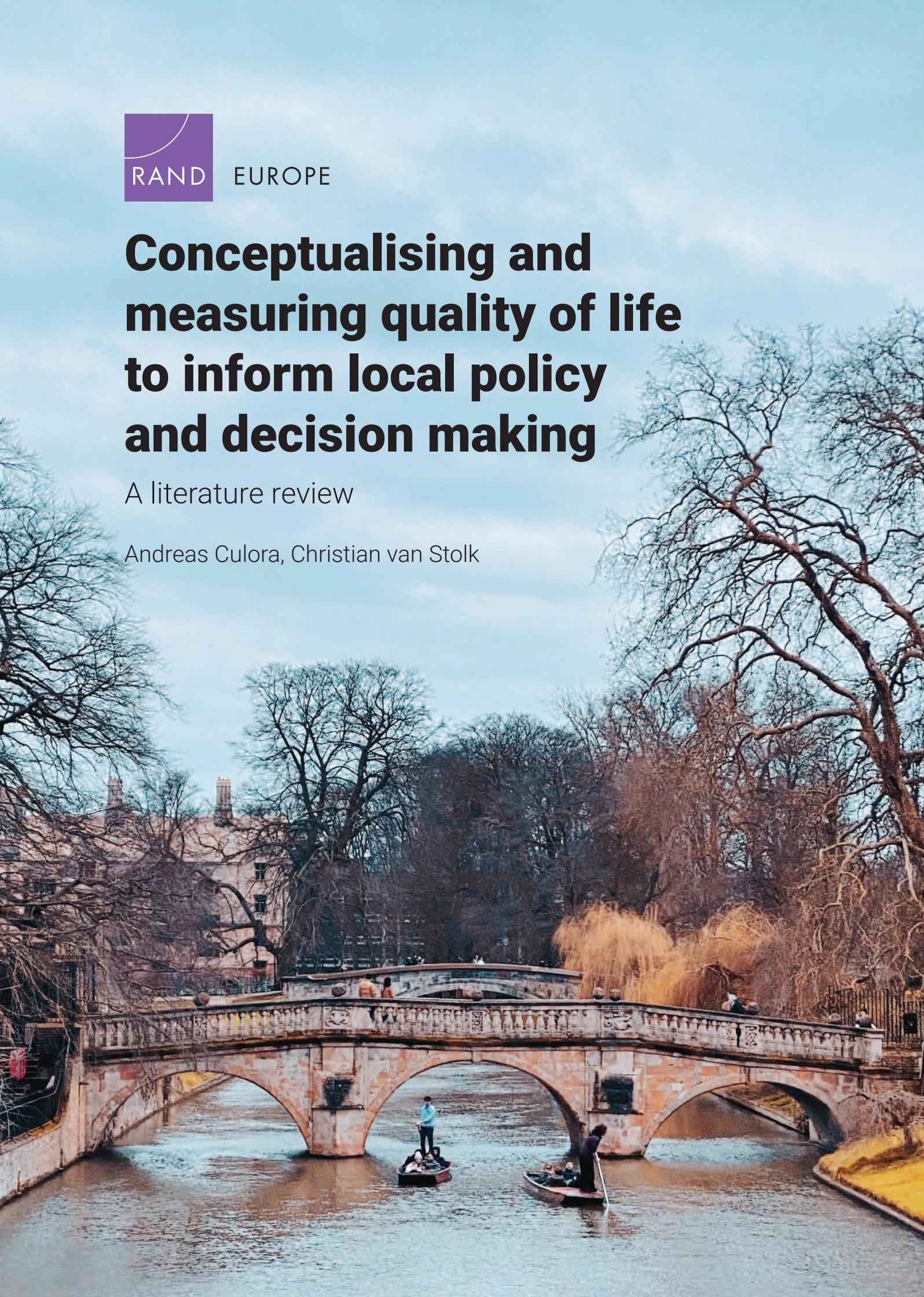




# Conceptualising and measuring quality of life to inform local policy and decision making

A literature review

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# Preface

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Cambridge Ahead has commissioned this research because, as a group of diverse institutions with a shared aim of Cambridge's long-term success, we believe that improving qualities of life in our communities should guide how we grow.

The quality of our lives can be defined by many things – by our upbringing and families, by our jobs and what we earn, by our hobbies and ambitions. Most of these things are definable and they contribute to our sense of well-being as they adjust with the unfolding of time. Where we live also has a deep impact on the quality of our lives as well – but why is this? 'The Quality of Life' has become a catch-all test of success for a place, adding slippery concepts of happiness and well-being to the material evidence. Places are an amalgam of physical features, economic activity and, most of all, people. How this interaction plays out determines the character of a place and our personal relationship with it and will govern our own quality of life.

On the face of it, Cambridge is a successful place. Its recent growth centred on its excellence in science and technology provides many people with fulfilling jobs, which in turn lead to a growing support economy. But some have not been able to participate in the rising prosperity and, in any event, not everyone welcomes this surge of economic activity with its relentless building programme and congestion on our roads which damages our quality of life. But if we want to preserve or enhance this quality of life – and bring everyone into it - we need to know more about it.

Of course, we will all have a different view on how to most effectively preserve and enhance quality of life. Subtly so in some cases but profoundly in others. It is a situation where an average will simply misrepresent everybody, so our challenge is not to define quality of life but to identify some of the main influences and to raise their importance in how we plan ahead.

The first phase of our work has been to look at how other cities have tackled this problem. This research study demonstrates clearly that many places across the world, from nations to cities, are in the midst of a process to better understand what factors should be considered most important to measuring quality of life. There is not yet a clear consensus on this, but there is a wealth of research and data, as this study shows.

We will be using this excellent evidence from global research to engage stakeholders and communities across the local area to determine what factors are most important to the qualities of life experienced in Cambridge's city and village communities.

We commissioned this project in the Summer of 2019, bringing together a range of business and academic advisers from within Cambridge and from outside to steer this research. I believe that we now find ourselves

in a time when world events experienced on our own front door have cast this debate into the fore. Understanding and responding to what really makes people happy and productive, and what makes a place sustainable and resilient, has never been more relevant to so many.

It is a notable finding of this research that whilst many places have developed datasets and measurements around quality of life – far fewer have demonstrated that this is actively taken forward into local decision making. My ambition for this work is to bring a better understanding of what qualities of life mean in Cambridge’s communities, and critically for this understanding to influence how authorities, employers, communities and individuals in this region shape the future through their actions and decisions.

I would like to thank RAND Europe and our project team for this excellent work that marks the completion of our first phase of this work, and I look forward to now working with a wide range of stakeholders and communities to shape the next phases.

**Jeremy Newsum – Chair, Cambridge Ahead Qualities of Life Project. Jeremy is former Executive Trustee of the Grosvenor Estate and a director of Wates Group**

## Summary

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This report is part of a wider ongoing project led by Cambridge Ahead (an organisation of influential employers in Cambridge who promote sustainable economic growth and quality of life in the Cambridge area) to improve quality of life for all residents living in the Cambridge area. In 2015, RAND Europe designed, deployed and analysed a survey of the Cambridge Ahead membership base in order to try to gain some understanding of what employees in the Cambridge area feel about their quality of life (Garrod et al. 2015). Following this report, Cambridge Ahead envisaged a four-stage action plan to support the area to measure Quality of Life (QoL) better and understand the priorities of the population of Cambridge with regards to QoL. The main aim of this exercise is to ensure that QoL is a key priority for local public policy in the coming years. Following the literature review (this report), Cambridge Ahead will work with local stakeholders to plan engagement activity that will highlight QoL factors that are specific to this local area and work collectively to scope potential QoL tools to influence policy and decision making.

This project is based on a review of the literature on quality of life using targeted searches in Google and Google Scholar. Academic research, policy papers and other grey literature were included in the review, with over 90 documents ultimately being reviewed. Only English language publications were included, with a focus mainly on examples from Europe and the English-speaking world (with one exception being the Bhutan Gross National Happiness Index, due to its influence in this space). It was anticipated that UK examples may be most pertinent for the Cambridge context, but the review also aimed to capture lessons from other places (e.g. local contexts in the US). The aim of the review was to answer the following research questions:

- How has quality of life been conceptualised by different areas, cities and statistical authorities?
- What type of quality of life measurement has been used by different areas, cities and statistical authorities?
- How has quality of life measurement been operationalised by different areas, cities and statistical authorities?
- How has quality of life measurement shaped local decision making (if at all)?

The major findings were as follows.

### Quality of life is a complex, multidimensional concept

While a number of definitions of quality of life and related concepts have been provided by a range of institutions (e.g. the World Health Organization, Eurostat, various national governments and statistical authorities), definitions at the city or regional level are thin. There is no single dominant conceptualisation

of quality of life that has shaped thinking around how to measure and improve quality of life. Instead, it is widely recognised that quality of life is a complex, multidimensional concept that is constituted by a framework of dimensions that will differ depending on the discipline within which quality of life is being defined (e.g. health, social science), and whether the concept of quality of life is being applied to a specific population or place.

### Quality of life measures are often underpinned by a framework of dimensions, many of which were captured in the review

The multidimensionality of quality of life as a concept requires the definition of a bespoke set of dimensions (e.g. health, access to nature, housing, work, psychological well-being, etc.) which capture the essence of what quality of life is within a particular demographic, social, economic, cultural, political and/or geographical context. Put simply, crucial to the effectiveness of any measure is ensuring that it is measuring the right thing(s) for the right people. In total, the review identified 69 conceptually distinct dimensions used to measure quality of life. Based on an analysis of the dimensions defined in the measures identified in the review, the most commonly used dimensions include: personal well-being; health; education and learning; social relations, support and activity; nature and environment; housing, shelter and accommodation; civic engagement, participation and rights; safety, security and crime; business and economy; and community.

### Quality of life is closely related to well-being and sustainable development

Quality of life and well-being are terms often used interchangeably. The conceptual overlap between quality of life and well-being has been a strong area of interest among scholars. However, the nature of the relationship between these ideas remains somewhat unclear. One area of divergence between the concepts appears to be that while well-being is often related to one's mental and emotional state (e.g. level of happiness, fulfilment, etc.), quality of life is a broader concept also encompassing notions such as life improvement, autonomy and the achievement of one's goals. Particularly in the UK context, quality of life is also linked to the notion of sustainable development. In essence, sustainable development can be understood as the improvement of quality of life (or well-being) in a manner that does not compromise the ability of future generations to do the same. The UN's Sustainable Development agenda has influenced work on conceptualising and measuring quality of life/well-being.

### There are different methodological approaches to measuring quality of life, although measures now tend to combine objective and subjective methods and indicators

Approaches to measure quality of life tend to differ depending on two main factors. First, the specific context (e.g. demographic, socio-economic, geographical) within which the measure will be applied. Second, measures of quality of life differ in the methodological approach used to collect data: objective and subjective. The objective approach aims to utilise mainly administrative data to provide indicators of quality of life that are isolated from individuals' perceptions. The subjective approach utilises social science research methods (mainly questionnaire surveys and interviews) to develop measures that aim to understand self-reported perceptions of quality of life. Increasingly, measures incorporate objective and subjective indicators

for a number of reasons (e.g. to highlight and explore disparities in one's perceived quality of life and the physical, material and social conditions within which they live).

### Thirty-two measures were identified, and these were diverse in many ways

One of the main tasks in this project was to identify some of the commonly used measures of quality of life (and related concepts), particularly at the city/region level. Overall, 32 measures were identified – the majority being indexes that comprised a number of indicators measuring various pre-determined dimensions of quality of life, with a smaller number of scales also captured in the review. These measures are diverse in a number of ways (e.g. the concept being measured, the scale at which quality of life is measured, the type of actor that created the measure).

### There is little evidence to suggest that local quality of life measures are being operationalised by local policymakers

In comparison to the array of local QoL measures that are now available, the review found little evidence that they are being operationalised by local authorities. While some brief references to measures being used to identify and address priority areas were identified, it was not more specific than this. This was not the case for national QoL measures, where examples of operationalisation were more easily identifiable (e.g. the ONS National Well-Being Measures). This difference can sometimes be a result of a tension between local and national governance; if regional policymaking is not so autonomous, it can be more challenging for local authorities to set their own QoL or well-being agenda.

### Three examples of local quality of life measures shaping local policy and decision making were identified

In comparison to the array of measures that are now available, there is relatively little evidence that measures of quality of life are influencing local policy and decision making. This does not necessarily mean that these activities are not taking place. Rather, that they were not captured in this non-exhaustive review of the literature. It may be the case that changes to policy or decision making may not be well-documented (or well-publicised), or that it is perhaps too early in some cases to identify evidence and examples of change. Nonetheless, three examples of measuring quality of life (or a related concept) influencing local policy and decision making were identified: the Bristol Quality of Life Survey; the RAND Local Well-Being Index; and the Seattle Happiness Survey. These case studies were selected as they provide useful comparators to Cambridge, and the measures themselves were devised using a bottom-up approach, taking into account the local demographic, social, economic, cultural, political and geographical context. The review highlighted three key mechanisms by which QoL measures influenced local policy and decision making: (1) by establishing a baseline for QoL in the locality; (2) using this baseline to prioritise the allocation of available pots of funding to maximise QoL; and (3) engaging communities in the creation of the measure, and encouraging public use of the findings.

Quality of life measures can have a substantial impact on policy and decision making, but this requires planning from the design stage

The three case study examples explored in the review highlighted that where measures are effectively integrated into local policy and decision making, the impact can be substantial. A factor that appears to be crucial to the success of the measure in this sense is to ensure that policy integration and impact are incorporated into the process of designing the measure as early as possible.

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## Abbreviations

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OECD	Organization for Economic Co-operation and Development
ONS	Office for National Statistics
QoL	Quality of Life
SDG	Sustainable Development Goals
UN	United Nations
WHO	World Health Organization

## Acknowledgements

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# 1. Introduction

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## 1.1. Context

Cambridge Ahead is an organisation of influential employers<sup>1</sup> in the Cambridge area that promotes sustainable economic growth and Quality of Life (QoL) in Cambridge, with the aim of creating regional prosperity and making Cambridge the greatest small city in the world (Cambridge Ahead 2020).

One of the key priorities for Cambridge Ahead is to improve the QoL of all residents living in Cambridge. To this end, Cambridge Ahead set up a QoL group that work with local authorities, its members and other partners to look at ways to measure QoL better and understand the priorities of the Cambridge population with regard to QoL. The aim is to ensure that QoL is a key priority for local public policy in the coming years.

This project report represents the next step in an ongoing collaborative process between Cambridge Ahead and RAND Europe to improve the quality of life for all residents in Cambridge. In 2015, RAND Europe designed, deployed and analysed a survey of the Cambridge Ahead membership base in order to understand what the typical employee of a Cambridge-area business feels about his or her quality of life (Garrod et al. 2015). The aim of this project was to ‘find ways to improve the quality of life for all employees and make Cambridge a competitive location able to both attract and retain talent’ (Ibid.: 1). The main findings included:

- Housing and traffic were the areas of most concern among those surveyed.
- Respondents were generally satisfied with other local services and amenities, although this varied across demographic groups.
- There were noticeable differences in the quality of life reported by those living inside and outside of the city centre.
- A significant relationship was identified between local-area satisfaction and life satisfaction.
- Satisfaction with different areas is associated with satisfaction with local services and amenities.
- Making the Cambridge area a better place to live requires a rounded approach.

Following this report, Cambridge Ahead envisaged a four-stage action plan to measure QoL better and understand the priorities of the population of Cambridge with regard to QoL. While the action plan is still

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<sup>1</sup> See <https://www.cambridgeahead.co.uk/about-us/> for more information.

being developed, the main aim of this exercise is to ensure that QoL is a key priority for local public policy in the coming years. The four stages involve: a literature review to gain a better understanding of the concept (this report); focus groups with different representative populations of Cambridge to understand in more detail the factors that most affect quality of life; creation of an index with key quality of life indicators (based mostly on existing and publicly available indicators) for policymakers, Cambridge Ahead and the wider business community; and an effort to support decision makers to track changes in quality of life QoL indicators index created as part of this exercise over time. In this, Cambridge Ahead will work with a range of partners, its members, and local policymakers.

This project aims to build on this work by reviewing the existing literature to identify measures that may be utilised by stakeholders to look at ways to measure QoL better and understand the priorities of the Cambridge population with regard to QoL.

## 1.2. What we did

RAND Europe conducted a literature review of academic research, policy documents and other grey literature focusing on the conceptualisation and measurement of QoL. Search terms were not pre-defined, but some examples of terms used to retrieve relevant sources are provided in Table 1. No restrictions were applied in relation to the publication date of documents/data or the methodologies applied to construct measures, in order to capture as many relevant sources as possible. In total, over 90 documents were identified and reviewed using targeted Google and Google Scholar searches. The aim of the review was to answer the following research questions:

- How has QoL been conceptualised by different areas, cities and statistical authorities?
- What type of QoL measurement has been used by different areas, cities and statistical authorities?
- How has QoL measurement been operationalised by different areas, cities and statistical authorities?
- How has QoL measurement shaped local decision making (if at all)?

Only English language publications were included, with a focus mainly on examples from Europe and the English-speaking world (with one exception being the Bhutan Gross National Happiness Index, due to its influence in this space). It was anticipated that UK examples may be most pertinent for the Cambridge context, but the review also aimed to capture lessons from other places. Additionally, while it was deemed important to capture examples from a range of geographical scales (international, national and local), one of the priorities was to identify measures created in, and intended for, localities (e.g. neighbourhood, community, city or regional levels). To this end, three case studies of QoL measures, identified using a 'snowball' approach, were explored in more detail: the Bristol Quality of Life survey; the RAND Local Well-Being Index; and the Seattle Happiness Survey. These were selected as they provided useful comparators to Cambridge, and the measures themselves were devised using a bottom-up approach, taking into account the local demographic, social, economic, cultural, political and geographical context. Thus, the examples aligned well with the aims of the project.

Table 1 Examples of search terms used to find sources

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<b>"quality of life" AND measure*</b>
<b>"quality of life" AND index</b>
<b>measure* AND well-being*</b>
<b>local AND "quality of life" AND measure*</b>
<b>"quality of life" OR well-being* AND measure* OR index OR scale</b>
<b>local OR regional* OR city* AND "quality of life" AND measure* OR index OR scale</b>
<b>UK* AND "quality of life" OR well-being* AND measure OR index OR scale</b>
<b>international OR global AND "quality of life" OR well-being* AND measure OR scale OR index</b>

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Finally, it was deemed relevant to include measures of other related concepts in the review, e.g. well-being, happiness and prosperity. This decision was taken as these measures and conceptual frameworks underpinning them were generally similar to the QoL measures identified. It was anticipated that these related measures may also offer useful insights and help to address the research questions.

### 1.3. The importance of measuring quality of life

Quality of life has risen up the political agenda rapidly in recent years, both in the UK and internationally. Often used interchangeably with well-being, the increased prioritisation of QoL in policy and decision making is a result of the argument that traditionally individual, community and societal well-being/progress has been measured predominantly (if not solely) by indicators of economic productivity such as Gross Domestic Product (EU Youth Forum 2017; OECD 2011). Within this context, policymakers, researchers and other actors have called for a more holistic understanding of the QoL, well-being and progress of individuals, communities and societies that take a wider range of factors into account, such as physical and mental health, access to good quality housing, feeling safe and secure, political rights and freedom, and access to nature and the natural environment.

The perceived need to move beyond economic understandings and indicators of QoL, well-being and progress has emerged in other spaces too. For example, in the last few decades the notion of sustainable development has been used prominently as an alternative to discussions of purely economic development and growth. This has occurred within the context of the agenda set by the United Nation's (UN) Sustainable Development Goals (SDGs). In the UK, interestingly, the sustainable development agenda emerged under the New Labour government in the late 1990s and propelled QoL up the political agenda, with policymakers assessing ways to improve the quality of life of the population in a sustainable manner in the longer term (Shepherd 2005). Another example (also related somewhat to QoL) is the increased interest in the notion of 'smart living',<sup>2</sup> which tries to address the issue of raising QoL (mainly in urban cities) sustainably (EU Youth Forum 2017; Garau and Maria Pavan 2018).

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<sup>2</sup> While there is no consensus on what exactly constitutes 'smart living', it is based on the notion of utilising human capital, social capital and Information and communications technologies in an integrated manner to promote and meet economic, environmental and social sustainability challenges. See Garau and Maria Pavan (2018) and London Sustainable Development Commission (2017) for more information.

The main challenge that has arisen out of the increased interest in QoL is how adequately to define and measure it, particularly in ways that are sensitive to change and difference spatially and temporally. As will be shown in this report, there is no single dominant definition or conceptualisation that has shaped understandings and measures of QoL. Definitions and understandings of QoL differ according to the demographic, social, economic, cultural, political and/or geographical context within which discussions of QoL are embedded. In this sense, many ‘qualities of life’ exist in different places and among different populations.

Efforts to provide measures of QoL have come from a range of actors. International organisations such as the World Health Organization (WHO) through the WHO quality of life (WHOQOL) surveys<sup>3</sup> and the Organization for Economic Co-operation and Development (OECD) through the OECD Better Life and Regional Well-Being Indexes have been a major influence in this space.<sup>4 5</sup> National statistical authorities from a range of contexts, including the ONS in the UK (through the National Well-Being Measures programme), have also had a role in setting the agenda around measuring QoL. As this report will show, however, bottom-up approaches that involve individuals and communities in the process of creating measures of QoL at a local level have also been implemented over the last few decades, e.g. the Co-op Community Well-Being Index (Hill-Dixon et al. 2018).

At the EU level, findings from the Stiglitz-Sen-Fitoussi Commission report for the European Commission represented a moment for the measurement of QoL as a priority for policy change and implementation (Stiglitz et al. 2009). While the European quality of life Survey (EQLS) has been collected by Eurofound since 2003, QoL has since been increasingly integrated into existing surveys such the EU Statistics on Income and Living Conditions (Rogge and van Nijverseel 2019).

In the UK, the policy agenda towards QoL and well-being began in 2010, when the Prime Minister at the time announced that well-being measures developed by the Office for National Statistics (ONS) would be used for public policy purposes (Bache 2013).

As this report will show, a range of quite different QoL measures exists for various purposes. Put simply, crucial to the effectiveness of any measure is ensuring that it is measuring the right thing(s) for the right people. This involves developing a detailed understanding of the conceptual framework underpinning measures of QoL, the composition of the measures, and the intended use of the measure in policy and decision making. These themes form the focus of the rest of this report.

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<sup>3</sup> See [https://www.who.int/mental\\_health/publications/whoqol/en/](https://www.who.int/mental_health/publications/whoqol/en/) for more information on the WHOQOL surveys.

<sup>4</sup> See <http://www.oecd.org/statistics/how-s-life-23089679.htm> for more information on the OECD Better Life Index.

<sup>5</sup> See <https://www.oecdregionalwellbeing.org/> for more information on the OECD Regional Well-Being Index.

## 2. Conceptualising quality of life

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### 2.1. Defining QoL: a useful exercise?

There is no single dominant definition or conceptualisation of QoL, which is mainly attributed to the idea that QoL is a multidimensional concept, and understandings of QoL inevitably change depending on the population in question and where QoL is being assessed (Marcel 2014). Furthermore, three branches of science have taken the concept of quality of life and its measurement forward, albeit in quite different directions: economics, medicine and the social sciences (Cummins 2005). These difficulties in creating a clear definition of QoL raise a pertinent question: *who should* define QoL? In a health context, this question may be particularly salient where there is a mismatch between a patient's assessment of their own QoL and that of their clinician (Addington-Hall and Kalra 2001). In a wider sense, this example demonstrates the tensions around conceptualising and measuring QoL: should this start with the policymakers and researchers, or the populations for whom the conceptualisation and resulting measure of QoL is intended? Increasingly, conceptualisations and measures of QoL involve a collaborative approach between these two broad stakeholder groups to achieve a holistic understanding and conceptualisation of QoL (see Canadian Index of Well-being 2016; Hill-Dixon et al. 2018; Keep Scotland Beautiful 2017 for examples).

Perhaps the best place to start assessing current conceptualisations of QoL, then, is to explore how major international organisations and statistical authorities have defined the term. We first look at the WHO and OECD, who have perhaps been most active in work on QoL at this level:

[Quality of life is an] **individual's perception** of their **position in life** in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment (*WHO 1997: 1*)

Quality of life is the notion of **human welfare (well-being)** measured by **social indicators** rather than by 'quantitative' measures of income and production (*OECD 2005*)

The definitions above highlight the difficulties in achieving a consensus in the conceptualisation of QoL. While the WHO definition emphasises a relative and socio-cultural understanding of QoL, the OECD definition focuses more on well-being and welfare, which implies that QoL is related strongly to good health. The OECD definition (adopted from the UN Glossary of Environment Statistics) also emphasises the process by which interest in QoL for policy and decision making emerged; measures of QoL should

include a wider range of indicators outside of ‘income and production’. The WHO definition makes no reference to this.

At the EU level, Eurostat provide the following conceptualisation of QoL for data purposes:

Quality of life (QoL) is broader than economic output and living standards. It includes the full range of factors influencing **what people value in life beyond its material aspects**. Factors potentially affecting our quality of life range from job and health status to social relationships, security and governance’ (*Eurostat 2020*)

This definition simultaneously aligns with the WHO and OECD definitions above, but for different reasons. In emphasising that understandings and measures of QoL should extend beyond economic output/growth, this definition is aligned with the OECD understanding of QoL. In fact, Eurostat take this further by suggesting that QoL is not limited to ‘living standards’ or ‘material aspects’ either. They state that QoL should include all factors that go *beyond* these ideas. However, both the WHO and Eurostat definition refer to a range of factors that influence QoL (e.g. physical health, social relationships, beliefs, security and governance, etc.). This refers to the *multidimensionality* of QoL, which will be explored in more detail in A multidimensional concept.

A number of definitions exist from national agencies and statistical authorities from various contexts. In the UK, the focus has tended to be more on the concept of well-being rather than QoL (Bache 2013). Indeed, the UK statistical authority, the ONS, introduced a programme for measuring national *well-being* in 2010, which adopts the following conceptualisation:

Well-being, put simply, is about **‘how we are doing’** as individuals, communities and as a nation and how **sustainable** this is for the future (*What Works Wellbeing 2013*)

Two points of interest with this definition can be made. First, the definition emphasises how well-being can be measured at a range of demographic and geographical units, which is an important theme that will be discussed further in Understanding different approaches to measuring QoL. Second, it highlights the link between well-being and sustainable development, which has been particularly strong in the UK since the 1990s, as is explored in more detail below. It is important to note here that the *What Works Centre for Wellbeing* – an independent collaborating centre established in 2014 that develops and shares well-being evidence to inform policy and decision making among governments, businesses and civil society – has been influential in incorporating QoL and well-being into the policy agenda in the UK in recent years (Hardoon et al. 2020).

While QoL is not mentioned explicitly in the UK definition above, it is important to recognise that QoL was always an important part of this programme, as shown by the Prime Minister’s speech at the launch of this programme, which aimed to:

start measuring our progress as a country, not just by how our economy is growing, but by how our lives are improving; not just by our standard of living, but by our **quality of life** (*Gov.uk 2010*)

This highlights the conceptual overlap between QoL and well-being, which has been an area of interest among scholars in this field (see Camfield and Skevington 2008; Skevington and Böhnke 2018). While

scholars have tried to understand the degree to which the two concepts are synonymous with one another, this still remains somewhat unclear. Indeed, there is a lack of research that explores the similarities and differences between these concepts (Pinto et al. 2017). Some scholars have suggested that due to the apparent overlap, there is perhaps not a need for two different concepts in this space (Skevington and Böhnke 2018). However, one area of divergence between the concepts appears to be that while well-being is often related to one's mental and emotional state (e.g. level of happiness, fulfilment, etc.), QoL is a broader concept also encompassing notions such as life improvement, autonomy and the achievement of one's goals, i.e. more related to one's place in society as well as their personal levels of well-being and satisfaction (Ibid.).

Perhaps linked to above, measures of QoL and well-being tend to be quite different (see Existing measures of QoL in Section 3.2), indicating that there are also some areas of difference between them conceptually. While measures of QoL have tended to adopt an objective approach (i.e. independent of one's perceptions), measures of well-being often prioritise subjective approaches (i.e. incorporating or prioritising individual perceptions of their own well-being), with the term 'subjective well-being' now commonly used to describe the dominance of the approach in this space (Camfield and Skevington 2008).

Moreover, another point to highlight is that despite large international organisations such as the WHO and OECD providing their own definitions of QoL and other related concepts, quite different understandings are often adopted in different national settings. For example, the definition of well-being adopted for the Canadian Index of Well-being differs quite substantially from the definition provided by the ONS in the UK context as above:

The presence of the **highest possible quality of life in its full breadth of expression** focused on but not necessarily exclusive to: good living standards, robust health, a sustainable environment, vital communities, an educated populace, balanced time use, high levels of democratic participation, and access to and participation in leisure and culture (*Canadian Index of Wellbeing 2016: 11*)

The Centers for Disease Control and Prevention in the United States defines QoL simply as a multidimensional concept that includes subjective evaluations of positive and negative aspects of life (Centers for Disease Control and Prevention, 2020a). They provide a similarly broad definition of well-being:

Well-being is a positive outcome that is meaningful for people and for many sectors of society, because it tells us that people perceive that **their lives are going well** (*Centers for Disease Control and Prevention 2020a*).

In New Zealand, while a Living Standards Framework to measure well-being has been set up by the Government (see Existing measures of QoL in section 3.2), this is not underpinned by a definition of well-being itself. They do, however, define well-being for the purposes of allocating a dedicated well-being budget:

Wellbeing is when people are able to lead **fulfilling lives** with **purpose, balance** and **meaning** to them (*New Zealand Government 2019*).

The main point here is that efforts to provide a single dominant understanding of QoL have been largely unsuccessful to date. This is because QoL is a complex, multidimensional concept, as will be explored in more detail in A multidimensional concept.

Definitions of QoL emerging from the city or regional level are thin. In fact, just one definition of QoL at the city level was identified in the review. The Sustainable Development Commission in London simply defines QoL as the general well-being of a person or society – thus highlighting the conceptual overlap with well-being (London Sustainable Development Commission 2017). Well-being is defined more strongly at this level, however. Based on community workshops conducted across the UK, the Young Foundation adopts the definition of well-being as all the things people need to lead a good life, and subsequently define community well-being as:

a collective feeling of leading a ‘**good life**’, shared and created by people and organisations. Community wellbeing is more than the sum of people’s individual wellbeing; it is the **relationships** between **people** and with **place** (*Hill-Dixon et al. 2018: 17*)

The City of Santa Monica similarly adopt individual and community-level definitions of well-being, defining the former as ‘the extent to which people experience **happiness** and **satisfaction**, and are realizing their full potential’ (*City of Santa Monica 2015: 8*), while they define key aspects of community well-being as: community health, economic resilience, educational capacity, and environmental adaptation (Ibid.).

It is also important briefly to highlight here the conceptual connections between QoL and other related terms to provide a background to the emergence of QoL on the political agenda. Perhaps the most important, particularly in the UK context, is sustainable development, an idea itself that emerged mainly out of the argument that a focus purely on improving economic growth in an unsustainable manner does not necessarily result in improvements to QoL (Department of the Environment, Transport and the Regions 2000; EU Youth Forum 2017). The oft-used definition of sustainable development comes from the UN:

development that meets the needs of the present without compromising the ability of future generations to meet their own needs (*UN General Assembly 1987: 43*)

In essence, this definition can be understood as the improvement of QoL in a manner that does not compromise the QoL of future generations (Eurostat 2019). The UN have since set out 17 Sustainable Development Goals (SDGs). While QoL is not mentioned explicitly within these, Goal 3 includes ‘promoting the well-being for all at all ages’ (United Nations 2020). Thus, it is not surprising that the sustainable development and the SDGs have since shaped much work in the space of conceptualising and measuring QoL and well-being, especially in the UK (Porio 2014; Skevington and Epton 2018).

Highlighting the link between QoL and sustainable development further, the emergence of the Smart Cities agenda has also held the improvement of QoL at its core. Indeed, the very definition of a Smart City includes the improvement of QoL in a sustainable manner:

A smart city is a city that mobilises and uses available resources to improve its inhabitants’ **quality of life**, significantly improves its resource-use efficiency, reduces its demands on the environment, builds an innovation-driven and green

economy, and fosters a well-developed local democracy (*Garau and Maria Pavan 2018: 4*)

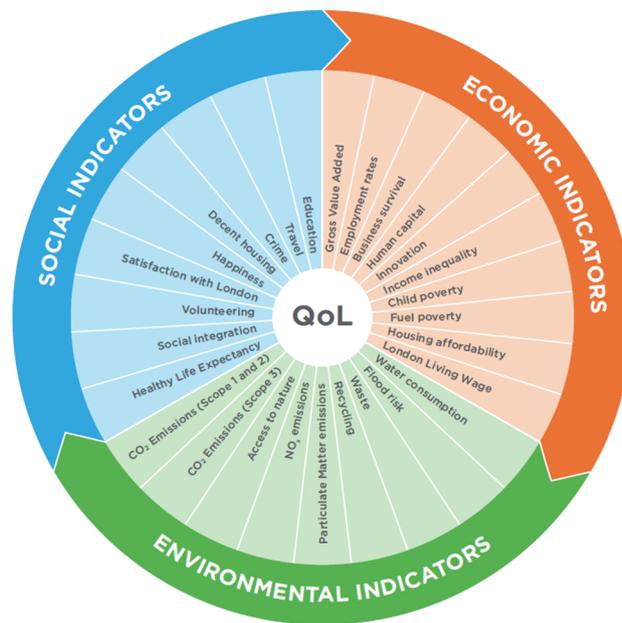
Clearly, QoL is a complex notion that cannot be holistically captured in one single definition. It is the relationship with well-being and sustainable development in particular that highlights this complexity. Additionally, the definitions provided by the OECD and Eurostat emphasise the *multidimensionality* of QoL as a concept. This is the focus of the following subsection.

## 2.2. A multidimensional concept

As is illustrated by the array of different definitions provided above, there is no single dominant conceptualisation of QoL (or related concepts) that has shaped thinking around how to understand, measure and ultimately improve QoL. Instead, it is now widely recognised that QoL is a complex, multidimensional concept that is constituted by a framework of dimensions that will differ depending on the discipline within which QoL is being defined, and whether the concept of QoL is being applied to a specific population or place (Eurostat 2017). Therefore, in order to create an effective measure of QoL, it is important that it is underpinned by a robust conceptual framework that clearly defines the specific dimensions that may affect or influence the QoL of those for whom the measure is intended. This will involve a robust justification for each included dimension based on existing evidence, to ensure that the conceptualisation (and resulting measure) provides a holistic understanding of QoL in that particular setting. To illustrate this, Figure 1 compares the dimensions defined in two measures of QoL identified in the review (London's Local Quality of Indicators and the Social Progress Index). These were chosen for comparison as they measure QoL at two different geographical scales – London's Quality of Life Indicators aims to measure QoL locally, while the Social Progress Index aims to provide a cross-nationally comparative measure of QoL. This theme is explored in more detail in Existing measures of QoL.

These conceptual models are simultaneously similar and different. At a high level, they conceptualise QoL using three core themes, which themselves are underpinned by a number of more specific dimensions. However, the three core themes are quite different. While London's QOL Indicators align strongly with the UN SDGs by balancing the dimensions across social, economic and environmental themes, the Social Progress Index focuses more on aspects of basic needs, human well-being and rights. This then leads to quite different collections of dimensions, as shown in Figure 1. For example, London's QoL Indicators comprises a number of indicators related to environmental sustainability, which do not feature on the Social Progress Index. Conversely, the Social Progress Index emphasises dimensions related to personal rights and access to information and services, which do not feature so prominently on London's QoL Indicators. The point here is that constructions of the same concept have produced two quite different frameworks underpinning the measures, highlighting the multiple understandings of QoL that exist, and the multidimensionality of the concept.

Figure 1 Conceptual models underpinning London’s Quality of Life Indicators (top) and the Social Progress Index (bottom)



Note: The conceptual model underpinning London’s Quality of Life Indicators has been taken from London Sustainable Development Commission (2017). The conceptual model underpinning the Co-op Community Well-being Index has been taken from Hill-Dixon et al. (2018).

As will be explored in the following section in more detail, the dimensions that are used to create a conceptual framework for defining and subsequently measuring QoL differed quite substantially in the documents reviewed as part of this piece of work. This is consistent with the variety of definitions provided by international and national policymakers. Indeed, this actually appears to be the point; the multidimensionality of QoL as a concept inherently requires the definition of a bespoke set of dimensions that capture the essence of what QoL is within a particular demographic, social, economic, cultural, political and/or geographical context.

Overall, this section has shown that there is no single dominant conceptualisation of QoL. While multiple definitions of QoL (and related concepts) have been provided by policymakers, there is a consensus within the existing literature that it is more useful to understand QoL as a multidimensional concept underpinned by a range of dimensions that need to be clearly defined and justified within a robust framework. What these dimensions are will depend on the intended use of the framework and any resulting measure, as well as the demographic, social, economic, cultural, political and/or geographical context within which it will be applied.

### 3. Mapping existing measures of quality of life

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This section highlights and analyses the existing measures of QoL (and related concepts) that were identified as part of the literature review. It is important to highlight at this point that the measures detailed in this section are not intended to be exhaustive, but to simply indicate some of the measures that have been used by policymakers and statistical authorities from a range of geographical contexts.

#### 3.1. Understanding different approaches to measuring QoL

The approach used to measure QoL will differ depending on two main factors. First is the intended purpose of the measure, and the specific context (e.g. demographic, socio-economic, geographical) within which the measure will be applied. For example, the measures used to assess Health-related QoL for patients (see Gacci et al. 2005; Trigg et al. 2007 for examples) are generally quite different from those intended to measure the QoL among populations experiencing high levels of poverty (see Skevington 2009). Another example relates to geography; given that QoL often means different things in different places, country-specific measures can often differ quite substantially. To illustrate this, Table 2 lists the 10 most common dimensions identified in this review (see Figure 2), and compares the inclusion of these domains from statistical authorities in four countries: Bhutan, Canada, New Zealand and the UK. While some dimensions feature across all or most of these measures (health is the only one to feature across all four), there are also dimensions that are not included so ubiquitously (e.g. safety, security and crime, and employment and work both feature in only one of the listed measures).

Recent efforts to devise measures of QoL or well-being have reflected the importance of purpose and geographical context; the Bennett Institute (University of Cambridge) and the What Works Centre for Wellbeing are in the process of devising evidence-informed measures of well-being for central and local government in the UK. As part of this process, they are adopting a mixed methods approach. First, interviews with experts to understand how relevant current well-being measures are for different social groups and places; and statistical methods to explore how well current well-being measures actually reflect variations in well-being across communities (Bennett Institute 2020).

**Table 2 Dimensions underpinning measures of quality of life or a related concept in four different countries**

<b>Dimension</b>	<b>Bhutan Gross National Happiness Index</b>	<b>Canadian Index of Well-being</b>	<b>New Zealand Living Standards Framework</b>	<b>ONS National Well-being measures</b>
Health	✓	✓	✓	✓
Education and learning	✓	✓		✓
Personal well-being	✓		✓	✓
Social relations, support and activity			✓	✓
Nature and environment	✓	✓		✓
Housing, shelter and accommodation			✓	✓
Civic engagement, participation and rights		✓	✓	
Safety, security and crime			✓	
Community	✓	✓		
Employment and work				✓

Sources: Canadian Index of Wellbeing (2016); New Zealand Treasury (2017); ONS (2019); Ura et al. (2012).

Second, measures of QoL differ in the methodological approach used to collect data. Broadly, this can be broken down into two approaches that have already been mentioned in this report: objective and subjective. The objective approach aims to utilise mainly administrative data (e.g. the UN Human Development Index) to provide indicators of QoL that are isolated from individuals' perceptions. The subjective approach utilises social science research methods (mainly questionnaire surveys and interviews) to develop measures that aim to understand self-reported perceptions of QoL (Hamming and de Vries 2007). While the objective approach dominated earlier measures of QoL, the subjective approach has been increasingly prioritised in this space over the last decade in particular.

Increasingly, measures will incorporate methods of data collection that incorporate objective and subjective indicators of QoL for a few reasons (Brown et al. 2017; Eurostat-INSEE 2011). Advances in the social sciences over the last decade have shown that there are reliable and replicable ways of triangulating subjective perceptions of QoL with objective phenomena (Noll 2010). At times, the distinction between objective and subjective indicators may not be so clear (Eurostat 2017). Furthermore, the combined approach has increasingly been used due to the recognition that one's perception of QoL and the objective reality of living

standards may be misaligned. For example, someone suffering from acute health issues or high levels of deprivation and poverty may report a high level of QoL (Billington et al. 2010; Carr and Higginson 2001; Farsides and Dunlop 2001; Rogge and Van Nijverseel 2019).

### 3.2. Existing measures of QoL

One of the main tasks associated with this project was to identify some of the commonly used measures of QoL (and related concepts), particularly at the city/region level. This exercise identified 32 measures, which are listed in Table 3. Of these measures, 26 are indexes, i.e. a pre-defined set of dimensions that are constituted by multiple indicators comprising a number of indicators, while 6 are scales that aim to measure dimensions of QoL purely through single self-reported survey questions.

A number of interesting patterns can be observed in this table.

First, it is clear from Table 3 that the measures have been developed for a range of different purposes from a geographical perspective. Some of the measures, particularly those from international organisations like the OECD and WHO, intend to provide cross-national comparability. Other measures have been created and implemented by national governments or closely related national authorities (e.g. the ONS, the Centre for Bhutan Studies), and intend to measure QoL specifically within the country that the measure has been devised for to shape national and/or local policy, decision making and resource allocation. There also appears to be a number of measures that adopt a fine-grained geographical approach to measuring QoL, devising tools that assess QoL at high spatial resolutions (i.e. the neighbourhood/community), in recognition of the fact that geographically contextual factors may play an important role in influencing QoL. Examples of these measures in Table 3 include the Co-op Community Well-Being Index, and the RAND Local Well-Being Index (Hill-Dixon et al. 2018; RAND Social and Economic Well-Being 2016).

Second, it is clear that a number of different actors have been active in this space. International organisations such as the EU, OECD and WHO have been active for at least a decade or so, mainly with the intention of creating cross-national comparative measures of QoL. A number of national governments and associated statistical authorities have also been active in devising measures of QoL. In particular, Bhutan, Canada, New Zealand and the UK have undertaken nationwide programmes to measure QoL (or a related concept), particularly within the last decade.

While international and national policymakers and statistical authorities feature prominently on Table 3, it is interesting to note two other actors that have been involved in devising these measures. First, public sector research organisations – including universities – have created several of the measures listed on Table 3. This includes the Co-op Community Well-Being Index, the Legatum Institute Prosperity Index, RAND Local Well-Being Index and the Swedish Level of Living survey. This is perhaps not surprising, given that research institutions featured prominently in the rise of the QoL agenda from the start, with many of the original WHOQOL working group in the 1980s and 1990s composed of academic experts in the field (Skevington et al. 2004). Finally, a number of private organisations have invested in the creation of indices of QoL and related concepts. Table 3 provides a number of examples, including the Halifax Quality of Life Index, the Mercer Quality of Living Index and the Sainsbury's Living Well Index.

**Table 3 List of measures identified in the review**

Measure	Creator	Year created	No. of dimensions	Concept measured	Approach	Type <sup>6</sup>	Scale
Better Life Index	OECD	2011	11	Well-Being	Objective	Index	International
Bhutan Gross National Happiness Index	The Centre for Bhutan Studies	2011	9	Happiness	Subjective	Index	National
Bristol Quality of Life Survey	Bristol City Council	2001	10	Quality of life	Subjective	Index	Local
Canadian Index of Well-Being (CIW)	CIW and the University of Waterloo	2011	8	Well-Being	Both	Index	National
Co-op Community Well-Being Index	The Young Foundation, Co-op & Geolytix	2018	10	Well-Being	Objective	Index	Local
Economist Intelligence Unit quality-of-life Index	The Economist Intelligence Unit	2005	9	Quality of life	Both	Index	International
European quality of life Survey	Eurofound	2003	9	Quality of life	Subjective	Scale	International
Gallup Sharecare Well-Being Index	Gallup	2012	5	Well-Being	Subjective	Index	National
Halifax quality of life Index	Halifax Banking Company	2006	6	Quality of life	Both	Index	National
Happiness Index	The Happiness Alliance	2017	12	Happiness	Subjective	Index	Local
Happiness Pulse	Happy City and the New Economics Foundation	2014	22	Happiness	Subjective	Scale	Local
Local quality of life indicators	Audit Commission	2005	9	Quality of life	Both	Index	National
London's quality of life Indicators	London Sustainable Development Commission	2004	27	Quality of life	Both	Index	Local
Mercer Quality of Living survey	Mercer	1998	10	Quality of life	Objective	Index	International
National Well-Being measures	ONS	2010	10	Well-Being	Both	Index	National
National Well-Being measures (ONS4)	ONS	2010	4	Well-Being	Both	Scale	National
New Zealand Living Standards Framework	New Zealand Government	2015	12	Well-Being	Both	Index	National

<sup>6</sup> Indexes and scales that measure QoL are similar in that they are both composite measures, i.e. they combine several items/indicators to produce an aggregated measure of QoL. However, indexes are constructed at the ratio level of measurement and measure the *quantity* of factors related to QoL (e.g. the % of the adult population that is educated to degree level or above). On the other hand, scales are constructed at the ordinal level of measurement and capture the *intensity* of an attitude or opinion on factors related to QoL, using questions and responses organised to determine degrees of (dis)agreement or similar (e.g. an item or series of items to determine the degree to which people disagree or agree that they are in good health). Thus, indexes tend to be based mainly on administrative data from secondary sources (e.g. Censuses), while scales tend to be based on surveys constructed specifically to produce data to measure self-reported attitudes on QoL from the perspective of the population of interest.

## RAND Europe

New Zealand quality of life survey	Auckland, Christchurch City, Wellington City, Dunedin City councils	2003	9	Quality of life	Subjective	Scale	National
Place Standard Tool	NHS Health Scotland	2015	14	Well-Being	Subjective	Scale	National
Plymouth quality of life indicators	Plymouth Local Strategic Partnership	2007	9	Quality of life	Both	Index	Local
Prosperity Index	The Legatum Institute	2007	11	Prosperity	Objective	Index	International
RAND Local Well-Being Index	RAND	2015	6	Well-Being	Both	Index	Local
Regional Well-Being measure	OECD	2014	11	Well-Being	Objective	Index	Local
Sainsbury's Living Well Index	Sainsbury's; Oxford Economics; National Centre for Social Research	2017	7	Living well	Subjective	Index	National
Seattle Happiness Survey	The Happiness Initiative	2011	9	Happiness	Both	Index	Local
Social Progress Index	Social Progress Imperative	2014	12	Quality of life	Objective	Index	International
South Gloucestershire Annual quality of life indicators	South Gloucestershire Council	2005	2	Quality of life	Both	Index	Local
Swedish Level of Living Survey	Swedish Institute for Social Research	1968	8	Quality of life	Subjective	Scale	National
Thriving Places Index	Happy City	2017	15	Well-being	Objective	Index	Local
Wellbeing Toronto	City of Toronto	2010	10	Well-being	Objective	Index	Local
WHOQOL-100	WHO	1991	6	Quality of life	Subjective	Index	International
WHOQOL-BREF	WHO	1996	4	Quality of life	Subjective	Index	International

Source: Author's own analysis

Third, there is an interesting temporal pattern that can be observed in Table 3. There has been a longstanding interest in measuring QoL, which can be traced back as far as 1968 (the Swedish Level of Living Survey). However, it is noticeable that 18 out of the 32 measures shown in Table 3 were first created in 2010 or later. This indicates that the level of interest in QoL and its measurement has accelerated in recent years, which is consistent with the relatively recent recognition that traditional measures of QoL and overall life satisfaction tended to be based on econometric measures, an argument that has only really emerged prominently since the 2000s in line with the rise to prominence of the UN Millennium Development Goals and subsequently Sustainable Development agenda (New Zealand Treasury 2018). From the UK perspective, it is interesting to note that while the national programme to measure well-being began in 2010, activity in this space began before this. Bristol City Council started administering their annual QoL survey in 2001, while South Gloucestershire Council followed suit from 2005. Public sector actors in London (the London Sustainable Development Commission) and Plymouth (Plymouth Local Strategic Partnership) also created measures of QoL specific to these locations in the mid-2000s.

Fourth, it is noticeable that a similar number of measures focused on assessing QoL (14) and well-being (12) were identified in the review. What is striking is that all but one (the Social Progress Index) of the identified measures of QoL were created before 2010, while all 12 of the well-being measures were created in 2010 or later. This perhaps indicates a shift in interest from policymakers and researchers from QoL to well-being, which may be linked to the emergence of the subjective approach. The review also identified 6 measures of related concepts including: happiness (4), prosperity (1) and living well (1).

Fifth, it is important to note that 12 out of the 32 identified measures adopt the subjective approach, while 8 use the objective approach, and a further 12 combine the two. This reflects the perceived need to move beyond economic measures of QoL, and incorporate the perceptions of the individuals for whom the measure of QoL is intended.

Sixth, given the research questions that guided this report, it was important to explore the geographical scale at which each measure was intended to be implemented. It is interesting to note that there is a relatively even split among measures aiming to provide cross-nationally comparable measures of QoL (8), those that aim to measure QoL consistently in one specific country (12), and those aiming to provide bespoke measures of QoL at a local level, e.g. city, region and neighbourhood/community (12).

A final observable trend in Table 2 is related to the number of dimensions in each measure. It is clear that the measures included in this review are diverse in this sense, ranging from 2–3 dimensions up to 27. However, it is most common for measures to be underpinned by between 5–10 dimensions (19 out of 32). The nature of these dimensions is the focus of the following section.

### 3.3. Common dimensions of QoL

The dimensions underpinning the measures presented in Table 3 were coded thematically to eventually produce a total of 69 conceptually distinct dimensions.<sup>7</sup> Figure 2 presents a frequency chart detailing the most commonly used dimensions for measures of QoL. A frequency count for all 69 of the dimensions identified in the review can be found in Frequency count for all dimensions identified in the review.

Figure 2 shows that the most commonly used dimensions in the identified measures were: health (24); education and learning (23); personal well-being (22); nature and environment (18); social relations, support and activity (18); housing, shelter and accommodation (17); civic engagement, participation and rights (16); safety, security and crime (16); business and economy (14); employment and work (14); sustainability (11); and governance, council and democracy (10). This analysis shows that existing QoL measures are comprehensive and appear to have good coverage across aspects of social, economic, cultural, political and environmental life.

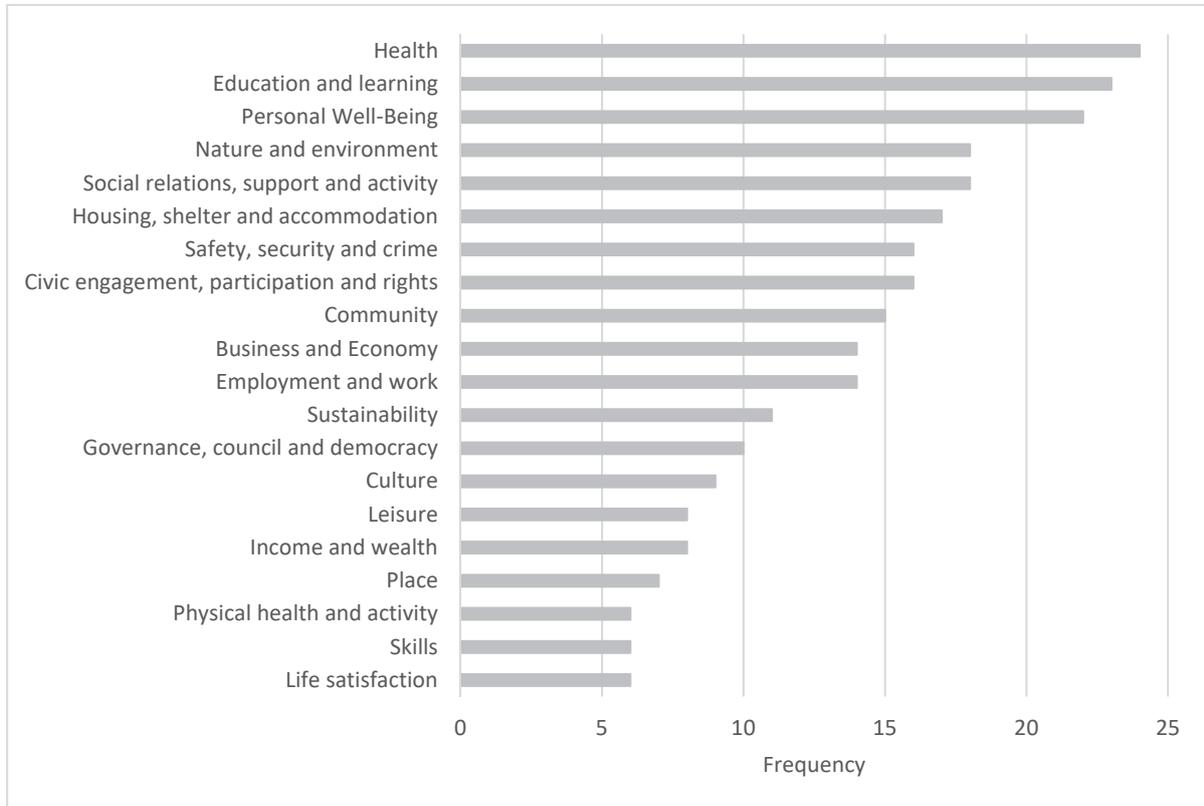
It is interesting to observe that the two most widely used dimensions relate to health and well-being. Again, this points towards the conceptual overlaps between QoL and well-being. It is also striking that ‘education and learning’ features so prominently across the measures. This is perhaps not surprising given that

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<sup>7</sup> Note: Coding simply involved grouping together dimensions where there was substantial conceptual synonymy. For example, ‘education’ and ‘learning’ were aggregated to produce ‘education and learning’. However, this process was restricted to ensure that conceptually distinct dimensions were not incorrectly or unnecessarily aggregated.

improved access to high-quality education is one of the UN SDGs (United Nations 2020). Indeed, ‘sustainability’ itself features prominently on Figure 2 as a commonly used dimension for measures of QoL.

**Figure 2 Frequency count of the 20 most-used dimensions for measures of QoL**



Source: Author’s own analysis

In the context of the previous study conducted by RAND Europe for Cambridge Ahead, it is also interesting that housing features prominently as a dimension within measures of QoL, given that the previous study identified this as a major concern for those who took the QoL survey (Garrod et al. 2015). However, while traffic also emerged as a prominent theme in that study, it does not appear to be such an important dimension among the QoL measures identified in this report.

## 4. The operationalisation of local quality of life measures in policy and decision making

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The previous section has highlighted that a wide range of measures of QoL now exist. The last decade in particular has seen the creation of a number of measures (particularly of well-being). One of the main rationales behind this report was to assess whether measures of QoL and other related concepts have shaped local decision making processes or shaped policy change in any tangible ways. To do this, three case studies were selected for more in-depth analysis around the impact of QoL measurement on policy and decision making. Crucial to answering the research questions was that the measure is implemented *locally*, i.e. at the city level or comparable/equivalent.

The main message here is that in comparison to the array of local QoL measures that are now available, there is relatively little evidence to suggest that they are being operationalised by local authorities and used to influence local policy and decision making. In some cases, there are vague references to measures being used identify and address priority areas (e.g. South Gloucestershire Council 2020). The OECD has reported on the use of national well-being measures (Exton and Shinwell 2018) and regional well-being measures (OECD, 2014) in various international contexts in recent years. Indeed, it appears that while national QoL measures are more easily integrated into policy and decision making, this is not necessarily the case at a local level. This can sometimes be as a result of tension between local and national governance; if regional policymaking is not so autonomous, it can be more challenging for local authorities to set their own QoL or well-being agenda (Ibid.).

However, the argument here is not necessarily that local QoL measures are not being operationalised and used in this way. Rather, that they were not captured in this non-exhaustive review of the literature. It may be the case that changes to decision making or policy may not be well documented (or well publicised) at the local level, or that it is perhaps too early in some cases to identify evidence and examples of change, given that some of the identified measures were only created in the last few years. However, the lack of evidence here may also suggest that one of the biggest challenges in this space is to more effectively operationalise and integrate QoL measures into local policy and decision making processes. Indeed, similar findings have been reported in previous studies; challenges include integrating the practices of government with the science of well-being, co-ordinating around a common well-being agenda; allocation of resources, and communication of findings and engagement with citizens (City of Santa Monica 2015; OECD 2014). Nonetheless, the three most useful examples of local QoL measures influencing policy and decision making processes were: the Bristol Quality of Life survey; the RAND Local Well-Being Index, and the Seattle Happiness Survey. These were selected as they would provide useful comparators to Cambridge, and the

measures themselves were devised using a bottom-up approach, taking into the account the local demographic, social, economic, cultural, political and geographical context. These will now be explored in more detail.

## 4.1. Bristol Quality of Life survey

The Bristol Quality of Life survey has been administered to residents of the City of Bristol every year since 2001 (Bristol City Council 2020a). It gives residents the opportunity to voice their opinion on issues of interest and provide feedback on the public services provided by the local authority (Zivanovic et al. 2018). The resulting statistics are geospatially analysed at the ward level, and are disaggregated by age, sex and ethnicity. Each year, the results are made publicly available on the Bristol City Council website via an annual report. The results for the 2019–2020 survey are due to be published early in 2020 (Ibid.). Quality of life statistics collected via the survey are also made available on the website.

### 4.1.1. Detail about the measure

The 2018–2019 survey was distributed to a random sample of 29,000 residents, yielding approximately 3,800 respondents (Bristol City Council 2019). The survey consisted of 70 questions producing over 200 indicators related to 9 dimensions, which are listed in Table 4.

**Table 4 Bristol Quality of Life survey domains**

Dimensions		
Community and living	Health and well-being	Crime and safety
Education and skills	Sustainability and environment	Culture and leisure
Transport	Housing	Council and democracy

Source: Bristol City Council (2019)

Most of the questions on the survey remain consistent with the previous round to facilitate longitudinal analyses. Most of the resulting analysis is presented as change on the previous rounds of the survey in order to identify aspects of QoL that improve or worsen over time. An innovative aspect of the survey involves asking residents to describe Bristol in three words. This question yielded almost 3,500 responses, with over 5,600 issues raised (Ibid.). It appears that the measurement of inequality and deprivation is a key theme underpinning the collection of these data. Indeed, the survey report includes a section dedicated to the findings from the survey related to deprivation, and results are aggregated at ward level to identify the most deprived parts of the city. The results of the 2018–2019 survey captured a general deterioration of various aspects of QoL compared with the previous three years. Of particular concern were responses related to: crime and safety; sustainability and environment; culture and leisure; and council and democracy.

### 4.1.2. Impact of the survey on local decision making and policy

As reported by the Council themselves in the latest release of the survey, the annual QoL survey provides core performance metrics that inform a number of strategic decision making processes, including:

Conceptualising and measuring quality of life to inform local policy and decision making: a literature review

- *The Bristol City Council (BCC) Business Plan*: Bristol's corporate strategy is based around four key themes – one of these being well-being. Within this theme there is a commitment to embedding health within policymaking, working towards making Bristol a more sustainable city, tackling fuel and food poverty, and making culture, sport and play accessible to all (Bristol City Council 2018).
- *The One City Plan*: The One City approach brings together a range of private, public and third sector partners with the aim of making Bristol a fair, healthy and sustainable city (Bristol One City 2019). The annual QoL survey provides performance metrics to assess whether these aims are being achieved, which are underpinned by the UN Sustainable Development Goals (Ibid.).
- *The Bristol Joint Strategic Needs Assessment*: This Needs Assessment reports on the health and well-being needs of residents of Bristol (Bristol City Council 2020b).
- *Other BCC intelligence and statistics products*.

Ultimately, the results of the survey are used to plan local service provision and track longitudinal shifts in self-reported QoL with the ultimate aim of improving QoL for residents of Bristol (Bristol Research Network 2019).

## 4.2. RAND Local Well-Being Index

In 2015, the City of Santa Monica wanted to incorporate well-being into city planning, policymaking and program implementation. However, one of the main challenges in achieving this was to devise a measure to assess effectively community well-being. On behalf of the City of Santa Monica, RAND devised a measure of community well-being using a three-phase approach:

- Define well-being at the community level.
- Measure well-being using administrative data, resident surveys, and social media data, and more.
- Help address well-being needs by working with community partners and residents to create effective strategies (RAND Social and Economic Well-being 2016).

Perhaps the most important phase is the third, which aimed to address specifically the identified gap between measurement and integration into local decision making and policy change (City of Santa Monica 2015).

### 4.2.1. Detail about the measure

The Index is underpinned by the six dimensions outlined in Table 5. The dimensions intend to ask (and answer) the following questions:

- Outlook: *How are the people of Santa Monica doing?*
- Community: *How strong is the sense of community and connection?*
- Place: *Does the physical and social environment support and promote well-being?*
- Learning: *Do people have the opportunity to enrich their knowledge and skill sets across their lifespan?*

- Health: *How healthy is Santa Monica?*
- Economic opportunity: *Can a diverse population live and thrive in Santa Monica?* (Ibid.)

**Table 5 RAND Local Well-Being Index dimensions**

Dimensions		
Outlook	Community	Place
Learning	Health	Economic opportunity

Source: RAND Social and Economic Well-Being (2016)

The core data sources for the measure were centred around a survey of the adult population of Santa Monica, administrative data from the City of Santa Monica and other administrative sources (e.g. the American Community Survey, California Health Interview Survey), and social media data, thus representing an Index combining the objective and subjective approaches (Ibid.).

#### 4.2.2. Impact of the survey on local decision making and policy

The Well-being Project helped the City of Santa Monica use growing partnerships between government and nongovernmental organizations. The city also used the index to build on established efforts that track progress in environmental health, open space and land use, economic development and housing, and human dignity (RAND Social and Economic Well-being 2016). More specifically, the Index has helped the City of Santa Monica to:

- Establish the current state of well-being of the city and its residents.
- Discover new ways to include city administrative and program data, resident experience data, and social media data to better understand well-being.
- Use well-being dimensions to frame its strategic plan and to inform all policy and program decisions.
- Help other cities integrate well-being into their measurement and planning through the dissemination of Santa Monica's results and outreach efforts (Ibid.).

The Index has since been used to create ‘Well-being Microgrants’, which offer financial support (up to \$500) for individual/community projects aimed at promoting well-being (City of Santa Monica 2020). Two rounds of funding have been supplied so far (Community and Economic Opportunity). Findings from the Local Well-being Index are used to inspire ideas and target funding in areas that are deemed of high importance to well-being. An example of the Index being used for targeted funding and interventions is provided by Julie Rusk, Chief of Civic Well-being for the City of Santa Monica:

To give a granular example, we looked at low rates of fruit and vegetable consumption and overlaid that data with food stamp enrolment levels... We found that in one neighbourhood, both were low, and yet there was a vibrant farmer’s market which locals weren’t using. So we doubled the value of food stamps there, made them easier to sign up for, and paired that with having some

of the parent groups in the neighbourhood do cooking classes. We took one small finding and used it to reorient our actions so we could move the needle on healthy eating (*apolitical 2018*)

### 4.3. Seattle Happiness Survey

Seattle City Council were the first governmental body in the United States to devise a ‘Happiness Proclamation’ – signed by various Councilmembers – which introduced the Seattle Area Happiness Initiative. The Seattle Happiness Survey was created as part of the Seattle Area Happiness Initiative in 2011 – the first of its kind in the United States – and is an adapted version of the Bhutan Gross National Happiness Index (see Ura et al. 2012 for more information about this Index).

#### 4.3.1. Detail about the measure

As shown in Table 6, the Seattle Happiness Survey is underpinned by a framework containing nine dimensions that closely related to the nine dimensions that are outlined in the Bhutan Gross National Happiness Index, i.e. Psychological well-being; Time use; Community vitality; Cultural diversity; Ecological resilience; Living standards; Health; Education; Good governance.

**Table 6 Seattle Happiness Survey dimensions**

Dimensions		
Material well-being	Governance	Environment and access to nature
Health	Psychological well-being	Time balance
Community	Culture	Education and skills

Source: Seattle Area Happiness Initiative (2011)

#### 4.3.2. Impact of the survey on local decision making and policy

Seattle City Council is a pioneer of utilising results from measures of QoL or related concepts into decision making and resource allocation (Seattle Area Happiness Initiative 2011). Similar to the RAND Local Well-Being Index, the Seattle Department of Neighborhoods use the Happiness Survey to inform the allocation of the Neighbourhood Matching Fund, a pot of money that has been mobilised since 1988 to fund small (between \$5,000 and \$50,000) projects aimed at neighbourhood improvement and the promotion of community happiness and well-being (Seattle Department of Neighborhoods 2020). Since its creation, the Fund has invested in over 5,000 community projects worth over \$64 million, attracting a further \$72 million in match funding (Ibid.).

The Happiness Survey has since been applied to Oromo, Somali, Filipino and Vietnamese communities living in Seattle. Within these populations, findings from the survey have been followed up with stakeholder events to explore where happiness can be improved further. This has resulted in targeted activities to improve happiness within these communities (see Happiness Alliance 2012 for more information). For example, within the Filipino community the survey identified that Filipinos were worse off in every domain of happiness compared with the average American – particularly in areas around community vitality, mental

well-being, health, access to education, and environmental quality. The subsequent stakeholder event explored these themes further, and it became obvious that one of the ways that happiness could be improved was to focus on public safety, which resulted in a neighbourhood watch group being set up in the area. Other cities and local areas in the United States have since adopted a similar approach to promoting happiness as Seattle, with Happiness Initiatives emerging in parts of Wisconsin, Iowa, Nevada City, Santa Fe (Happiness Santa Fe 2013; Nevada City Happiness Initiative 2012; Seattle Area Happiness Initiative 2011).

#### 4.4. Utilising local quality of life measures for policy and decision making

The analysis in this section illustrates that examples of local, bottom-up approaches to the measurement of QoL have adopted to create, operationalise and integrate QoL measures into local policy and decision making exist. Four main considerations emerge from the analysis presented here. First, it is important to acknowledge that the establishment of a QoL baseline in itself can be considered an example of measures influencing policy and decision making. Across the three case studies, the establishment of a baseline to identify areas of strength and weakness appeared to be a precursor to implementing change at the local level. Second, and linked to the above, a clear thread running through all three case studies is that the main way of integrating the measures into local policy and decision making is to use the findings of the measure to prioritise the allocation of local pots of funding to tackle areas of poor performance related to QoL. How this takes place is perhaps most clear in the two US case studies, where specific pots of funding to maximise well-being and happiness were allocated based largely on the results of the measures.

Third, the examples from Bristol and Santa Monica show that QoL measures can also influence policy and decision making at the local level if they are effectively integrated into strategic planning processes. It is particularly apparent that Bristol City Council have since integrated their annual QoL survey into a range of policymaking processes related to the social and economic development of the city.

Fourth, the Seattle example perhaps best showcases that it is not solely down to policymakers to ensure that QoL measures influence local policy and decision making. Indeed, it is clear that communities have been active in using the findings from the Seattle Happiness Survey to lobby changes at the local level. Another example of this is provided by Wellbeing Toronto, where the findings of the measure are made openly available via an open source Geographical Information System. Members of the public are encouraged to interact with the tool to understand the issues facing different neighbourhoods and communities (City of Toronto 2020).

## 5. Conclusions and areas for further examination

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In this discussion, we aim to answer two questions:

- What are the main conclusions that we can draw from the review?
- What do these findings mean for policymakers?

### 5.1. What are the main conclusions that we can draw from the review?

One of the main conclusions arising from this review is that QoL is now understood by researchers and policymakers as a multidimensional concept underpinned by a number of dimensions that differ depending on the demographic, socio-economic, political, cultural and geographic context within which the term is being applied. As a result, more recent conceptual frameworks for understanding QoL and related concepts tend to define and justify the inclusion of a number of dimensions within a framework that aims to capture the essence of QoL within that particular context.

The review identified 32 measures of QoL and related concepts. These measures are diverse in a number of ways. The majority of the measures are indexes that combine a range of quantitative indicators organised around core dimensions, while a small number measure QoL using ordinal survey scales. The measures were created by a mixture of policymakers (international, national and local), researchers, third sector organisations and private sector organisations. The oldest measure was created in 1968, while the most recent was devised in 2018. Some of the measures aim to provide a cross-national comparative measure of QoL, some aim to shape and target national policy and resource allocation, while others intend to take account of the fine-grained geographically contingent issues that can shape QoL at the community/neighbourhood level. The identified measures are underpinned by between 2 and 27 dimensions. The majority of the measures use a subjective approach to QoL measurement (either solely or combined with an objective approach), reflecting increased interest among policymakers and researchers in incorporating the perceptions of the target populations for whom QoL is being measured.

Analysis of the dimensions underpinning the measures identified in the review highlighted 69 thematically distinct measurable factors deemed to influence QoL. The most widely used dimensions among these measures include: personal well-being; health; education and learning; social relations, support and activity; nature and environment; housing, shelter and accommodation; civic engagement; participation and rights; safety security and crime; employment and work; business and economy; community; sustainability; and governance, council and democracy. While the number of times used does not necessarily indicate

importance in influencing QoL, this analysis provides a useful indicator of the specific factors most often deemed to influence one's QoL.

The final main conclusion to be drawn from this review is that, in comparison to the array of QoL measures that are available, there is little evidence to suggest that measures of QoL are influencing local decision making. One caveat here is that this may be due to a lack of reporting of resulting policy change at the local level or, in the case of measures devised in the last few years, a lack of time elapsed since the measure was created to impact policy and/or decision making. However, this may well indicate that one of the major challenges in this space is to more effectively integrate measures into policy and decision making processes and mechanisms. Nonetheless, the review highlighted three diverse case studies of measures of QoL on policy and decision making: the Bristol QoL survey; the RAND Local Well-Being Index; and the Seattle Happiness Survey. These examples showcase mechanisms by which the gap between effective measurement and policy change can be bridged to produce tangible impact and improvement in the QoL space. However, evidencing any impact may also pose a challenge here, as it would appear from the findings of the review that the operationalisation and use of QoL measures is not widely documented, at the city or regional level at least. Furthermore, identifying causal mechanisms between QoL measures and changes to policy and decision making may be difficult, as there may be other processes at work in between measurement and change that obscure this. Furthermore, it is important to recognise here that while QoL is clearly rising up the policy agenda in some contexts, it will often be one of many factors policymakers will consider when making decisions, particularly at city or regional levels where resources can be heavily constrained.

## 5.2. What do these findings mean for policymakers?

The findings of this review have four main implications for policymakers.

First, this review has highlighted a conceptual overlap between QoL and well-being. While the two terms are often used interchangeably (Bache 2013), they are defined quite differently by official authorities. Policymakers should therefore be clear on whether it is QoL and well-being that they intend to measure, and ensure that a clear conceptual framework for either is in place before any resulting measure is devised.

Second, and linked to the above point, the multidimensionality of QoL demands that any measure has a clear set of dimensions that are relevant, measurable and capture the essence of QoL within the specific geographical, demographic, socio-economic, cultural and political context that it is being applied. Furthermore, it is likely that in adopting/creating a measure of QoL, there will be a delicate balance between creating a measure that is complex enough to capture the essence of QoL, and one that is simple enough to produce digestible and accessible outputs. Achieving this may necessitate a pilot study of the target population to create a knowledge base that begins to shed light on the specific issues faced, which will aid the process of ensuring that the right set of dimensions and indicators are used and, as a result, a relevant, robust and comprehensive measure is created.

Third, a consensus in more recent work on QoL measurement has been established with regard to objective and subjective approaches in this space. It appears that the most desirable approach is one that effectively couples the benefits offered by both approaches. Policymakers should therefore look to incorporate both approaches and the data linked to them where possible and relevant. However, combining these approaches

will inevitably be more costly than adopting either alone, and will require expertise in the collection, analysis and reporting of complex quantitative and qualitative data collected from administrative sources as well as surveys and interviews. Therefore, it is likely that policymakers will be faced with a challenge of balancing the collection of data with the availability of resources and expertise.

Fourth, the review identified a gap in this space whereby the wealth of measures on offer are perhaps not producing the expected impact and influence on policy and decision making. However, it is important to caveat that it may be the case that changes to decision making or policy may not be well documented (or well publicised), or that it is perhaps too early in some cases to identify evidence and examples of change, given that some of the identified measures were only created in the last few years. For policymakers, this perhaps suggests that in adopting/creating a measure of QoL, planning for policy change and impact from the start is crucial. In particular, the review highlighted three key mechanisms by which QoL measures influenced local policy and decision making: (1) by establishing a baseline for QoL in the locality; (2) using this baseline to prioritise the allocation of available pots of funding to maximise QoL; and (3) engaging communities in the creation of the measure and encouraging public use of the findings.

One final point to make here is that given that the wider action plan set out by Cambridge Ahead involves devising a local measure of QoL that is specific to Cambridge, it is important to begin to understand what data might be available for this purpose. Annex B provides a useful starting point for understanding the availability of data by QoL dimension. For example, it appears that while the availability of data related to housing in Cambridge is strong, fewer data sets are available on crime and community safety in the Cambridge area.

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## Annex A. Frequency count for all dimensions identified in the review

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Dimension	Count	Dimension	Count
Health	24	Poverty	3
Education and learning	23	Moving around and mobility	2
Personal Well-Being	22	Trust	2
Social relations, support and activity	18	Living standards	2
Nature and environment	18	Autonomy and independence	2
Housing, shelter and accommodation	17	Built environment and infrastructure	2
Civic engagement, participation and rights	16	Medical care	2
Safety, security and crime	16	Worthwhile	2
Community	15	Anxiety	2
Employment and work	14	Other	1
Business and Economy	14	Water and sanitation	1
Sustainability	11	Influence and sense of control	1
Governance, council and democracy	10	Flourishing	1
Culture	9	Optimism	1
Income and wealth	8	Peace of mind	1
Leisure	8	Resilience	1
Place	7	Competence	1
Life satisfaction	6	Land use	1
Skills	6	Ecological resilience	1
Physical health and activity	6	Appreciation	1
Transport, traffic and parking	6	Perspective	1
Time use and balance	4	Climate	1
Access to information and knowledge	4	Sleep	1
Streets and spaces	4	Care and maintenance	1
Services	4	Overall Quality of Life	1
Identity and belonging	4	Market access	1
Volunteering and helping others	4	Facilities and amenities	1
Consumption	4	Nutrition	1
Play and recreation	4	Spirituality, religiousness and personal beliefs	1
Tolerance and inclusion	4	People	1
Financial security	4	Outlook	1
Material well-being and living conditions	3	Gross Value added	1
Purpose and meaning of life	3	Innovation	1

RAND Europe

Equality	3	Flood risk	1
Happiness	3		

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Source: Author's own analysis.

Annex B. Data on quality of life collected for Cambridge

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Relevant theme	Relevant data	Link
Housing & Planning	Cambridge local services	<a href="https://data.cambridgeshireinsight.org.uk/dataset/cambridge-local-services">https://data.cambridgeshireinsight.org.uk/dataset/cambridge-local-services</a>
	Local Housing Allowance Rates	<a href="https://data.cambridgeshireinsight.org.uk/dataset/local-housing-allowance-rates">https://data.cambridgeshireinsight.org.uk/dataset/local-housing-allowance-rates</a>
	Cambridgeshire Housing Completions 2002–2017	<a href="https://data.cambridgeshireinsight.org.uk/dataset/cambridgeshire-housing-completions-2002-2017">https://data.cambridgeshireinsight.org.uk/dataset/cambridgeshire-housing-completions-2002-2017</a>
	The cost of poor housing to the NHS	<a href="https://data.cambridgeshireinsight.org.uk/dataset/cost-poor-housing-nhs">https://data.cambridgeshireinsight.org.uk/dataset/cost-poor-housing-nhs</a>
	Homelessness in England	<a href="https://data.cambridgeshireinsight.org.uk/dataset/homelessness-england">https://data.cambridgeshireinsight.org.uk/dataset/homelessness-england</a>
	Rough sleepers across England	<a href="https://data.cambridgeshireinsight.org.uk/dataset/rough-sleepers-across-england">https://data.cambridgeshireinsight.org.uk/dataset/rough-sleepers-across-england</a>
	House sales and prices	<a href="https://data.cambridgeshireinsight.org.uk/dataset/house-sales-and-prices">https://data.cambridgeshireinsight.org.uk/dataset/house-sales-and-prices</a>
	How old is our housing?	<a href="https://data.cambridgeshireinsight.org.uk/dataset/how-old-our-housing">https://data.cambridgeshireinsight.org.uk/dataset/how-old-our-housing</a>
	Housing affordability	<a href="https://data.cambridgeshireinsight.org.uk/dataset/housing-affordability">https://data.cambridgeshireinsight.org.uk/dataset/housing-affordability</a>
	Supported housing in Cambridgeshire, Peterborough and West Suffolk	<a href="https://data.cambridgeshireinsight.org.uk/dataset/supported-housing-cambridgeshire-peterborough-and-west-suffolk">https://data.cambridgeshireinsight.org.uk/dataset/supported-housing-cambridgeshire-peterborough-and-west-suffolk</a>
	Homeless families with children, living in bed & breakfast	<a href="https://data.cambridgeshireinsight.org.uk/dataset/homeless-families-children-living-bed-breakfast">https://data.cambridgeshireinsight.org.uk/dataset/homeless-families-children-living-bed-breakfast</a>
	Affordable Housing Completions 2002–2016	<a href="https://data.cambridgeshireinsight.org.uk/dataset/affordable-housing-completions-2002-2016">https://data.cambridgeshireinsight.org.uk/dataset/affordable-housing-completions-2002-2016</a>
	Fuel poverty	<a href="https://data.cambridgeshireinsight.org.uk/dataset/fuel-poverty">https://data.cambridgeshireinsight.org.uk/dataset/fuel-poverty</a>
Health & Social Care	Cambridgeshire and Peterborough Children Social Care Open Cases as of 31 March 2019	<a href="https://data.cambridgeshireinsight.org.uk/dataset/cambridgeshire-and-peterborough-children-social-care-open-cases-31-march-2019">https://data.cambridgeshireinsight.org.uk/dataset/cambridgeshire-and-peterborough-children-social-care-open-cases-31-march-2019</a>

Cambridgeshire and Peterborough Adult Social Care Long Term Service Users as of 31 March 2019	<a href="https://data.cambridgeshireinsight.org.uk/dataset/cambridgeshire-and-peterborough-adult-social-care-long-term-service-users-31-march-2019">https://data.cambridgeshireinsight.org.uk/dataset/cambridgeshire-and-peterborough-adult-social-care-long-term-service-users-31-march-2019</a>
Loneliness (Prediction of Prevalence) Score Among over 65s	<a href="https://data.cambridgeshireinsight.org.uk/dataset/loneliness-prediction-prevalence-score-among-over-65s">https://data.cambridgeshireinsight.org.uk/dataset/loneliness-prediction-prevalence-score-among-over-65s</a>
The cost of poor housing to the NHS	<a href="https://data.cambridgeshireinsight.org.uk/dataset/cost-poor-housing-nhs">https://data.cambridgeshireinsight.org.uk/dataset/cost-poor-housing-nhs</a>
Children in Need with Open Involvements	<a href="https://data.cambridgeshireinsight.org.uk/dataset/children-need-open-involvements">https://data.cambridgeshireinsight.org.uk/dataset/children-need-open-involvements</a>
Adult Social Care and Older People Demographics March 2018	<a href="https://data.cambridgeshireinsight.org.uk/dataset/adult-social-care-and-older-people-demographics-march-2018">https://data.cambridgeshireinsight.org.uk/dataset/adult-social-care-and-older-people-demographics-march-2018</a>
Older People in Care Homes	<a href="https://data.cambridgeshireinsight.org.uk/dataset/older-people-care-homes">https://data.cambridgeshireinsight.org.uk/dataset/older-people-care-homes</a>
Older People in receipt of Homecare	<a href="https://data.cambridgeshireinsight.org.uk/dataset/older-people-receipt-homecare">https://data.cambridgeshireinsight.org.uk/dataset/older-people-receipt-homecare</a>
Learning Disability Service Users	<a href="https://data.cambridgeshireinsight.org.uk/dataset/learning-disability-service-users">https://data.cambridgeshireinsight.org.uk/dataset/learning-disability-service-users</a>
Local Ward Health Comparison for Cambridgeshire	<a href="https://data.cambridgeshireinsight.org.uk/dataset/local-ward-health-comparison-cambridgeshire">https://data.cambridgeshireinsight.org.uk/dataset/local-ward-health-comparison-cambridgeshire</a>
Number of Patients Registered at a GP Practice	<a href="https://data.cambridgeshireinsight.org.uk/dataset/numbers-patients-registered-gp-practice">https://data.cambridgeshireinsight.org.uk/dataset/numbers-patients-registered-gp-practice</a>
Personal Well-being	<a href="https://data.cambridgeshireinsight.org.uk/dataset/personal-well-being">https://data.cambridgeshireinsight.org.uk/dataset/personal-well-being</a>
Traffic and Transport	
Cambridge City Parking Data	<a href="https://data.cambridgeshireinsight.org.uk/dataset/cambridge-city-parking-data">https://data.cambridgeshireinsight.org.uk/dataset/cambridge-city-parking-data</a>
Cambridgeshire Road Traffic Collision Counts	<a href="https://data.cambridgeshireinsight.org.uk/dataset/cambridgeshire-road-traffic-collision-counts">https://data.cambridgeshireinsight.org.uk/dataset/cambridgeshire-road-traffic-collision-counts</a>
Cambridgeshire County Council Traffic Count Data	<a href="https://data.cambridgeshireinsight.org.uk/dataset/cambridgeshire-county-council-traffic-count-data">https://data.cambridgeshireinsight.org.uk/dataset/cambridgeshire-county-council-traffic-count-data</a>
Monthly Automatic Traffic Count Data	<a href="https://data.cambridgeshireinsight.org.uk/dataset/monthly-automatic-traffic-count-data">https://data.cambridgeshireinsight.org.uk/dataset/monthly-automatic-traffic-count-data</a>

Children,  
Young  
People and  
Education

Cambridgeshire and Peterborough Children Social Care Open Cases as of 31 March 2019 <https://data.cambridgeshireinsight.org.uk/dataset/cambridgeshire-and-peterborough-children-social-care-open-cases-31-march-2019>

Children in Need with Open Involvements <https://data.cambridgeshireinsight.org.uk/dataset/children-need-open-involvements>

Children with a Statement of Special Educational Needs or an Educational Health and Care Plan <https://data.cambridgeshireinsight.org.uk/dataset/children-statement-special-educational-needs-or-educational-health-and-care-plan>

Social mobility index <https://data.cambridgeshireinsight.org.uk/dataset/social-mobility-index>

Child Well Being Index <https://data.cambridgeshireinsight.org.uk/dataset/child-well-being-index>

Child Poverty <https://data.cambridgeshireinsight.org.uk/dataset/child-poverty>

Economy

House sales and prices <https://data.cambridgeshireinsight.org.uk/dataset/house-sales-and-prices>

Social mobility index <https://data.cambridgeshireinsight.org.uk/dataset/social-mobility-index>

Housing affordability <https://data.cambridgeshireinsight.org.uk/dataset/housing-affordability>

Benefit Claimants in Cambridgeshire and Peterborough <https://data.cambridgeshireinsight.org.uk/dataset/benefit-claimants-cambridgeshire-and-peterborough>

New jobs creation in Cambridgeshire (2013–2014) <https://data.cambridgeshireinsight.org.uk/dataset/new-jobs-creation-cambridgeshire-201314>

Economic Deprivation Index <https://data.cambridgeshireinsight.org.uk/dataset/economic-deprivation-index>

Environment

Mill Road Cambridge: Monitoring Air Quality <https://data.cambridgeshireinsight.org.uk/dataset/mill-road-cambridge-monitoring-air-quality>

Air Quality Data from UK-AIR <https://data.cambridgeshireinsight.org.uk/dataset/air-quality-data-uk-air>

Population

	Victim and offender – gender and age	<a href="https://data.cambridgeshireinsight.org.uk/dataset/victim-and-offender-gender-and-age">https://data.cambridgeshireinsight.org.uk/dataset/victim-and-offender-gender-and-age</a>
	Social mobility index	<a href="https://data.cambridgeshireinsight.org.uk/dataset/social-mobility-index">https://data.cambridgeshireinsight.org.uk/dataset/social-mobility-index</a>
Deprivation		
	Clients in receipt of Foodbank Vouchers in Cambridgeshire and Surrounding Areas 2015–2018	<a href="https://data.cambridgeshireinsight.org.uk/dataset/clients-receipt-foodbank-vouchers-cambridgeshire-and-surrounding-areas-2015-2018">https://data.cambridgeshireinsight.org.uk/dataset/clients-receipt-foodbank-vouchers-cambridgeshire-and-surrounding-areas-2015-2018</a>
	Social mobility index	<a href="https://data.cambridgeshireinsight.org.uk/dataset/social-mobility-index">https://data.cambridgeshireinsight.org.uk/dataset/social-mobility-index</a>
	Fuel poverty	<a href="https://data.cambridgeshireinsight.org.uk/dataset/fuel-poverty">https://data.cambridgeshireinsight.org.uk/dataset/fuel-poverty</a>
	Housing affordability	<a href="https://data.cambridgeshireinsight.org.uk/dataset/housing-affordability">https://data.cambridgeshireinsight.org.uk/dataset/housing-affordability</a>
	Homeless families with children, living in bed & breakfast	<a href="https://data.cambridgeshireinsight.org.uk/dataset/homeless-families-children-living-bed-breakfast">https://data.cambridgeshireinsight.org.uk/dataset/homeless-families-children-living-bed-breakfast</a>
	Benefit Claimants in Cambridgeshire and Peterborough	<a href="https://data.cambridgeshireinsight.org.uk/dataset/benefit-claimants-cambridgeshire-and-peterborough">https://data.cambridgeshireinsight.org.uk/dataset/benefit-claimants-cambridgeshire-and-peterborough</a>
	Indices of Deprivation	<a href="https://data.cambridgeshireinsight.org.uk/dataset/indices-deprivation">https://data.cambridgeshireinsight.org.uk/dataset/indices-deprivation</a>
	Economic Deprivation Index	<a href="https://data.cambridgeshireinsight.org.uk/dataset/economic-deprivation-index">https://data.cambridgeshireinsight.org.uk/dataset/economic-deprivation-index</a>
	Child Poverty	<a href="https://data.cambridgeshireinsight.org.uk/dataset/child-poverty">https://data.cambridgeshireinsight.org.uk/dataset/child-poverty</a>
Crime & Community Safety		
	Cambridgeshire Crime Counts and Rates	<a href="https://data.cambridgeshireinsight.org.uk/dataset/cambridgeshire-crime-counts-and-rates">https://data.cambridgeshireinsight.org.uk/dataset/cambridgeshire-crime-counts-and-rates</a>

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Source: Cambridge Insight Open Data Portal.

Note: Themes have been defined by Cambridge Insight. Datasets that were coded in more than one theme within the data portal have been listed more than once in this appendix. This has been done to highlight how the same dataset could be used to collect information on more than one dimension in any QoL measure devised.