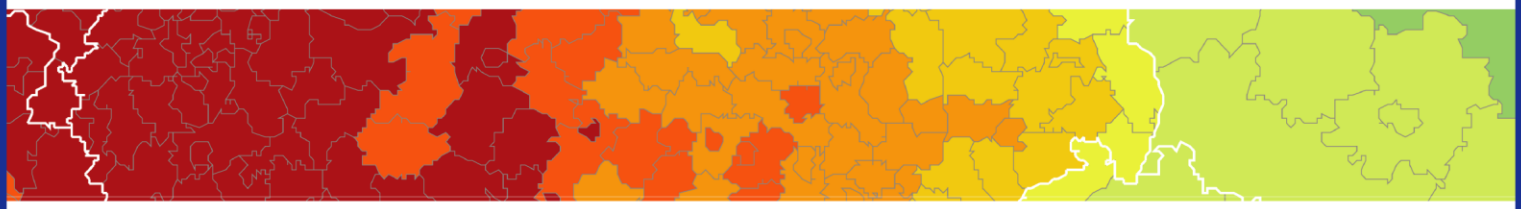

ESPON QoL – Quality of Life Measurements and Methodology

Annex 1 to the Final Report

Applied Research

Final Report

30th October 2020

Final Report

This applied research activity is conducted within the framework of the ESPON 2020 Cooperation Programme.

The ESPON EGTC is the Single Beneficiary of the ESPON 2020 Cooperation Programme. The Single Operation within the programme is implemented by the ESPON EGTC and co-financed by the European Regional Development Fund, the EU Member States and the Partner States, Iceland, Liechtenstein, Norway and Switzerland.

This delivery does not necessarily reflect the opinion of the members of the ESPON 2020 Monitoring Committee
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Authors
Carlo Sessa, Giorgia Galvini, Institute of Studies for the Integration of Systems – ISINNOVA (Italy)
Oriol Bioscal, Harold del Castillo, MCRIT (Spain)
Isabel Naylon, Jürgen Pucher, METIS-Vienna (Austria)
Daniel Rauhut, Teemu Makkonen, University of Eastern Finland – UEF (Finland)
Maarten Kroesen, TUDelft (Netherlands)

Project Support Team
Sabine Stölb
LE GOUVERNEMENT DU GRAND-DUCHÉ DE LUXEMBOURG
Ministère de l'Énergie et de l'Aménagement du territoire
Département de l'aménagement du territoire

Janja Pečar
REPUBLIKA SLOVENIJA
URAD RS ZA MAKROEKONOMSKE ANALIZE IN RAZVOJ

Anna Lea Gestsdóttir
Byggðastofnun
Icelandic Regional Development Institute

ESPON EGTC:

Project Expert: Sandra Di Biaggio

Financial Expert: Caroline Clause

Information on ESPON and its projects can be found on www.espon.eu.

The web site provides the possibility to download and examine the most recent documents produced by finalised and ongoing ESPON projects.

Contact: info@espon.eu

Annex 1: Review of existing QoL measurement efforts

ESPON QoL – Quality of Life Measurements and Methodology

Version 30/10/2020

Disclaimer:
This document is an annex to the final report.

The information contained herein is subject to change and does not commit the ESPON EGTC and the countries participating in the ESPON 2020 Cooperation Programme.

The final version of the report will be published as soon as approved.

Table of contents

Abbreviations

ART	Articulation of Territorial Networks
CBC	Cross Border Cooperation
CEO	Chief Executive Officer
CO2	Cytochrome Oxidase 2
DG	Directorate General
DHB	District Health Board
EC	European Commission
ECE	Electrical and Computer Engineering
EEAS	European External Action Service
ESPON	European Territorial Observatory Network
ESPON EGTC	ESPON European Grouping of Territorial Cooperation
EU	European Union
FP7 ITN	Framework Programme 7 (2007-13) Initial Training Network
GDP	Gross Domestic Product
GNI	Gross National Income
ICT	Information and Communication Technology
LAU	Local Administrative Units
LGBT	Lesbian, Gay, Bisexual, Transgender
NCEA	National Certificate Educational Achievement
NEET	Not (engaged) in Education, Employment or Training
NUTS	Nomenclature of Territorial Units for Statistics
OECD	Organization for Economic Co-operation and Development
OLAP	Online Analytical Processing
PM10	Particulate Matter of 10 Microns in diameter or smaller
PM2.5	Particulate Matter (less than 2.5 microns in diameter)
QoL	Quality of Life
SMEs	Small and Medium Enterprises
TED	Technology, Entertainment and Design
UNLC	United Cities and Local Governments
UN	United Nations
UNDP	United Nations Development Programme
UN-HABITAT	United Nations Human Settlements Programme
UNOPS	United Nations Office for Project Services

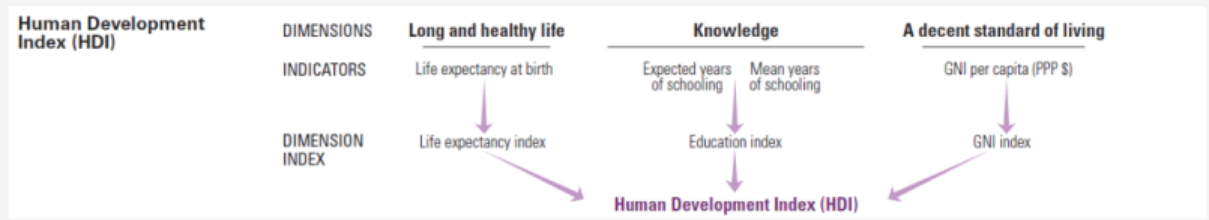
Quality of Life Index methodologies

UN - Human Development Index (HDI)

The HDI was created to emphasize that people and their capabilities should be the ultimate criteria for assessing the development of a country, not economic growth alone. The HDI can also be used to question national policy choices, asking how two countries with the same level of GNI per capita can end up with different human development outcomes. These contrasts can stimulate debate about government policy priorities.

The Human Development Index (HDI) is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living. The HDI is the geometric mean of normalized indices for each of the three dimensions.

https://www.numbeo.com/quality-of-life/gmaps_rankings.jsp



Party responsible: United Nations Development Programme

Data sources:

- UNDESA (2017)
- UNESCO Institute for Statistics (2018)
- ICF Macro Demographic and Health Surveys
- United Nations Children's Fund (UNICEF)
- Multiple Indicator Cluster Surveys and OECD (2017)
- UNESCO Institute for Statistics (2018)
- Barro and Lee (2016)
- ICF Macro Demographic and Health Surveys,
- UNICEF Multiple Indicator Cluster Surveys
- OECD (2017)
- World Bank (2018)
- IMF (2018)
- United Nations Statistics Division (2018).

Spatial resolution: Worldwide; 235 cities; Local level (LAU)

Temporal resolution: 2012-2019 , updated continuously

Methodology:

The Human Development Index (HDI) is a summary measure of achievements in three key dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living. The HDI is the geometric mean of normalized indices for each of the three dimensions.

Dimension	Indicator	Minimum	Maximum
Health	Life expectancy (years)	20	85
Education	Expected years of schooling (years)	0	18
	Mean years of schooling (years)	0	15
Standard of living	Gross national income per capita (2011 PPP $)	100	75,000

$$Dimension\ index\ = \frac{actual\ value\ -\ minimum\ value}{maximum\ value\ -\ minimum\ value}$$

The HDI is the geometric mean of the three-dimensional indices:

$$HDI\ =\ (I_{Health}\ .I_{Education}\ .\ I_{Income})^{1/3}$$

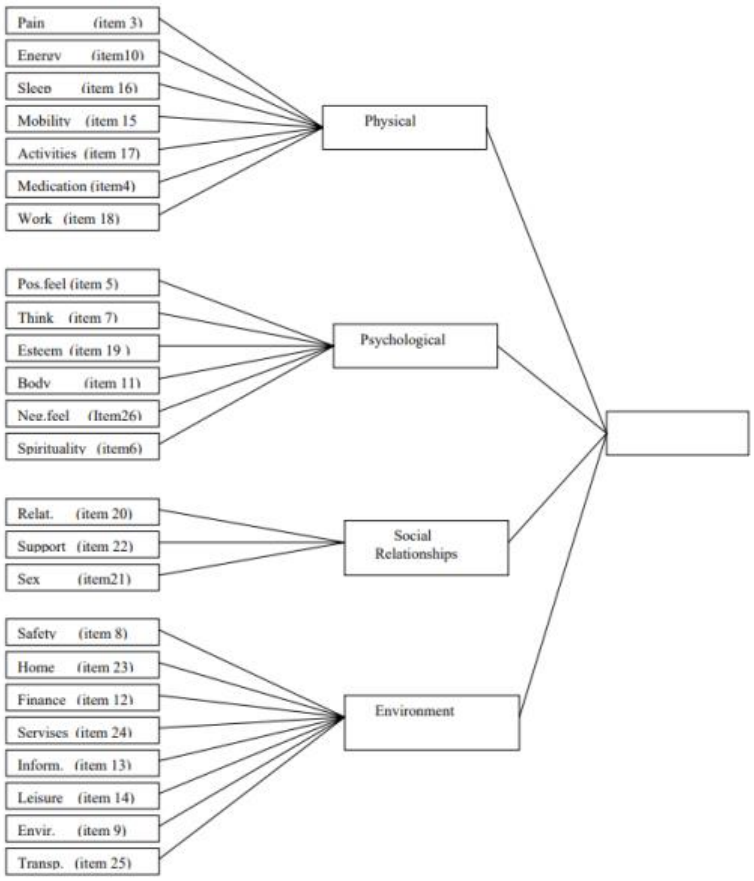
Indicators:

- Life expectancy
- Expected years of schooling (years)
- Mean years of schooling (years)
- Gross national income per capita (2011 PPP $)

UN World Health Organization Quality of Life (WHOQOL)

The WHOQOL is a quality of life assessment developed by the WHOQOL Group with fifteen international field centres, simultaneously, in an attempt to develop a quality of life assessment that would be applicable cross-culturally. It was developed collaboratively in some 15 cultural settings over several years and has been field tested in 37 field centres.

https://www.who.int/mental_health/publications/whoqol/en/



Party responsible: WHO

Data sources:
Elaborated by WHO

Spatial resolution: Worldwide; Local level (LAU)

Temporal resolution: 1998, Not ongoing project

Methodology:

The WHOQOL assesses individuals' perceptions 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 100-question assessment that currently exists in directly comparable forms in 29 language versions. It yields a multi-dimensional profile of scores across domains and sub-domains (facets) of quality of life.

Indicators:

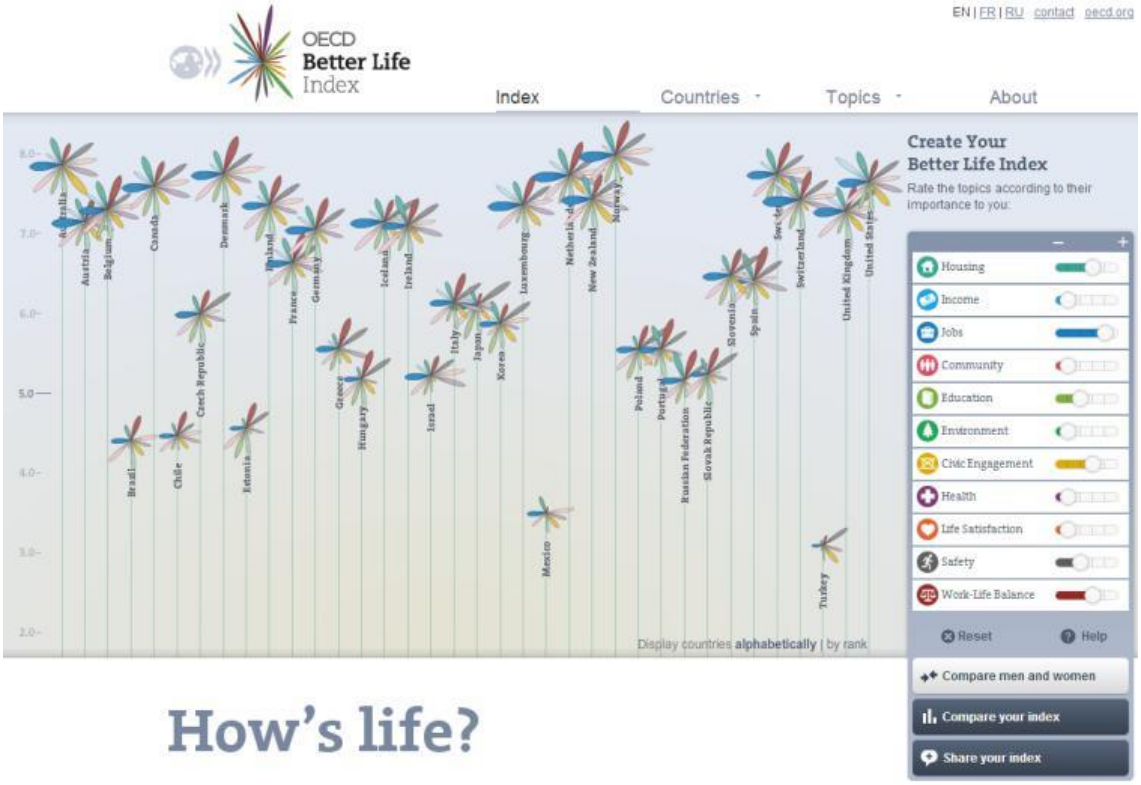
- Physical domain (pain and discomfort, energy and fatigue, sleep and rest)
- Psychological (positive feelings, thinking, learning, memory and concentration, self-esteem, body image and appearance, negative feelings)
- Level of independence (mobility, activities of daily living, dependence on medication or treatments, working capacity)
- Social relationships (personal relationships, social support, sexual activity)
- Environment (physical safety and security, home environment, financial resources, health and social care, opportunities for acquiring new information and skills, participation in and opportunities for recreation and leisure, physical environment, transport)
- Spirituality / religion / personal beliefs

OECD Better Life Index (OECD)

Your Better Life Index aims to involve citizens in the debate on measuring the well-being of societies, and to empower them to become more informed and engaged in the policy-making process that shapes all our lives. It is updated every year with new data and additional information on measures such as inequality.

It is designed to visualise and compare some of the key factors – like education, housing, environment, and so on – that contribute to well-being in OECD countries. This tool allows the monitoring of the Better Life index, as well as of all indicators used to compute it.

http://www.oecdbetterlifeindex.org/#/13111311311



Party responsible: OECD Stat (stat.contact@oecd.org)

Data sources:

- OECD Database (National Accounts, Income Distribution and Poverty, Job quality, Labour Force Statistics, Education at a Glance, PISA at a Glance, Exposure to air pollution, Indicators of Regulatory Policy and Governance, Health Status database, Labour Force Statistics database, Time Use Surveys microdata)
- European Union Statistics on Income and Living Conditions (EU-SILC)
- International Institute for Democracy and Electoral Assistance (IDEA)
- Gallup World Poll
- Comparative Studies of Electoral System for inequalities estimations

Spatial resolution: Worlwide; OECD countries, Russia, Brazil and South Africa; country level (NUTS0)

Temporal resolution: 2013-2017, yearly

Methodology:

Each of the 11 topics of the Index is currently based on one to three indicators. Within each topic, the indicators are averaged with equal weights. The indicators have been chosen on the basis of a number of statistical criteria such as relevance (face-validity, depth, policy relevance) and data quality (predictive validity, coverage, timeliness, cross-country comparability etc.) and in consultation with OECD member countries. These indicators are good measures of the concepts of well-being, in particular in the context of a country comparative exercise. Other indicators will gradually be added to each topic.

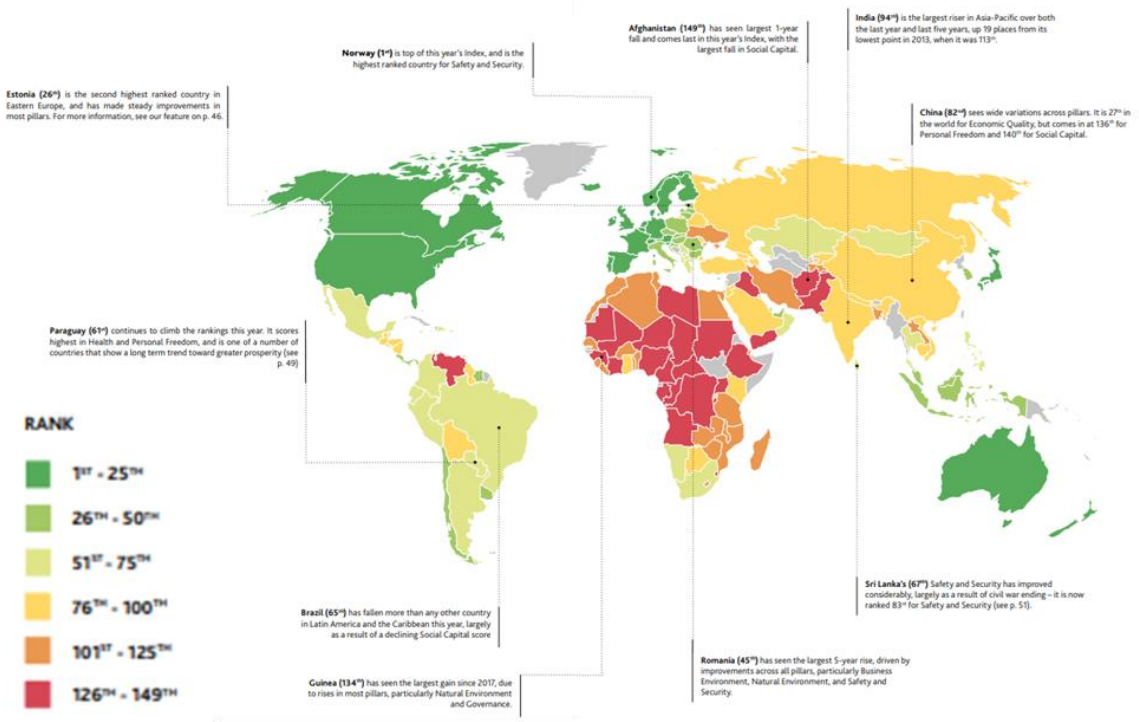
Indicators:

- Housing (dwellings without basic facilities, housing expenditure, rooms per person)
- Income (Household net adjusted disposable incomes, household net financial wealth)
- Jobs (Labour market insecurity, employment rate, long-term unemployment rate , personal earnings)
- Community (quality of support network)
- Education (educational attainment, student skills, years in education)
- Environment (air pollution, water quality)
- Civic engagement (stakeholder engagement for developing regulations, voter turnout)
- Health (life expectancy, self-reported health)
- Life satisfaction
- Safety (feeling safe walking alone at night, homicide rate)
- Work-Life Balance (employees working very long hours, time devoted to leisure and personal care)

The Legatum Prosperity Index

The Prosperity Index seeks to help country governments to set the agendas for growth and development. The index is calculated based on that prosperity entails much more than wealth, it considers the political, the judicial, and the wellbeing and character of a nation. It evaluates the environment where a person is able to reach their full potential. The most prosperous nations are the ones that has an open economy, inclusive society, strong institutions and empowered people who are healthy, educated and safe.

https://www.prosperity.com/



Party responsible: Legatum Institute Foundation (pi@li.com)

Data sources:

- The Office for National Statistics. 2014. Underemployment and Overemployment in the UK, 2014. ONS.
- UNEP. 1995. Poverty and the Environment. Reconciling Short Term Needs with Long Term Sustainability Goals. Kenya: UNEP.
- Economist Intelligence, Unit. Global food security index 2014. Index, The Economist, 2014.
- GDRD, Global Development Research Centre.
- The United Nations, 'Human Rights Indicators: A Guide to Measurement and Implementation', New York and Geneva, 2012.
- BTI. BTI 2014, Codebook for country assessments. Codebook, Gütersloh: BTI, 2014
- World Bank. Information and Communications. Global Trends and Policies. Washington, DC: World Bank, 2006.
- World Economic Forum, The Human Capital Report, Geneva, Switzerland, 2015.
- All sources in Methodology Report (Appendix II); https://www.prosperity.com/application/files/1914/7819/5146/Legatum_Prosperity_Index_Methodology_Report.pdf

Spatial resolution: Worldwide; 149 countries; country level (NUTS0)

Temporal resolution: 2007-2018, Yearly

Methodology:

The Legatum Prosperity Index TM is a framework that assesses countries on the promotion of their citizens' flourishing, reflecting both wealth and wellbeing. The Index captures the breadth of prosperity across nine pillars of prosperity using 104 indicators.

A country is given a score for each pillar. This score is based on that country's performance with respect to each of the indicators in that pillar, and the level of that indicator's importance (the weight assigned to each indicator). The pillar scores are averaged to obtain an overall prosperity score, which determines

each country's rank. Each pillar contains around 12 indicators. The indicators are aggregated into sub-pillars. The Index score provides an overall assessment of a country's prosperity and each pillar (and sub-pillar) score serves as a guide to how that country is performing with respect to a particular foundation of prosperity.

Indicators:

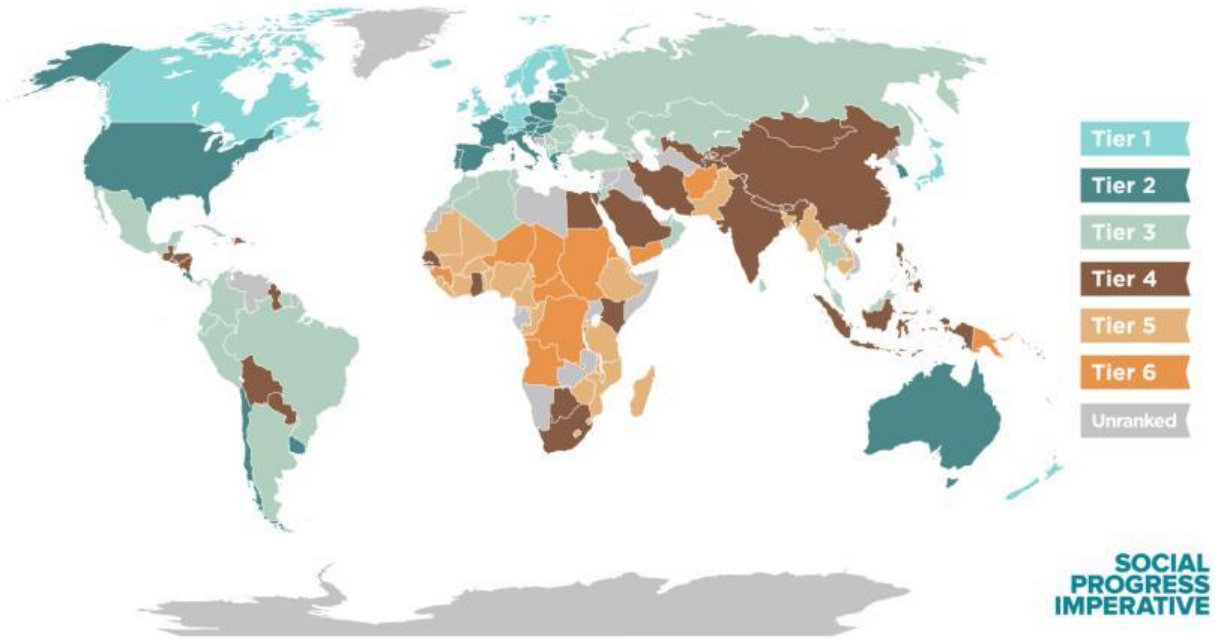
- The Economic Quality pillar measures countries on the openness of their economy, macro-economic indicators, foundations for growth, economic opportunity and financial sector efficiency.
- The Business Environment pillar measures a country's entrepreneurial environment, its business infrastructure, barriers to innovation and labour market flexibility.
- The Governance pillar measures a country's performance in rule of law, effective governance, and democracy and political participation.
- The Education pillar measures access to education, quality of education and human capital. The Health pillar measures a country's performance in basic physical and mental health, health infrastructure and preventative care.
- The Safety & Security pillar measures countries based on national security, security of living conditions and personal safety.
- The Personal Freedom pillar measures national progress towards basic legal rights, individual liberties and social tolerance.
- The Social Capital pillar measures the strength of personal relationships, social network support, social norms and civic participation in a country.
- The Natural Environment pillar measures a country's performance in the quality of the natural environment, environmental pressures and preservation efforts.

Global Social Progress Index (SPI)

The Social Progress Index It aims to define the success of societies. It is an understandable measure of quality of life, leaving aside economic indicators. The Social Progress Index is designed to complement economic measures such as GDP, income or employment.

It helps decision-makers and shows how individuals are living and which societies are left behind. This new approach is used to craft evidence-based policies, allocate resources and drive actions: better healthcare and education, safer streets, a clean environment, and an inclusive society with rights and opportunities for everyone.

https://www.socialprogress.org/



Party responsible: Social Progress Imperative

Data sources:

- Food and Agriculture Organization of the United Nations
- Freedom House
- Transparency International
- Gallup World Poll
- OECD
- Institute for Health Metrics and Evaluation
- Varieties of Democracy (VSDem) Project
- World Bank
- UNESCO
- Times Higher Education World University Rankings

Spatial resolution: Worldwide; 146 countries; country level (NUTS0)

Temporal resolution: 2014-2018; yearly

Methodology:

The 2018 Social Progress Index ranks 146 countries on social progress. It combines 51 social outcome indicators to calculate an aggregated score for each country, based on stepped levels of scoring that include measures in health, safety, education, technology, rights, among others.

The framework of the Social Progress Index alludes to three broad elements of social progress, referred as Basic Human Needs, Foundations of Wellbeing, and Opportunity. Under each dimension are four components whose concepts relate and are guided by questions answered with available data.

- Basic human needs: nutrition and basic medical care, water & sanitation, shelter and personal safety
- Foundations of wellbeing: access to basic knowledge, access to information & communications, health and wellness and environmental quality
- Opportunity: personal rights, personal freedom & choice, inclusiveness and access to advanced education

Indicators:

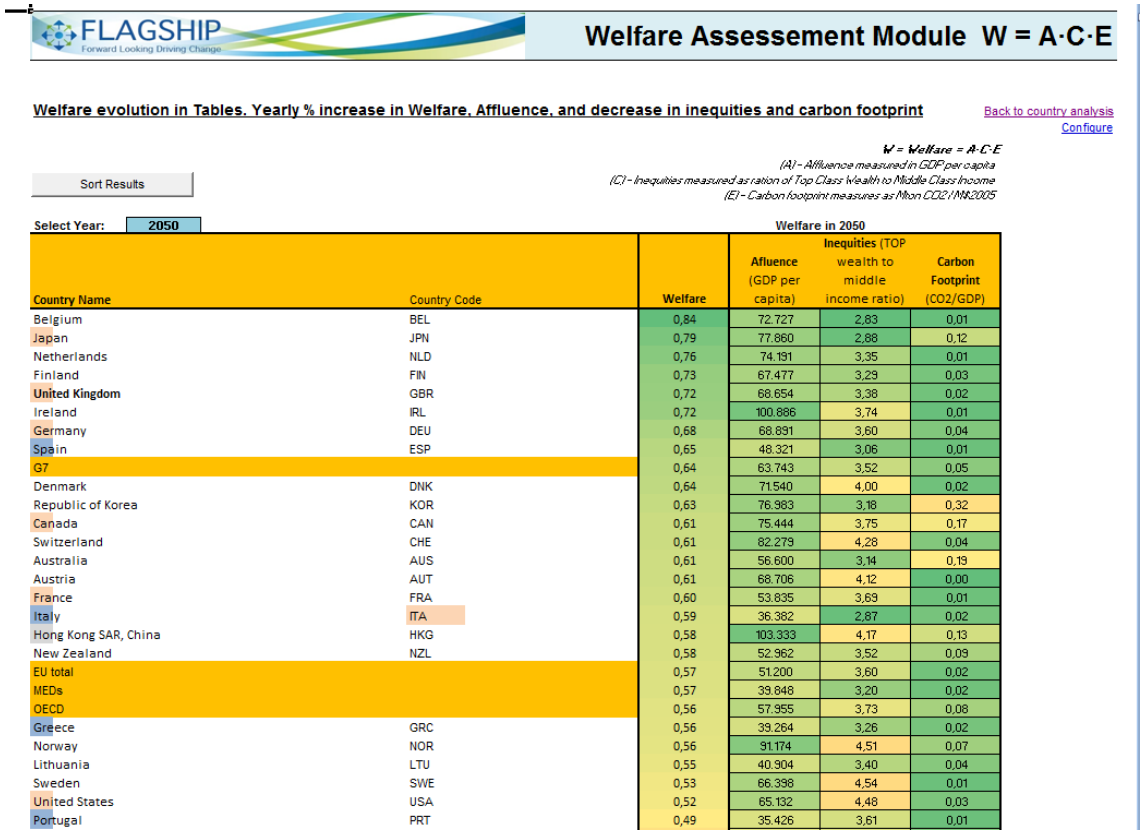
- Nutrition and basic medical care: Undernourishment, maternal mortality rate, child mortality rate, and deaths from infectious diseases
- Water and sanitation: Access to at least basic drinking water, access to piped, water, access to at least basic sanitation facilities, rural open defecation
- Shelter: Access to electricity, quality of electricity supply, household air pollution attributable deaths
- Personal safety: Homicide rate, perceived criminality, political killings and torture and traffic deaths
- Access to basic knowledge: Adult literacy rate, primary school enrolment, secondary school enrolment, gender parity in secondary enrolment
- Access to ICT: Mobile telephone subscriptions, mobile telephone subscriptions, participation in online governance, access to independent media
- Health and wellness: Life expectancy at 60, premature deaths from non-communicable diseases, access to essential health services, access to quality healthcare
- Environmental quality: Outdoor air pollution attributable deaths, greenhouse gas emissions, biome protection
- Personal rights: Political rights, freedom of expression, freedom of religion, access to justice, property rights for women
- Personal freedom and choice: Vulnerable employment, satisfied demand for contraception, corruption
- Tolerances and inclusion: Acceptance of gays and lesbians, equality of political power by gender, equality of political power by socioeconomic position, equality of political power by social group
- Access to advanced education: Years of tertiary schooling, women's average years in school, globally ranked universities, percent of tertiary students enrolled in globally ranked universities, GDP per capita

Social Welfare Index

The Social Welfare Index is an adaptation of the IPAT approach in environmental science developed by Ehrlich, Commoner & Holdren to assess welfare understood as a combination of affluence (A), equity (C), and environmental standards (E) indexes. It has been elaborated as a meta-model tool for the period 1980-2050, it shows different index results according to the scenarios defined in the tool.

Affluence index is based on Luca Ricolfi's essay "L'Enigma della Crescita". Analyses economic growth per capita (affluence) based on a simplified Solow approach without technological progress, Cohesion index is based on Thomas Piketty's essay "Capital in the 21st century", dealing with expected growing inequities in the 21st century in societies where the return obtained from property ownership (rents) becomes more important than the rate of growth of salaries, which is generally driven by economic growth and Environmental Index is based on Jørgen Randers' essay "2052 A Global Forecast for the next 40 Years". The author suggests the use of cross elasticities to economy and technology to provide a holistic analysis of needed game changers and trend breaks to meet environmental and energy challenges toward the middle of the 21st century.

https://cordis.europa.eu/project/rcn/108144/reporting/en



FLAGSHIP
Forward Looking Driving Change

Welfare Assessement Module W = A·C·E

Welfare evolution in Tables. Yearly % increase in Welfare, Affluence, and decrease in inequities and carbon footprint

Back to country analysis
Configure

W = Welfare = A·C·E
(A) - Affluence measured in GDP per capita
(C) - Inequities measured as ration of Top Class Wealth to Middle Class Income
(E) - Carbon footprint measures as Mton CO2 / MK2005

Sort Results

Select Year: 2050

Country Name	Country Code	Welfare in 2050 Welfare	Affluence (GDP per capita)	Inequities (TOP wealth to middle income ratio)	Carbon Footprint (CO2/GDP)
Belgium	BEL	0,84	72.727	2,83	0,01
Japan	JPN	0,79	77.860	2,88	0,12
Netherlands	NLD	0,76	74.191	3,35	0,01
Finland	FIN	0,73	67.477	3,29	0,03
United Kingdom	GBR	0,72	68.654	3,38	0,02
Ireland	IRL	0,72	100.886	3,74	0,01
Germany	DEU	0,68	68.891	3,60	0,04
Spain	ESP	0,65	48.321	3,06	0,01
G7		0,64	63.743	3,52	0,05
Denmark	DNK	0,64	71.540	4,00	0,02
Republic of Korea	KOR	0,63	76.983	3,18	0,32
Canada	CAN	0,61	75.444	3,75	0,17
Switzerland	CHE	0,61	82.279	4,28	0,04
Australia	AUS	0,61	56.600	3,14	0,19
Austria	AUT	0,61	68.706	4,12	0,00
France	FRA	0,60	53.835	3,69	0,01
Italy	ITA	0,59	36.382	2,87	0,02
Hong Kong SAR, China	HKG	0,58	103.333	4,17	0,13
New Zealand	NZL	0,58	52.962	3,52	0,09
EU total		0,57	51.200	3,60	0,02
MEDs		0,57	39.848	3,20	0,02
OECD		0,56	57.955	3,73	0,08
Greece	GRC	0,56	39.264	3,26	0,02
Norway	NOR	0,56	91.174	4,51	0,07
Lithuania	LTU	0,55	40.904	3,40	0,04
Sweden	SWE	0,53	66.398	4,54	0,01
United States	USA	0,52	65.132	4,48	0,03
Portugal	PRT	0,49	35.426	3,61	0,01

Party responsible: FLAGSHIP Consortium (obiosca@mcrit.com)

Data sources:

- BP. Statistical review of world energy 2013
- Climate Council (2014). The US-China joint announcement on climate change and clean energy cooperation: What's the big deal?
- OECD, National Accounts (2014)
- R.N. Elliott's (1940). The Basis of the Wave Principle.
- United Nations Framework Convention on Climate Change (UNFCCC) (2011)
- UN DESA, Department of Economic and Social Affairs

- UN Population Division, World Population Prospects 2010
- UNU WINDER. World Income Inequality Database (WIID) (2014)
- Wittgenstein Centre for Demography and Global Human Capital, (2015)
- World Bank, World Development Indicators

Spatial resolution: Worlwide; country level (NUTS0)

Temporal resolution: 1980-2050; (results obtained with a meta-model tool)

Methodology:

Welfare index is based on a parallelism established with the I=P•A•T approach defined in environmental science by Ehrlich, Commoner & Holdren. In the formulation, the variable "P" represents the population, the "A" represents the average consumption commonly measured as the GDP per capita and the "T" variable represents how resource intensive the production of affluence is, how much environmental impact is involved in creating, transporting and disposing of the goods, services and amenities used.

Likewise, to IPAT, the welfare index is proposed a formulation as follows: $W_{(welfare)} = A_{(affluence)} \bullet C_{(cohesion)} \bullet E_{(environment)}$. Affluence is measured through GDP per capita. Cohesion is measured as the inverse of country internal inequalities, which in their turn are defined as the ratio between welfare concentration of the top classes and the share in total income of the middle classes. The environmental component is estimated inversely to the ratio of GHG emissions released per unit of GDP, or the inverse to the product of carbon and energy intensities.

$$W = A^{\alpha} \cdot C^{\beta} \cdot E^{\gamma}$$

The parameters were introduced in the formulation normalised on a scale ranging from 0 to 1, where 0 corresponds to the minimum value registered by a country for any given year between 1980 and 2050, and 1 corresponds to the maximum value registered by a country on a certain year between 1980 and 2050.

Indicators:

- Affluence: GDP per capita
- Cohesion: top welfare respect the middle class income
- Environment = CO_2 emissions respect the GDP

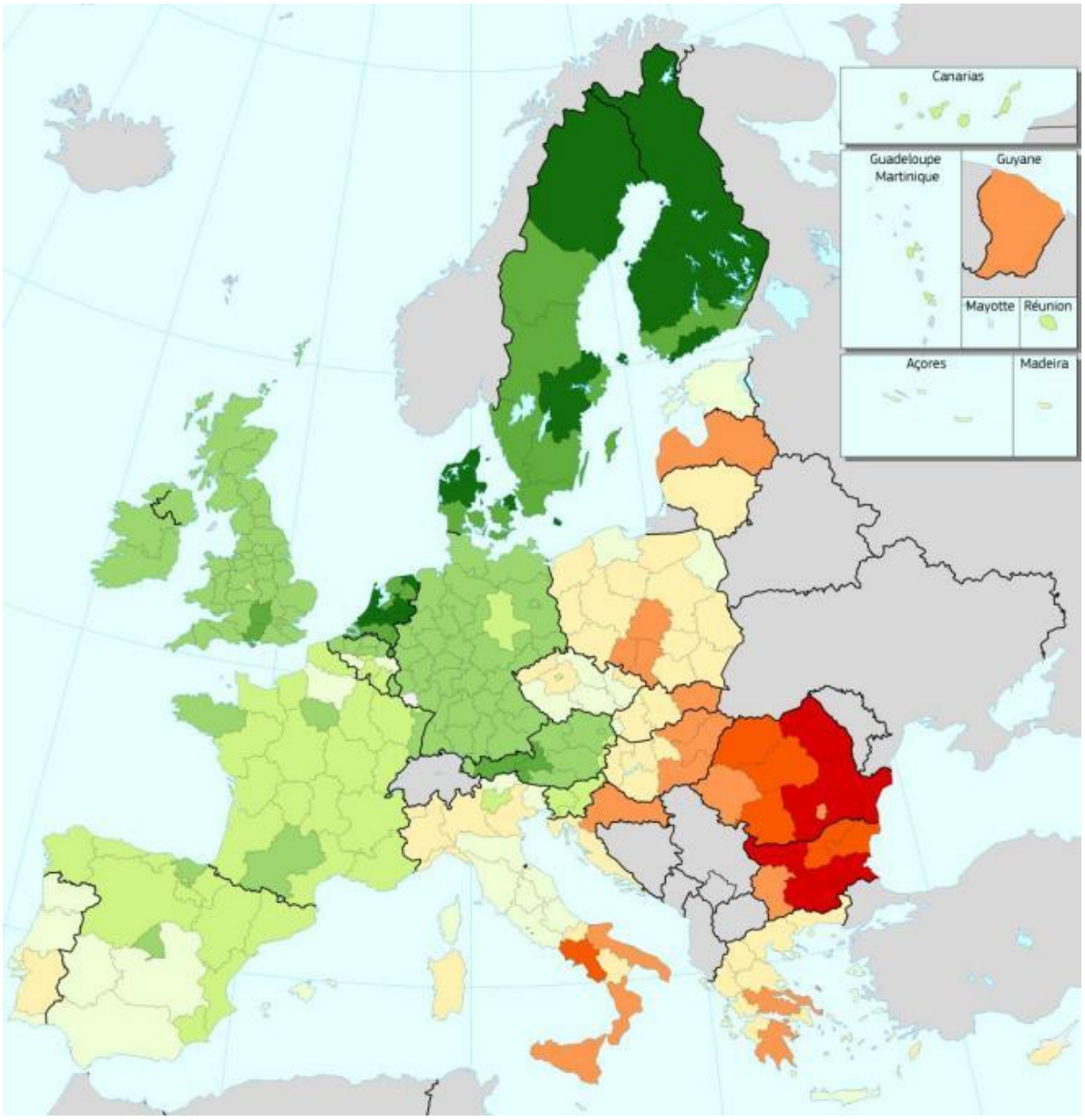
European Social Progress Index (EU-SPI)

The EU regional Social Progress Index (SPI) measures the social progress at regional level as a complement to traditional measures of economic progress. It purposely leaves indicators such as GDP, income or employment, so it can be used complement measures based on those indicators.

The EU-SPI has been published in the year 2016, and it is the result of a three-year collaborative project carried out by the Social Progress Imperative, Orkestra (a research institute on competitiveness in the Basque region) and the Directorate-General for Regional and Urban Policy of the European Commission. The Index builds on the global Social Progress Index developed by the Social Progress Imperative, a non-profit, non-governmental organisation based in Washington, DC. The regional EU-SPI aims at providing consistent, comparable and actionable measures of social and environmental issues for the regions in the 28 EU Member States (272 regions in total).

Some globally important indicators, such as primary school enrolment or household access to electricity, are important factors worldwide but less pressing issues in the EU. The EU-SPI is therefore based on a different set of indicators but with the identical set of dimensions and components.

https://ec.europa.eu/regional_policy/en/information/maps/social_progress



Party responsible: European Comission (REGIO-B1-PAPERS@ec.europa.eu)

Data sources:

- EUROSTAT
- EU Survey on Social and Living Conditions – EU-SILC
- European Environmental Agency (EEA)
- Gallup World Poll
- Quality of Government Institute of the University of Gothenburg and Eurobarometer

Spatial resolution: EU28+4 (272 regions); regional level (NUTS2)

Temporal resolution: 2013 (data ciollected from 2011 to 2016)

Methodology:

The European Union Regional Social Progress Index (EU-SPI) is an aggregate index of 50 indicators that represent three dimensions of social progress and their twelve domains.

The index was computed following a step-wise approach:

- assessing of the best possible geographical coverage given data availability and reliability
- checking for statistical internal consistency within each component
- normalizing
- aggregating indicators
- anchoring regional scores to purely national ones
- testing scores and rankings through an extensive robustness analysis

Whenever possible, the indicators were averaged over three years, 2011-2013, to smooth out erratic changes and limit missing values problems. For consistency across the indicators, the reference period was 2011-2013 even when more recent data were available.

Indicators:

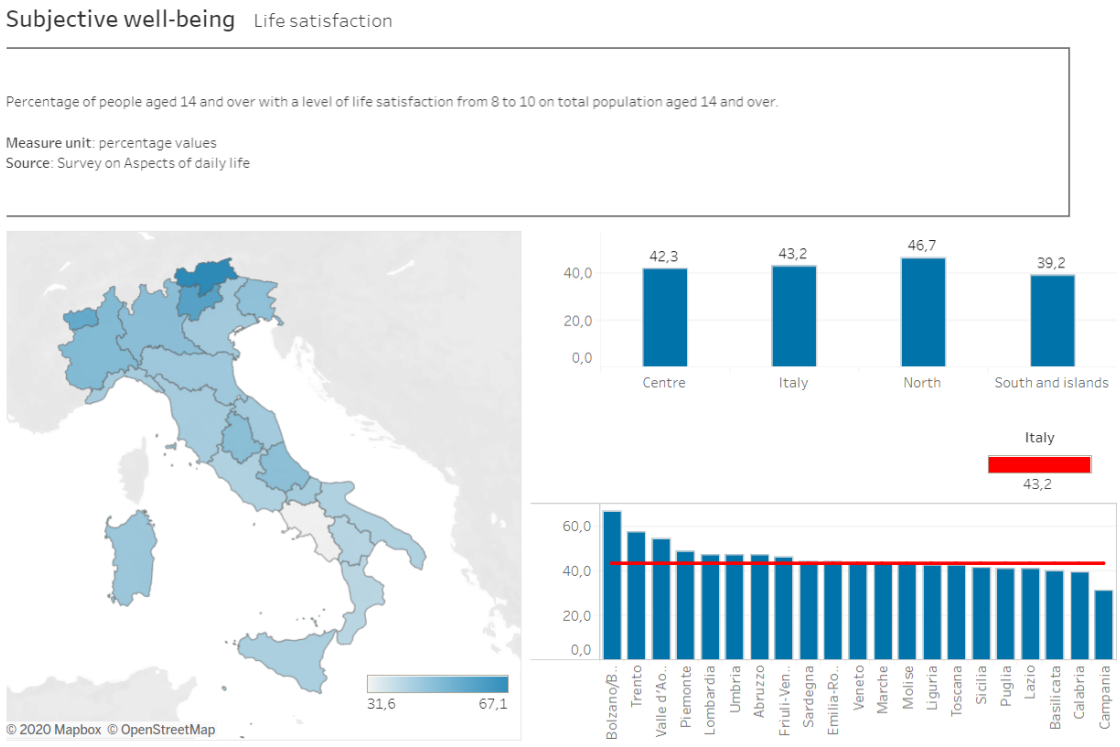
- Nutrition and basic care: premature and infant mortality, unmet medical needs and insufficient food
- Water and sanitation: water quality, lack of toilet in dwelling, uncollected sewage and seawage treatment
- Shelter: cost of housing, satisfaction with housing, overcrowding and lack of adequate heating
- Personal safety: homicide rate, safety at night and traffic deaths
- Access to basic knowledge: upper secondary enrolment rate, lower-secondary completion and early leavers
- Access to ICT: internet at home, broadband at home and online interaction with public authorities
- Health and wellness: life expectancy, general health status, cancer deaths rate and heart disease death rate, unmet dental needs and
- Environmental quality: CO2 consumption, air pollution (PM2,5, PM10 and ozone), noise, natura2000, and land use efficiency
- Personal rights: trust in the political and the legal system, trust in the police, citizen engagement and quality of government services
- Personal freedom and choice: freedom over life choice, teenage pregnancy, young people not in education employment or training and corruption index
- Tolerances and inclusion: impartially government services, tolerance for immigrants and minorities, attitudes toward people disabilities, gender employment gap, and trust in others
- Access to advances education: tertiary education attainment, tertiary enrolment and lifelong learning

Equitable and Sustainable Well-being (BES)

The Bes project was launched in 2010 to measure Equitable and Sustainable Well-being in Italian regions, and with the aim of evaluating the progress of society not only from an economic, but also from a social and environmental point of view. To this end, the traditional economic indicators, GDP first of all, have been integrated with measures of the quality of people's life and of the environment.

Since 2016, well-being indicators and welfare analyses have been presented with indicators for monitoring the objectives of the 2030 Agenda for Sustainable Development, the so-called Sustainable Development Goals (SDGs) of the United Nations. The United Nations Statistical Commission (UNSC) has defined a shared set of statistical information to monitor the progress of individual countries towards the SDGs, including over two hundred indicators. The two sets of indicators are only partially overlapping, but certainly complementary

https://www.istat.it/en/well-being-and-sustainability



Party responsible: ISTAT - National Statistical Institute

Data sources:

- ISTAT
- Ministry of Education, University and Research
- Invalsi
- Bank of Italy
- Ministry of Interior
- Eurostat

Spatial resolution: Italy

Temporal resolution: 2010-2020, Yearly

Methodology:

The BES methodology is constantly evolving - while the 12 domains represent a well-established structure, the indicators identified to represent them are reviewed regularly in order to take into

account emerging information needs, possible new data sources and methodological advances. The last report, in particular, is based on a set of 130 indicators and contains minimal revisions affecting the Education and training and Work and life balance domains. In the Education and training domain, the indicator on participation in pre-primary education now refers to the percentage of children aged 4-5 years in school, including those in the first year of primary school. This indicator is based on a shared methodology at European level and is published by Eurostat. In the same domain, two more indicators related to pupils' skills were improved following new data available from the source. In the Work and life balance domain, the indicator "Share of employed people aged 15-64 years working over 60 hours per week", derived from the survey on Time Use, is now calculated with reference to the employed persons, since the work overload particularly concerns this population group. The Innovation, research and creativity domain was also affected by little revisions. The indicator on the propensity to patent was revised according to the release by the OECD of the elaborations for the regionalization of the PATSTAT 2019 data of the European Patent Office, EPO (REGPAT database). Also, the Cultural employment indicator was revised, according to the latest Eurostat - Guide to Eurostat culture statistics. Lastly, the inclusion in the 2018 Eu-Silc survey of a specific ad hoc module on well-being allowed to investigate in more detail the phenomenon of subjective well-being.

Indicators:

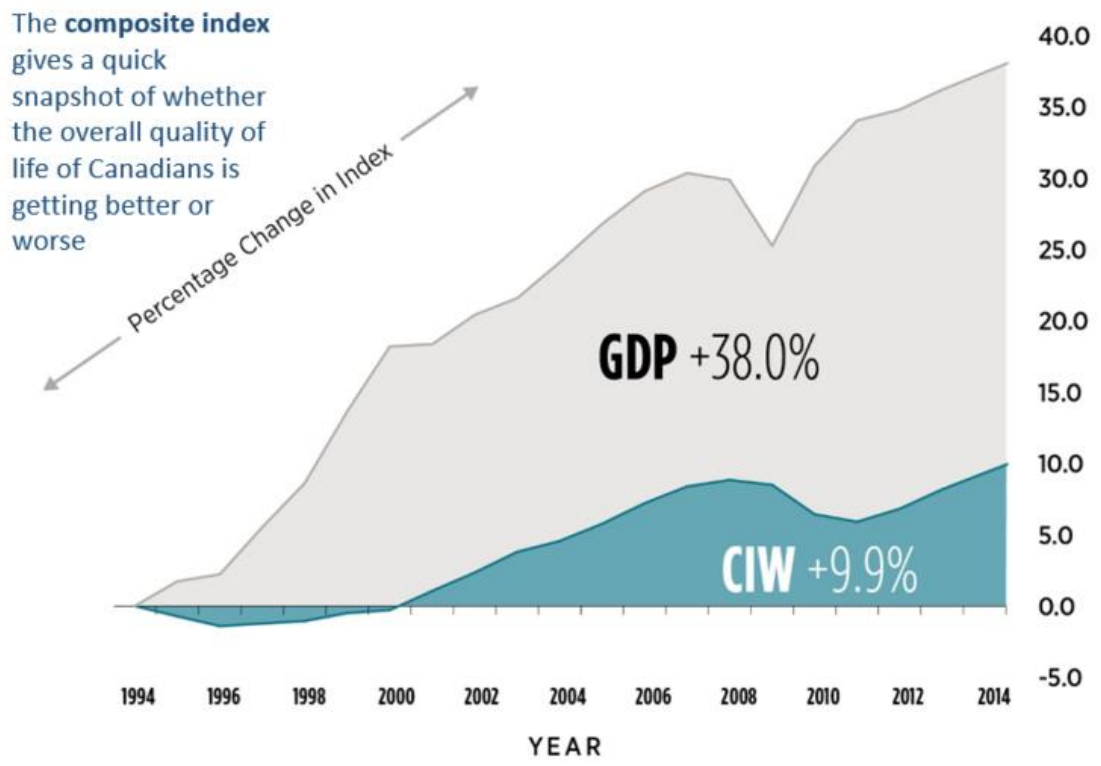
- Health - Life expectancy at birth, Infant mortality rate, Road accidents mortality rate (15-34), Age-standardised cancer mortality rate (20-64), Age-standardised mortality rate for dementia and nervous system diseases (65-w).
- Education and training - Participation in early childhood education, People with at least secondary education level (25-64), People having completed tertiary education (25-39), First-time entry rate to university by cohort of upper secondary graduates; People not in education, employment, or training - NEET (15- 29), Participation in long-life learning, Level of literacy (in secondary students), Level of numeracy (in secondary students).
- Work and life balance - Employment rate (20-64), Non-participation rate (15-74), Incidence rate of fatal occupational injuries [or injuries leading to permanent disability], Youth employment rate (15-29), Youth non-participation rate (15-29), Paid days in the year.
- Economic wellbeing - Available income per households, Average annual salary of employees, Average annual amount of pensions, Pensioners with a low pension, Average amount of family assets, Rate of non-performing loans per households.
- Social relationship - Non-profit organizations, Volunteers in non-profit organizations, Schools with obstacle-free routes.
- Politics and institutions - EU election participation, Regional election participation, Women municipal administrators, Municipal administrators under 40 years, Prison density, Municipality degree of internal financing, Municipality revenue collection capacity.
- Security - Homicide rate, Other reported violent crimes, Reported widespread crimes, Road mortality in suburban areas.
- Landscape and cultural heritage - Density and importance of museum heritage, Spreading of agritourism farms, Density of historical green, Consistency of the historical urban buildings.
- Environment - Water losses in urban supply system, Waste in landfill, Quality of urban air - PM10, Quality of urban air - nitrogen dioxide, Urban green, Energy from renewable sources, Separate collection of municipal waste.
- Innovation, research and creativity - Patent propensity, Incidence of patents in the high-tech sector, Incidence of patents in the ICT sector, Incidence of patents in the biotech sector, Brain circulation (25-39 years old) Net migration rate of holders of a tertiary degree.
- Quality of service - Children who benefited of early childhood services, Irregularities in electric power distribution, Seats-km offered by local public transport, Hospital emigration to other regions

Canadian Index of Wellbeing

GDP only tells us about economic productivity, assuming that all growth is good when in fact, spending on crime or natural disasters contributes to productivity. Further, GDP allows no insight into the quality of life of people, environment, democracy, or other aspects of wellbeing that people value.

In 2011 it was launched the first national index report of the Canadian Index of Wellbeing (CIW). They found out that between 1994 and 2008, Canada showed robust economic growth, but increases in the wellbeing of Canadians were not comparable.

https://uwaterloo.ca/canadian-index-wellbeing/



Party responsible: WHO (-)

- Data sources:
- Statistics Canada.
- Canadian Community Health Survey
- Labour Force Survey
- General Social Survey (e.g., Time Use, Social Networks and Identity, Victimization),
- Travel Survey of Residents of Canada
- Survey of Labour and Income Dynamics
- Environment Canada
- Board of Internal Economy
- Elections Canada
- Parks Canada
- OECD
- Global Footprint Network
- Canadian Imperial Bank of Commerce (CIBC)
- Canadian Centre for Economic Analysis
- Childcare Resource and Research Unit

Spatial resolution: Canada

Temporal resolution: 1994-2014, Yearly

Methodology:

The base year selected for monitoring trends in wellbeing is 1994, the year the National Population Health Survey began. The indicators used in the Index are set to a value of 100 at the base year. Percentage changes are then calculated for each subsequent year with positive reflecting some improvement in wellbeing while negative percentage changes indicate a deterioration. This approach applies to all 64 indicators as well as the eight domains, and ultimately, the CIW composite index.

All of the indicators are weighted equally. There are many reasons for regarding one or another indicator as more important in some way or other, but what is missing is a good reason for assigning any particular indicator a weighting greater or less than that of some or all other indicators. The absence of such a reason justifies the equal treatment of all indicators at this time.

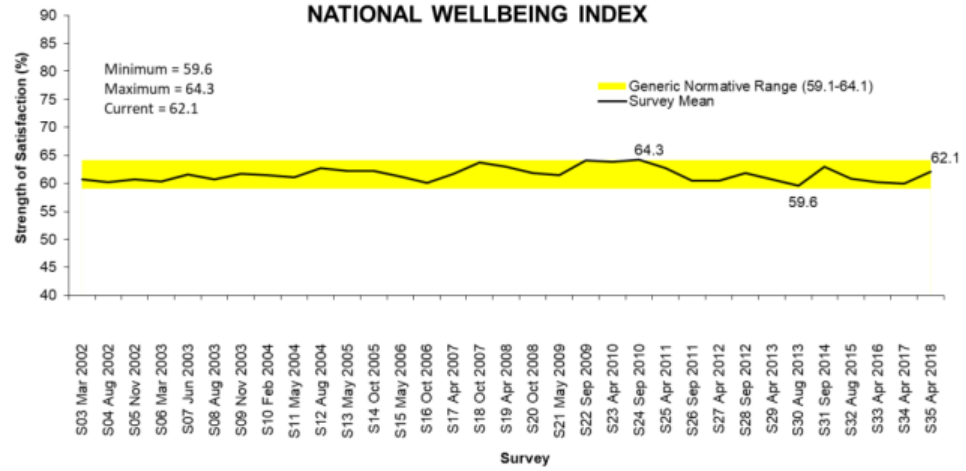
Indicators:

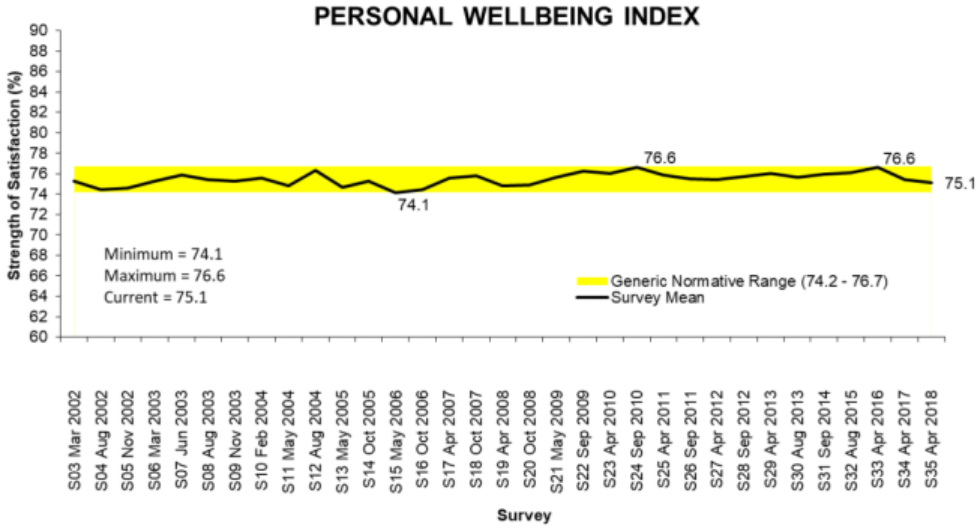
- Healthy population (Life expectancy, % smokers aged 12-19, % diabetics, % population with a regular medical doctor…),
- Demographic engagement (voters, women in federal Parliament, volunteers for a law, advocacy or political group, satisfaction with democracy and confidence in federal Parliament)
- Community vitality (sense of belonging to community, people with more than 5 close friends, population that feels safe, crime severity index, discrimination, trust in people, volunteering)
- Environment (ecological footprint, GEH emissions, ozone, primary energy production, metal reserves, residential energy use, farm land and water yield)
- Leisure and culture (time spent in social leisure, arts and culture, physical activities, art performance, volunteering for culture or recreation organizations, visits at National Parks or Historic sites, number of nights on vacation trips and expenditure on culture and recreation)
- Time use (people working over 50 h/week, under 30/week (not by choice), regular work hours, flexible work hours, good quality essential sleep, time with friends and time pressure)
- Education (% children aged 0-5 with a regulated centre-based child care space, time spent in talk-based activities with children aged 0-14, average expenditure per public school student, ratio of students to educators in public schools, average annual Canadian undergraduate tuition fees (2015$), percentage of Canadians 20-24 in labour force completing high school, percentage of 25 to 64-year-olds in population with a university degree, percentage of population aged 25 and older participating in education-related activities)
- Living standards (income, poverty, GINI coefficient, food insecurity, housing affordability, labour force, unemployment, CIBC index of employment quality)

Australian Unity Wellbeing Index (AUWI)

The Australian Unity Wellbeing Index (AUWI) is a barometer of Australians' subjective wellbeing (SWB). It measures SWB using two indices: the Personal Wellbeing Index (PWI) and the National Wellbeing Index (NWI). The PWI determines the average level of satisfaction across seven aspects of personal life – standard of living, health, achieving in life, personal relationships, safety, community connectedness, and future security. The NWI determines the average satisfaction score across six aspects of national life – the economy, the environment, social conditions, governance, business, and national security.

https://www.australianunity.com.au/media-centre/wellbeing





Party responsible: Deakin University (delyse.hutchinson@deakin.edu.au)

Data sources:

- Australian Bureau of Statistics
- International Wellbeing Group

Spatial resolution: Australia

Temporal resolution: 2001-2018, Yearly

Methodology:

Data for the Australian Unity Wellbeing Index survey derive from a near representative sample of 2,000 Australians aged 18 or over and fluent in English. The sample of Random Digit Dialling numbers (RDD) was obtained from Sample Pages, a supplier of phone numbers for social and market research. This database comprises over four million valid mobile phone numbers from Australia. The sample was collected by contacting mobile numbers using Random Digit Dialling numbers (RDD), which consist of random digits attached to valid mobile prefixes.

Indicators:

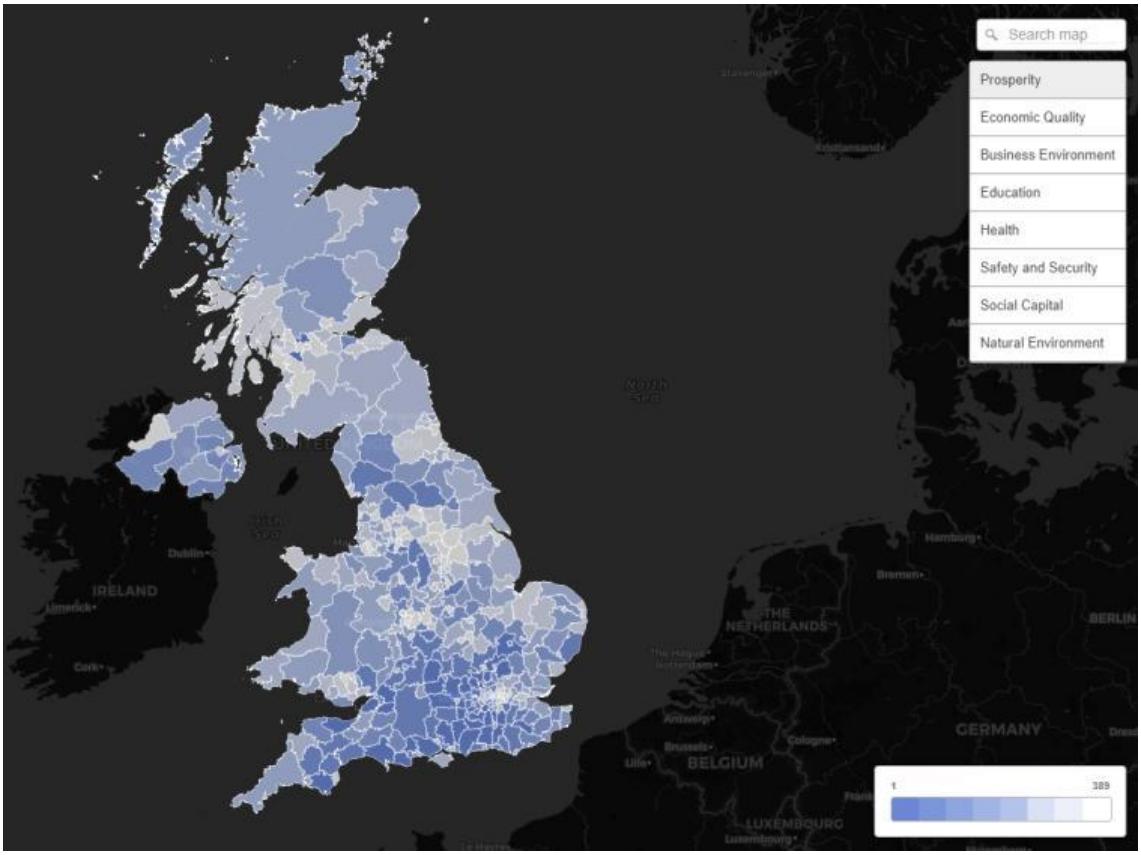
- standard of living
- health
- achieving in life
- personal relationships

- safety
- community connectedness
- future security
- economy
- environment
- social conditions
- governance
- business
- national security

UK Prosperity Index

UK Prosperity Index assesses how prosperous a place is using a combination of wealth and wellbeing across a number of sub-indices. From the strength of communities to the health of the population, the Index goes beyond traditional measures to give a rich picture of life in the UK.

http://uk.prosperity.com/



Party responsible: Legatum Institute Foundation (pi@li.com)

Data sources:

- Office for National Statistics
- Northern Ireland Labour Force Survey
- Child Poverty Action Group
- Understanding Society
- Ofcom
- Department for Business, Energy, and Industrial Strategy

- Education Scotland / Welsh Government / NI Department of Education
- DEFRA/ Environment Scotland / Department of the Environment

Spatial resolution: UK, local level (LAU2)

Temporal resolution: 2016, Yearly

Methodology:

The UK Prosperity Index takes objective and subjective data to measure prosperity across seven sub-indices: Economic Quality, Business Environment, Education, Health, Safety & Security, Social Capital, and Natural Environment. This reflects the pillars of the global Index, less those that are determined at the centre of government and that do not vary by local area, namely Personal Freedom and Governance.

The Index covers 389 of the UK's 391 local authority areas. In England, this means the Index reaches the second tier of local government—district councils—where they still exist. The only two areas excluded from the Index are the Isles of Scilly and the City of London, where large amounts of data are missing.

Indicators:

- Economic quality (unemployment, long term unemployment, child poverty, feelings about household income, job satisfaction, median annual earnings, economic growth)
- Business environment (broadband speed, superfast broadband access, business survival, entrepreneurship rate, logistics index)
- Education (attainment at 16, core subject attainment at 16, truancy, qualifications)
- Health (life expectancy, life expectancy at 65, anxiety, eudemonic wellbeing, cancer mortality, premature cardiovascular mortality, obesity, infant mortality, health satisfaction, smoking)
- Safety & security (safe walking, perception of community safety, road deaths, violent crime, theft)
- Social capital (recycling rate, volunteering, voter turnout, trust, housing costs, housing affordability, friendship support, family support)
- Natural environment (waste generated, landfill, air pollution, protected land)

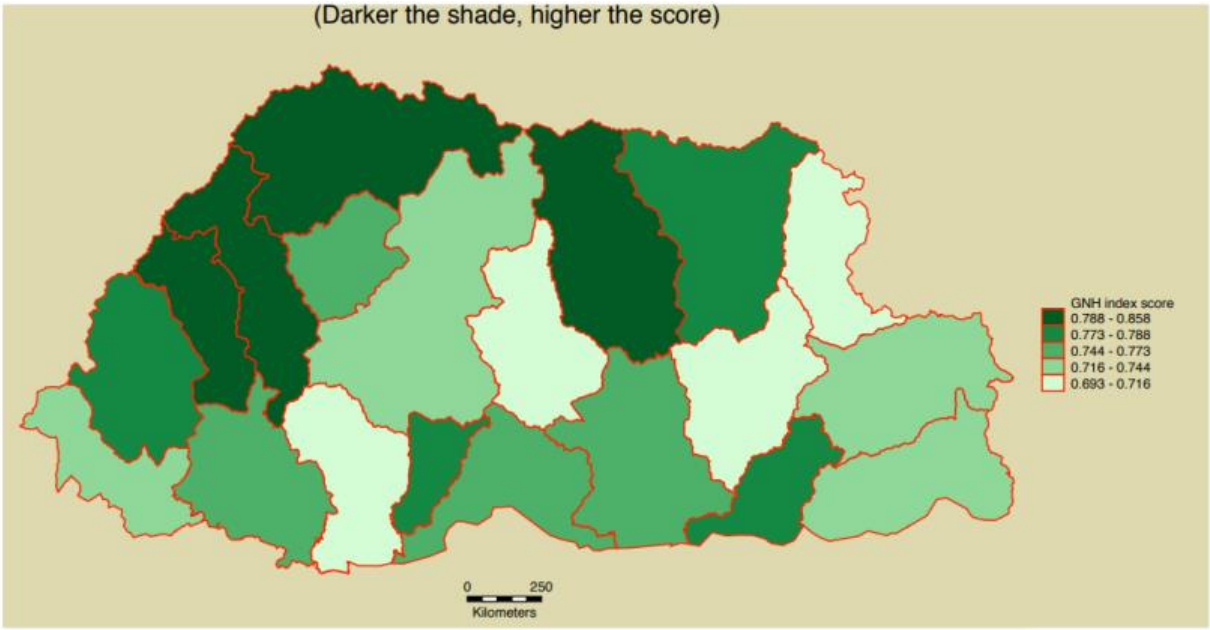
Bhutan's Gross National Happiness Index

The phrase 'gross national happiness' was first coined by the 4th King of Bhutan, King Jigme Singye Wangchuck, in 1972 when he declared, "Gross National Happiness is more important than Gross Domestic Product." The concept implies that sustainable development should take a holistic approach towards notions of progress and give equal importance to non-economic aspects of wellbeing.

Since then the idea of Gross National Happiness (GNH) has influenced Bhutan's economic and social policy, and also captured the imagination of others far beyond its borders. In creating the Gross National Happiness Index, Bhutan sought to create a measurement tool that would be useful for policymaking and create policy incentives for the government, NGOs and businesses of Bhutan to increase GNH.

The GNH Index includes both traditional areas of socio-economic concern such as living standards, health and education and less traditional aspects of culture and psychological wellbeing. It is a holistic reflection of the general wellbeing of the Bhutanese population rather than a subjective psychological ranking of 'happiness' alone.

http://www.grossnationalhappiness.com/



Party responsible: Centre for Bhutan Studies & GNH Research

Data sources:
Centre for Bhutan Studies & GNH Research

Spatial resolution: Buthan; local level

Temporal resolution: 2006, 2010, 2015 (each 5 years)

Methodology:

The Gross National Happiness Index is a single number index developed from the 33 indicators categorised under nine domains. The Centre for Bhutan Studies constructed the GNH Index using robust multidimensional methodology known as Alkire-Foster method.

The nine domains are equally weighted because each domain is considered to be equal in terms of its intrinsic importance as a component of GNH.

The 33 indicators are statistically reliable, are normatively important, and are easily understood by large audiences. Within each domain, two to four indicators were selected that seemed likely to remain informative across time, had high response rates, and were relatively uncorrelated. Within each domain, the objective indicators are given higher weights while the subjective and self-reported indicators are assigned far lighter weights.

The GNH index identifies four groups of people. For policy purposes it identifies 'happiness' as comprising sufficient achievements in 66% of the weighted indicators, whichever domains they come from. This corresponds to the groups who are identified as 'extensively' and 'deeply' happy.

People who have achieved sufficiency in less than 50% are 'unhappy', and people who have sufficiency in 50-65% of domains and are called 'narrowly happy'

The GNH Index is the rate or headcount ratio of happy people (H^H), plus the extent of sufficiency that not-yet-happy people enjoy (A^U_{SUFF}). This second term is calculated by multiplying the percentage of people who are not-yet-happy (H^U, which is 100% minus H^H) by the average percentage of domains in which not-yet-happy people have sufficient achievements. So,

$$GNH = H^H + (H^U * A^U_{SUFF})$$

The GNH Index is a single number ranging from zero to one with zero being the lowest possible value and one, the highest possible value.

Indicators:

- Living standards
- Income
- Assets
- housing
- Health (both physical and mental health).
- Self-reported health status
- Number of healthy days
- Disability
- Mental health
- Education
- Literacy
- Schooling
- Knowledge
- Value
- Good governance
- Political participation
- Services
- Governance performance
- Fundamental right
- Ecological diversity and resilience (
- Wildlife damage
- Urban issues
- Responsibility to environment
- Ecological issues
- Time use
- Work
- Sleep
- Psychological wellbeing

- Life satisfaction
- Positive emotion
- Negative emotion
- Spirituality
- Cultural diversity and resilience
- *Zooring chusum skills* (Artisan skills)
- Cultural participation
- Speak native language
- *Driglam Namzha* (code of conduct)
- Community vitality
- Donation (time and money)
- Safety
- Community relationship
- Family

AARP Livability Index

The AARP Public Policy Institute developed the Livability Index as a web-based tool to measure neighborhoods and communities livability across the U.S. Users can search the Index by address, ZIP Code, or community to find an overall livability score, as well as a score for each of seven major livability categories: housing, neighborhood, transportation, environment, health, engagement, and opportunity. Users also can customize the Index to place higher or lower emphasis on the livability features of most importance to them. The Livability Index website provides resources to help consumers and policymakers use livability scores to effect change in their communities.

https://livindexhub.aarp.org/?cmp=LVABLIDX_MAR25_015

Large communities (500.000+)

Mid-Sized communities (100.000 to 499.999)

Small comunities (25.000 to 99.999)

Party responsible: Public Policy Institute

- Data sources:
- U.S. Census Bureau, 2011-2016
- Public and Affordable Housing Research Corporation and the National Low Income Housing Coalition's 2015 National Housing Preservation Database
- U.S. Housing and Urban Development (HUD) Public Housing Buildings Database
- Grocery store locations come from Dun & Bradstreet private data
- U.S. Department of Agriculture, Agricultural Marketing Service,
- 2014 Esri North America Parks Shapefile private datA
- Institute of Museum and Library Services, 2014 Public Library Outlet Data File

Spatial resolution: U.S; local level

Temporal resolution: 2015, 2017, 2018. Yearly

Methodology:

The Livability Index assesses seven broad categories of community livability: housing, neighbourhood, transportation, environment, health, engagement, and opportunity. Metric values and policy points within each category are combined to create the category score. Those category scores are then averaged to create a location's total livability score.

The Livability Index score rates the overall livability of the selected neighbourhood, city, county, or state on a scale from 0 to 100. The total livability score is based on the average of all seven category scores, which also range from 0 to 100. Each category contains 4-9 metrics and 2-5 policies:

- Metrics measure how livable a community currently is.
- Policies capture steps communities take to become more livable in the future.

Each metric is scored on a scale of 0-100. The category score is determined by the average metric scores (each metric receives equal weight). Communities receive additional points in their category score for each policy in place.

Communities are scored by comparing them to one another, so the average community gets a score of 50, while above-average communities score higher and below-average communities score lower.

Indicators:

- **Housing** (affordability and access)
  - Metrics (zero-step entrance, availability of multi-family housing, housing costs, housing cost burden and availability of subsidized housing)
  - Policies (state and local inclusive design laws, state and local housing trust funds, sate manufactured housing protections, state foreclosure prevention and protection and state and local plans to create age-friendly communities)
- **Neighbourhood**

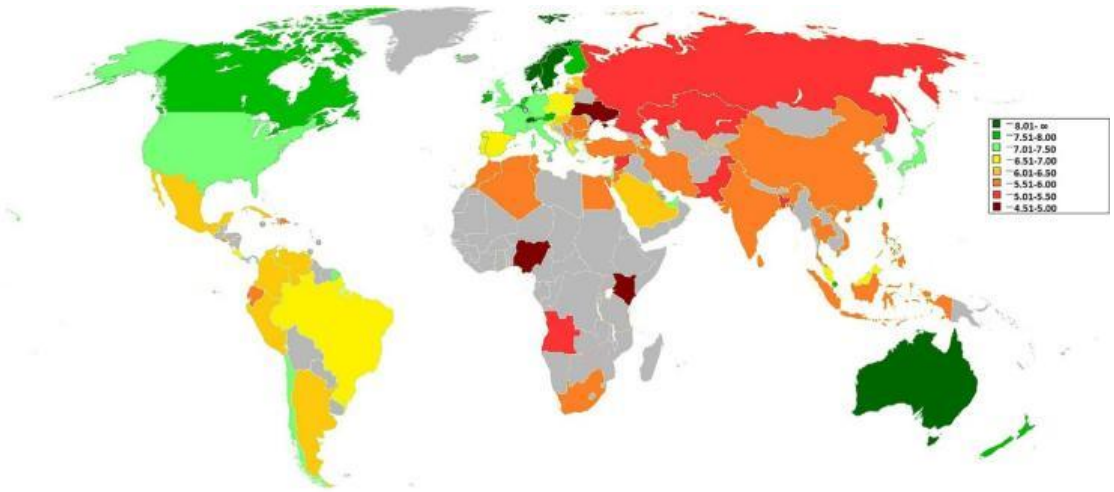
- Metrics (access to grocery stores and farmers' markets, access to parks, access to libraries, access to jobs by transit, access to jobs by auto, diversity of destinations, activity density, crime rate and vacancy rate,
- Policies (state and local tod programs and state and local plans to create age-friendly communities)

- **Transportation** (safe and convenient options)
  - Metrics (frequency of local transit service, ADA-accessible stations and vehicles,
  - Walk trips, congestion, household transportation costs, speed limits and crash rate)
  - Policies (state and local complete streets police, state human services transportation coordination, sate volunteer driver policies and state and local plans to create age-friendly communities)
- **Environment** (clear air and water)
  - Metrics (drinking water quality, regional air quality, near-roadway pollution and local industrial pollution)
  - Policies (state utility disconnection policies, local multi-hazard mitigation plans, state energy efficiency scorecard and state and local plans to create age-friendly communities)
- **Health** (prevention, access and quality)
  - Metrics (smoking prevalence, obesity prevalence,
  - Access to exercise opportunities, health care professional shortage areas, preventable hospitalization rate and patient satisfaction)
  - Policies (state and local smoke-free laws and state and local plans to create age-friendly communities)
- **Engagement** (civic and social involvement)
  - Metrics (broadband cost and speed, opportunity for civic involvement, voting rate, social involvement index and cultural, arts and entertainment institutions)
  - Policies (state barriers to community broadband, early, absentee or mail-in state voting laws, local human rights commission, local LGBT anti-discrimination laws and state and local plans to create age-friendly communities)
- **Opportunity** (inclusion and possibilities)
  - Metrics (income inequality, jobs per worker, high school graduation rate and age diversity)
  - Policies (local government creditworthiness, state minimum wage increase, state expansion of the family and medical leave act and state and local plans to create age-friendly communities)

Economist Intelligences – Where to be born index 2013

The where-to-be-born index is published by the Economist Intelligence Unit of the Economist Group, (most well-known for The Economist magazine). The index analyses which countries around the world have the potential to provide the highest quality of life to its citizens. This includes health, safety, and prosperity for the future of the country. For example, the 2013 index measures the quality of life for the year 2030, when the individuals born in 2013 will be adults.

https://www.economist.com/news/2012/11/21/the-lottery-of-life



Party responsible: Economist Intelligence Unit (-)

Data sources:
EIU's economic forecasts

Spatial resolution: Worldwide; 80 countries; country level (NUTS0)

Temporal resolution: 2013

Methodology:
The where-to-be-born index is calculated by connecting the responses to subjective surveys, gross domestic product (GDP) per capita forecasts, and quality of life factors. It links the results of subjective life-satisfaction surveys to objective determinants of the quality of life across countries. It covers crime, trust in public institutions and the health of family. In all, the index takes 11 statistically significant indicators into account, some are fixed factors, such as geography; others change slowly over time (demography, many social and cultural characteristics); and some factors depend on policies and the state of the world economy.

A forward-looking element is considered, although many of the drivers of the quality of life are slow-changing, for this ranking some variables, such as income per head, need to be forecast. We use the EIU's economic forecasts to 2030, which is when children born in 2013 will be about to reach adulthood.

Indicators:

- life expectancy at birth
- political freedoms
- climate
- corruption in government
- gender equality
- divorce rates
- unemployment rate

- homicide rate

MERCER – Quality of Life

Mercer's Quality of Living Methodology was developed to encourage employment mobility by an international team of Mercer professionals, working closely with major multinational companies and other experts in the field. I provides reliable information to help calculate fair, consistent expatriate allowances. The Quality of Living Reports are released annually, in early November.

https://mobilityexchange.mercer.com/Insights/quality-of-living-rankings

Party responsible: MERCER (-)

Data sources:

-

Spatial resolution: Worldwide; 498 cities; Local level (LAU)

Temporal resolution:

Methology:

Based on 39 factors within ten categories, Mercer's Quality of Living Reports contain all the key elements you to calculate hardship allowances for transfers to 498 cities worldwide. "Hardship allowance" refers to premium compensation paid to expatriates who experience – or should expect to experience – a significant deterioration in living conditions in their new host location.

Indicators:

- Political and social environment (political stability, crime, law enforcement, etc.).
- Economic environment (currency exchange regulations, banking services).
- Socio-cultural environment (media availability and censorship, limitations on personal freedom).
- Medical and health considerations (medical supplies and services, infectious diseases, sewage, waste disposal, air pollution).
- Schools and education (standards and availability of international schools).

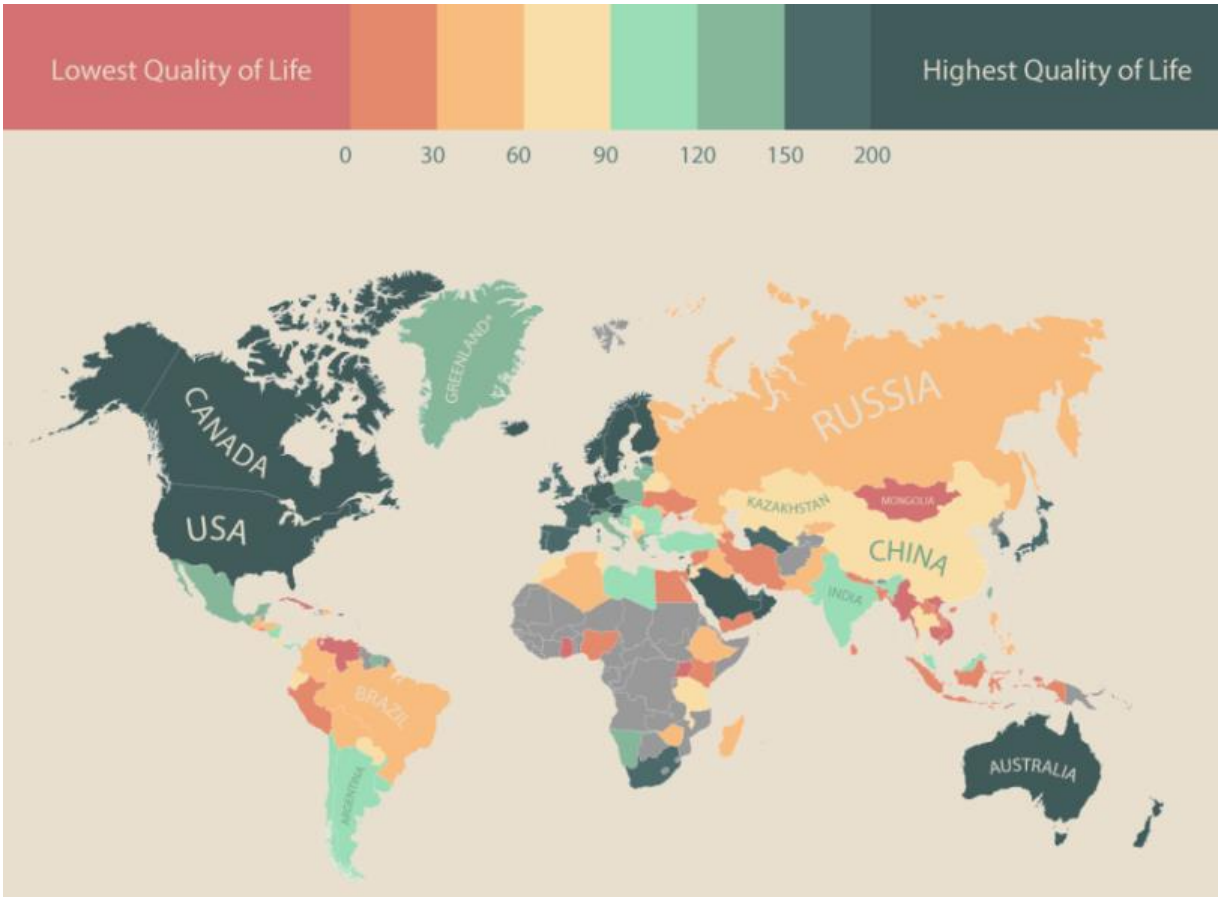
- Public services and transportation (electricity, water, public transportation, traffic congestion, etc.).
- Recreation (restaurants, theatres, cinemas, sports and leisure).
- Consumer goods (availability of food/daily consumption items, cars).
- Housing (rental housing, household appliances, furniture, maintenance services).
- Natural environment (climate, record of natural disasters).

MoveHub – Quality of Life Index

Quality of life index is an important indicator that you can use to guide your decision when moving abroad. Nevertheless, some of the factors are very subjective and surely all of them have a different degree of importance across the world and for each person in particular.

The Quality of Life index is made up of a series of factors including safety, healthcare, consumer prices and purchasing power, traffic commute, pollution and property price to income ratio.

https://www.movehub.com/blog/quality-of-life-world-map/



Party responsible: MoveHub (-)

Data sources:
Numbeo

Spatial resolution: Worldwide; country level (NUTS0)

Temporal resolution: Years, Yearly

Methodology:
The data was collected by Numbeo.com, which is world's largest database of user-generated content about cities and countries. Firstly it's important to note the data was gathered from online surveys and

not from official government reports. This implies that for some particular factors, the data shows the perception of the local population rather than figures drawn from government reports.

In determining the Quality of Life index, 7 factors were taken into account, each being based upon a number of surveys as percentage of the population

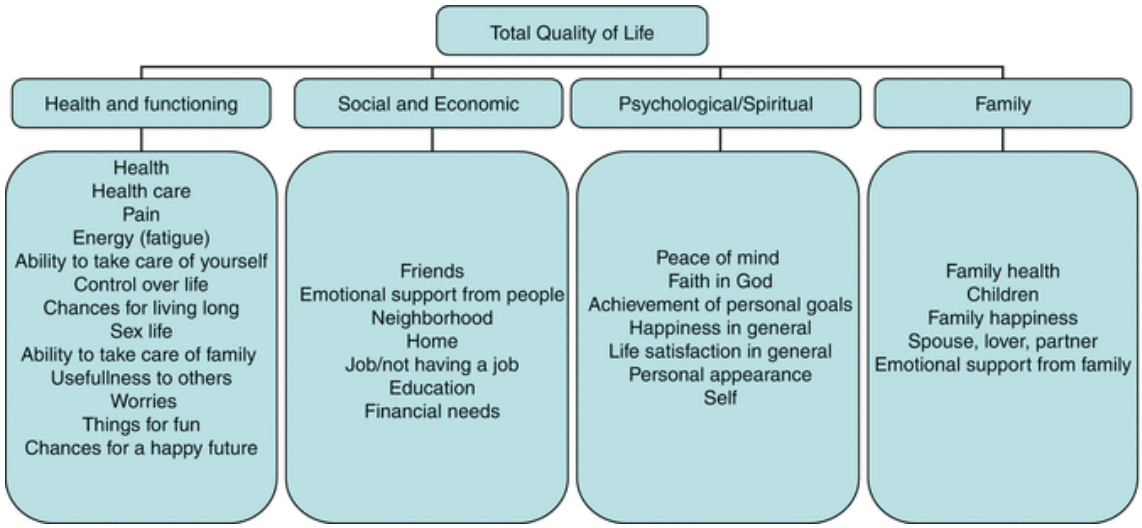
Indicators:

- Safety
- Healthcare
- Consumer prices
- Purchasing power
- Traffic commute
- Pollution
- Property price to income ratio

Ferrans and Powers – Quality of Life index

The Quality of Life Index (QLI) was developed by Ferrans and Powers to measure quality of life in terms of satisfaction with life (Ferrans & Powers, 1985). Quality of life is defined by Ferrans as "a person's sense of well-being that stems from satisfaction or dissatisfaction with the areas of life that are important to him/her".

https://qli.org.uic.edu/index.htm



Party responsible: Ferrans and Powers (cferrans@uic.edu)

Data sources:

- Ferrans, C. (1996). Development of a conceptual model of quality of life. Scholarly Inquiry for Nursing Practice: An International Journal, 10(3), 293-304.
- Ferrans, C., & Powers, M. (1985). Quality of Life Index: Development and psychometric properties. Advances in Nursing Science, 8, 15-24.
- Ferrans, C., & Powers, M. (1992). Psychometric assessment of the Quality of Life Index. Research in Nursing and Health, 15, 29-38.
- Ferrans, C. E. (1990). Development of a quality of life index for patients with cancer. Oncology Nursing Forum, 17(3), 15-19.

- Warnecke, R., Ferrans, C., Johnson, T., et. al. (1996). Measuring quality of life in culturally diverse populations. Journal of the National Cancer Institute Monographs, 20, 29-38.

Spatial resolution: -

Temporal resolution: 1996

Methodology:

The QLI measures both satisfaction and importance of various aspects of life. Importance ratings are used to weight the satisfaction responses, so that scores reflect the respondents' satisfaction with the aspects of life they value. Items that are rated as more important have a greater impact on scores than those of lesser importance. The instrument consists of two parts: the first measures satisfaction with various aspects of life and the second measures importance of those same aspects. Scores are calculated for quality of life overall and in four domains: health and functioning, psychological/ spiritual, social and economic, and family.

Indicators:

- health and functioning domain
- psychological/spiritual domain
- social domain
- economic domain
- family domain

Expat Insider – Quality of Life Index

The Expat Insider city ranking provides an in-depth analysis of 72 cities around the world. The results focus on the quality of urban living, on getting settled, urban work life, as well as finance and housing — giving an overview of the best and worst cities for expats worldwide.

https://www.internations.org/expat-insider/2018/quality-of-life-index-39586

	QUALITY OF LIFE	LEISURE OPTIONS	PERSONAL HAPPINESS	TRAVEL & TRANSPORT	HEALTH & WELL-BEING	SAFETY & SECURITY	DIGITAL LIFE
1	Taiwan	Spain	Mexico	Singapore	Austria	Luxembourg	Estonia
2	Portugal	Mexico	Bahrain	Hong Kong	Finland	Switzerland	Finland
3	Spain	Costa Rica	Taiwan	Czechia	Norway	Norway	Norway
4	Singapore	Portugal	Portugal	Switzerland	Israel	New Zealand	Denmark
5	Austria	Australia	Costa Rica	Taiwan	Taiwan	Finland	New Zealand
6	Czechia	Ecuador	Vietnam	Austria	Portugal	Singapore	Israel
7	Finland	South Africa	Spain	Netherlands	Japan	Canada	Canada
8	Australia	Colombia	Ecuador	Germany	Spain	Japan	Singapore
9	Switzerland	Israel	Thailand	Japan	France	UAE	Netherlands
10	Israel	Cyprus	Colombia	South Korea	Canada	Oman	USA
11	New Zealand	Thailand	Philippines	Spain	Denmark	Portugal	Sweden
12	Japan	New Zealand	Panama	Hungary	Costa Rica	Netherlands	Bahrain
13	Canada	Malta	Bulgaria	UAE	Luxembourg	Denmark	Taiwan
14	Costa Rica	Greece	Israel	China	Germany	Taiwan	Australia
15	Norway	Taiwan	Cyprus	Portugal	Czechia	Estonia	UK

Party responsible: InterNations (-)

Data sources:

Elaborated by InterNations

Spatial resolution: Worldwide; 68 countries; country level (NUTS0)

Temporal resolution: 2014-2018, yearly

Methodology:

The Quality of Life Index features 68 countries with a sample size of at least 75 respondents. The index itself covers six different subcategories: Leisure Options, Health & Well-Being, Safety & Security, Personal Happiness, Travel & Transportation, and Digital Life. The latter was newly introduced in 2018.

Indicators:

- Leisure
- Health & Well being
- Safety & Security
- Personal happiness
- Travel & Transportation
- Digital life

Expat Insider – Quality of Urban Life Index

The Expat Insider 2018 city ranking provides an in-depth analysis of 72 cities around the world. The results focus on the quality of urban living, on getting settled, urban work life, as well as finance and housing — giving an overview of the best and worst cities for expats worldwide.

https://www.internations.org/expat-insider/2018/quality-of-urban-living-index-39686

Party responsible: InterNations

Data sources:
Elaborated by InterNations

Spatial resolution: Worldwide; 72 cities; local level (LAU)

Temporal resolution: 2014-2018, yearly

Methodology:
For the Quality of Urban Living Index, survey respondents evaluated the leisure options and climate, local transportation, safety and politics, as well as health and environment in their city. A city needed to have at least 45 respondents in order to rank in this index, which was the case for 72 cities in 2018.

Indicators:

- Leisure

- Climate
- Transportation
- Safety
- Politics
- Health
- Environment

NUMBEO – Quality of Life

Numbeo is the world's largest database of user contributed data about cities and countries worldwide. Numbeo provides current and timely information on world living conditions including cost of living, housing indicators, health care, traffic, crime and pollution.

https://www.numbeo.com/quality-of-life/gmaps_rankings.jsp

Party responsible: NUMBERO

Data sources:
User contributed data

Spatial resolution: Worldwide; 235 cities; Local level (LAU)

Temporal resolution: 2012-2019 , updated continuously

Methodology:
Quality of Life Index (higher is better) is an estimation of overall quality of life by using an empirical formula which takes into account purchasing power index (higher is better), pollution index (lower is better), house price to income ratio (lower is better), cost of living index (lower is better), safety index (higher is better), health care index (higher is better), traffic commute time index (lower is better) and climate index (higher is better).

Current formula (written in Java programming language):

index.main = Math.max(0, 100 + purchasingPowerInclRentIndex / 2.5 - (housePriceToIncomeRatio * 1.0) - costOfLivingIndex / 10 + safetyIndex / 2.0 + healthIndex / 2.5 - trafficTimeIndex / 2.0 - pollutionIndex * 2.0 / 3.0 + climateIndex / 3.0);

Indicators:

- purchasing power index
- pollution index
- house price to income ratio
- cost of living index
- safety index
- health care index
- traffic commute time index
- climate index
- Political and social environment (political stability, crime, law enforcement, etc.).

Canterbury Wellbeing Index

The Canterbury Wellbeing Index was developed by the Canterbury Earthquake Recovery Authority (CERA) with the support of multiple agencies to track the progress of the social recovery in greater Christchurch after the 2010 and 2011 earthquakes.

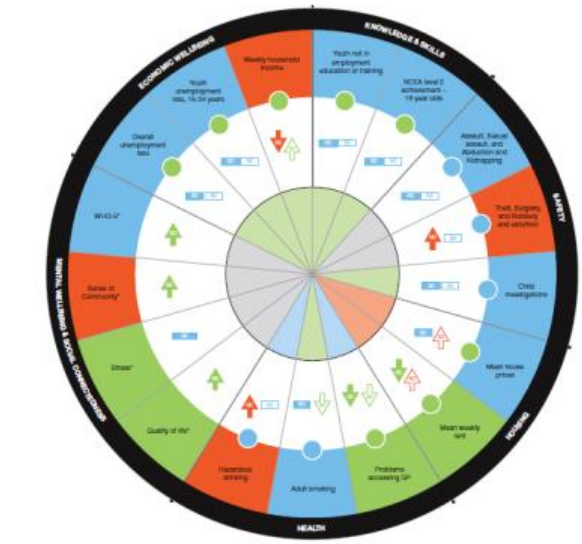
The Canterbury Wellbeing Index brings together high quality information about community wellbeing in Christchurch City, Selwyn District and Waimakariri District.

The purpose of the Index is to enable Canterbury communities to access accurate and comprehensive information about the social recovery, provide early warning of emerging social trends and issues to enable CERA and partner agencies to respond in a timely way, inform decisions about the most efficient targeting of funds and resourcing through the recovery and meet the monitoring and reporting requirements of the Recovery Strategy.

The Index was initially produced by the (CERA) annually from 2013 to 2015. Community and Public Health have produced the Index since CERA was disestablished in 2016.No Index was produced in 2017, as a comprehensive review of the Index was undertaken by Canterbury DHB, with the assistance of partner agencies.

The Index is organised into three main sections (Our Wellbeing - describing the wellbeing of the greater Christchurch population across 56 indicators, He Tohu Ora - focusing on Māori conceptualisations of wellbeing across 19 indicators and Our Population - describing the population of greater Christchurch across ten indicators).

https://www.canterburywellbeing.org.nz/



Party responsible Canterbury District Health Board

Data sources:
Canterbury Wellbeing Survey

Spatial resolution: Greater Christchurch; local level

Temporal resolution: 2013-2016, 2018 Yearly

Methodology:

Interpreting changes in greater Christchurch:

- In the wheel diagram, the outer shading and coloured arrows and bars represent year on year changes (favourable, neutral, and less favourable) in greater Christchurch for each indicator, and for New Zealand where comparable data is available
- The coloured dot represents how greater Christchurch compares to New Zealand for the most recent 12 months of data
- The inner shading represents how the current situation in greater Christchurch compares to the pre-earthquake period of 2008- 2010, where comparable data is available

Indicators:

- **Our Wellbeing**
  - Subjective wellbeing domain (quality of live, emotional wellbeing, stress and sense of purpose)
  - Civic engagement domain (voter turnout – local government elections, voter turnout – general elections, influencing central and local government)
  - Education domain (ECE participation, NCEA Level 2 achievement, Highest qualification, NEET)
  - Employment domain (unemployment rate, employment rate, labour force participation rate, underemployment rate, job satisfaction)
  - Environment domain (community facilities, access to transport, recreational and cultural facilities, alcohol licences, gambling machines, access to natural environment, air quality)
  - Health domain (self-rated health, smoking – year 10, smoking – adults, obesity, physical activity, hazardous drinking, unmet need, acute medical admissions, mental health service access)
  - Housing domain (housing affordability, housing-related spending, rental property supply, household crowding, housing quality)
  - Income domain (household income, household income after housing costs, low household income, satisfaction with income)
  - Safety domain (perceptions of safety, property-related victimisations, child investigations, child abuse or neglect, family violence victimisations)
  - Social Capital domain (sense of community, contact with family and friends, loneliness and isolation, personal identity, arts attendance, participation in the arts, discrimination, sports participation, unpaid activities, confidence in agencies)
- **He Tohu Ora**
  - Background
  - Sense of neighbourhood
  - Whanau support
  - Whanau contact
  - Unpaid activities
  - Whanau wellbeing
  - Self-rated health
  - Quality of life
  - Te reo Maori speaking
  - Te reo Maori understanding
  - Tribal identity
  - Visited marae
  - Turangawaewae connection
  - Cultural sport

- Cultural engagement
- Spirituality
- Housing quality
- Satisfaction with income
- Access to transport
- Access to natural environment

- **Our population**
  - Usually-resident population
  - Population change
  - Population projections
  - Population pyramids
  - Age distribution by ethnicity
  - Iwi affiliation
  - New Zealand Deprivation – NZDep2013
  - Index of Multiple Deprivation (IMD)
  - Long-term health condition or disability
  - Disability

Charlotte/Mecklenburg Quality of Life Explorer

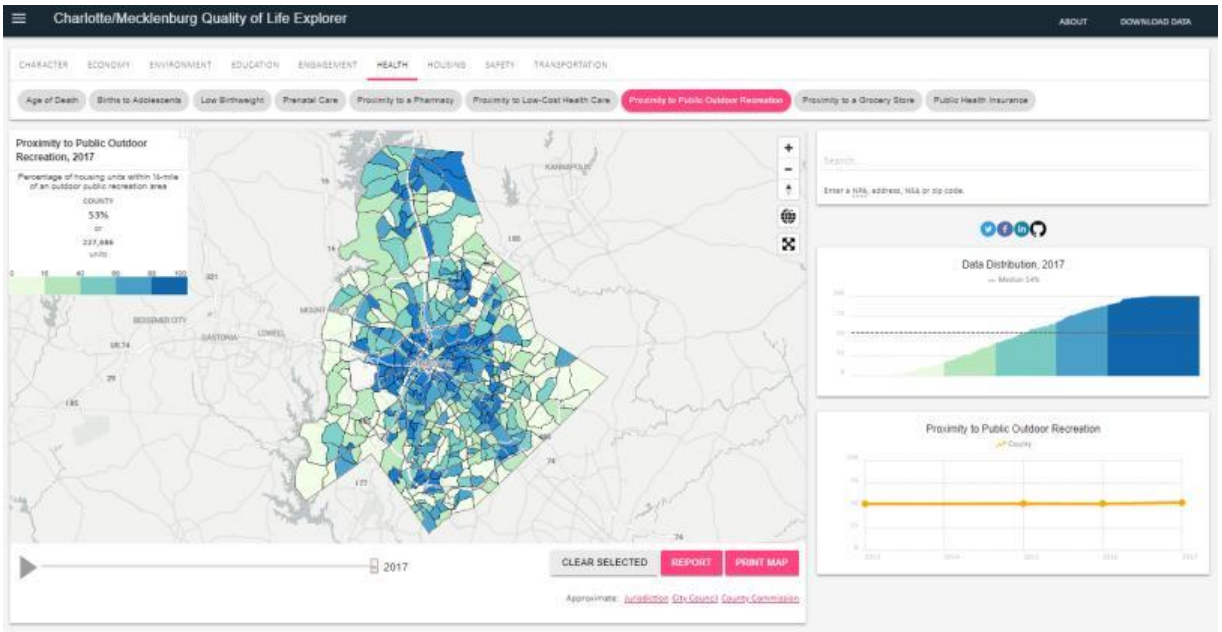
The Quality of Life Explorer looks at the social, housing, economic, and environmental and safety conditions in Charlotte and Mecklenburg County.

Local residents, businesses, service providers, government agencies, realtors, universities and others can use the Explorer to learn more about the county and its neighbourhoods, develop programs and services, and plan for the future.

The Quality of Life Explorer, formerly the Quality of Life Study, was created in partnership among the City of Charlotte, Mecklenburg County, and the UNC Charlotte Urban Institute, with the towns of Cornelius, Davidson, Huntersville, Matthews, Mint Hill and Pineville. In 2012, the study transformed into an interactive dashboard that included all of Mecklenburg County

It includes over 80 variables providing detailed information about neighbourhood housing stock, household income, jobs, health, education, tree canopy coverage, crime rates, code violations, community engagement, energy consumption and much more; maps, trend information, data tables and summary reports for 462 neighbourhood profile areas; data by custom geographies (i.e., the light rail corridor, school zones, business districts, or jurisdiction such as the City of Charlotte) and links to hundreds of City, County and community resources to help people learn more and take action.

https://charlottenc.gov/HNS/CE/CommunityInfo/Pages/QOL.aspx



Party responsible: City of Charlotte Neighborhood and Business Services (pi@li.com)

- Data sources:
- U.S. Census Bureau
- Minnesota Population Center
- National Historical Geographic Information System
- Charlotte-Mecklenburg Planning Department
- Mecklenburg County Tax Parcels, County Code Enforcement, County Department of Social Services, County Health Department, County Parks and Recreation and County Register of Deeds
- Community Care of North Carolina
- North Carolina Board of Pharmacy
- Federal Deposit Insurance Corporation (FDIC)

- National Credit Union Administration (NCUA)
- Charlotte Area Transit System
- Charlotte Department of Transportation
- Mecklenburg County Land Use & Environmental Services Agency
- Town of Cornelius
- Town of Davidson
- Town of Huntersville
- Town of Matthews
- Town of Mint Hill
- City of Charlotte Code Enforcement
- City of Charlotte Fire Department
- Mecklenburg E911
- Charlotte-Mecklenburg Police Department
- Cornelius Police Department
- Huntersville Police Department
- Matthews Police Department
- Mint Hill Police Department
- Pineville Police Department
- Mecklenburg County Board of Elections
- City of Charlotte Housing & Neighborhood Services
- Arts and Science Council
- City of Charlotte Char-Meck 311

Spatial resolution: Mecklenburg County; local level

Temporal resolution: 2002-2012, biannual. From 2012 the study transformed into an interactive dashboard.

Methodology:

Go to http://mcmap.org/qol

Type the address in the search bar where it says "Search Map" and select the address from the drop-down list that appears. Then click the "Show Map" button beneath the map to make sure you landed in the right place.

Click the "Report" button beneath the map to generate a summary report of all the information in the Quality of Life Explorer. Or, click on the report header where it says "Summary Report" to give your report a custom name.

Indicators:

- **Character**
  - Age of residents
  - Area
  - Population – Older Adult
  - Population – Youth
  - Population Density
  - Race/Ethnicity – All other Races
  - Race/Ethnicity – Asian
  - Race/Ethnicity – Black or African American
  - Race/Ethnicity – Hispano or Latino
  - Race/Ethnicity – White or Caucasian

- Vacant Land

- **Economy**
  - Commercial Building Age
  - Commercial Construction
  - Commercial Space
  - Employment
  - Food and Nutrition Services
  - Household Income
  - Job Density
  - Proximity to Financial Services
- **Environment**
  - Adopt-a-street participation
  - Adopt-a-stream participation
  - Commuters Driving Alone
  - Energy Consumption – Electricity
  - Energy Consumption – Natural Gas
  - Impervious Surface
  - Residential Recycling
  - Residential Solid Waste
  - Residential Solid Waste Diversion
  - Tree Canopy
  - Tree Canopy – Residential
  - Water consumption
- **Education**
  - Education Level – Bachelor's Degree
  - Education Level – High School Diploma
  - High School Graduation Rate
  - Library Card Holders
  - Neighbourhood School Attendance
  - Proximity to Early Care and Education
  - Proximity to School-Age Care
  - Student Absenteeism
  - Test Proficiency – Element School
  - Test Proficiency – High School
  - Test Proficiency – Middle School
- **Engagement**
  - 311 Requests
  - Arts and Culture Participation
  - Municipal board/committee Participation
  - Neighbourhood Organizations
  - Voter Participation
- **Health**
  - Age of Death
  - Births to Adolescents
  - Low Birthweight
  - Prenatal Care
  - Proximity to a Pharmacy
  - Proximity to Low-Cost Health Care

- Proximity to Public Outdoor Recreation
- Proximity to a Grocery Store
- Public Health Insurance

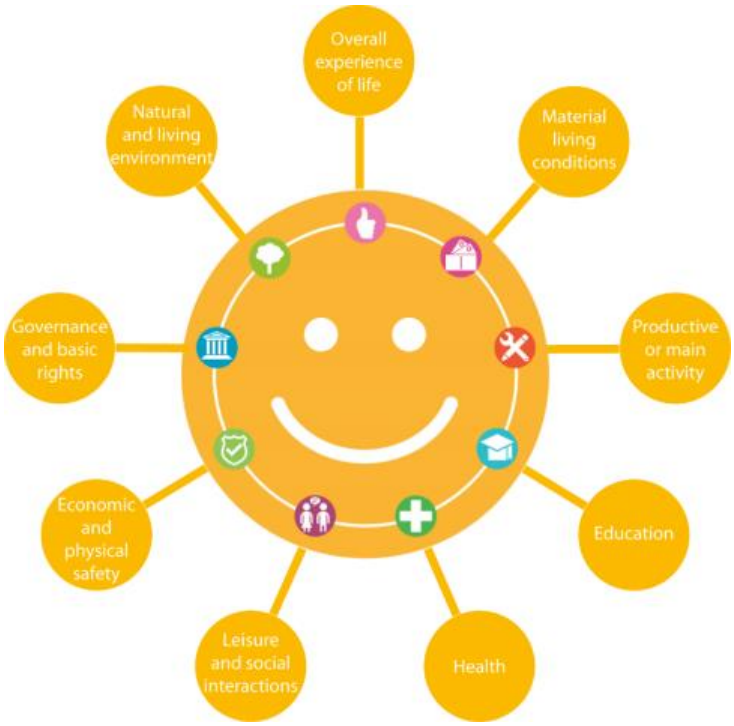
- **Housing**
  - Home Ownership
  - Home Sales Price
  - Housing Age
  - Housing Assistance – Development Based
  - Housing Code Violations
  - Housing Density
  - Housing Size
  - Rental Costs
  - Rental Houses
  - Residential Demolitions
  - Residential Foreclosures
  - Residential New Construction
  - Residential Occupancy
  - Residential Renovation
  - Single-Family Housing
- **Safety**
  - Calls for Animal Care and Control
  - Crime-Property
  - Crime-Violent
  - Disorder-related Calls
  - Fire Calls for Service
- **Transportation**
  - Bicycle Friendliness
  - Long Commute
  - Proximity to Public Transportation
  - Sidewalk availability
  - Street Connectivity
  - Transit Ridership

EUROSTAT Quality of Life (QoL)

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.

The 'GDP and beyond' Communication, the SSF Commission recommendations, the Sponsorship Group on 'Measuring Progress, Wellbeing and Sustainable Development' and the Sofia memorandum all underline the importance of collecting high-quality data about people's quality of life and wellbeing and the central role that EU Statistics on Income and Living Conditions (EU-SILC) have to play in this improved measurement. Building on the recommendations set out in that report, a set of indicators was developed and organised along 8 + 1 statistically measurable dimensions. These indicators could be 'subjective' or 'objective'.

https://ec.europa.eu/eurostat/web/gdp-and-beyond/quality-of-life



Party responsible: EUROSTAT

Data sources:

- EU-SILC (Statistics on Income and Living Conditions)
- LFS (Labour Force Survey)
- EHIS (European Health Interview Survey)
- European Statistical System (ESS)
- EQLS (European Quality of Life Survey)
- Administrative sources

Spatial resolution: Worlwide; OECD countries, Russia and Brazil; country level (NUTS0)

Temporal resolution: Data collected from 2015

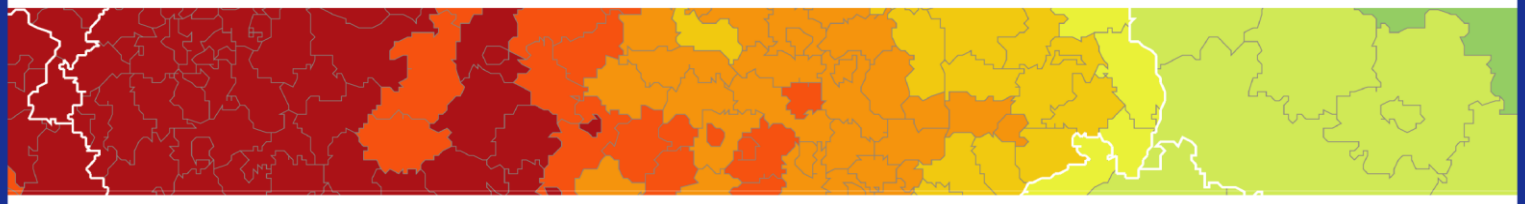
Methodology:

In 2016, Eurostat published an analytical report on QoL. It explains variations in subjective wellbeing using a range of variables included in Eurostat's Quality of Life framework and has recourse to multivariate regression analysis.

Eventually, EU-SILC will be developed further to serve as the core EU instrument linking the different dimensions of quality of life at an individual level and reflecting their dynamic interdependencies. Some variables from the 2013 EU-SILC module on subjective wellbeing will be included in the EU-SILC instrument and collected annually or in rotating modules.

Indicators:

- Material living conditions (income, consumption, material conditions)
- Productive or other main activity (quantity &quality of employment, other main activities)
- Health (life expectancy, morbidity, healthy and unhealthy behaviours, access to healthcare)
- Education (competences and skills, lifelong learning, opportunities)
- Leisure and social interactions (leisure and social interactions)
- Economic and physical safety (economic security and vulnerability, physical and personal security)
- Governance and basic rights (trust/satisfaction in institutions, and public services)
- Natural and living environment (pollution, access to green and recreational spaces, landscape and built environment)
- Overall experience of life (life satisfaction, affects, meaning and purpose)



ESPON 2020 – More information

ESPON EGTC
4 rue Erasme, L-1468 Luxembourg - Grand Duchy of Luxembourg
Phone: +352 20 600 280
Email: **info@espon.eu**
www.espon.eu, **Twitter**, **LinkedIn**, **YouTube**

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