



Flourishing Cities

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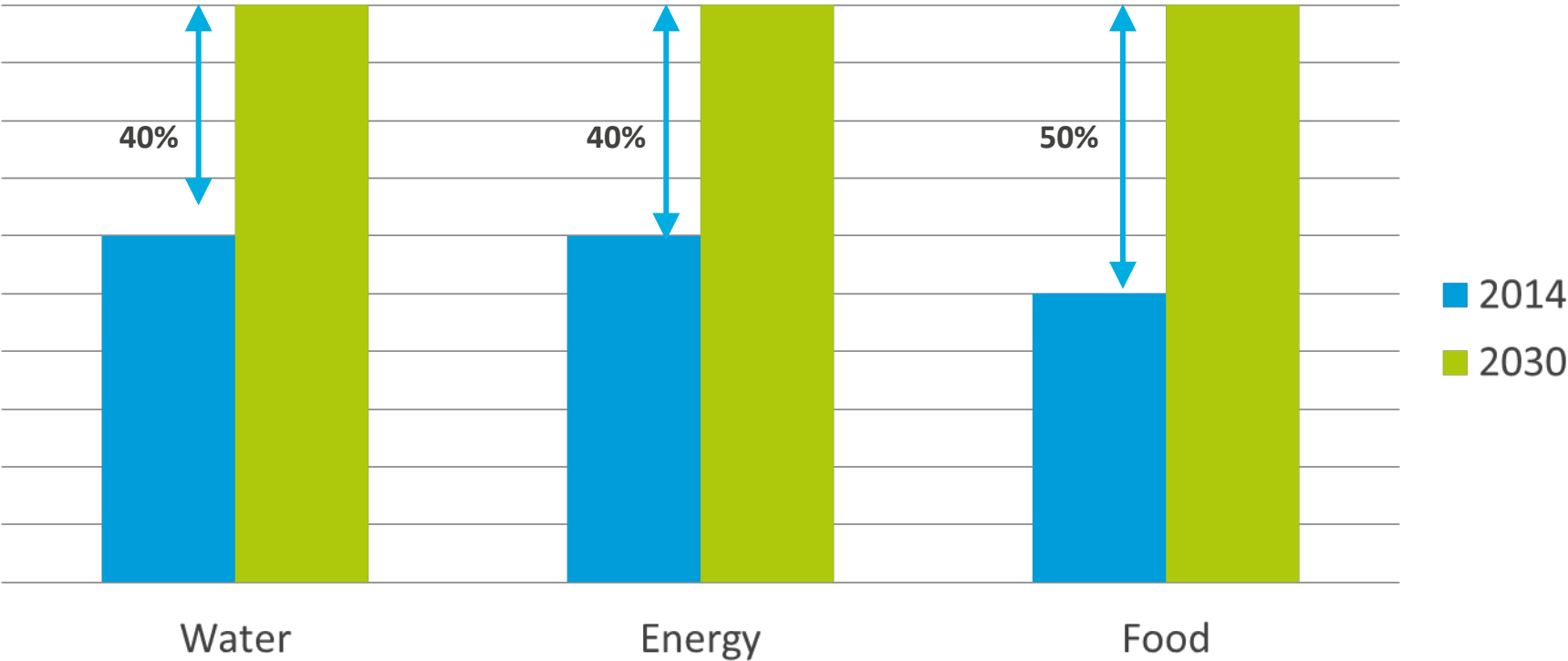
....but first, a little background



Resource Demand Forecast



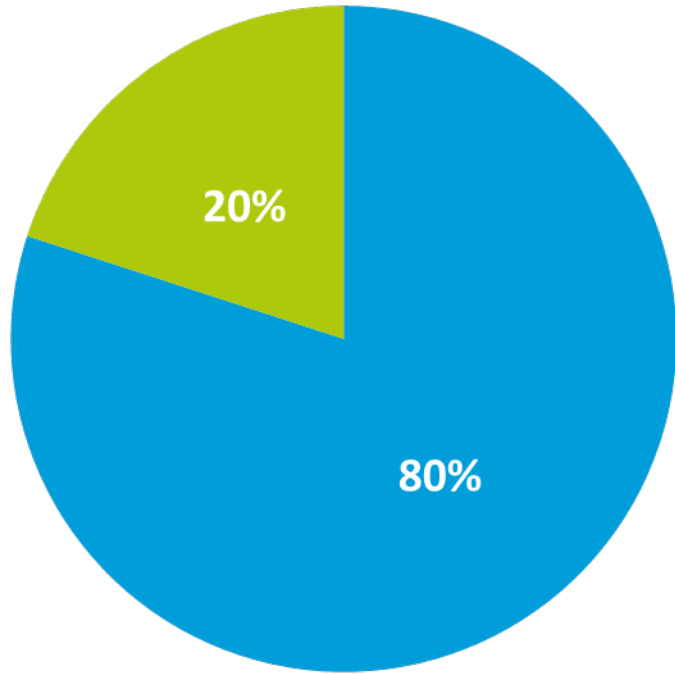
Projected Municipal Resource Demand Increase, 2014-2030



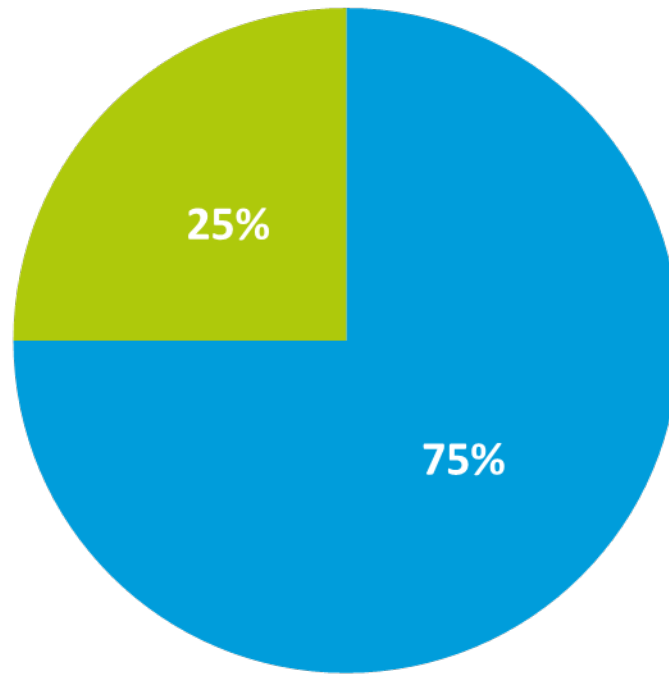
Disproportionate consumption of cities



City Emissions and Energy Consumption
(as a % of the total world's consumption)



GREENHOUSE GAS EMISSIONS



ENERGY CONSUMPTION

■ Cities
■ Rest of the World











SUSTAINABLE DEVELOPMENT GOALS



1 NO POVERTY



2 ZERO HUNGER



3 GOOD HEALTH AND WELL-BEING



4 QUALITY EDUCATION



5 GENDER EQUALITY



6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



10 REDUCED INEQUALITIES



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



14 LIFE BELOW WATER



15 LIFE ON LAND



16 PEACE, JUSTICE AND STRONG INSTITUTIONS



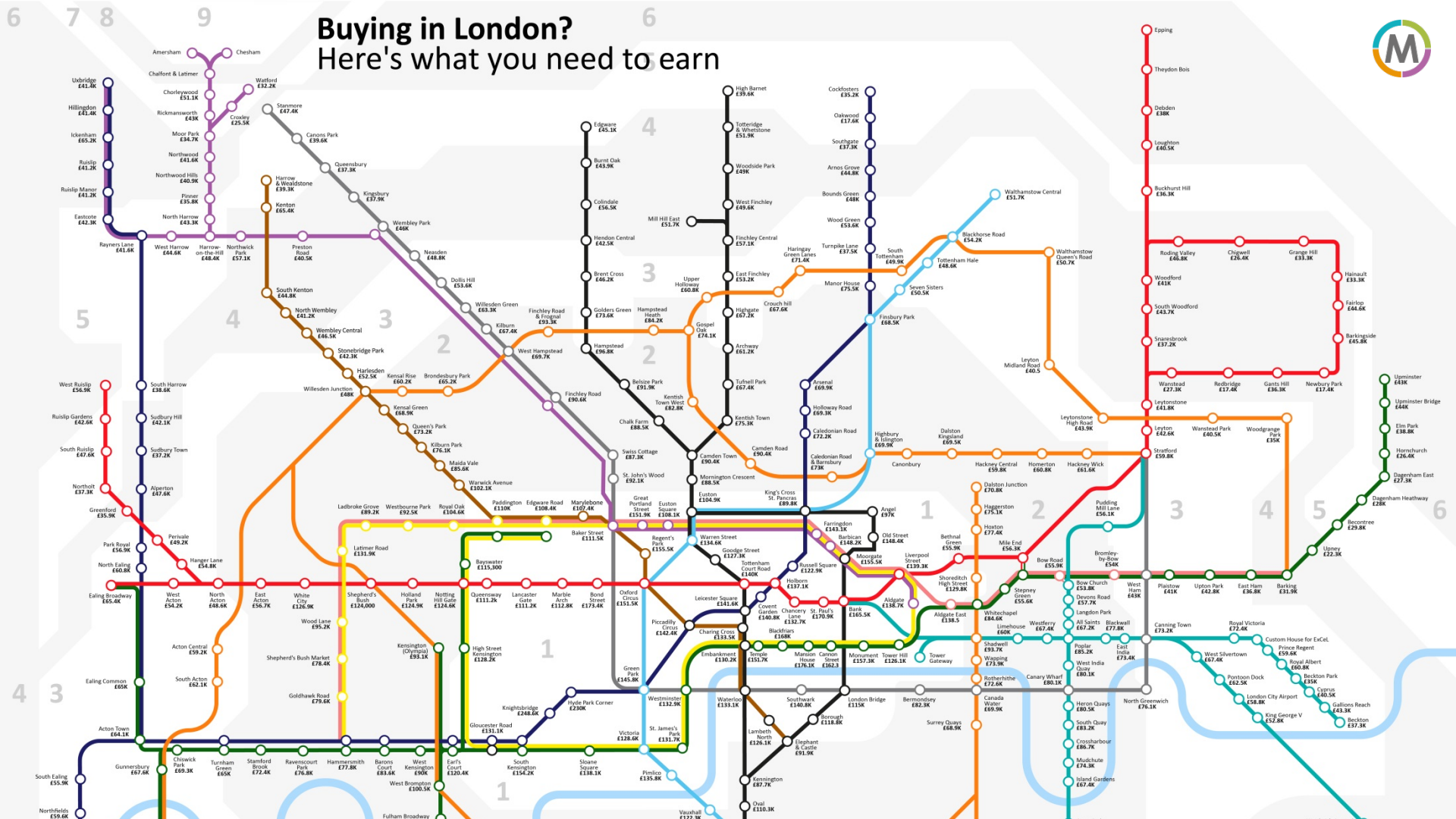
17 PARTNERSHIPS FOR THE GOALS



SUSTAINABLE
DEVELOPMENT
GOALS

Buying in London?

Here's what you need to earn



Housing Crisis



Press release

Housing Secretary unveils green housing revolution

A new green standard for new build homes will bring an environmental revolution to home building.

Published 1 October 2019

From: [Ministry of Housing, Communities & Local Government](#)

New green standard for all new build homes (Future Homes Standard) – cut of 80% carbon emissions for all new homes

Ambitious revamp of planning rules

New national design code for beautiful, well-designed homes

All LAs to produce their own design guides





What would a 'Flourishing City' look like?

“ A city should be built to give its inhabitants security and happiness”

-Aristotle

An Intelligent City and Liveable City is:

- **An Accessible City**
- **A Business City**
- **An Attractive City**
- **A City for Living**
- **A Just City**

Chobham Manor, Queen Elizabeth Olympic Park



Interdisciplinary and collaborative sustainability approach





THRIVING

- More employment opportunities for local people
- Improved skills for local people
- More support for local SMEs and VCSEs
- Improved employability of young people
- More opportunities for vulnerable members of society
- A vibrant and diverse workforce

INCLUSIVE

- Providing the best opportunities for all, including the most vulnerable members of society
- Supporting and promoting independent living for vulnerable people
- Providing opportunities for people of all ages to lead active, healthy lifestyles and engage with the wider community
- Innovative housing typologies that encourage multigenerational and intergenerational living

RESILIENT

- A built environment that is resilient to the effects of future climate change
- Spaces and places that are flexible and adaptable to future societal change and market forces
- Strong communities that can support each other during stress or shock events



HEALTH

- Better physical health and mental wellbeing outcomes
- A better quality of life for all
- Reduction of crime and safe, secure neighbourhoods
- Decrease in child obesity
- Improved adult levels of activity
- Decrease loneliness and isolation for older people
- Better awareness of healthy eating and lifestyles

ENVIRONMENT

- Better indoor and outdoor air quality
- High quality housing and living environments
- Higher levels of energy and water efficiency
- Decreased waste generation
- Increased commitment to the procurement of sustainable and green materials
- Reduced climate impacts
- Improved levels of biodiversity and green space



LOCAL DEPRIVATION INDICATORS



Bad Health

DEMOGRAPHIC PROFILES



Singles



Full-time Students



Long-term health problem/Disability



Couples with no kids



Working Students



No Central Heating



Single Parents



Retirees



Unemployed



Families



Children aged 0-4



No Qualifications

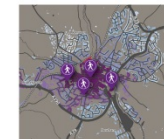


Empty Nesters



Children aged 5-14

COMMUTING BEHAVIOUR



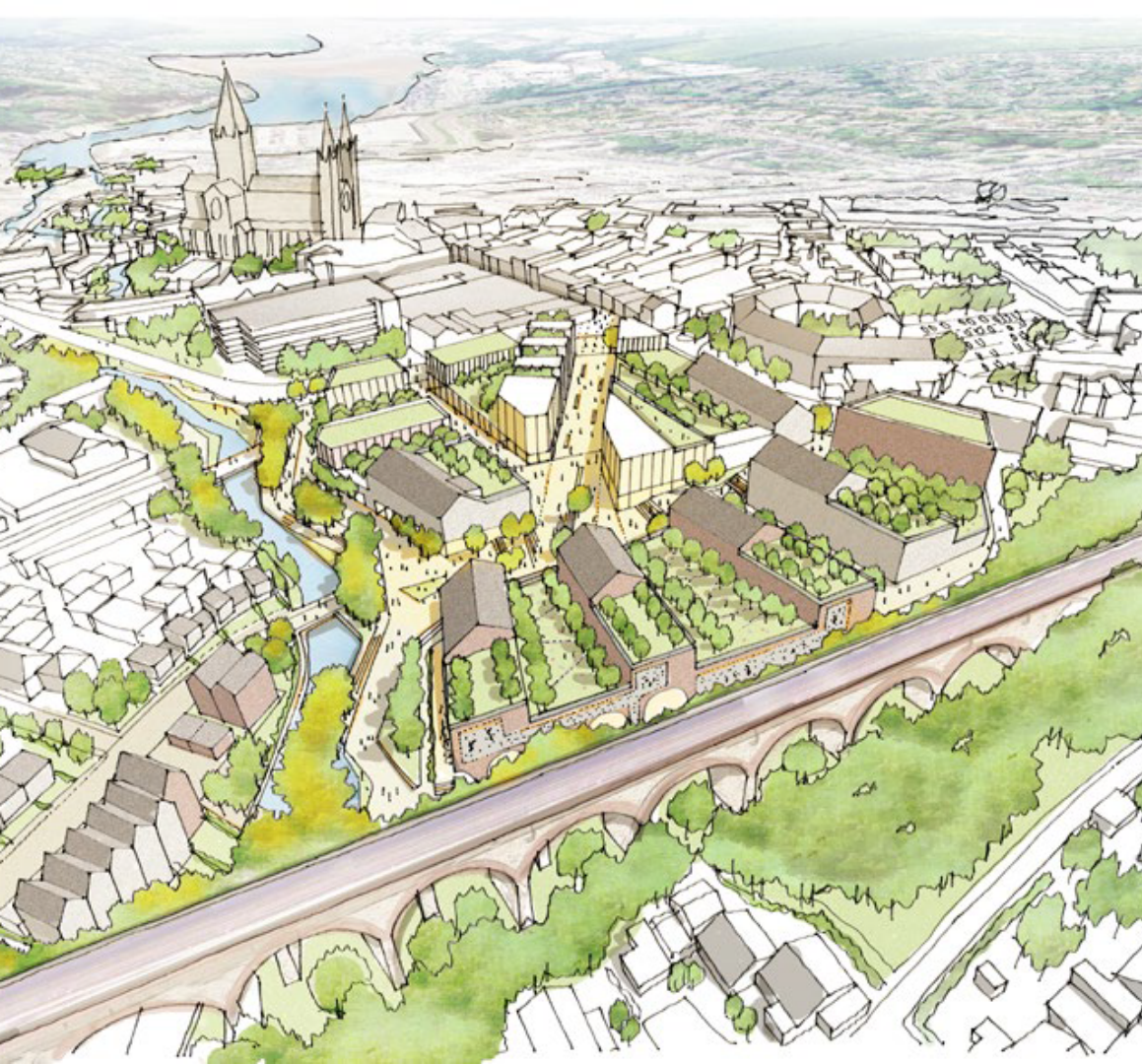
Walk to Work



Drive a Car to Work



Public Transport to Work



PYDAR STREET **SOCIAL VALUE ACTION PLAN**

01

STAGE ONE **COMMISSIONING**

Create a shared understanding of economic, social, environmental and cultural factors that should shape the development of the site

↓

Identify priority areas that need to be addressed, and establish high level social value **themes** for the project

↓

Identify key social value **outcomes** from the Pydar project

↓

Establish clear social value **objectives** and ensure all stakeholders and design team are aware and committed

↓

Assign a **'Social Value Champion'** from the project team who will be tasked with ensuring that these objectives are met during the design process, and that these aspirations are handed over to a member of the client team upon completion.

↓

Consider the use of **BREEM Communities** for the Pydar Project.

02

STAGE TWO **REGENERATION** **OPTIONS**

Map out and reach out to local stakeholders in order to enlist their help in identifying key needs, priorities and opportunities. Identify a community **'Social Value Champion'** to work alongside the design team

↓

Consult with specialist organisations, the council and university to understand local needs and challenges

↓

Co-develop social value **metrics and KPIs** at first area-wide event in collaboration with local community.

↓

Work with council and multidisciplinary team to **identify and maximise social value opportunities** within and around the site

↓

Develop masterplan options. **Evaluate all regeneration options** using a consistent set of co-developed social value metrics and KPIs

↓

Present results of evaluation to stakeholder groups and **seek feedback**

↓

Select final option, based not only on best value but also on the **social value metrics and KPIs** that have been agreed with the community

03

STAGE THREE **DEVELOP** **MASTERPLAN**

Carry out **regular reviews** of the evolving design to ensure that all social value objectives are being carefully considered and met. Include Social Value as a regular DTM agenda item, with the Social Value Champion leading the discussion

↓

Present emerging masterplan to local stakeholders at consultation events and workshops, **seek feedback and encourage co-creation** and interaction with the plans and designs.

↓

Highlight social value objectives and metrics at the consultation event. Identify projected outcomes and discuss success factors for the achievement of these outcomes - from the community and from the council and other stakeholders

↓

Start developing **construction and operational phase Social Value Action Plans and Toolkits**, including procedures for monitoring of metrics, to be handed over to the council for implementation following project completion

04

STAGE FOUR **FINALISE** **MASTERPLAN**

Carry out **Social Value Evaluation** on the final design to ensure that all social value objectives have been met and included within the masterplan.

↓

Present final masterplan to local stakeholders at consultation events and workshops, highlight the community's role in shaping the masterplan, and promote sense of pride and ownership of the project as it moves into the future

↓

Highlight social value objectives and metrics at the consultation event. Identify projected outcomes and discuss success factors for the achievement of these outcomes - from the community and from the council and other stakeholders

↓

Finalise construction and operational phase Social Value Action Plans and Toolkits to reflect the final design

05

STAGE FIVE **FINALISE** **SUBMISSION**

Include **Social Value Strategy, Action Plan and Evaluation** in the Design and Access Statement, to ensure that the design aspirations for promoting social value are visible and transparent to all.

↓

Ensure that commitments to social value and key design features are included in all the documents related to the planning submission, including specialist technical reports and assessments

↓

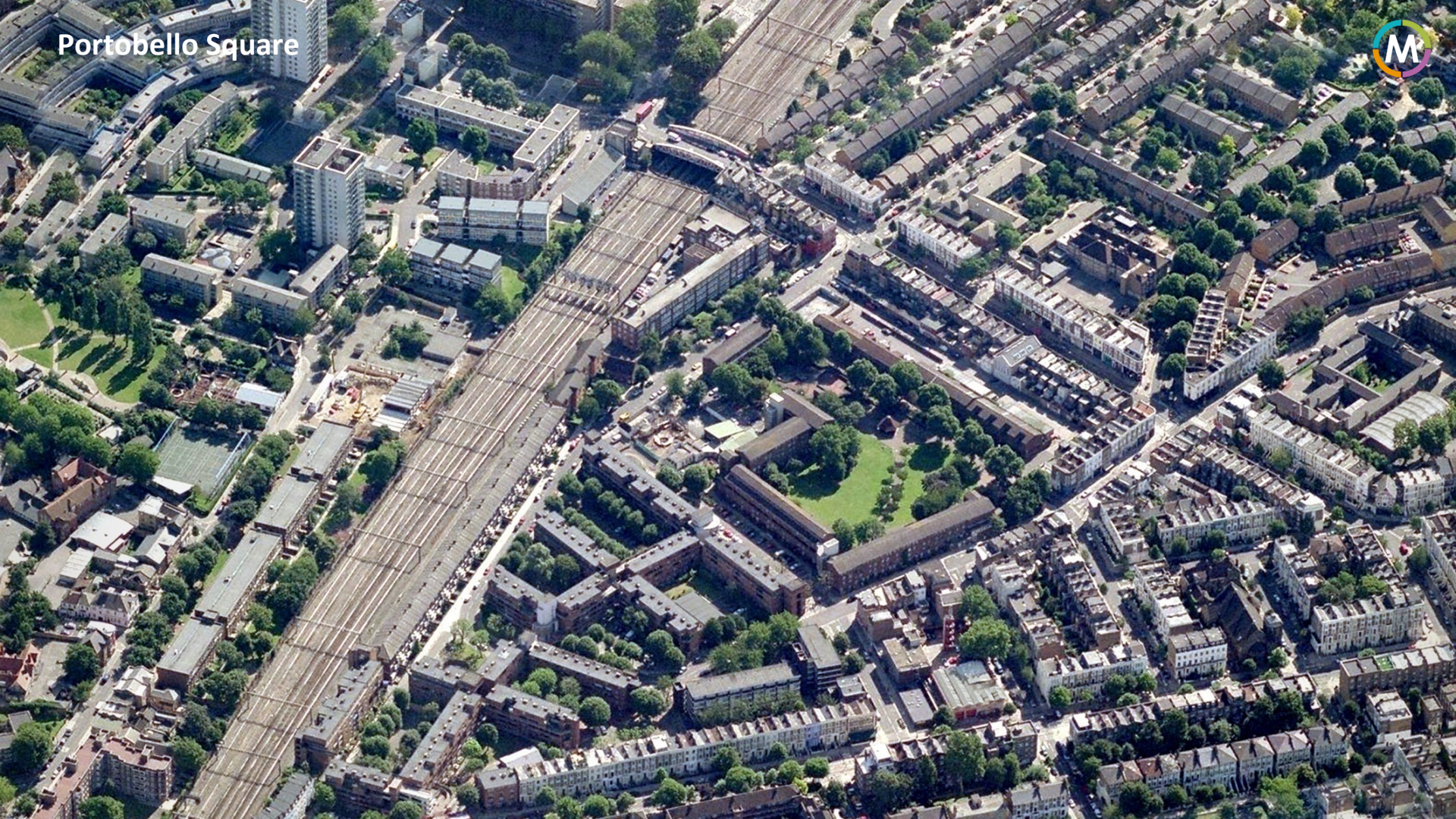
Handover of **construction and operational phase Social Value Action Plans and Toolkits** to the council for application during the tender and procurement phase as well as the lifetime of the development.

Portobello Square, North Kensington (Catalyst)



- Most ambitious regeneration scheme in Kensington and Chelsea for decades
- A new urban quarter
- 1,100 new homes
- Mixed-tenure, tenure-blind design
- 50% affordable
- Sustainability features

Portobello Square



Portobello Square



"It's warm, it's dry, it's clean and it's beautiful. I don't know what to say about it really it's just unbelievable; it's like living in a hotel but you can stay. Beautiful, it really is, we're so grateful."

"The best thing is they all look the same, you don't know who lives in any of them and that's what I like, it's equal, if you like, for everybody."

"This needs to be celebrated throughout London, it has transformed my life, and I think it would be able to transform anybody's life."



What are the barriers to designing and delivering Flourishing cities?



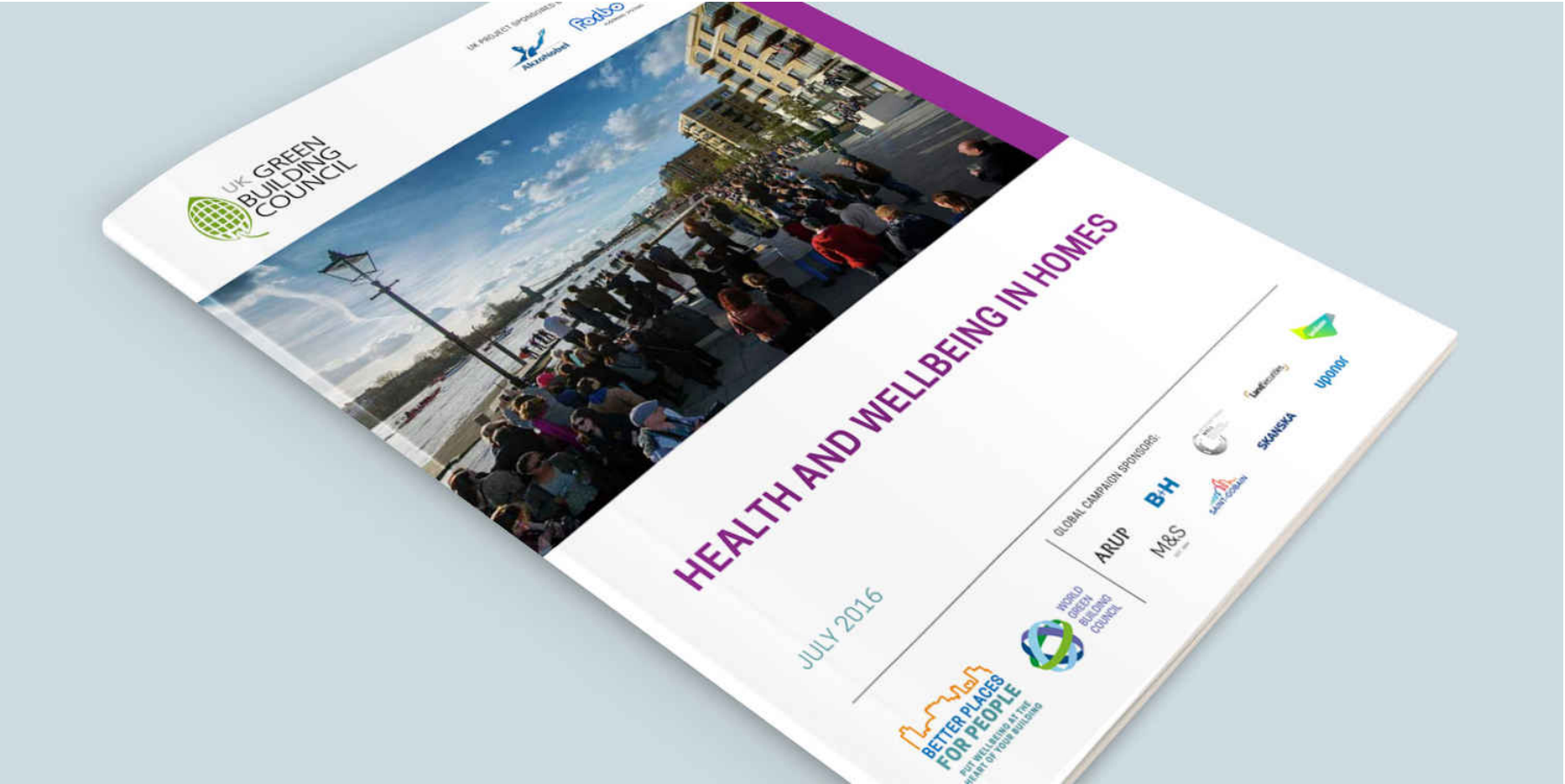
Barriers

- Materialism
- Short termism
- Silo thinking
- Lack of awareness
- Demographics
- Over complexity









WHAT TO DO

BUILT ENVIRONMENT FEATURES

Air Quality	good indoor air quality
Temperature & Humidity	cool bedrooms
	warm homes
	fireplaces
Light	good natural light
	warmer light colours
	good sunlight access
	cooler light colours
Noise	urban soundscape
	white noise
	good acoustics
	generous storage space
	high quality housing
Dwelling Design	balanced and interesting colours and textures
	generous space standards
	spaces that promote social interaction
	shading devices
Lifestyle	healthy food
	doing exercise
	good access to amenities
	well-designed external lighting
	access to art and culture
	well-connected pedestrian network
	slow traffic
Neighbourhoods	good cycle networks
	mixed-use
	that promote social interaction
	safe and secure streets and play areas
	defensible space
	local grocery stores
	access to green space
	views out to natural environments

PHYSICAL HEALTH

HEALTH AND WELL-BEING LINKS

sleep quality
child development
improved vitality/energy levels
lower resting heart rate
healthy glucose levels
general physical health
motor skills
lower blood pressure
immune system
muscular development
stamina and fitness
cholesterol levels
bone health
reduced risk of cancer
reduced risk of multiple sclerosis
reduced instances of coughs, colds and flu
reduced instances of illness and infection
reduced risk of cardiovascular disease, arteriosclerosis
reduced risk of mortality/death
reduced risk of morbidity/disease
reduced risk of arthritis
reduced risk of diabetes
reduced risk of obesity
reduced risk of being overweight
reduced risk of respiratory disease
reduced risk of chronic illnesses
reduced risk of developmental disorders
longevity
reduced risk of mortality, death
reduced sick days
reduced need for medication
shorter recovery times
speeds up healing of skin disorders



← Recipe for a good night's sleep



Sunlight strongly linked to physical health



The healing power of natural light



The link between colour and mental health →

Social Interaction improves physical and mental well-being



Eat healthy and exercise!



Good neighbourhood design = good physical health



Public Realm vs illness & infections



Fight obesity!

Green Spaces are essential for physical health...

...and mental well-being

MENTAL HEALTH & WELL-BEING

self-reported mental health
self-reported vitality
mood
concentration and focus
impulse control (children)
reduced ADHD symptoms
aids recovery from mental fatigue
serenity/calm/relaxation
reduced stress and anxiety
aids recovery from acute stress
perceived well-being
reduced risk of depression
mental resilience/ability to cope
cognitive ability, function and development
self-esteem
ability to trust others
reduced risk of Alzheimer's
perceived safety and security
creative thinking
strategic thinking
empathy
child development
reduces depressive symptoms
reduced risk of developmental disorders



Reduce stress and anxiety →



The link between space standards and mental performance →

Pedestrian-friendly environments foster social inclusion →



↑ Exercise strengthens communities



↑ Safe and secure neighbourhoods = Better social well-being

SOCIAL WELL-BEING

child social development
social/communication skills
social inclusion (reduced loneliness)
social interaction
social capital
crime levels
overall prosperity
community cohesion
privacy
perceived safety and security
perceived social well-being





WHAT NOT TO DO

BUILT ENVIRONMENT FEATURES

Air Quality

- high-VOC building material
- poor laundry drying provision
- poor ventilation rates
- external air pollution

Temperature & Humidity

- too hot
- too dry
- too damp
- too cold

Light

- lack of natural light
- too dim
- blue light from electronics
- too bright
- uneven internal light distribution

Noise

- unwanted noise
- noisy neighbourhoods

Dwelling Design

- overcrowded
- complex user controls
- sub-standard housing
- monotonous colour scheme
- highly complex colour and contrast

Neighbourhoods

- badly designed external lighting
- perceived as unsafe
- that lack social interaction
- that lack opportunities for physical activity
- deteriorated neighbourhoods
- transport-dominated
- no access to vegetation

HEALTH AND WELL-BEING LINKS

PHYSICAL ILL-HEALTH

poor sleep quality	fatigue	increased blood pressure/hypertension	muscle tension	increased heart/pulse rate	thermal discomfort	coughs and colds	allergies and hayfever	eye, ear, nose and throat irritation	skin irritation, eczema	illness and infection	increased risk of respiratory illnesses, asthma	increased risk of heart attack and stroke	increased risk of mortality/death	increased risk of cardiovascular disease	increased risk of sleep disorders	increased risk of neurological diseases	increased risk of diabetes	increased risk of low birth weight	increased risk of pre-term birth	increased risk of cancer (including lung cancer)
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Air quality is key to minimising key risks to health



← **Recipe for a bad night's sleep**



← **Things that make you tired**



↑ **Colour can have adverse physiological effects**



↑ **Residents of lonely and inactive neighbourhoods at higher risk of illness and death**

Thermal comfort impacts range from allergies and illnesses ...to heart attack and death

MENTAL ILL-HEALTH

psychological distress	risk of chronic mental illness	feelings of claustrophobia	aggression, irritation	restlessness	impaired ability to deal with life challenges	reduced performance	reduced productivity	risk of Seasonal Affective Disorder (SAD)	risk of depression	stress and anxiety	impaired cognitive ability/development	impaired ability to concentrate	learned helplessness	procrastination/demotivation
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...and also affects anxiety, depression and stress levels



Lack of natural light = mental ill-health



Unwanted noise = significant cognitive/emotional impacts



Overcrowding affects → mental health, performance and social relationships



Bad neighbourhood design has a large impact on social well-being →

ISOLATION

decreased quality of social relationships	social exclusion	decreased community cohesion	loneliness
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The Flourish Framework

Maslow Hierarchy of Needs



Self-actualisation

morality,
creativity,
spontaneity,
problem solving,
lack of prejudice,
acceptance of facts

Esteem

self-esteem, confidence,
achievement, respect of
others, respect by others

Love/belonging

friendship, family, sexual
intimacy

Safety

security of: body, employment,
resources, morality, the family, health,
property

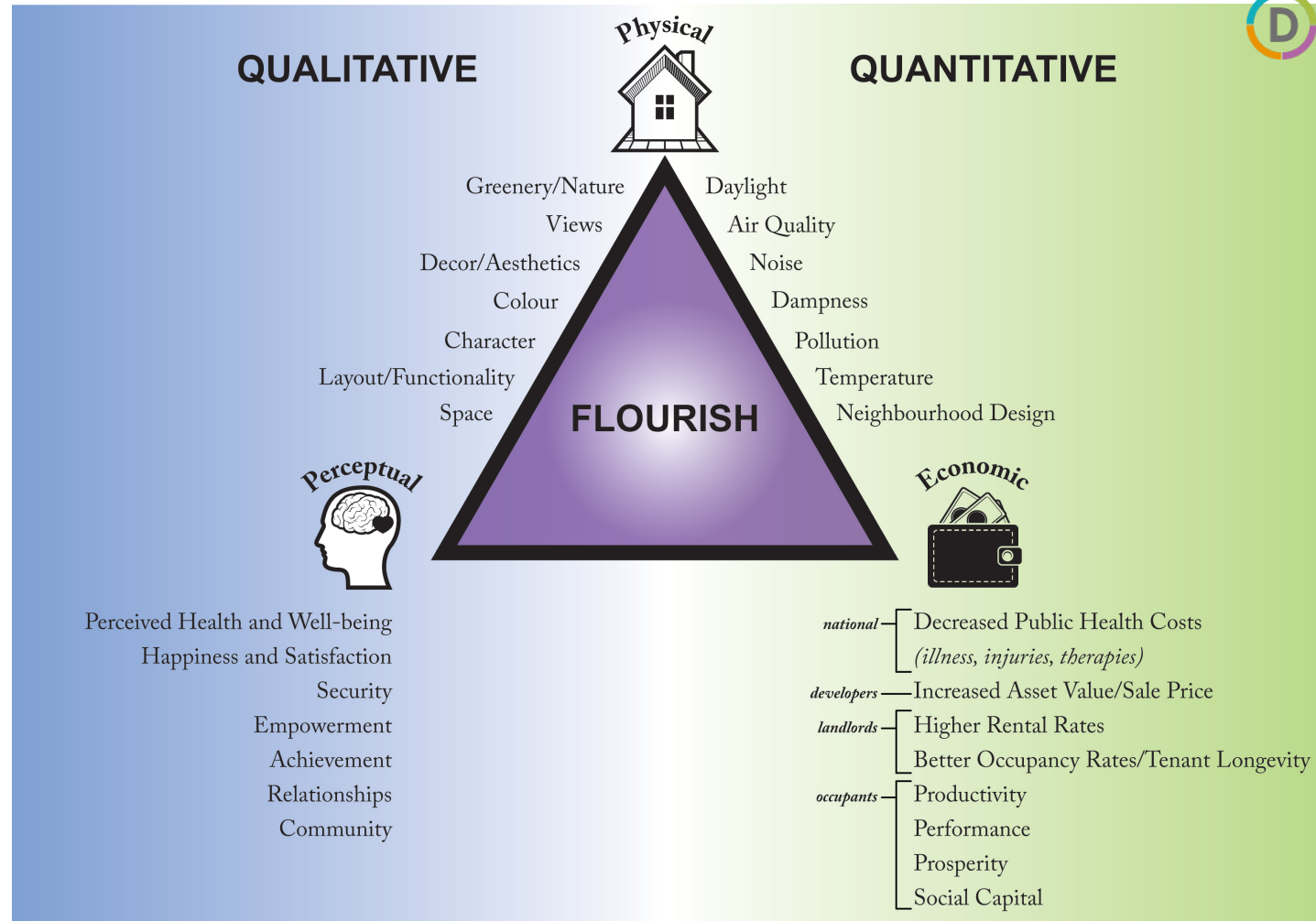
Physiological

Breathing, food, water, sex, sleep,
homeostasis, excretion



Needs

- Health and wellbeing
- Sustainability of resource and consequences for energy/water/waste/pollution
- Individual and community values and motivation
- Effective monitoring and data pattern and trends analysis
- Selective enabling technology
- Inclusivity



Health Impact Assessments (HIA)



01

Screening

Determine whether HIA is appropriate and required

02

Scoping

Set out the parameters of the HIA

03

Identification

Develop a community/population profile and collect information to identify potential impacts

04

Assessment

Synthesise and critically assess the information in order to prioritise health impacts

05

Decision making & recommendations

Make decisions to reach a set of final recommendations for acting on the HIA's findings

06

Evaluation & follow-up

Evaluate the processes involved in the HIA and its impact, and follow up the HIA through monitoring and a health impact management plan



BRE Home Quality Mark (HQM)



Home Quality Mark 4 Star Home

HOME QUALITY MARK



An Excellent new home. Achieving this Mark means that the home is designed and built to have very low running costs, many positive impacts upon your health and wellbeing, all with an extremely low impact upon our environment.



Address:
1st line,
2nd line
postcode

Developer:
Shahid

Architect:
Amy

Assessor:
Gwyn

WELL Building Standard



SEVEN CONCEPTS FOR HEALTHIER BUILDINGS



AIR



WATER



NOURISHMENT



LIGHT



FITNESS



COMFORT



MIND

2017 © INTERNATIONAL WELL BUILDING INSTITUTE PBC



AIR

14 FEATURES
4 preconditions
10 optimizations



WATER

8 FEATURES
3 preconditions
5 optimizations



NOURISHMENT

13 FEATURES
2 preconditions
11 optimizations



LIGHT

8 FEATURES
2 preconditions
6 optimizations



MOVEMENT

12 FEATURES
2 preconditions
10 optimizations



THERMAL
COMFORT

7 FEATURES
1 precondition
6 optimizations



SOUND

5 FEATURES
1 precondition
4 optimizations



MATERIALS

14 FEATURES
3 preconditions
11 optimizations



MIND

15 FEATURES
2 preconditions
13 optimizations



COMMUNITY

16 FEATURES
3 preconditions
13 optimizations



BCO

June 2018

WELLNESS MATTERS

Health and wellbeing in offices and what to do about it.

Living Building Challenge



LIVING BUILDING CHALLENGESM



PLACE | Restoring a healthy interrelationship with nature



WATER | Creating developments that operate within the water balance of a given place and climate



ENERGY | Relying only on current solar income

LIVING BUILDING CHALLENGE 3.0

Seven Petals to Certification



HEALTH & HAPPINESS | Creating environments that optimize physical and psychological health and well being



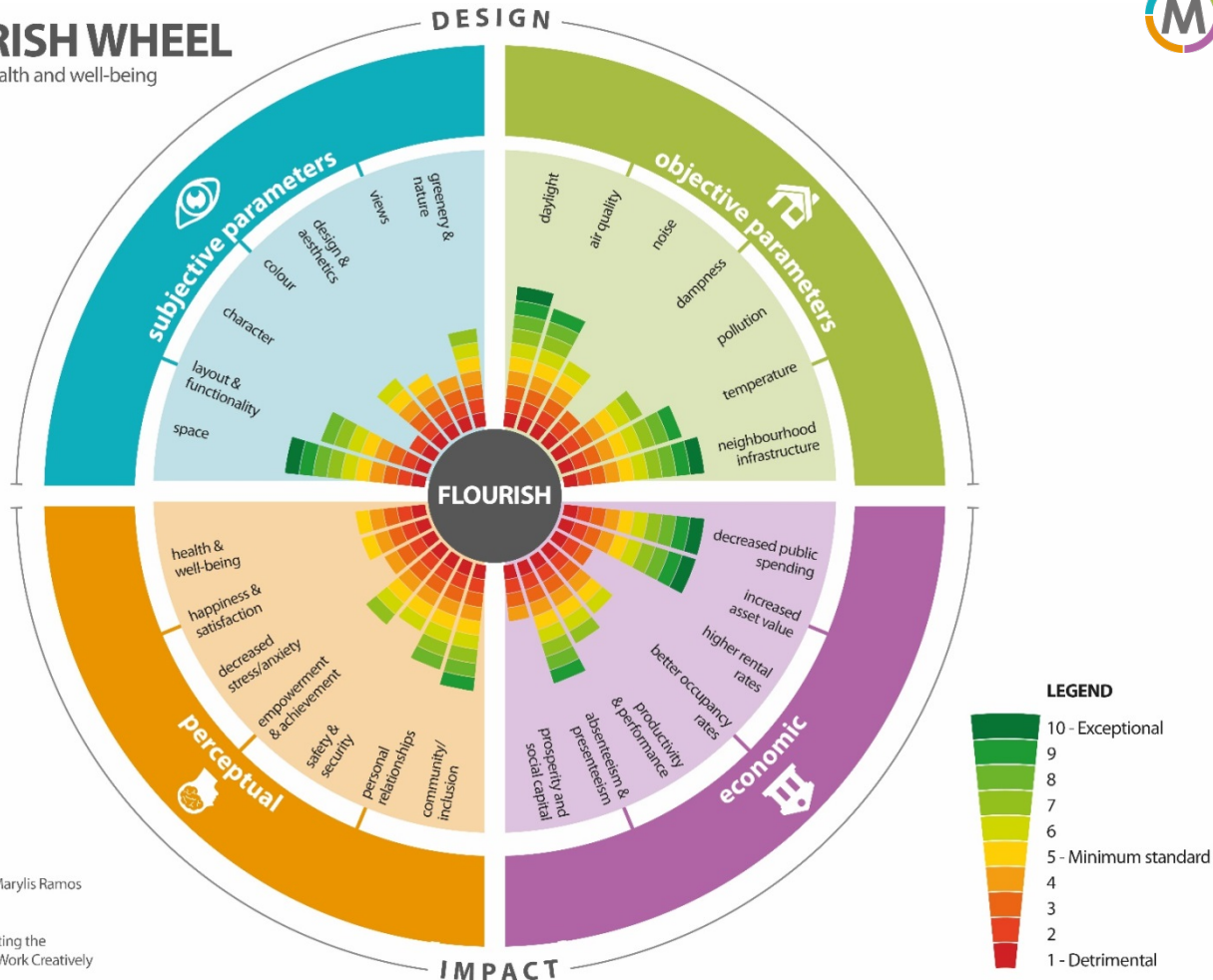
MATERIALS | Endorsing products that are safe for all species throughout time



EQUITY | Supporting a just, equitable world



BEAUTY | Celebrating design that uplifts the human spirit



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read more about Flourish in:
Clements-Croome, D (2018) Creating the
Productive Workplace: Places to Work Creatively

DESIGN

subjective parameters



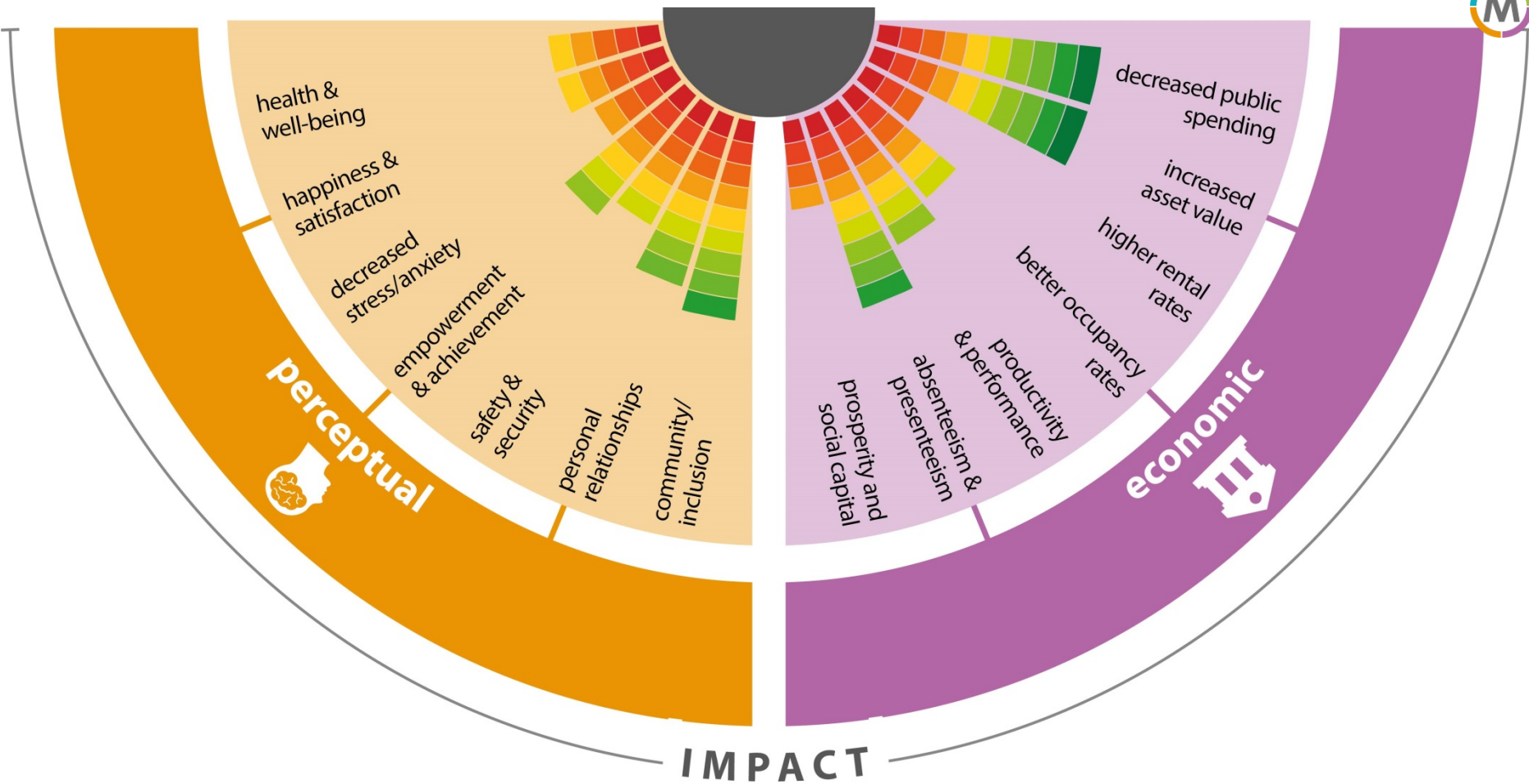
space
layout & functionality
character
colour
design & aesthetics
views
greenery & nature

objective parameters



daylight
air quality
noise
moisture/condensation
pollution
temperature
neighbourhood infrastructure









Thank you for listening!

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