the world.

Globally, there have been two major agreements on advancing sustainable development. In 2015, countries adopted the UN Sustainable Development Goals, a set of 17 goals to end poverty, protect the planet and ensure prosperity for all. Each goal has specific targets to be achieved over the next 15 years<sup>13</sup>. In 2016, the Paris Agreement was signed by 195 countries, an historic decision by world leaders to create a legally binding framework for mitigating climate change<sup>14</sup>.

However, in 2017, the Committee on Climate Change concluded that since 2012, progress on greenhouse gas emissions reduction in the UK has stalled<sup>15</sup>. It reported that greenhouse gas emissions reductions have been largely confined to the power sector, whilst emissions from transport and the UK's building stock are rising. It also argued that the overall state of our natural environment is worsening, reducing its resilience to climate change. It called upon the UK Government to urgently

deliver a plan to continue reducing emissions across the economy and to strengthen the UK's National Adaptation Programme in the first half of 2018.

The last QoL report was published shortly after the London 2012 Olympics. The legacy of the Games has resulted in continued regeneration in Stratford and the surrounding areas. Elsewhere in London large infrastructure projects in transport (Crossrail) and water (Thames Tideway Tunnel) are intended to build capacity and resilience for London's growing population.

London's resilience has also been tested. In 2017, a series of tragic events have hit the capital. These included four terrorist attacks, and in June, a fire engulfed Grenfell Tower, causing an estimated 71 deaths<sup>16</sup>. Grenfell in particular highlighted the polarisation of communities often in very close proximity. Londoners demonstrated their ability to cope in these extreme circumstances but the situations have demonstrated the need to build more resilience into social, economic and institutional bodies and communities to cope with adverse situations in the future.

Politically there have been changes too. In 2016 a new Mayor was elected for London on a manifesto which included a proposal "to restore opportunity, and in doing so to protect and advance London's competitiveness and its status as a world-leading city for business, creativity, and fairness<sup>17</sup>."

In June 2016, shortly after the Mayor's election, the UK voted to leave the EU. The full impact of the Brexit vote remains to be seen but, according to the Mayor of London and others, it has created uncertainty in the capital, particularly for London's financial centre, as well as for its many residents from EU countries<sup>18</sup>.



# 2. 2017 INDICATOR SET

---

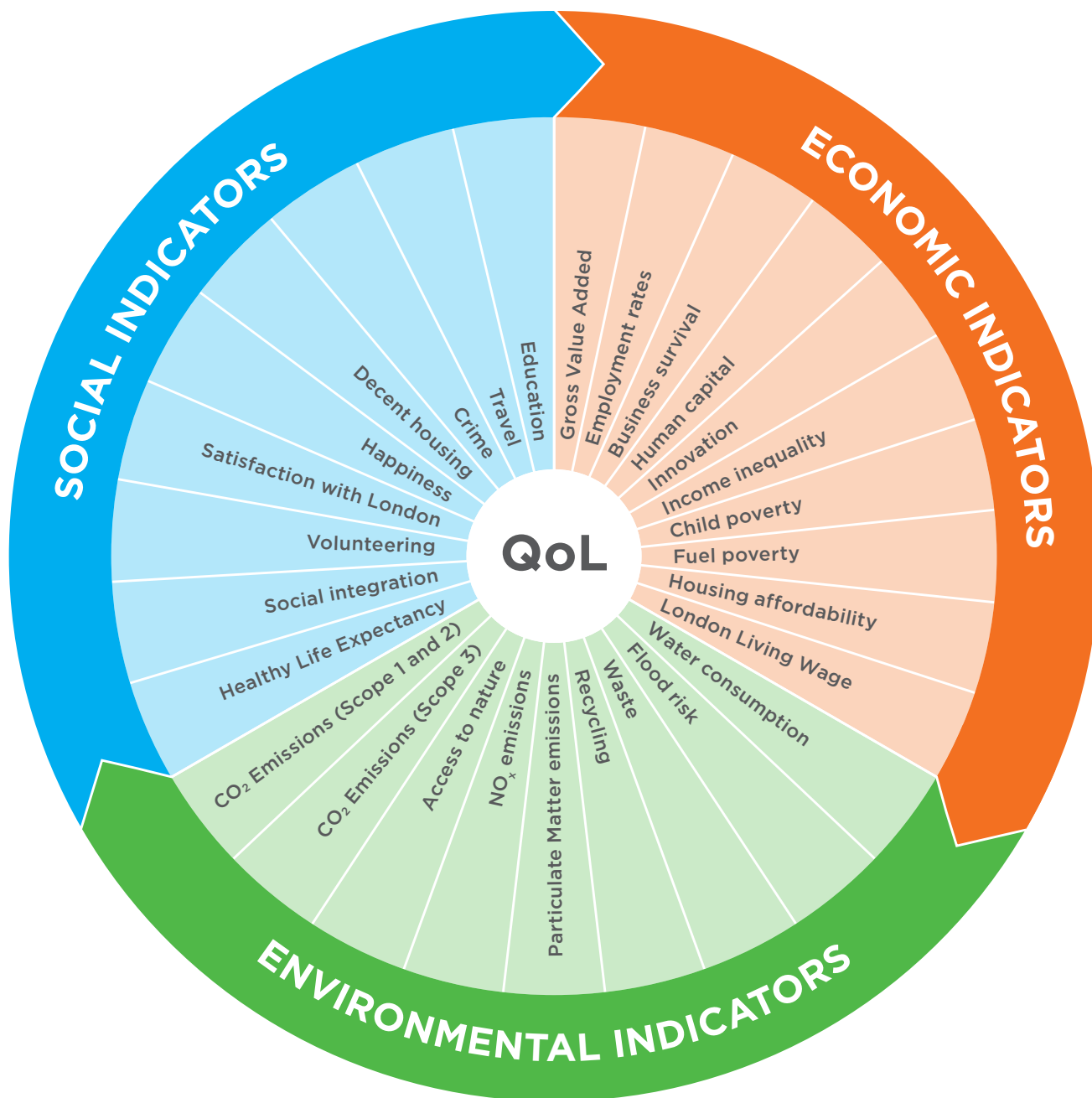
The LSDC's QoL indicator set is designed to gauge how London is performing against a number of criteria that are considered to be key measures of a sustainable city that supports and enhances quality of life, both now and in the future. It is also designed to be used by policy-makers to monitor trends and to inform future policy-making.

The 2017 QoL indicator set encompasses 28 headline indicators across the environmental, social and economic dimensions of sustainable development. In total, there are 32 indicators as three headline indicators have two separate measures each (see Table 1).

**Table 1: The 2017 QoL indicator set**

Environmental	Social	Economic
1 CO <sub>2</sub> emissions (scope 1 & 2)	10a Healthy Life Expectancy (men)	19 Gross Value Added
2 CO <sub>2</sub> emissions (scope 3)	10b Healthy Life Expectancy (women)	20 Employment
3 Access to nature	11 Education	21 Business survival
4 NO <sub>x</sub> emissions	12 Travel	22 Human capital
5a Air quality PM emissions (PM <sub>2.5</sub> )	13 Crime	23a Innovation (products)
5b Air quality PM emissions (PM <sub>10</sub> )	14 Decent housing	23b Innovation (processes)
6 Household recycling	15 Happiness	24 Income inequality
7 Waste	16 Satisfaction with London	25 Child poverty
8a Flood risk (tidal and fluvial)	17 Volunteering	26 Fuel poverty
8b Flood risk (surface water)	18 Social integration	27 Housing affordability
9 Water consumption		28 London Living Wage





Annex A of the evidence report sets out in more detail how the indicators evolved from the 2012 QoL set and the rationale for the inclusion and exclusion of indicators in the 2017 report.



# 3. HOW THE ASSESSMENT IS MADE

---

### 3.1. SUMMARY OF CHANGES: A GUIDE

For each indicator, we have produced a high-level ‘summary of change’. Its purpose is to provide the reader with a snapshot of the key findings for each indicator. The guide below explains what each section of these summaries means. Further explanation is provided in the sections below.

#### INDICATOR OVERVIEW

<b>Measure</b>	Total scope 1 and 2 CO <sub>2</sub> emissions in London
<b>Source</b>	GLA (2016), Interim London Energy and Greenhouse Gas Inventory (LEGGI) 2014
<b>Link</b>	<a href="https://data.london.gov.uk/dataset/interim-london-energy-and-greenhouse-gas-inventory--leggi--2014">https://data.london.gov.uk/dataset/interim-london-energy-and-greenhouse-gas-inventory--leggi--2014</a>
<b>Year of data used for 2017 report</b>	2014

The official source of the data used for the headline measure.

Weblink for the headline data.

The latest year for which data were available for this measure at the time of research.

#### SUMMARY ASSESSMENT

- CO<sub>2</sub> emissions in London in 2014 were an estimated 38 MtCO<sub>2</sub>.
- Between 2000 and 2014 London’s total CO<sub>2</sub> emissions have dropped by 25%.
- Between 2009 and 2014 London’s total CO<sub>2</sub> emissions dropped by 11%.
- Per capita CO<sub>2</sub> emissions were lower in London than for the rest of the UK in 2014 (4.4 tonnes in 2014 compared to 6.2 for the UK as a whole).
- London has higher levels of solid walled properties and less roof space for solar compared to the rest of the country.

Key findings summary.

Most relevant London policy, goal or target for the measure.

#### SUMMARY OF CHANGE

Future key targets and ambitions	LSDC notes of caution	Performance vs national average
“London will be a zero carbon city by 2050” (draft LES) <sup>23</sup> Climate Change Act 2008 commits UK to reducing emissions by 80% by 2050 <sup>24</sup>	Emissions will need to drop significantly further if London is to meet the Mayor’s aim of London being zero carbon by 2050.	✓ (United Kingdom)

LSDC notes of caution explore nuances and complexities that cannot be conveyed by a simple traffic light rating.

Traffic light indicates if London is performing better, worse or about the same as the national average for this measure.

	Long-term trend 2000-2014	Long-term Progress since 2000	Five-year Progress since 2009
<b>Change</b>		✓	✓

The cells in this table show change over time for the indicator.

Shows a ‘sparkline’ graph of the headline trend data for the measure, for all years that the data are available.

Traffic light indicates whether there has been positive, negative or little progress in the long-term.

Traffic light indicates whether there has been positive, negative or little progress for the measure in the last five years that data available.



### 3.2. MORE ABOUT THE ASSESSMENTS

The data in this report come from a variety of sources. In several cases some data sets are unavoidably a few years old, but they nonetheless still provide both a general indication of recent performance and a comparison with previous years. By identifying data gaps and the data collection challenges faced, we also hope to encourage others to make information more readily available for future reports.

Due to the differences in baseline data, for each indicator assessment we have noted the year of the data used in each report. For the London Living Wage indicator, for example, the five-year comparison (data used for the 2012 report) is 2010 to 2015, and the long term comparison uses data from 2005 to 2015.

### Traffic light assessments

#### Progress over time

To provide the reader with an ‘at-a-glance’ understanding of the trends for each indicator, we have used a set of traffic lights to illustrate where there has been clear improvement or deterioration since the last assessment.

The traffic lights are determined by comparing the value of the measure in the base year with the value in the end year. Where the data allow, two assessment periods have been used:

- Long term: an assessment of change since the earliest date for which data sets are available. If the earliest data available are for, or after, 2008 no long term assessment is made.
- Five year: an assessment of change during the latest five year period for which data are available i.e. the data used for the 2012 QoL report published<sup>19</sup>.



The traffic lights only reflect the difference between the start and finish points of the measurement period and do not reflect fluctuations during the intervening years. The traffic light assessments are as follows:

Long term and five year assessments	Definition
✓	Clear improvement
≈	Little or no change
✗	Clear deterioration
●	Insufficient or no comparable data







For most indicators it is clear whether there has been an improvement or a deterioration and therefore whether a green or red traffic light is warranted. However, where identified changes are small, it can be difficult to make an assessment. Therefore, as a general rule, we have said that where the indicator measure has changed by less than 3% since the last report, the traffic light has been set to amber, indicating little or no change. This is an arbitrary threshold, based on the approach used for measuring progress on sustainable development indicators nationally<sup>20</sup>. There are some exceptions to this rule however. For example, where the indicator measure has been stable historically small changes may be considered as indicating an improvement or deterioration (and have therefore been awarded a red or green traffic light).



### Comparisons with the national average

Where possible QoL assessments for London have been compared with national averages. When making such comparisons a similar process has been followed for undertaking the assessments of change or difference. The traffic light assessments are as follows:

	Clearly better
	Little or no difference
	Clearly worse
	Insufficient or no comparable data

As for the London progress assessments, we have used a general rule that where there is less than 3% difference between London's performance and national performance, the traffic light has been set to amber, indicating little or no difference. Again, we have made exceptions where the differences in regional and national performance has been small historically.

### LSDC notes of caution

The traffic light system used in this report makes clear where there has been a positive trend in performance. But for some indicators, the bigger picture is still one of concern as to the absolute level of performance or the prospects for performance to continue to improve at a sufficient rate.

The LSDC notes of caution highlight where the Commission believes an indicator's performance, despite being green or amber, provides a need to closely monitor future performance. These are based on the LSDC's independent knowledge and assessment of the data. For example, the NO<sub>x</sub> emissions indicator shows emissions are declining so the traffic lights are green. However, NO<sub>2</sub> concentrations still regularly breach legal limits and so is an area of concern.







# 4. SUMMARY ANALYSIS

---

This section presents an overall summary analysis of the findings from the individual assessments of the QoL indicators. It is split into two main sections:

1. Overall direction of travel for the indicator set as a whole.
2. Summary commentary on the indicator assessment findings.



**4.1. OVERALL DIRECTION OF TRAVEL**

**Traffic lights**

A key feature of the LSDC QoL reports, including this 2017 report, is the traffic light assessment. As highlighted in section 3, these traffic light assessments are used to provide an indication of whether progress for each indicator has been positive, negative or neutral over the medium and long terms.

Overall, the direction of travel for many of the indicators in the 2017 QoL set is positive, in medium and long term. At the headline level, these headline results suggest that London’s progress overall for the 32 indicators is positive:

- 15 indicators improved during the five years since the 2012 QoL was published. Seven indicators showed little, or no-change, and six indicators worsened. Four measures had insufficient or incomparable data to enable an assessment of five-year change.
- In the long term, twelve indicators showed improved progress. Two indicators showed no or little change and four indicators had worsened. Fourteen indicators had insufficient or incomparable data to enable a long-term assessment of change.

Overall, London performed better than the national average in 10 out of 32 indicators. For four indicators, there was little or no difference between London and the country as a whole. And for seven indicators – recycling, water consumption, employment, innovation (processes), happiness, child poverty, housing affordability - London’s performance was worse than the national average. Eleven indicators had insufficient or incomparable data to allow an assessment of performance against the national average.

**LSDC notes of caution**

The traffic light system used in this report makes clear where there has been a positive trend in performance. But for some indicators, the bigger picture is still one of concern as to the absolute level of performance or the prospects for performance to continue to improve, at a sufficient rate.

In this report, we highlight LSDC notes of caution for the performance of seven indicators. For each of the LSDC notes of caution there is recognition by the current Mayor through his strategies and actions that these are priority areas for London. Future Quality of Life reports will track the impact of these measures on the individual indicators.

- Although CO<sub>2</sub> emissions have continued to fall, they will need to drop significantly further if London is to meet the Mayor’s aim of being zero carbon by 2050. Furthermore, future CO<sub>2</sub> emissions reductions are likely to be harder to achieve than those which have been achieved to date, as many of the ‘quick wins’ for CO<sub>2</sub> emissions reduction have already been achieved. London’s housing stock has challenges for retrofitting such as a high proportion of solid walled properties,



a high proportion of flats and less roof space for solar PV<sup>21</sup>. At the time of writing we note that the Mayor of London's draft London Environment Strategy<sup>22</sup> (LES) proposes a series of specific measures to put London on track to be zero carbon. These cover, for example, reducing emissions of London's homes and workplaces; transforming the energy system; and having a zero emission transport network.

- Whilst NO<sub>x</sub> emissions have continued to fall, London (like other UK cities<sup>23</sup>) has continued to fail to stay within legal NO<sub>2</sub> concentration limits. Again, we note that at the time of writing the draft LES and Mayor's Transport Strategy (MTS) propose specific actions that need to be delivered at the borough, Mayoral, and Government levels in order to protect public health and raise awareness amongst Londoners. They include, for example, going beyond the legal requirements through the phasing out of fossil fuel powered vehicles, especially diesel, and encouraging the take up of zero emission vehicles.

- Particulate matter (PM) emissions (to air) have also continued to fall. However, 95% of Londoners still live in areas that exceed the World Health Organization guidelines for PM<sub>2.5</sub> concentrations. As described above, we note that the draft LES and MTS propose specific actions to tackle London's air quality problems. For PM in particular, the draft LES includes the commitment that the Mayor will set new concentration targets for PM<sub>2.5</sub>, with the aim of meeting World Health Organization (WHO) guidelines by 2030.
- Although 85% of London's homes exceeded the Decent Homes standard, around a quarter of private rented housing (24%) still fails to meet decent housing standards. We note that the Mayor's draft London Housing Strategy<sup>24</sup> (LHS) proposes a series of specific actions to enable private renters to benefit from decent property standards and improve management practices across the sector. These proposed actions include, for example, working with councils and Government in order to encourage good standards in London's private rented sector and to target enforcement resources against the minority of poor quality and criminal landlords.
- Child poverty shows an improvement both over five years and against the national average, but two out of five of London's children remain in poverty after housing costs are considered, despite child poverty levels falling over time. We note that the Mayor's draft Health Inequalities Strategy<sup>25</sup> proposes a series of key objectives and actions in order to tackle child poverty and other wider influences on child health. Some of these proposed actions include initiatives to support parents to better understand the health of their children and how they are developing.
- Fuel poverty is an area of concern, because the number of fuel poor households in London remains at high levels, with more than 335,000 households affected according to the latest available data. We note that the Mayor's draft Fuel Poverty Action Plan<sup>26</sup> aims to support the national fuel poverty targets. To achieve that, the Mayor is proposing a series of specific actions such as supporting existing borough services, helping improve energy efficiency of homes, and securing greater Energy Company Obligation (ECO) programme funding for Londoners.





- Although income inequality has shown little change, London continues to have disproportionately large numbers of people in the lowest and highest income brackets in the country. The Mayor's draft Economic Development Strategy<sup>27</sup> (EDS) proposes a series of actions to lowering the high costs of living in London. These actions will involve, for example, increasing the supply of affordable homes/rents; improving the accessibility and lower the cost of transport; and supporting access to more affordable childcare.

#### **4.2. A CLOSER LOOK AT THE DATA; EXPLORING LINKS BETWEEN INDICATORS**

One of the striking features of the QoL data is that, for many indicators, whilst the overall direction of performance may tell one story (positive or negative), a closer look at the data can often tell a very different one (for example by highlighting differences between different demographic groups). In this section we explore key themes and challenges emerging from the indicator analysis. We also highlight some key interrelationships between the different indicators.

##### **A growing but unequal economy**

At the headline level, for example, the Gross Value Added (GVA) indicator is a compelling story of success; London has continued to be the UK's economic powerhouse. GVA per head in London has grown by 18% since 2010, and London's GVA per head is 72.1% higher than for the UK as a whole.

However, analysis of the data reveals that there is a large variation in GVA per head within London. Inner London West, which includes the City of London, has a GVA per head that is more than seven times greater than that of Outer London East and North East, which has a GVA per head of just £18,487 – 27.1% lower than the UK average. Related to this, our assessment of income inequality showed that there are large variations in gross disposable income per head by borough. Excluding the City of London, Lewisham has the lowest (£12,544) and Kensington and Chelsea the highest (£59,471).

London has a reputation for innovation, and the evidence report highlights examples of this. Yet the data show that product and process innovation rates have dropped since the last economic recession in London (as well as in the UK in general). 2014 process innovation rates were also lower in London than for the UK in general.

There is a similarly uneven story on employment and wages. The headline news is that the employment rate in London has increased by 8.8 percentage points over the last five years. However, this rise has been accompanied by slow wage growth and an increase in fragile forms of employment like zero-hours contracts and self-employment<sup>28</sup>. Furthermore, employment rates are lower for ethnic minority groups than for white adults. On wages, there is a gender pay gap in the capital, with men earning 13.5% more than women on average. And in 2015, 22.4% of those who were working in London, earned less than the London Living Wage (LLW). This has risen substantially since 2005, when only 13.3% were earning less than the LLW.



Inequalities are not only prevalent in relation to GVA and employment. The overall positive trend in indicator progress masks wide variations in the life chances and opportunities Londoners face. Despite strong levels of economic growth, London also suffers from high poverty and inequality. The QoL data highlight disparities by gender, ethnicity and geographical location<sup>29</sup>. Child

poverty rates remain high in London. Nearly two in five children – around 700,000 – are living in poverty. After housing costs are taken into consideration, child poverty rates in London are higher than elsewhere in the UK. Income inequality data, meanwhile, show that London has disproportionately large numbers of people in the lowest and highest income brackets in the country.

### Skills and education

At the headline level, London performs well on skills and education. London's full human capital per head (£667,259) was superior to all other regions in the UK and was higher than the UK total of £487,313 in 2015. Human capital is a measure of the "knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being".

London's educational attainment rate also exceeds the national average. The proportion of pupils obtaining at least 5 GCSE passes at A\*-C or equivalent, including English and Maths, in London is 60.6%, compared with 53.5% for England.

However, there are large geographical differences in educational attainment in London. In Kingston upon Thames, 75.7% of secondary school pupils obtain at least five GCSE passes at A\*-C or equivalent, including English and Maths. In Lewisham, by contrast, just 50.6% of pupils achieve the same. And of London's major ethnic groups, the attainment of black children is lowest, with 54% meeting expected secondary school standards<sup>30</sup> in 2016.

### Health

People born in London can, on average, expect to live a longer, healthier life than those born in other parts of the UK. Newborn babies in London have a better healthy life expectancy at birth than in the United Kingdom as a whole. However, there are large geographic differences in healthy life expectancy at birth in London. Women born in Richmond upon Thames can expect to live healthily for 71.1 years on average, whilst their counterparts in Tower Hamlets can expect average of just 52.4 years of healthy life.

There are also variations in reported levels of happiness amongst different groups; young people report being considerably happier than old people in London. Women are happier than men. And white Londoners happier than black, asian and other minorities (BAME) Londoners. It is important to note that there is an important distinction between 'happiness' and wellbeing. Asking people how happy they are is a subjective measure, reflecting how people feel. Tackling issues related to wellbeing will need further investigation regarding the satisfaction of physical as well as psychological needs.

Air quality continues to be an important health issue for Londoners and is estimated to contribute to thousands of premature deaths in the capital each year. Positive progress has been made in reducing key air pollutants, including NO<sub>x</sub> emissions, PM<sub>2.5</sub> emissions and PM<sub>10</sub> emissions, which are all measured within the 2017 set, but London continues to fail to meet legal limits for NO<sub>2</sub> and PM<sub>2.5</sub> concentrations. Furthermore, populations living in the most deprived areas are on average currently more exposed to poor air quality than those in less deprived areas. 51% of the Lower Super Output Areas (LSOAs) within the most deprived 10% of London have concentrations above the NO<sub>2</sub> EU limit value. This is in contrast to 1% above the NO<sub>2</sub> EU limit in the 10% least deprived areas<sup>31</sup>.

## Housing

Perhaps one of the biggest equity challenges that London faces is a continued decline in housing affordability. There is a clear link between deprivation and housing. London is a very expensive place to live, a problem exacerbated for some groups by the income trends highlighted above. It is estimated that it has become 40% more unaffordable to buy a home over the last five years alone. Homes in London are now nearly twice as unaffordable as they were in 2002. At the same time, private renting has also become less affordable, with the 'unaffordability index' rising from 103 in 2012 to 115 in 2016 (2005=100)<sup>32</sup>. More than half of Londoners say they are stressed by housing costs, with the problem being particularly acute for private tenants, more than three quarters of whom identify housing costs as a source of stress<sup>33</sup>.

In 2015, 84% of London's homes exceeded the Decent Homes Standard. This is higher than for England as a whole (80%). It is also an increase of more than 14 percentage points on the level of 70% reported in the 2012 QoL report. Nevertheless, nearly a quarter of private rented accommodation - a sector where many of London's vulnerable reside - still fails to meet this standard. Unsurprisingly, satisfaction survey data show that affordable housing was identified as the biggest challenge of living in London by 27% of respondents.

Fuel poverty is also an issue that many householders in London face. In 2015 there were over 335,000 households affected by fuel poverty in London, representing 10% of households. As with other measures, there are major variations in fuel poverty between London boroughs. In 2015, the highest levels of fuel poverty were in Newham (15.7%) and the lowest levels of fuel poverty were in the City of London (4.8%).

## The climate challenge

Owing to past and current emissions of greenhouse gases some level of climate change is inevitable. Arguably this is one of the most pressing issues threatening London's future quality of life. The challenge for London is both to rapidly reduce greenhouse gas emissions and to become a resilient city, adapted to the level of climate change that the planet is already locked into.

This report shows that London's total CO<sub>2</sub> emissions fell by 11% in the five years following the last QoL report in 2012. Per capita CO<sub>2</sub> emissions were also lower in London than for the rest of the UK. These reductions have been achieved despite GVA, and London's population, having grown. This indicates that there has been some decoupling of economic growth and emissions. It is not however certain that this trend will continue as future emissions reductions are likely to be harder to deliver than those which have been achieved to date. This, combined with the fact that emissions will need to drop significantly further if London is to meet the Mayor's aim of London being zero carbon by 2050 and contribute to the overall commitments from the Paris Agreement, mean that future carbon reduction activity will need to be significantly more ambitious both in scale and pace.

'Scope 3' emissions<sup>34</sup> are more than double the capital's Scope 1 and 2 emissions<sup>35</sup>. This reflects the fact that most goods consumed within London are produced elsewhere. This was an issue highlighted in the 2012 QoL report and raises the question of whether apparent reductions in direct CO<sub>2</sub> are in fact being 'off-shored' to other parts of the world.





As well as meeting the emissions reduction challenge, London also needs to be ready to adapt to future climate changes. The climate is expected to be warmer and is likely to be significantly wetter in the winter and drier during the summer.

Climatic changes are expected to generate increased incidences of flooding with more significant levels of impact. In 2017, there were around 595,200 London properties at risk of tidal or fluvial flooding, of which 48,800 were assessed as being at medium or high risk. There were also a further 233,000 London residential properties and 38,800 commercial properties assessed as being at

medium or high risk of surface water flooding. Between 2000 and 2100, a 0.9 metre rise in mean tide levels is projected<sup>36</sup>. For London to stay protected from tidal flood risk, defences must be upgraded and effectively maintained. Londoners will also need to become increasingly aware about flood risks to their properties. Action will need to be taken to improve flood resilience amongst communities.

Flood risk varies considerably by borough: Islington has no properties at risk of tidal and fluvial flooding; due to the fact that the borough has no designated main rivers within its boundary and is some distance from the River Thames. Southwark has the highest number of properties at risk (including those at low or very low risk) - 94,900. Kingston upon Thames has the highest number of properties at high risk of tidal or fluvial flooding (2,800).

Another risk associated with climate change will be an increasing shortage of water. Whilst per capita water consumption has fallen by 10% since 2005-06, London has the most people living in the driest part of the country. Monitoring domestic water consumption and the availability of water in London will therefore be critical to managing London's natural resources. The availability of water is likely to be subject to greater variability in the future, whilst demand may be subject to greater fluctuation as a result of an increase in warm/hot weather events.

### Other notable success and challenges

This analysis revealed a number of areas where London is either performing strongly or is facing challenges:

- Since 1993 the public transport mode share has increased by 15.2 percentage points. This continues a now well-established trend away from the use of private motorised transport to the use of public transport. London's public transport mode share has increased from one of the lowest in comparable European cities in 1995, to higher than Stockholm, Paris, Brussels and Berlin in 2012. Long term continuation of walking, cycling and public transport prioritisation, together with other progressive transport policies, will likely be required in order to meet the Mayor's target in his draft Transport Strategy of 80 per cent of Londoners' trips to be on foot, cycling or by public transport by 2041<sup>37</sup>.
- There was a 5.6% fall in recorded crime levels since the 2012 QoL report was published<sup>38</sup>, including Fraud Offences<sup>39</sup>. The long-term trend is also positive. Recorded crime levels have fallen by 28.9% since 2002-03. However, overall recorded crime levels in London grew 4.4% in the last year<sup>40</sup>. Although this is also the general trend across England and Wales<sup>41</sup>, this will be something to monitor in future reports.
- Participation in volunteering has increased in the short, medium and long term. Volunteering levels in London were similar in London in 2015-16 than for England as a whole. However, there were wide variations in volunteering levels by age and by ethnicity. Volunteering levels were generally highest amongst older Londoners. And more white Londoners reported volunteering compared with black, Asian and minority ethnic (BAME) Londoners.
- In 2016-17, 91% of Londoners agreed that their local area is a place where people of different backgrounds get on well together. This compares with 81% of adults in England in 2016-17.
- The household recycling rate in London has fallen over the last five years. This reflects a trend seen across England since 2013, where the majority of regions have seen a small fall over that time. The household recycling rate in London is also worse than the rate for England as a whole.



### Mapping QoL Indicators and Sustainable Development Goals (SDGs)







As part of the report's assessment of policy context and targets, a mapping exercise was conducted to assess the relevance of the QoL indicators in comparison to the United Nations Sustainable Development Goals (SDGs) targets and metrics. This mapping exercise illustrated how the QoL Indicators are directly or indirectly linked to specific SDG indicators and metrics. It also demonstrated that all 17 SDGs are reflected by at least one

QoL Indicator. At the end of each of the QoL indicators' detailed assessment in the Evidence Report, a section on policy context illustrates the key SDGs indicators and metrics linked to the specific QoL indicator. Annex B in the Evidence Report provides more detail about the QoL/SDG mapping exercise.

The next section provides a more detailed overview of progress against each indicator. The Evidence Report provides a more comprehensive look at each indicator in turn.







The headline assessments for all indicators are presented in the tables below.





**Table 2 Headline assessments: QoL environment indicators, 2017**

QoL Indicator	Measure	Five-year progress (data)	Performance against national average (data)	Future key Mayoral targets and ambitions	Highlights	LSDC notes of caution	
1	<b>Carbon dioxide emissions (scope 1 and 2)</b>	Total scope 1 and scope 2 CO <sub>2</sub> emissions in London	 (2009-2014)	 (2014)	"London will be a zero carbon city by 2050" (draft LES <sup>42</sup> )	<ul style="list-style-type: none"> <li>CO<sub>2</sub> emissions in London in 2014 were an estimated 38 MtCO<sub>2</sub>.</li> <li>Between 2000 and 2014 London's total CO<sub>2</sub> emissions have dropped by 25%.</li> <li>Between 2009 and 2014 London's total CO<sub>2</sub> emissions dropped by 11%.</li> <li>Per capita CO<sub>2</sub> emissions were lower in London than for the rest of the UK in 2014 (4.4 tonnes in 2014 compared to 6.2 for the UK as a whole).</li> <li>London has higher levels of solid walled properties and less roof space for solar compared to the rest of the country.</li> </ul>	Emissions will need to drop significantly if London is to meet the Mayor's aim of London being zero carbon by 2050
2	<b>Carbon dioxide emissions (scope 3<sup>43</sup>)</b>	Total scope 3 CO <sub>2</sub> emissions for London		 (2013)		<ul style="list-style-type: none"> <li>Scope 3 CO<sub>2</sub> emissions in London in 2013 were an estimated 85 MtCO<sub>2</sub>.</li> <li>Since 2010, London's scope 3 CO<sub>2</sub> emissions have been broadly stable.</li> <li>In 2013, London's consumption-based emissions per capita were estimated to be around 7% lower than the UK average.</li> </ul>	
3	<b>Access to Nature</b>	Proportion of Greater London in Areas of Deficiency (AoDs) in access to Sites of Importance to Nature Conservation (SINCs)	 (2013 - 2017)		"More than half of London's area to be green and for tree canopy cover to increase by ten per cent by 2050" (draft LES <sup>44</sup> )	<ul style="list-style-type: none"> <li>21% of Greater London was lying in an Area of Deficiency (AoD) in access to nature in 2017.</li> <li>The proportion of Greater London identified as lying in an AoD in access to nature in 2017 was largely unchanged from 2013 levels.</li> <li>Roughly 47% of Greater London is green. 33% of London is vegetated green space according to surveyed habitat information, excluding an additional 14% which is estimated to be vegetated private, domestic garden green space.</li> </ul>	











4	<b>NO<sub>x</sub> emissions</b>	Tonnes of NO <sub>x</sub> emitted in London	 (2008 – 2013)		“40 per cent reduction in NO <sub>x</sub> emissions by 2020 compared to the 2013 baseline” (draft LES <sup>45</sup> )	<ul style="list-style-type: none"> <li>• NO<sub>x</sub> emissions in London in 2013 were an estimated 60,116 tonnes.</li> <li>• There was a 27% reduction in NO<sub>x</sub> emissions between 2008 and 2013.</li> <li>• At borough level in 2013, NO<sub>x</sub> emissions were highest in Hillingdon (5264 tonnes) – nearly half of which are derived from Heathrow Airport – and lowest in the City of London (453 tonnes).</li> <li>• In 2013, approximately 23% of Londoners were living in areas with average NO<sub>2</sub> concentrations above the EU limit value, the majority in inner London.</li> <li>• Populations living in the most deprived areas are on average currently exposed to poorer air quality than those in less deprived areas.</li> </ul>	London is failing to meet the legal limit for NO <sub>2</sub>
5a	<b>PM<sub>2.5</sub> emissions</b>	Tonnes of PM <sub>2.5</sub> emitted in London	 (2008 – 2013)		“26 per cent reduction in PM <sub>2.5</sub> emissions by 2020 compared to the 2013 baseline” (draft LES <sup>46</sup> )	<ul style="list-style-type: none"> <li>• PM<sub>2.5</sub> emissions in London in 2013 were an estimated 2,938 tonnes. There was a 26% reduction in PM<sub>2.5</sub> emissions between 2008 and 2013.</li> <li>• There are large geographic differences in particulate matter emissions in London. Beyond the City of London, PM<sub>2.5</sub> emissions were lowest in Islington (35.4 tonnes) and highest in Hillingdon (186 tonnes).</li> <li>• In 2013, 95% of Londoners lived in areas that exceeded the WHO guideline limit for PM<sub>2.5</sub>.</li> </ul>	95% of Londoners live in areas that exceed the WHO guideline limit for PM <sub>2.5</sub>
5b	<b>PM<sub>10</sub> emissions</b>	Tonnes of PM <sub>10</sub> emitted in London	 (2008 – 2013)		“15 per cent reduction in PM <sub>10</sub> emissions by 2020 compared to the 2013 baseline” (draft LES <sup>47</sup> )	<ul style="list-style-type: none"> <li>• PM<sub>10</sub> emissions in London in 2013 were an estimated 5,908 tonnes. There was a 18% reduction in PM<sub>10</sub> emissions between 2008 and 2013.</li> <li>• There are large geographic differences in particulate matter emissions in London. Beyond the City of London, PM<sub>10</sub> emissions were lowest in Islington (67.6 tonnes) and highest in Hillingdon (337.2 tonnes).</li> <li>• In Greater London thousands of premature deaths each year are attributable to long-term exposure to small particulates.</li> </ul>	




QoL Indicator		Measure	Five-year progress (data)	Performance against national average (data)	Future key Mayoral targets and ambitions	Highlights	LSDC notes of caution
6	Recycling	Percentage of household waste recycled or composted in London	 (2010 - 2015/16)	 (2015/16)	"65% of London's municipal waste to be recycled by 2030" (draft LES <sup>48</sup> )	<ul style="list-style-type: none"> <li>The household recycling rate in London in 2015-16 was 32%.</li> <li>This is a fall of 0.4 percentage points from 2010.</li> <li>The rate in London is worse than the rate for England of 43%.</li> <li>However, it still reflects a significant improvement in recycling in London since 1998-99 when the rate was 7.6%.</li> <li>Broadly speaking, recycling rates are higher in outer London than inner London.</li> </ul>	
7	Waste	London's performance against the greenhouse gas Emissions Performance Standard (EPS)	 (2010-2015/16)		<p>"-0.069 tonnes CO<sub>2</sub> per tonne of waste managed by 2020/21</p> <p>-0.084 tonnes CO<sub>2</sub> per tonne of waste managed by 2024/25</p> <p>-0.167 tonnes CO<sub>2</sub> per tonne of waste managed by 2030/31" (draft LES<sup>49</sup>)</p>	<ul style="list-style-type: none"> <li>London's CO<sub>2</sub>e emissions for local waste management in 2015/16 was -131 ktpaCO<sub>2</sub>e. The negative figure means that there are net carbon savings from managing London's waste.</li> <li>London's CO<sub>2</sub>e emissions from local waste management activities have fallen from +135 kt CO<sub>2</sub>e in 2008 (the first year the EPS results were developed) to -131 kt CO<sub>2</sub>e in 2015-16.</li> </ul>	
8a	Flood risk, tidal and fluvial	7a Properties at risk of tidal and fluvial flooding			"London and Londoners will be resilient to severe weather and longer-term climate change impacts. This will include flooding, heat risk and drought" (draft LES <sup>50</sup> )	<ul style="list-style-type: none"> <li>In 2017, there are 595,200 London properties (residential and commercial) at risk of tidal or fluvial flooding, of which 48,800 are at medium/high risk.</li> <li>This represents a 9.9% increase since 2013 in properties at risk (with a 10.7% increase in medium/high risk numbers).</li> <li>This increase results mainly from improving/updating the property dataset used to establish numbers of properties at risk of flooding and due to an improved understanding of flood risk.</li> </ul>	







<p><b>8b</b></p>	<p><b>Flood risk, surface water</b></p>	<p>7b Properties at risk of surface water flooding</p>			<p>“London and Londoners will be resilient to severe weather and longer-term climate change impacts. This will include flooding, heat risk and drought” (draft LES<sup>51</sup>)</p>	<ul style="list-style-type: none"> <li>• 233,000 residential properties and 38,800 commercial properties have been assessed as being at medium or high risk of surface water flooding in London.</li> <li>• This data set is new and, therefore, there are no historic or UK-wide collated data to compare it with.</li> </ul>	
<p><b>9</b></p>	<p><b>Water consumption</b></p>	<p>Per capita consumption (household, Thames Water region), annual</p>	 <p>(2011-2016/17)</p>	 <p>(2016/17)</p>	<p>“London and Londoners will be resilient to severe weather and longer-term climate change impacts. This will include flooding, heat risk and drought” (draft LES<sup>52</sup>)</p>	<ul style="list-style-type: none"> <li>• Per capita consumption (pcc) in the Thames Water London zone<sup>53</sup> in 2015/2016 was 148.00 l/h/d.</li> <li>• Per capita consumption in London has fallen by over 10% since 2005/6.</li> <li>• The mean Thames Water per capita consumption is 10% higher than that for England as a whole.</li> </ul>	

**Table 3 Headline assessments for the social indicators**







QoL Indicator		Measure	Five-year progress (data)	Performance against national average (data)	Future key Mayoral targets and ambitions	Highlights	LSDC notes of caution
10	<b>Healthy Life Expectancy (HLE)</b>	Healthy life expectancy at birth for: (a) men (b) women	(a)  (b)  (2009/11-2013/15)	(a)  (b)  (2013/15)	"A healthier, fairer city, where nobody's health suffers because of who they are or where they live" (draft LHis <sup>54</sup> )	<ul style="list-style-type: none"> <li>• Newborn babies in London – boys or girls – could expect to live 64.1 years in good health if they experienced the same health status rates as observed between 2013 and 2015.</li> <li>• For men, there has been a 1.4 year improvement in healthy life expectancy (HLE) at birth since 2009-11. For women, the improvement over the same time period has only been slight.</li> <li>• People born in London have better HLE at birth than in the United Kingdom as a whole.</li> <li>• There are large geographic differences in HLE at birth in London. Between 2013 and 2015, women in Richmond upon Thames, for example, had the best HLE at birth (71.1 years), whilst women in Tower Hamlets had the lowest (52.4 years).</li> </ul>	
11	<b>Education</b>	Proportion of pupils obtaining at least 5 GCSE passes at A*-C or equivalent, including English and Maths	 (2010/11-2015/16)	 (2015/16)	"For every child in London to have the opportunity to attend a good or outstanding local school" (draft Vision for a Diverse and Inclusive City <sup>55</sup> )	<ul style="list-style-type: none"> <li>• Attainment in English and Maths at A* to C in London in 2015/2016 was 60.6%.</li> <li>• This figure shows a decline in London since the 2012 QoL report by 1.3 percentage points, although it has improved since 2009-10 from 58% to 60.6%.</li> <li>• London's attainment rate is better than that for England as a whole of 53.5%.</li> <li>• There are large geographical differences in attainment in London. Kingston upon Thames has the highest rate (75.7%), whilst the lowest is in Lewisham (50.6%).</li> <li>• Of London's major ethnic groups, the attainment of black children is lowest, with 54% meeting expected secondary school standards in 2016.</li> </ul>	
12	<b>Travel</b>	Share of journey stages in London made by a sustainable mode	 (2010-2015)	 (2015)	"80 per cent of Londoners' trips to be on foot, by cycle or by using public transport by 2041" (draft LTS <sup>56</sup> )	<ul style="list-style-type: none"> <li>• In 2015, 45% of journey stages in London were made by public transport, with a further 21% by walking and 2% by cycle. This compares with 32% by private transport.</li> <li>• Since 1993 the public transport mode share has increased by 15.2 percentage points.</li> <li>• London's public transport mode share increased from one of the lowest in comparable European cities in 1995, to higher than Stockholm, Paris, Brussels and Berlin in 2012.</li> </ul>	











13	<b>Crime</b>	Total recorded crime in London	 (2011/12-2016/17)		"A safer city for all Londoners" (Police and Crime Plan 2017-2021 <sup>57</sup> )	<ul style="list-style-type: none"> <li>• There were 774,734 recorded crimes in London in 2016-17.</li> <li>• There has been a 5.6% fall in recorded crime levels since the 2012 QoL report was published.</li> <li>• The long-term trend is positive: recorded crime levels have fallen by 29% since 2002-03.</li> <li>• On average over three times more victims of high harm offences (Burglary, Robbery, Violence Against the Person (VAP) and Sexual Offences) reside within the most vulnerable 10% of wards than live in the least vulnerable wards.</li> </ul>	
14	<b>Decent housing</b>	Percentage of decent housing stock in London	 (2010-2015)	 (2015)	"Every Londoner to be able to have a good quality home that is right for them and that they can afford" (draft LHS <sup>58</sup> )	<ul style="list-style-type: none"> <li>• In 2015, 84% of London's homes exceeded the Decent Homes Standard.</li> <li>• This is an increase of more than 14 percentage points on the level of 70% reported in the 2012 QoL report and an increase of 21 percentage points on the 2006 levels of 63%.</li> <li>• The level is higher than for England as a whole (80%).</li> <li>• The proportion of decent homes is highest in the housing association sector (89%) followed by owner occupied housing (88%) and council owned (82%). Private rented accommodation has the lowest rate at 76%.</li> </ul>	With 24% of privately rented homes still 'non-decent', there is still some way to go towards achieving this aim
15	<b>Happiness</b>	Self-reported levels of happiness	 (2010-2015/16)	 (2015/16)	"All Londoners share in a city with the best mental health in the world" (draft LHIS <sup>59</sup> )	<ul style="list-style-type: none"> <li>• The average happiness score for London was 7.84 (out of 10) in 2015-16.</li> <li>• The score has increased by 1.3% since the 2012 QoL report and by 5.8% since 2005-06.</li> <li>• On average, Londoners are less happy than the UK as a whole, scoring 2.2% less.</li> <li>• The exceptions are young people aged 16-29 and Black, Asian, and minority ethnic (BAME), who are significantly happier than their non-London counterparts, and women, who are slightly happier than those in the rest of the UK.</li> </ul>	










QoL Indicator		Measure	Five-year progress (data)	Performance against national average (data)	Future key Mayoral targets and ambitions	Highlights	LSDC notes of caution
16	<b>Satisfaction with London</b>	Percentage of Londoners satisfied with the capital as a place to live			London to be “a healthy, green, safe and enjoyable city” (draft Vision for a diverse and inclusive city <sup>60</sup> )	<ul style="list-style-type: none"> <li>In 2015, three quarters (75%) of Londoners were satisfied with the capital as a place to live.</li> <li>This is a much lower satisfaction level than in 2014 (82%). Data collection methods changed in 2013 meaning the figures are not directly comparable with previous data.</li> <li>Levels of satisfaction vary by category; 73% are satisfied with the culture and sport in London but only 8% with the housing.</li> </ul>	
17	<b>Volunteering</b>	Participation in formal or informal volunteering over previous 12 months	 (2010/11-2015/16)	 (2015/16)	“For all people from different backgrounds to be able to lead inter-connected lives” (draft Vision for a diverse and inclusive city <sup>61</sup> )	<ul style="list-style-type: none"> <li>26% of Londoners participated in formal or informal volunteering in 2015-16.</li> <li>This is an increase when compared to 2014-2015, when levels were at 23%.</li> <li>It also represents a long-term increase; volunteering levels were at 24% in 2005-06.</li> <li>There is no significant difference between London and England levels in 2015-2016.</li> </ul>	
18	<b>Social integration</b>	Proportion of people who think their local area is a place where people from different backgrounds get on well together	 (2012/13-2016/17)	 (2016/17)	“All Londoners can lead interconnected lives and play an active part in their city and the decisions that affect them” (draft Vision for a Diverse and Inclusive City <sup>62</sup> )	<ul style="list-style-type: none"> <li>In 2016-17, 91% of Londoners agreed that their local area is a place where people of different backgrounds get on well together.</li> <li>The percentage agreeing has fallen by 2% since the first survey in 2012-13.</li> <li>This compares with 81% of adults in England in 2016-17.</li> </ul>	

**Table 4 Headline assessments: QoL economic indicators, 2017**

QoL Indicator	Measure	Five-year progress (data)	Performance against national average (data)	Future key Mayoral targets and ambitions	Highlights	LSDC notes of caution
19	<b>Gross Value Added</b>	Gross Value Added (GVA) per head (£) in London	 (2010-2015)	 (2015)	“London to be the world’s greatest city for business - a world capital for trade and investment” (draft EDS <sup>63</sup> )	<ul style="list-style-type: none"> <li>• GVA per head for London in 2015, at current basic prices, was £43,629.</li> <li>• It was 72.1% higher than for the UK as a whole or any other region.</li> <li>• London’s GVA has grown by 92.6% (on a constant price basis) since 1997, by 18% since 2010 and by 1.6% since 2014.</li> <li>• The growth since 2014 is less than the growth in average GVA per head for the UK as a whole (2.1%) and less than for most other regions.</li> </ul>
20	<b>Employment</b>	Employment rate in London	 (2011-2015)	 (2015)	“Londoners who want to work and are able to, and have access to quality employment” (draft EDS <sup>64</sup> )	<ul style="list-style-type: none"> <li>• The employment rate in London in 2016 was 73.4%.</li> <li>• This represents an increase of 8.8% from 2011’s figure of 67.4% and an increase of 10.8% from 1992’s figure of 66.7%.</li> <li>• Some of this growth in employment rates is underpinned by slow wage growth and an increase in fragile forms of employment like zero hours contracts and self-employment<sup>65</sup>.</li> <li>• Employment rates in London are around 1% lower than for the UK as a whole, though the gap has narrowed considerably from 2006 when it was 4% lower.</li> <li>• Employment rates are higher for the white group (78.3%) than ethnic minority groups (65.1%) and higher for men (80.5%) than women (66.5%).</li> </ul>
21	<b>Business survival</b>	Survival of London businesses after one year of trading	 (2009-2014)	 (2014)	“All businesses of all sizes and stages in their development to grow” (draft EDS <sup>66</sup> )	<ul style="list-style-type: none"> <li>• The survival of businesses in London after one year of establishment in 2014 was 90.9%. The survival rate has risen and fallen since 2002 with a clear drop during and after the 2007-08 financial crisis.</li> <li>• London survival rates in 2014 were lower than the average rate for England (92.2%).</li> <li>• In 2014 the rate of business start-ups was 17.7% in London, compared with 13.7% in the rest of the UK.</li> </ul>

QoL Indicator		Measure	Five-year progress (data)	Performance against national average (data)	Future key Mayoral targets and ambitions	Highlights	LSDC notes of caution
22	Human capital	Full Human Capital per head (£, 2015 prices)	 (2010-2015)	 (2015)	"A skilled future workforce in London" (draft Vision for a diverse and inclusive city <sup>67</sup> )	<ul style="list-style-type: none"> <li>Human capital per head in London was £667,259 in 2015.</li> <li>This is a slight decline since 2010, when it was £673,140, but an improvement since the previous year (£636,713).</li> <li>London's human capital per head was higher than all other regions in the UK and was higher than the UK total of £487,313 in 2015.</li> </ul>	
23a	Innovation (products)	a. Proportion of firms reporting introducing product innovations	 (2006/08 - 2012/14)	 (2012/14)	"London to be a global leader in innovation and creativity" (draft EDS <sup>68</sup> )	<ul style="list-style-type: none"> <li>In 2014, 19% of firms in London reported introducing product innovations over the period 2012-14.</li> <li>Over the same period 9.5% of London firms reported introducing process innovations.</li> <li>The rates for London and for the UK for product and process innovation fell after the period 2006-2008 which may be connected to the financial crisis of 2007-08 and the recession that followed. Reported rates have slowly recovered since then.</li> <li>Current figures in London are similar to the UK rates of 19% for product innovations and lower than the UK rates of 13% for process innovations.</li> </ul>	
23b	Innovation (processes)	b. Proportion of firms reporting introducing process innovations	 (2006/08 - 2012/14)	 (2012/14)			
24	Income inequality	Disposable income differentials in London	 (2009-10 to 2011-12 vs. 2013-14 to 2015-16)		"London has a fairer and more inclusive economy, where living standards are improving with real incomes growing year-on-year" (draft EDS <sup>69</sup> )	<ul style="list-style-type: none"> <li>In 2013-14 to 2015-16, 15% of Londoners featured in the bottom tenth of the national income distribution. This figure has remained unchanged since 2009-10 to 2011-12.</li> <li>In the same time periods, the proportion of Londoners in the top tenth of the national income distribution fell slightly from 16% to 14%.</li> <li>There are large variations in gross disposable income per head by London borough. Beyond the City of London, Lewisham has the lowest (£12,544) and Kensington and Chelsea has the highest (£59,471).</li> </ul>	London continues to have disproportionately large numbers of people in the lowest and highest income brackets in the country



25	<b>Child poverty</b>	Children living in households below 60% median income  Before Housing Costs (BHC) &  After Housing Costs (AHC)	  2008/11 -2013-14/ 2015-16 (three-year average)	 Before Housing Costs 2013/14 - 2015/16 (three-year average)   After Housing Costs 2013/14 - 2015/16 (three-year average)	"Every London child and young person have a healthy start in life" (draft LHS <sup>70</sup> )	<ul style="list-style-type: none"> <li>• Child poverty in London is 37% after housing costs (AHC) (around 700,000 children) and 17% before housing costs (BHC). This is measured on a three-year average for the years 2013-14 to 2015-16.</li> <li>• Child poverty has fallen significantly since the first three-year data from 1994-97. The rates for London were then 41% AHC and 25% BHC.</li> <li>• While the BHC figures are broadly similar for London and the UK the AHC figures for London are significantly higher (37% to 29% in the most recent data).</li> </ul>	700,000 children remain in child poverty after housing costs, despite child poverty levels falling over time
26	<b>Fuel poverty</b>	Proportion of fuel poor households in London	  (2011-2015)	  (2015)	"Reducing emissions of London's homes and workplaces while protecting the most vulnerable by tackling fuel poverty" (draft LES <sup>71</sup> )	<ul style="list-style-type: none"> <li>• In 2015 there are over 335,000 households affected by fuel poverty in London, representing 10.1% of households.</li> <li>• This represents an increase from 2011, when there were 296,000 households living in fuel poverty in London, representing 9.5% of all households.</li> <li>• The figure is lower than the national average of 11%.</li> <li>• There are major variations in fuel poverty between London boroughs. In 2015, the highest levels of fuel poverty were in Newham (15.7%) and the lowest levels of fuel poverty were in the City of London (4.8%) and Bromley (6.9%).</li> <li>• Households with an unemployed head of household had the second largest proportion of households in fuel poverty.</li> </ul>	Fuel poverty in London remains at high levels, with more than 335,000 households affected according to the latest available data
27	<b>Housing affordability</b>	Ratio of lower quartile house prices to lower quartile earnings	  (2011 - 2016)	  (2016)	"Every Londoner to be able to have a good quality home that is right for them and that they can afford" (draft LHS <sup>72</sup> )	<ul style="list-style-type: none"> <li>• The ratio of lower quartile house prices to lower quartile earnings in 2016 in London is 13.52.</li> <li>• This figure has worsened since the 2012 QoL report when the ratio was 9.63 (2011 data). In other words, housing in London has become less affordable over the last five years.</li> <li>• Private renting has also become less affordable, with the 'unaffordability index' rising from 103 in 2012 to 115 in 2016 (2005=100).</li> </ul>	
28	<b>London Living Wage</b>	Proportion of people earning less than London Living Wage (LLW) per hour in London	  (2010 - 2015)		"London to be a Living Wage city where every working Londoner is paid at least the London Living Wage" (draft EDS <sup>73</sup> )	<ul style="list-style-type: none"> <li>• In 2015, 22.4% of those who were working, earned less than the London Living Wage (LLW), which was then £9.40 per hour.</li> <li>• This has risen significantly since the first data in 2005, when only 13.3% were earning less than the LLW.</li> <li>• The headline figures mask significant variation between boroughs. The lowest figures for 2015 are for Richmond-upon-Thames at 12.5% and Wandsworth at 13.2%. In comparison, in 2015 37.8% of respondents in Newham were earning less than the LLW and 33.5% in Brent.</li> </ul>	



Bermondsey  
Spa  
7 mins



City of  
London  
5 mins



Elephant  
& Castle  
3 mins

WATERLOO

# 5. NEXT STEPS FOR THE COMMISSION

---

The 2017 Quality of Life indicators provide an important evidence base that can be used by all key stakeholders in London to assess quality of life and prompt action at the relevant policy levels. It also provides the foundations on which the newly reconstituted LSDC will largely base its future work.

The LSDC will publish this report on the London Datastore<sup>74</sup>. We have committed to update the indicators at regular intervals. In doing so we hope they will become the primary indicator set for those interested in improving the sustainability of London. Over time we hope to add further indicators to the data set and would welcome input and suggestions. For more information, see <https://data.london.gov.uk/londons-quality-of-life-indicators-report/>.

Although there are limited borough level data overall, 15 out of 28 headline indicators include reference to local authority level data. The LSDC will be looking to work with the boroughs and other stakeholders to help fill in the gaps so that individual boroughs can assess their own sustainability and quality of life performance and compare with others.

Informed by this report, the Commission will focus its energy on specific pieces of work that will make a difference in the short and medium term, and stimulate long term thinking. A series of papers on key issues will use these indicators and additional evidence to suggest solutions to some of the key sustainability priorities for London.

Note that for this report, the LSDC had wanted to be able to compare London's progress on sustainable development with other similar cities internationally. For this report a brief review of possible options was

undertaken. The review looked in particular at using the World Council on City Data (WCCD) Global Cities Registry<sup>75</sup> or metrics based on the SDGs as the basis for comparison. However, the review concluded that neither option was viable for this report. See Annex B in the Evidence Report for more detail. The LSDC hopes to develop a robust international comparison for future iterations of the report so it is better able to assess London's sustainability against other world cities and, in particular, to work with other UK stakeholders to better link to the UN SDG's.

## **5.1. RECOMMENDATIONS FOR FUTURE QOL INDICATOR SETS**

During the preparation of the report, there have been a range of suggestions for new indicators for the QoL set. These have come from the steering group, from Commissioners, from GLA staff and from external stakeholders. It has not been possible to accommodate all of these requests within the report. However, the LSDC have logged suggestions made in Annex A of the Evidence Report and will consider their inclusion in future iterations of the report and the data sets. A suggestion has also been made that in future weightings could be given to those essential indicators that are so vital to people's wellbeing.

An example of this recommendation was around the need to have an indicator on climate change adaptation and resilience. No one indicator has been found to be effective in illustrating this issue. The GLA and London Climate Change Partnership (LCCP) have committed to developing a set of climate change adaptation indicators that we hope to include in future datasets.



Key recommendations for improvement in the indicator set include:

- Education, to incorporate changes in measurement in the new GCSE system and allow for improved reflection on variations between and within boroughs.
- Flood risk, to capture public awareness of flood risk and local action aiming to reduce risk of flooding.
- Access to nature, to better measure quality of biodiversity, rather than simply access to nature, and consider including natural capital accounting.
- Employment, to include economic fairness and quality of work.
- Social integration, to better reflect civic engagement such as voting.
- Income inequalities, to also consider the wider demographic impacts in relation to gender, age and ethnicity.
- Health outcomes and life expectancy, to include a wider set of indicators around health including: measuring health in later years, mental health, physical activity.

As well as improving current indicators, new indicators that could be included in future QoL sets include resource efficiency and circular economy, energy security, renewable energy and energy efficiency; noise; food security and food poverty; digital inclusion; smart cities; infrastructure resilience and population growth; and low carbon and environmental jobs. More details on the recommendations for future QoL indicator reports can be found in Annex A of the Evidence Report.

## 5.2. FEEDBACK

We want to hear your feedback on what you think of the indicators, the picture they show of progress, or otherwise against sustainability goals, and whether there are major opportunities and barriers, other than the ones identified here, that are enabling or impeding our ambition to become a world class sustainable city. We also want to hear your proposals regarding the development of future QoL sets. The Commission will use this information to inform its ongoing work programme and we will initiate a dialogue with key stakeholders in London to develop shared recommendations for action.

Contact us to give us your views and to obtain additional copies of this report:

London Sustainable Development  
Commission  
Sustainable Development Team,  
Greater London Authority,  
City Hall,  
The Queen's Walk,  
London, SE1 2AA

Email: [lsdc@london.gov.uk](mailto:lsdc@london.gov.uk)

[www.londonsdc.org.uk](http://www.londonsdc.org.uk)

## NOTES AND REFERENCES

---

1. WCED (1987), Report of the World Commission on Environment and Development: Our Common Future. Available at: <http://www.un-documents.net/our-common-future.pdf> [accessed 15 October 2017].
2. See: <http://www.iclei.org/activities/agendas/sustainable-city.html>
3. UK Government (2005), Securing the future – delivering UK sustainable development strategy. Available at: <https://www.gov.uk/government/publications/securing-the-future-delivering-uk-sustainable-development-strategy> [accessed 16 October 2017].
4. For example the Collins English Dictionary defines it as “the general well-being of a person or society, defined in terms of health and happiness, rather than wealth” (<https://www.collinsdictionary.com/dictionary/english/quality-of-life>).
5. AT Kearney ‘Global City Report, 2016’. Available at: <https://www.atkearney.com/documents/10192/8178456/Global+Cities+2016.pdf/8139cd44-c760-4a93-ad7d-11c5d347451a> [accessed 21 November 2017].
6. Mayor of London (2017), London’s Global & European Future. Mayor of London’s response to the Government White Paper: The United Kingdom’s exit from and new partnership with the European Union, March 2017. Available at: <https://www.london.gov.uk/about-us/Mayor-london/londons-global-and-european-future-response-brexit-paper> [accessed 23 October 2017].
7. Independent (2011), London tops ranking of destination cities. Available at: <https://web.archive.org/web/20110603143149/http://www.independent.co.uk/travel/news-and-advice/london-tops-ranking-of-destination-cities-2291794.html> [accessed 25 October 2017].
8. Mayor of London (2017), London’s Global & European Future. Mayor of London’s response to the Government White Paper: The United Kingdom’s exit from and new partnership with the European Union, March 2017. Available at: <https://www.london.gov.uk/about-us/Mayor-london/londons-global-and-european-future-response-brexit-paper> [accessed 23 October 2017].
9. The Migration Observatory at the University of Oxford (2013), London: Census Profile, 20 May 2013. Available at: <http://www.migrationobservatory.ox.ac.uk/resources/briefings/london-census-profile/> [accessed 14 October 2017].
10. The Migration Observatory at the University of Oxford (2013), London: Census Profile, 20 May 2013. Available at: <http://www.migrationobservatory.ox.ac.uk/resources/briefings/london-census-profile/> [accessed 14 October 2017].
11. ONS, cited in The Mayor of London (2016), The London Plan: The Spatial Development Strategy for London consolidated with alterations since 2011, March 2016. Available at: <https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan/london-plan-2016-pdf> [accessed 18 October 2017].

12. The Mayor of London (2016), The London Plan: The Spatial Development Strategy for London consolidated with alterations since 2011, March 2016. Available at: <https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan/london-plan-2016-pdf> [accessed 18 October 2017].
13. <http://www.un.org/sustainabledevelopment/>
14. [http://unfccc.int/paris\\_agreement/items/9485.php](http://unfccc.int/paris_agreement/items/9485.php)
15. Committee on Climate Change (2017), New plans for a new Parliament are urgently needed to address climate change risks. Available at: <https://www.theccc.org.uk/2017/06/29/new-plans-for-a-new-parliament-are-urgently-needed-to-address-climate-change-risks/> [accessed 14 November 2017].
16. Metropolitan Police: UPDATE: Number of victims of the Grenfell Tower. Available at: <http://news.met.police.uk/news/family-tributes-to-victims-of-grenfell-tower-fire-247006> [Accessed 21 November 2017].
17. Sadiq Khan (2016), A Manifesto for all Londoners, Sadiq Khan and London Labour's Manifesto 2016. Available at: [http://www.sadiq.london/a\\_manifesto\\_for\\_all\\_londoners](http://www.sadiq.london/a_manifesto_for_all_londoners) [Accessed 7 September 2017].
18. Mayor of London (2017), London's Global & European Future. Mayor of London's response to the Government White Paper: The United Kingdom's exit from and new partnership with the European Union, March 2017. Available at: <https://www.london.gov.uk/about-us/Mayor-london/londons-global-and-european-future-response-brexit-paper> [accessed 23 October 2017].
19. 2012 QoL report data used for 5-year comparison range from 2006 to 2013.
20. Defra, Measuring progress: sustainable development indicators 2010, 2010, [www.defra.gov.uk/sustainable/development](http://www.defra.gov.uk/sustainable/development) [accessed 10 November 2017].
21. The Mayor of London, The London Environment Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
22. The Mayor of London, The London Environment Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
23. The Guardian: European commission issues 'final warning' to UK over air pollution breaches. Available at: <https://www.theguardian.com/environment/2017/feb/15/european-commission-issues-final-warning-to-uk-over-air-pollution-breaches> [last accessed 21 November 2017].
24. The Mayor of London, The London Housing Strategy: Draft for Public Consultation, September 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
25. The Mayor of London, The London Health Inequalities Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].

26. GLA, 2015, Draft Fuel Poverty Action Plan <https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/draft-fuel-poverty-action-plan> [accessed 10 November 2017].
27. The Mayor of London, London Economic Development Strategy, Draft for Public Consultation, December 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 14 December 2017].
28. GLA, 2016, Economic Evidence Basis for London, 2016 <https://www.london.gov.uk/what-we-do/research-and-analysis/economy-and-employment/economic-evidence-base-london-2016> [accessed 10 November 2017].
29. Note that although not all QoL indicators have been disaggregated by gender, ethnicity and geography, we have been sensitive to the need for demographic analysis when allowed.
30. Pupils obtaining at least 5 GCSE passes at A\*-C or equivalent, including English and Maths.
31. Aether (2017), Updated Analysis of Air Pollution Exposure in London, Report to GLA, February 2017. Available at: [https://www.london.gov.uk/sites/default/files/aether\\_updated\\_london\\_air\\_pollution\\_exposure\\_final.pdf](https://www.london.gov.uk/sites/default/files/aether_updated_london_air_pollution_exposure_final.pdf) [accessed 25 October 2017].
32. GLA, Housing in London, 2017: the evidence base for the Mayor's Housing Strategy. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017]  
The Mayor of London, The London Environment Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
33. London Councils and Ipsos MORI, '2015 Survey of Londoners'.
34. Scope 3 CO<sub>2</sub> emissions includes all other indirect emissions not covered by scope 2, such as those linked with London's consumption of goods and services (including emissions arising from the energy consumed by the processes associated with these; from the mining and processing of natural resources to manufacturing, transport and product delivery). See the evidence report for more detail.
35. See indicator 1 and 2 of Evidence Report.
36. The Mayor of London, The London Environment Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
37. The Mayor of London, The London Transport Strategy: Draft for Public Consultation, June 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
38. 2011/2012 (twelve months to March 2012).
39. MPS no longer hold the majority of fraud offences as these have been centralised. Excluding fraud figures, there was a 2.8% fall in recorded crime levels since the 2012 QoL report was published. Recorded crime levels have fallen by 25.4% since 2002-03.
40. 2015/16 vs. 2016/17.



41. 11% increase in police recorded crime from the previous year in England and Wales. Source: ONS: Crime in England and Wales: year ending March 2017. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/bulletins/crimeinenglandandwales/march2017> [Accessed 21 November 2017].
42. The Mayor of London, The London Environment Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
43. Scope 3 refers to indirect emissions not covered by scope 2. For this report, we have used a methodology that includes emissions from the products and services that London consumes (but does not produce). There are two methods of assessing scope 3 emissions: consumption-based or Direct Plus Supply Chain. The two are not directly comparable – see the evidence report for more detail.
44. The Mayor of London, The London Environment Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
45. The Mayor of London, The London Environment Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
46. The Mayor of London, The London Environment Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
47. The Mayor of London, The London Environment Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
48. The Mayor of London, The London Environment Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
49. The Mayor of London, The London Environment Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
50. The Mayor of London, The London Environment Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
51. The Mayor of London, The London Environment Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
52. The Mayor of London, The London Environment Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
53. Thames Water zone covers most of London (78% of households). It is a good proxy for London. It has a representative sample, covering all types of tenures / household types.
54. The Mayor of London, The London Health Inequalities Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017]

55. The Mayor of London, The Mayor's draft Vision for a diverse and inclusive city: Draft for Public Consultation, September 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
56. The Mayor of London, The London Transport Strategy: Draft for Public Consultation, June 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
57. The Mayor of London, Police and crime plan 2017-2021, March 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
58. The Mayor of London, The London Housing Strategy: Draft for Public Consultation, September 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
59. The Mayor of London, The London Health Inequalities Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
60. The Mayor of London, The Mayor's draft Vision for a diverse and inclusive city: Draft for Public Consultation, September 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
61. The Mayor of London, The Mayor's draft Vision for a diverse and inclusive city: Draft for Public Consultation, September 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
62. The Mayor of London, The Mayor's draft Vision for a diverse and inclusive city: Draft for Public Consultation, September 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
63. The Mayor of London, London Economic Development Strategy, Draft for Public Consultation, December 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 14 December 2017].
64. The Mayor of London, London Economic Development Strategy, Draft for Public Consultation, December 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 14 December 2017].
65. GLA, 2016, Economic Evidence Basis for London, 2016 <https://www.london.gov.uk/what-we-do/research-and-analysis/economy-and-employment/economic-evidence-base-london-2016>
66. The Mayor of London, 2017, Draft London Economic Development Strategy: Draft for Public Consultation, December 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 14 December 2017].
67. The Mayor of London, The Mayor's Vision for a diverse and inclusive city: Draft for Public Consultation, September 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
68. The Mayor of London, 2017, Draft London Economic Development Strategy: Draft for Public Consultation, December 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 14 December 2017].

69. The Mayor of London, London Economic Development Strategy, Draft for Public Consultation, December 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 14 December 2017].
70. The Mayor of London, The London Health Inequalities Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
71. The Mayor of London, The London Environment Strategy: Draft for Public Consultation, August 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
72. The Mayor of London, The London Housing Strategy: Draft for Public Consultation, September 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 15 October 2017].
73. The Mayor of London, 2017, Draft London Economic Development Strategy: Draft for Public Consultation, December 2017. Available at: [www.london.gov.uk](http://www.london.gov.uk) [accessed 14 December 2017].
74. <https://data.london.gov.uk>
75. <http://www.dataforcities.org>

**LONDON SUSTAINABLE  
DEVELOPMENT COMMISSION**

City Hall  
4th Floor  
The Queen's Walk  
London SE1 2AA

[www.londonsdc.org.uk](http://www.londonsdc.org.uk)