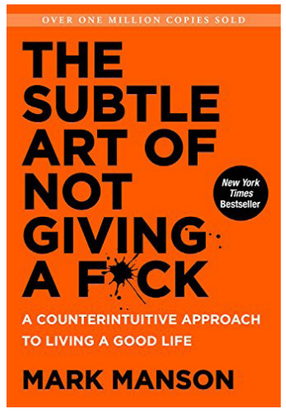
URBAN STRESS

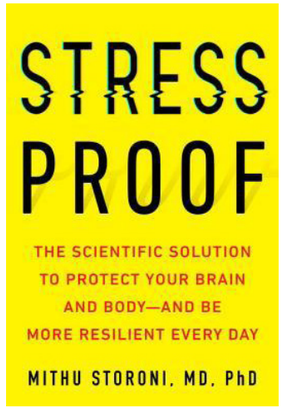
Research into the reduction of urban stress through urban design

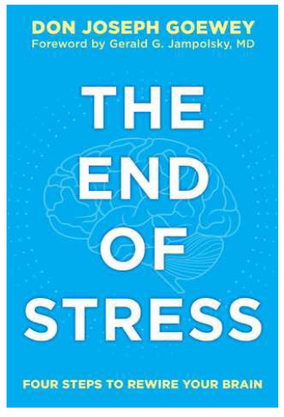
Final presentation | Marijke Koene | 06-07-2018

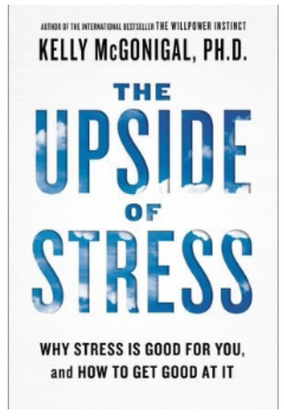
ATTENTION TO STRESS

RELEVANCE IN SOCIETY



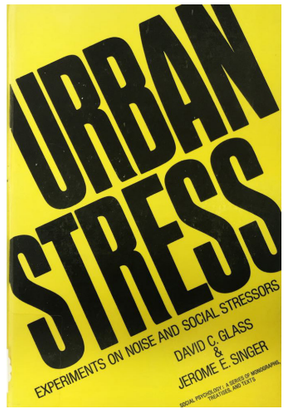


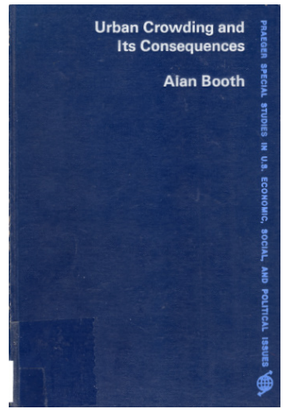


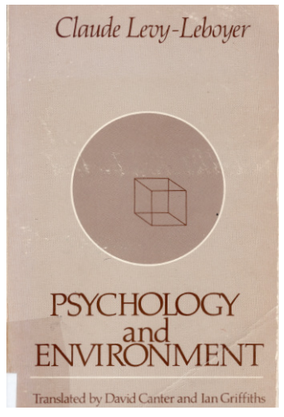


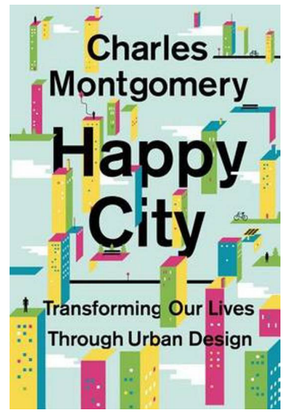
Britain in the grip of a stress epidemic because of 'always on' culture, survey finds

URBANISM RELATED









Does City Life Pose a Risk to Mental Health?

Recent studies shed light on the link between urban living and psychosis

Sick cities: why urban living can be bad for your mental health

Is our headlong rush to live in cities bound to increase incidences of stress and other mental disorders?

(Francis, 2018; Kwon, 2016; unknown, 2017; Benedictus, 2014)

Urban stress is stress in humans,
caused by the urban environment.

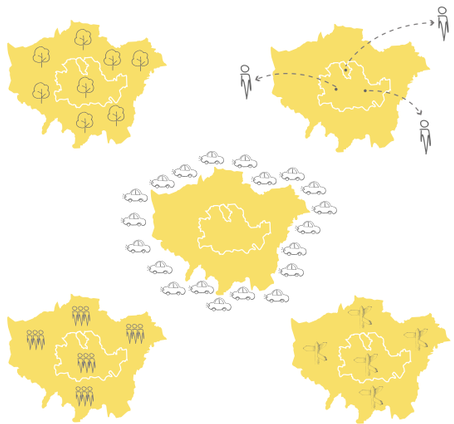
(Getty images, n.d.)

(International business times, 2012)

(Duccio Malagamba, n.d.)

Research question
&
Findings

Design



Conclusions

Looking
ahead

RESEARCH QUESTION & FINDINGS

How can the urban design of public spaces contribute to the reduction, relief or prevention of urban stress in metropolitan areas?

How can the urban design of public spaces

contribute to the **reduction, relief** or **prevention**

of urban stress in metropolitan areas?

How can the urban design of **public spaces**

contribute to the reduction, relief or prevention of

urban stress in **metropolitan areas**?

Metropolitan

Urban

Public space

ZO WERKT GEBIEDSONTWIKKELING
Inleiding Bouwmanagement
onder redactie van J.W.F. Wamelink

MOLESKINE®
Legendary notebooks
St. Pancras & King's Cross

Causes of urban stress

1. Building density

1. Building density

2. Crowding

1. Building density

2. Crowding

3. Boring megascapes

4. Garbage, graffiti and disrepair

1. Building density

2. Crowding

3. Boring megascapes

4. Garbage, graffiti and disrepair

5. Sharp architectural angles

6. Traffic (jams)

7. Parking problems

8. Accessibility & availability of green

9. High-rise

10. Public transport

11. Perception of security

12. Architecture and urban design

13. Housing conditions

14. Accidents

15. Falls

16. Gender inequality

17. Race inequality

18. Sense of security

19. Crime & robbery

20. Lack of social support networks

21. Sunshine hours

22. Air pollution

23. Noise pollution

24. Light pollution

25. Exposure to SO2

26. Exposure to NO2

27. Exposure to radiation

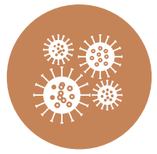
28. Climatic and geophysical hazards

29. Heat

30. Mental health

31. Physical health

32. Exposure to germs



33. Exposure to viruses

34. Exposure to microbes

35. Exposure to bacteria

36. Diet

37. Lack of exercise

38. Obesity

39. Unemployment

40. Dept per capita

41. Social security

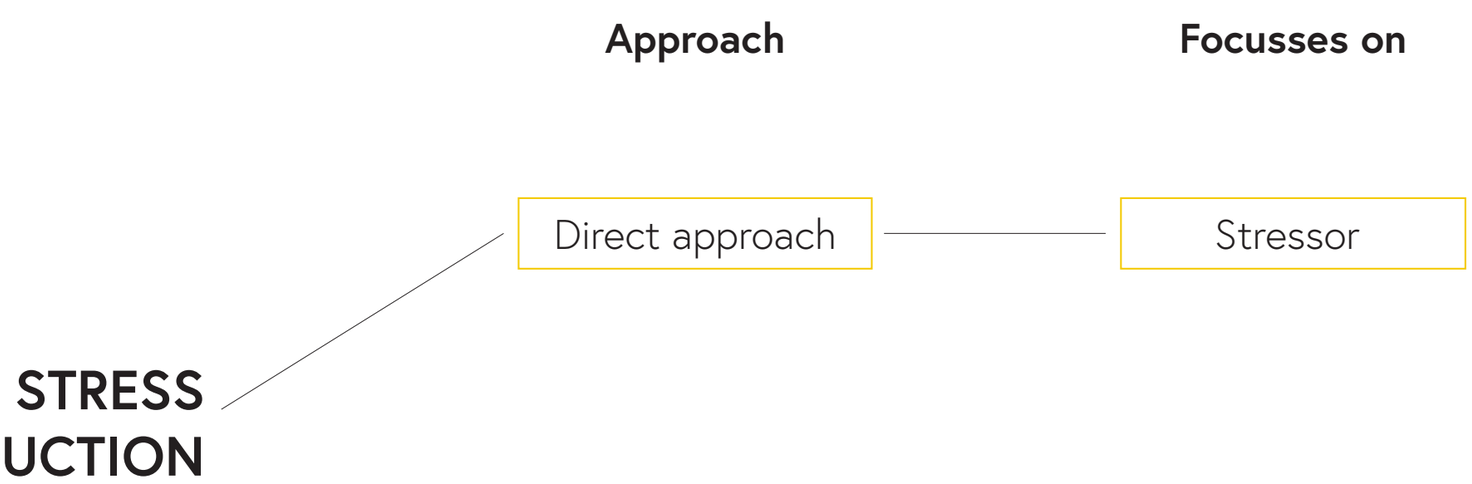
42. Family purchase power

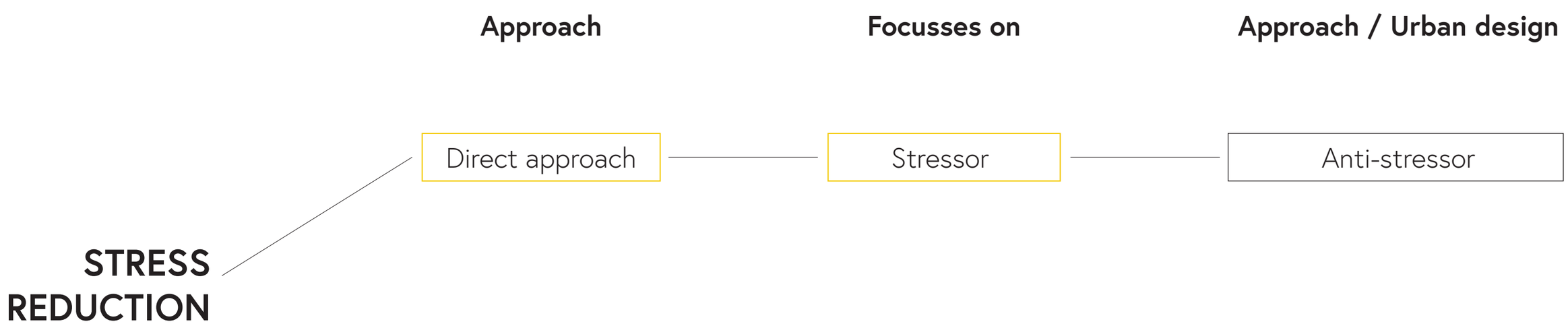
Reduction of urban stress

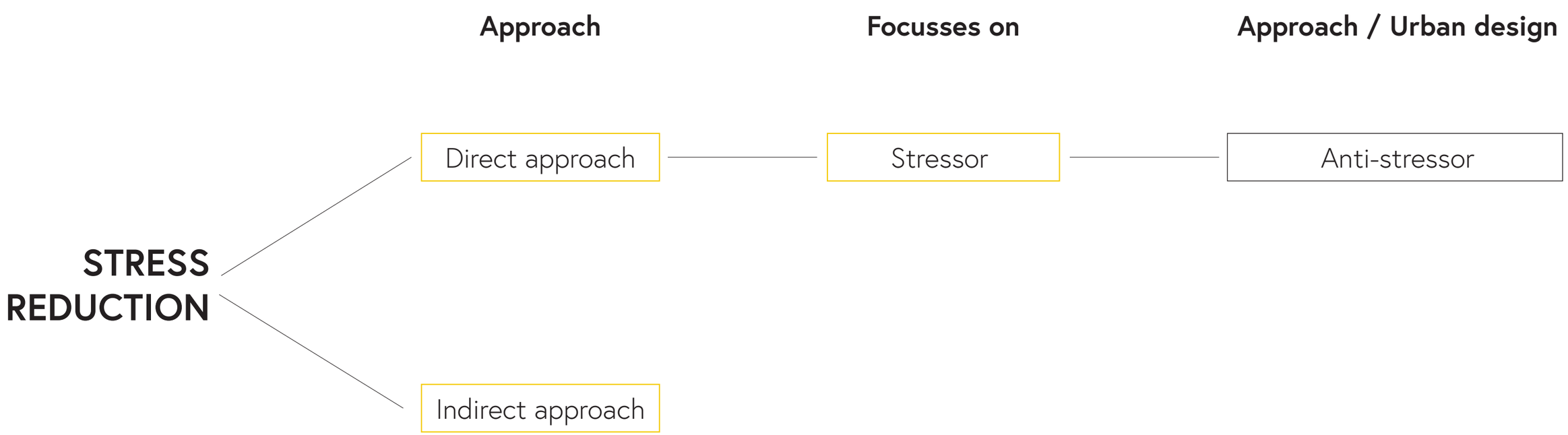
Approach

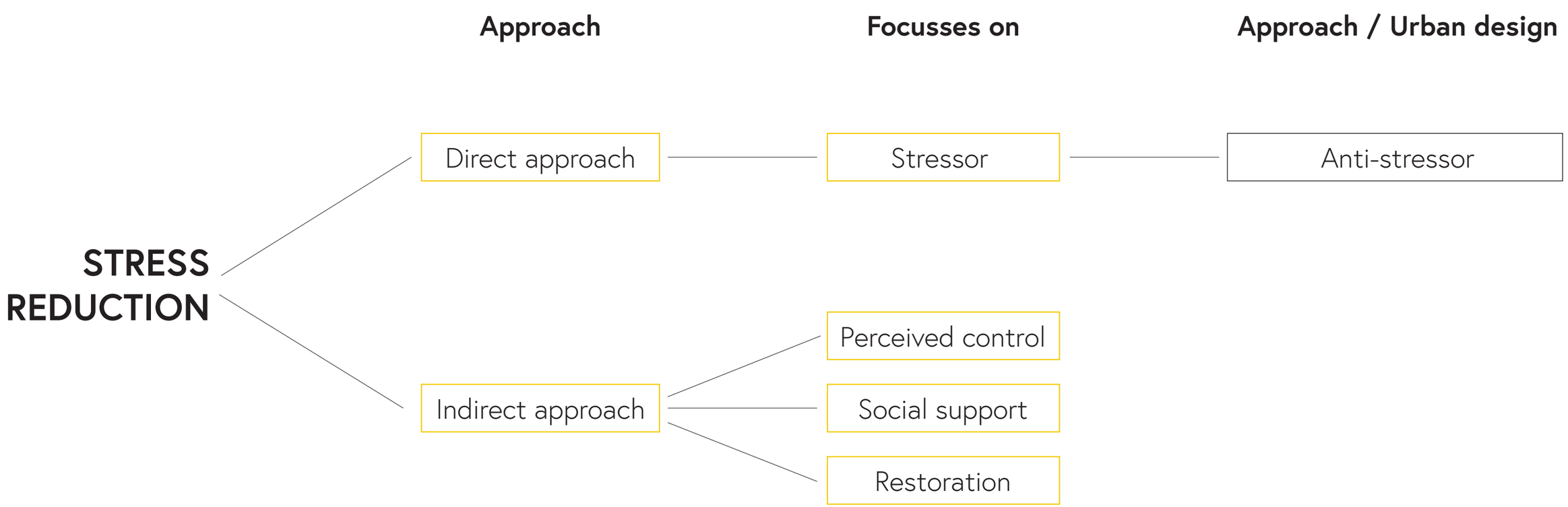
Direct approach

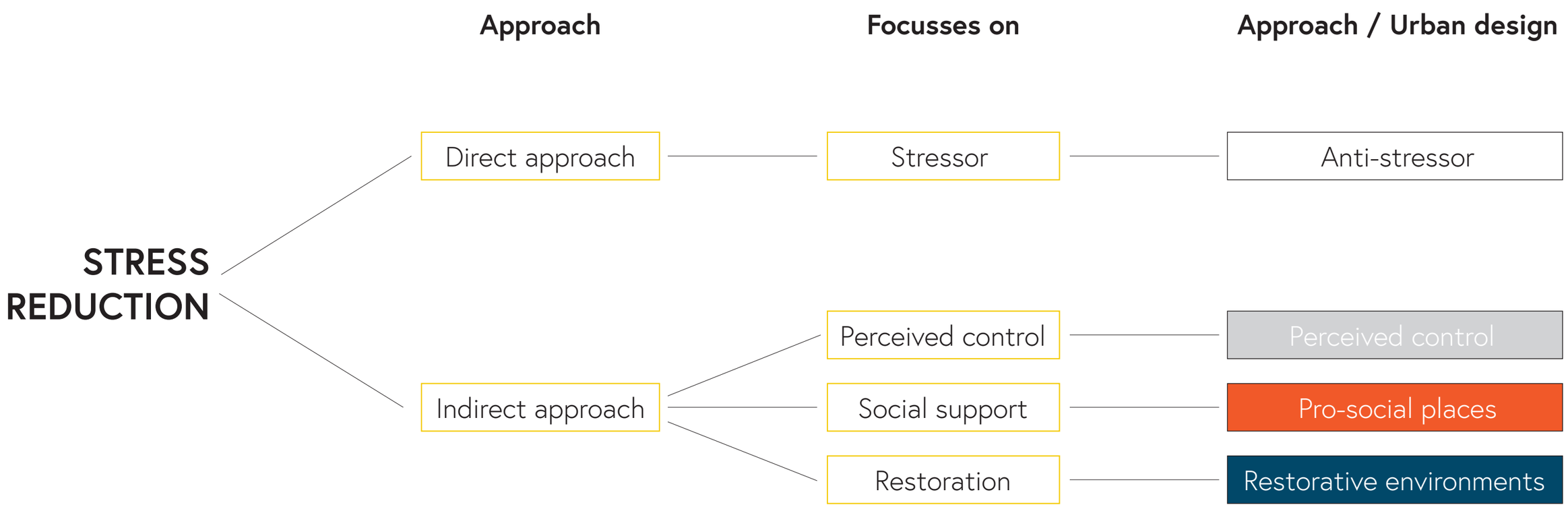
STRESS REDUCTION

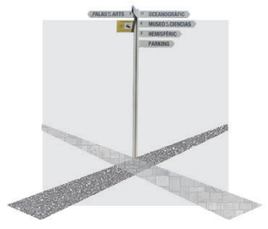

Approach
Focusses on
Direct approach
Stressor
STRESS
REDUCTION


Approach
Focusses on
Approach / Urban design
Direct approach
Stressor
Anti-stressor
STRESS
REDUCTION


Approach
Focusses on
Approach / Urban design
Direct approach
Stressor
Anti-stressor
STRESS
REDUCTION
Indirect approach

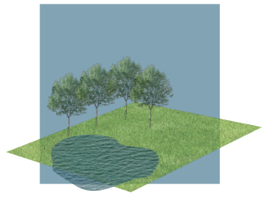

Approach
Focusses on
Approach / Urban design
STRESS REDUCTION
Direct approach
Stressor
Anti-stressor
Indirect approach
Perceived control
Social support
Restoration


Approach
Focusses on
Approach / Urban design
STRESS REDUCTION
Direct approach
Stressor
Anti-stressor
Indirect approach
Perceived control
Perceived control
Social support
Pro-social places
Restoration
Restorative environments


PALAIS ARTS
OCEANOGRAFIC
MUSEO CIENCIAS
IMAXOTEMIC
PARKING

Sociability
diverse
stewardship
cooperative
neighborly
pride
friendly
interactive
welcoming
volunteerism
evening use
streetlife

TIBER GARDENS



being away

DESIGN

AMSTERDAM
LONDON

(ExterionMedia, n.d.)

Stress in the City: Sharp rise in City workers seeking mental health help

Air Pollution in London Is Enough to Counter Exercise Benefits in Older Adults, Study Finds

London road congestion: causes, effects and what happens next

London housing crisis: high costs, high stress

'I came back to the city and instantly felt my heart tense up': readers discuss urban stress

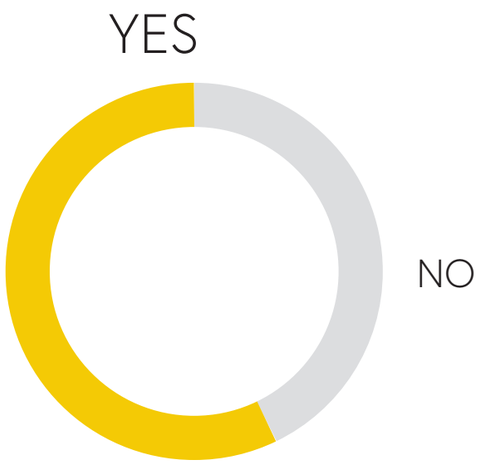
Tired of London, not life: what happens when you ditch the high-flying success – and stress – of the city grind

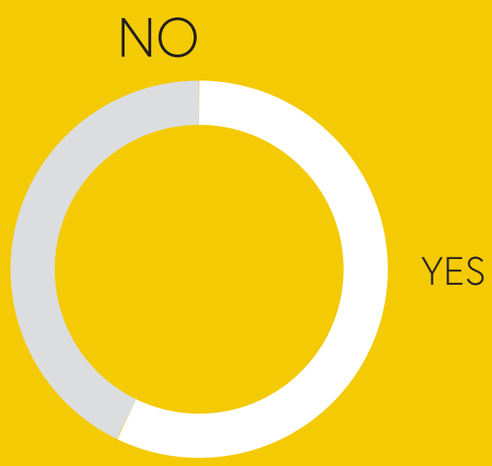
Quiet please

Stressed out and dissatisfied with life: The price of living in London

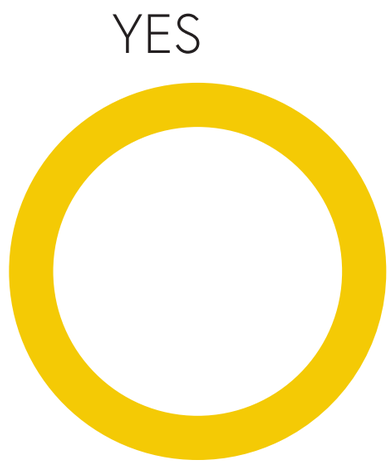
(based on unknown, 2012; Perry, 2015; Russell, 2016; Hill, 2013; Henriques, 2017; Hill, 2016; Hardy, 2008 & unknown, 2017)

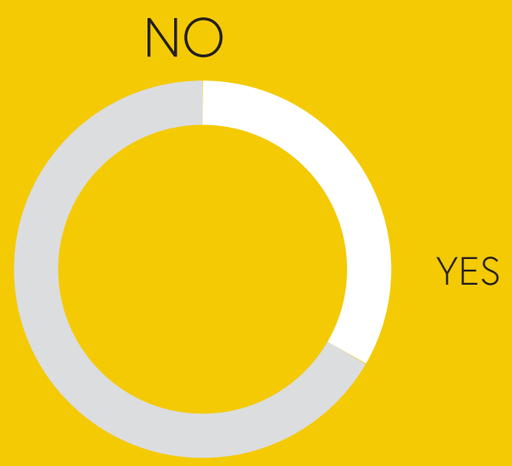
Experience urban stress?





Avoid urban stress?





LESS CARS

MORE LOW RISE

MORE SAFETY

MORE OPEN SPACE

MORE GREEN

DESIGN ON HUMAN SCALE

MORE SPACE FOR PEDESTRIANS

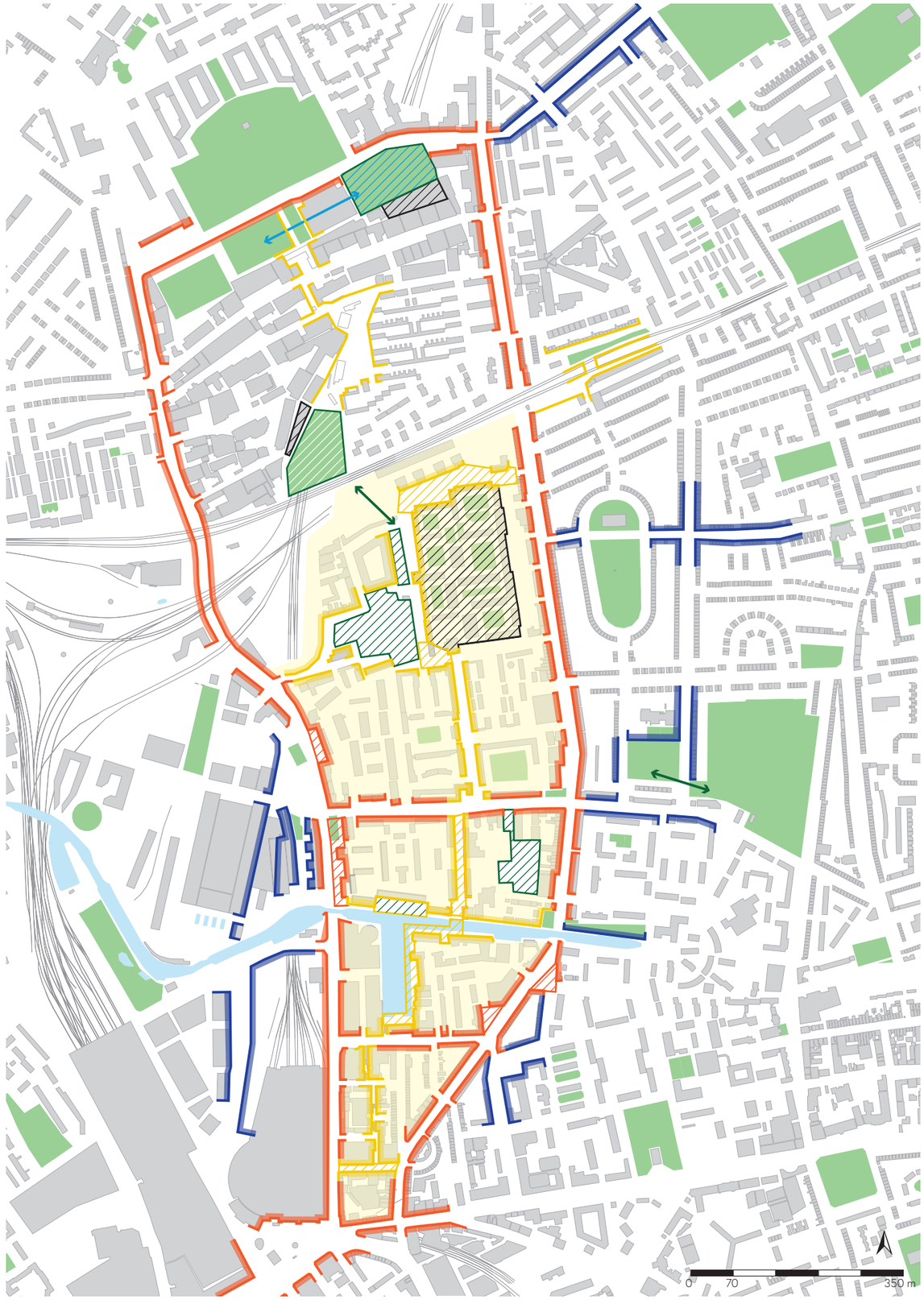
BETTER WAYS TO CROSS THE STREET

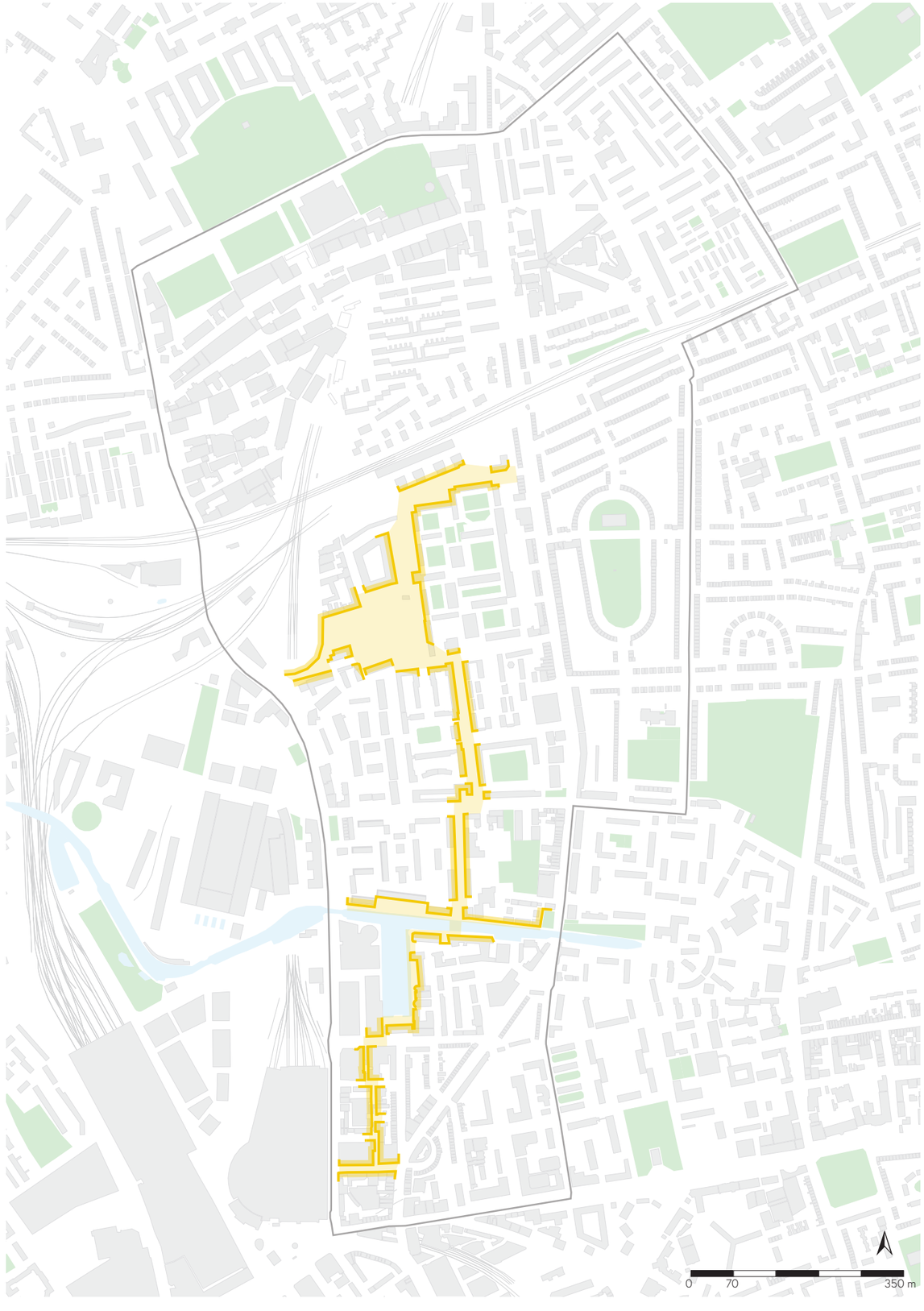
MORE BENCHES

BETTER CONDITIONS

CAR FREE STREETS

STRESS IS OFTEN EXPERIENCED WHILE TRAVELLING THROUGH THE CITY


0
70
350 m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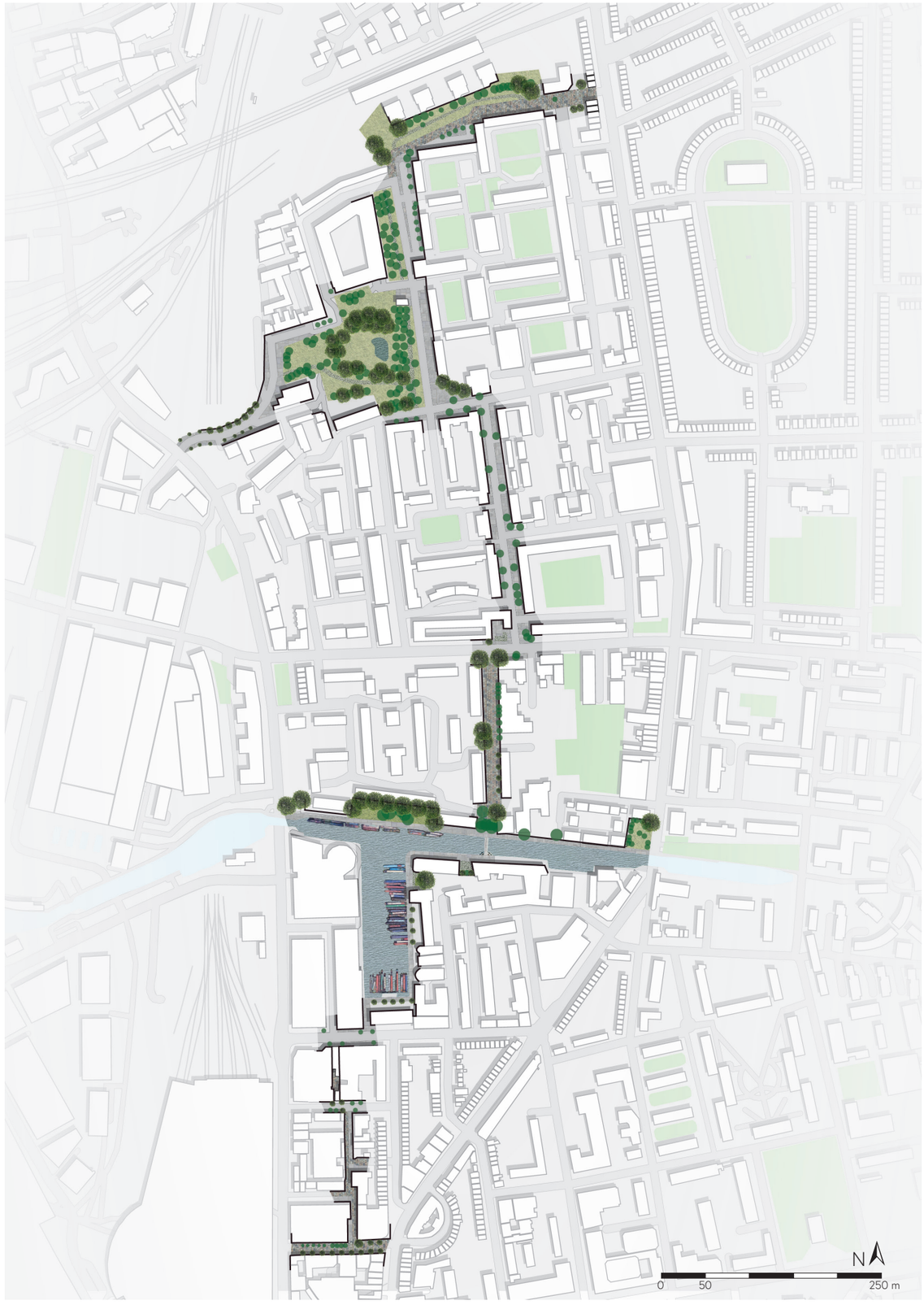
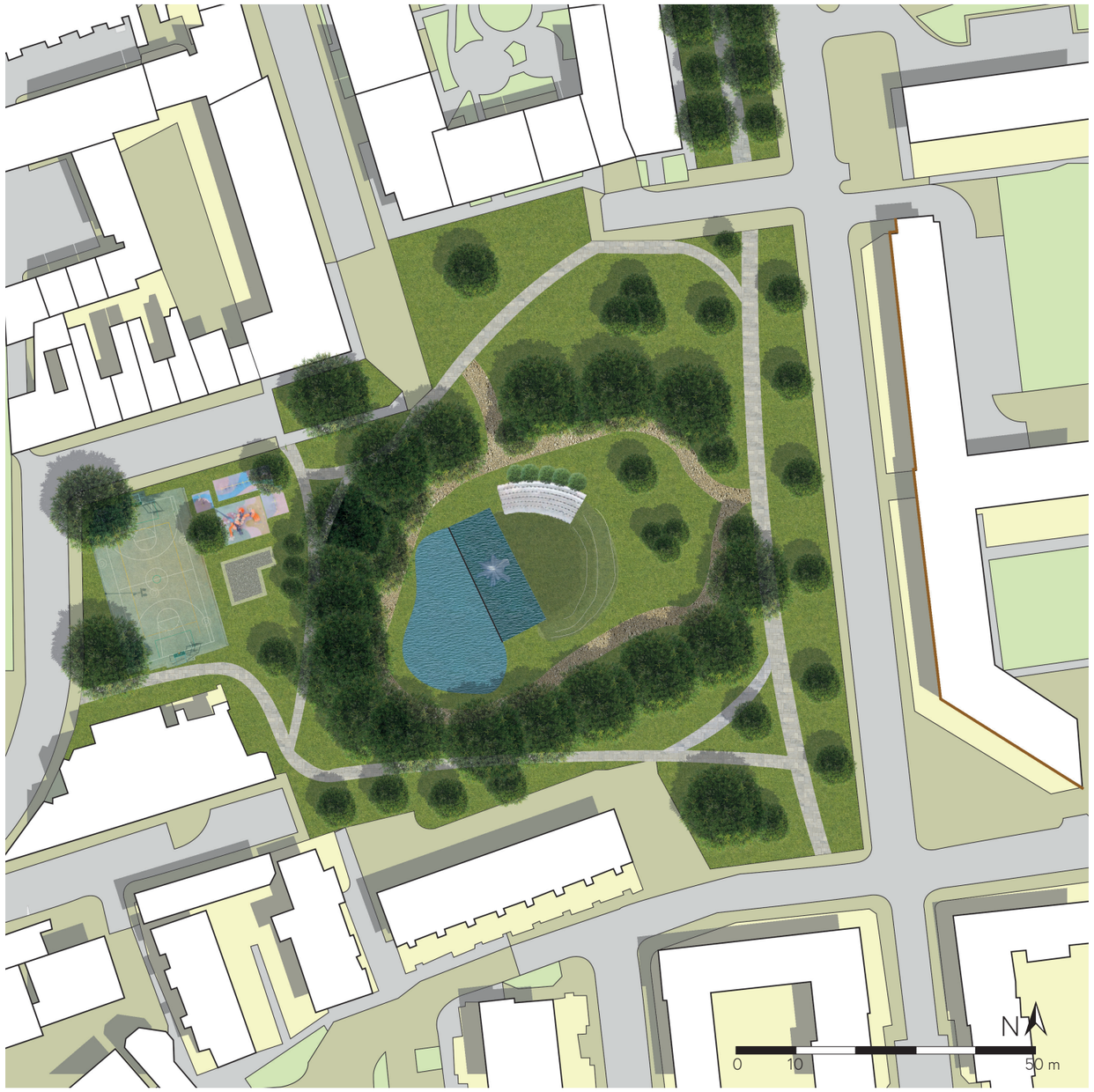

N
0
50
250 m

Spaces to move

Places to stay



Bingfield park - a place to stay

air pollution

noise pollution

light pollution

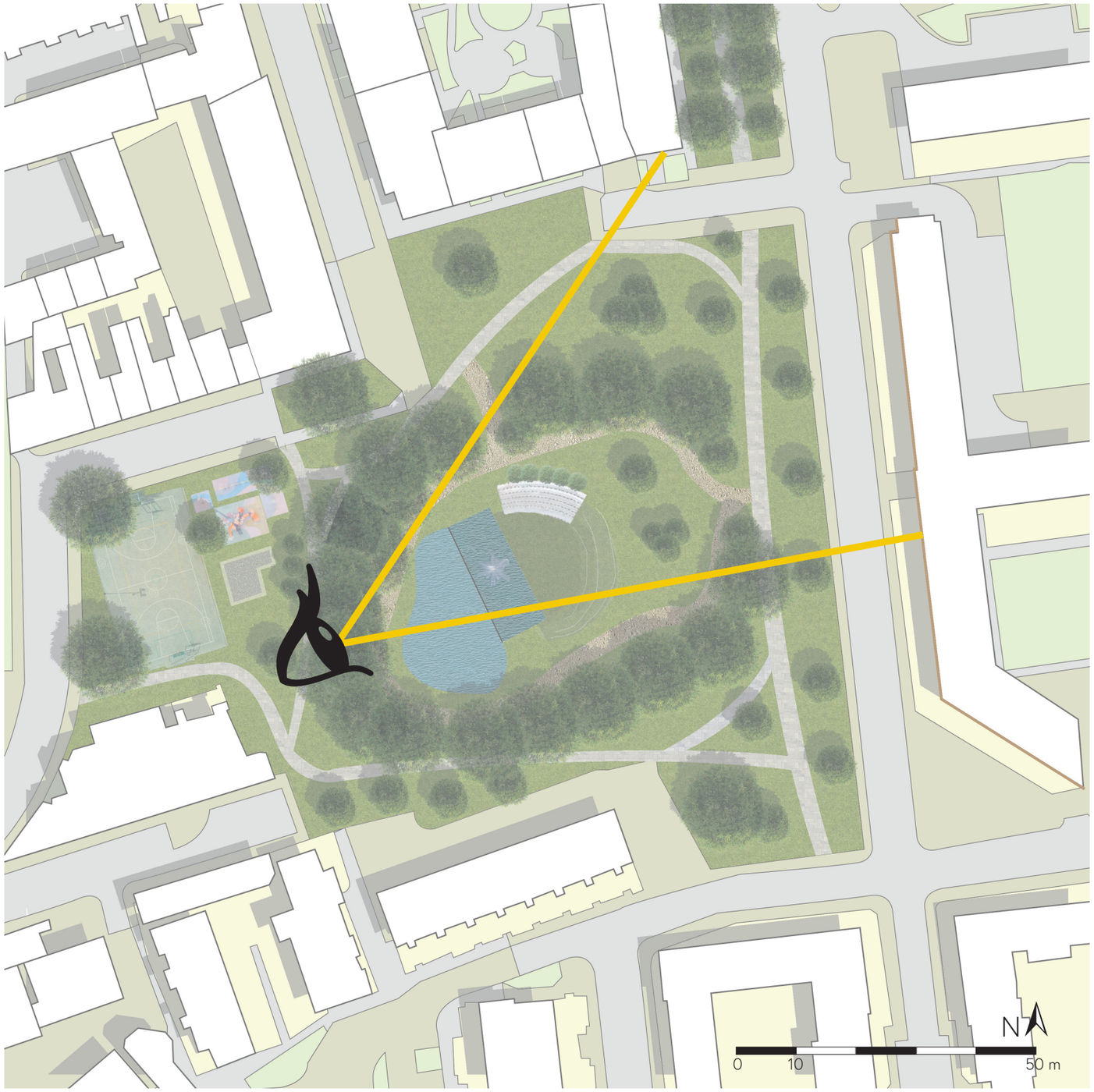
sense of security

physical activity

accessibility and availability of green

architecture and urban design

sense of security


N
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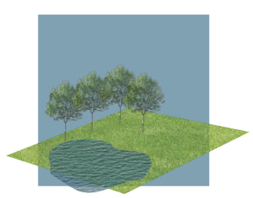
being away

extent

block light and noise



more green & add water

serene scenery

block light and noise

pro-social furniture

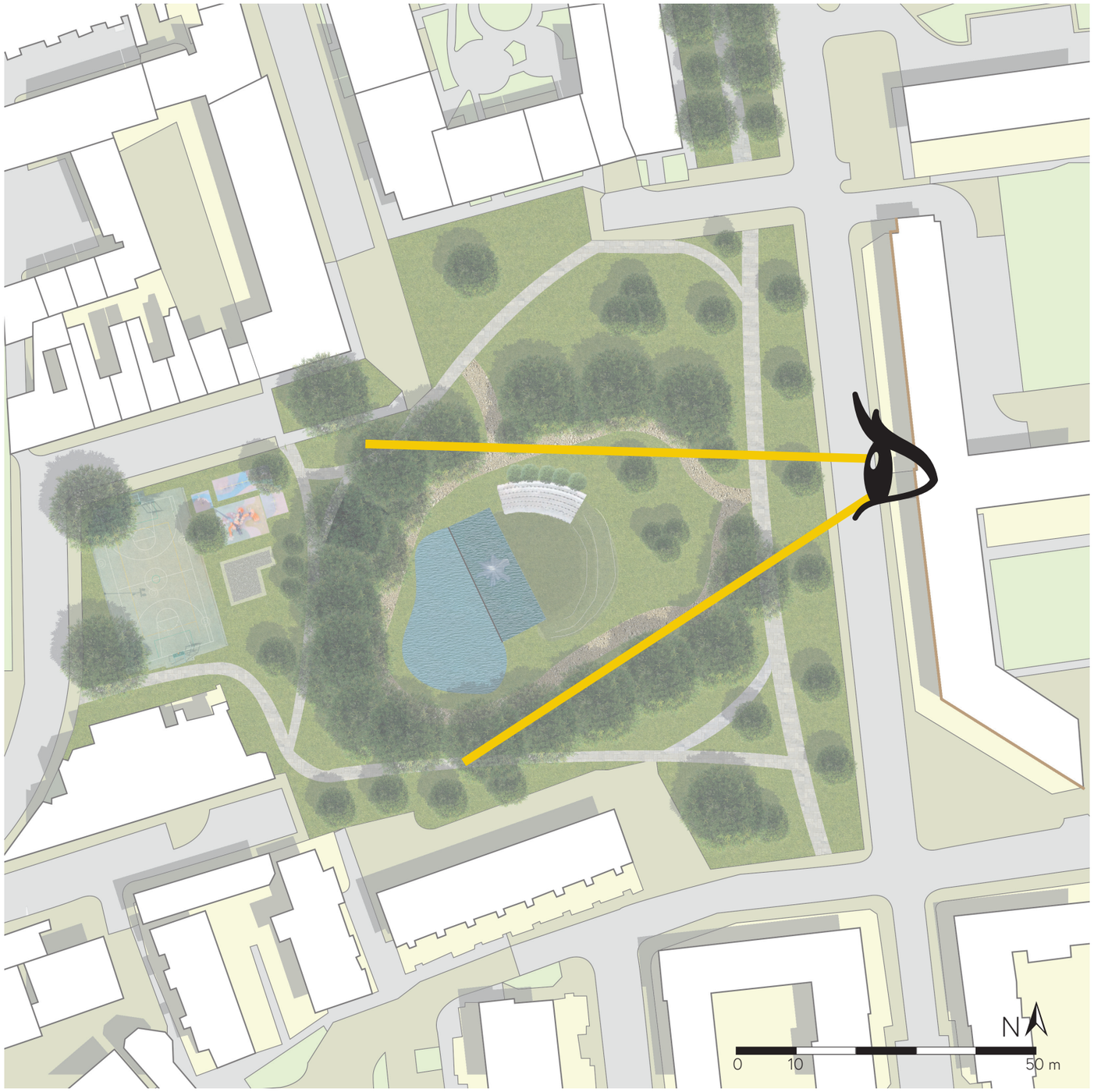
places to stay

high quality public spaces

walking & cycling routes

natural environments

playgrounds


N
0
10
50 m

P
Mon - Fri
8.30 am - 6.30 pm
Saturday
8.30 am - 1.30 pm
Resident permit
holders only
E3

accessibility and availability of green

down-facing lighting

clear and readable urban design

Caledonian Road - a space to move

traffic

parking problems

air pollution

noise pollution

light pollution

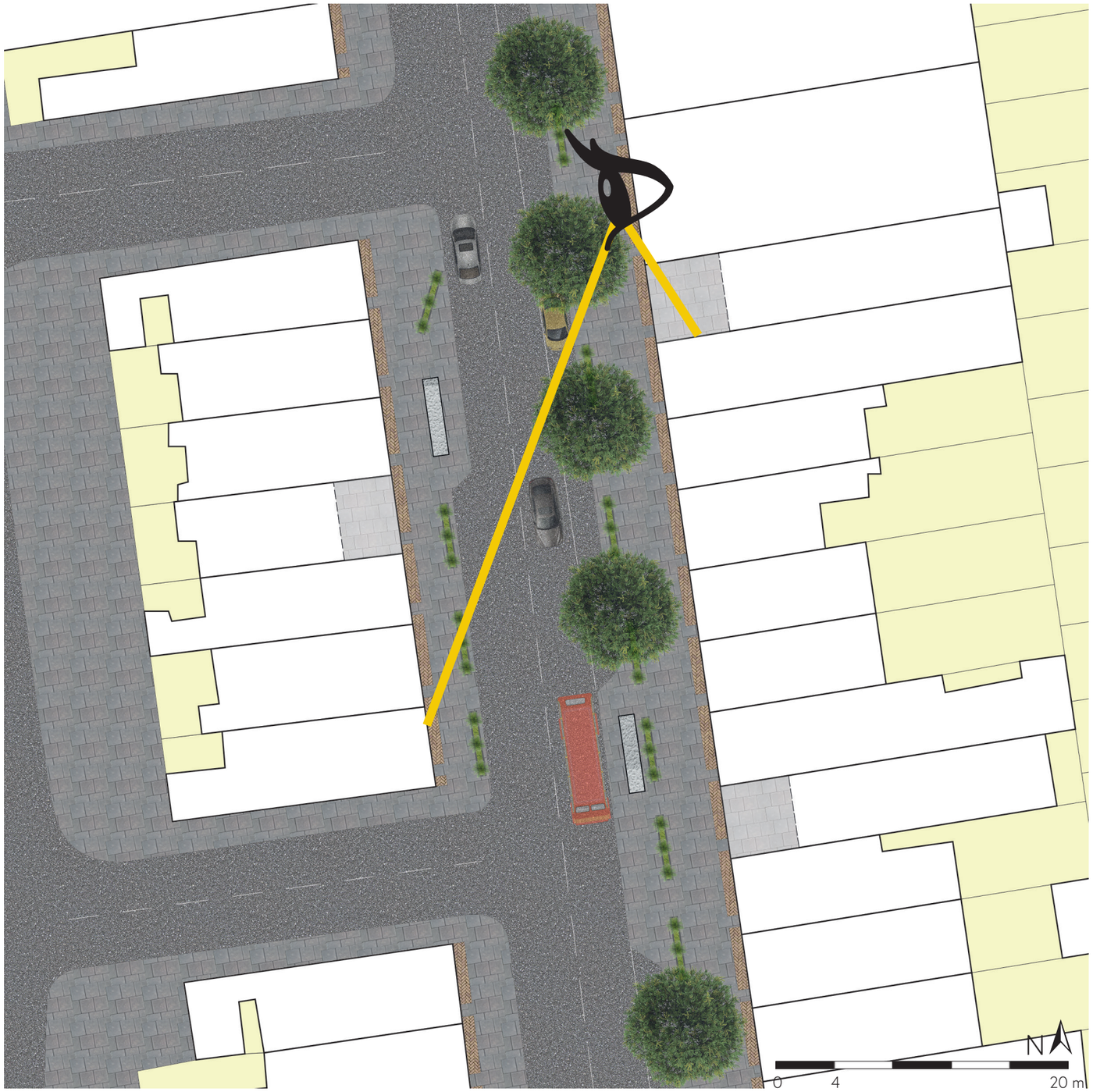
accessibility and availability of green

architecture and urban design

crime & robbery

sense of security

lack of social support networks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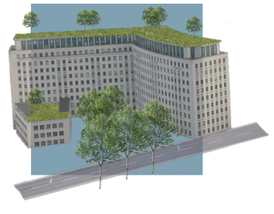
4
20 m

ISING IN WATERMELONS
CROSS NET
IT Solutions
BUREAU DE CHANGE

green environment



alternative green & close by

combine public functions

gradient private to public

privacy zones

control and intervene

CONCLUSIONS

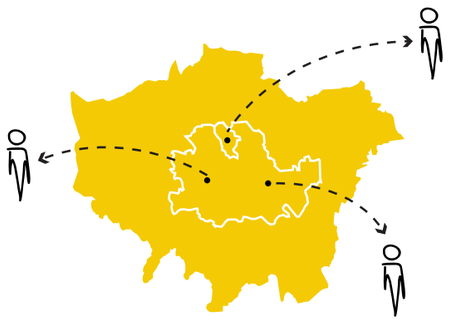
How can the urban design of public spaces contribute to the reduction, relief or prevention of urban stress in metropolitan areas?

Metropolitan

Urban

Public space

1. Green cities are good cities



2. Outside the city inside the city

3. Low traffic, low stress

4. More social, less stress

5. Clear designs are calm designs

LOOKING AHEAD

DESIGNING AGAINST URBAN STRESS

42 URBAN STRESSORS

1. Building density
2. Crowding
3. Boring megascapes
4. Garbage, graffiti and disrepair
5. Sharp architectural angles
6. Traffic (jams)
7. Parking problems
8. Accessibility & availability of green
9. High-rise
10. Public transport
11. Perception of security
12. Architecture and urban design
13. Housing conditions
14. Accidents
15. Falls
16. Gender inequality
17. Race inequality
18. Sense of security
19. Crime & robbery
20. Lack of social support networks
21. Sunshine hours
22. Air pollution
23. Noise pollution
24. Light pollution
25. Exposure to SO2
26. Exposure to NO2
27. Exposure to radiation
28. Climatic and geophysical hazards
29. Heat
30. Mental health
31. Physical health
32. Exposure to germs
33. Exposure to viruses
34. Exposure to microbes
35. Exposure to bacteria
36. Diet
37. Lack of exercise
38. Obesity
39. Unemployment
40. Dept per capita
41. Social security
42. Family purchase power

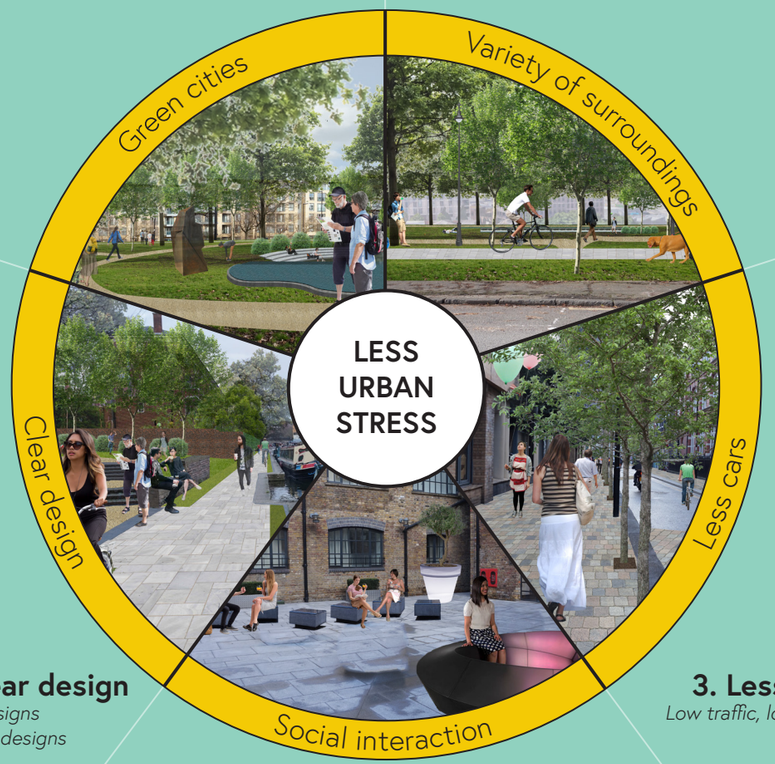
5 GUIDELINES TO DESIGN AGAINST URBAN STRESS

Green cities, variety of surroundings, less cars, social interaction and clear designs are 5 guidelines that are created to start designing against urban stress. Each of the guidelines can decrease multiple urban stressors and can thereby contribute to the reduction of urban stress. The guidelines are a result of a year of study into the topic of urban stress, and are a conclusion of research and design. On the next pages, the guidelines are presented in more detail.

INVOLVES STRESSORS:

1. Green cities
Green cities are good cities

2. Variety of surroundings
Outside the city inside the city



5. Clear design
Clear designs are calm designs

3. Less cars
Low traffic, low stress

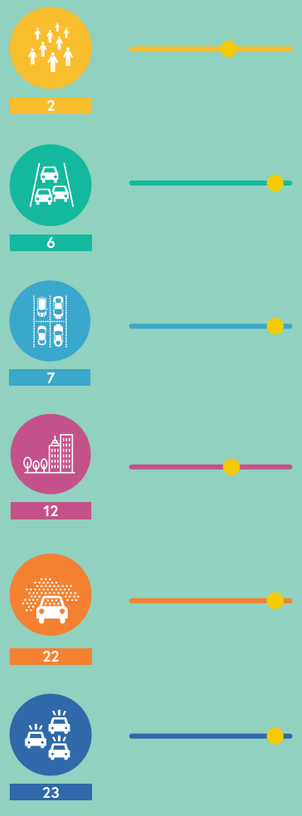
4. Social interaction
More social, less stress

3 LESS CARS

Low traffic, low stress

A city without cars is impossible these days, but when looking at the stressors and the the ways to reduce them, it seems as if a car free city would be a city with far less stress. Not only does traffic and parking in itself cause stress, cars and roads also cause pollution (light, air and noise), they take away open space and space for pedestrians and cyclists, result in less healthy (physical) behaviour and lead to accidents. Since people still have to move around and banning the car from the city is not realistic, it is important to make the city less car dependent. This means investing in an extensive public transit network and good and safe walking and cycling routes, as well as mixed neighbourhoods.

ADDRESS(ES) STRESSORS:



INCLUDES DESIGN CRITERIA:

Mixed neighbourhoods
Create neighbourhoods with facilities within walking distance, so it is more inviting to walk to your destination

Walking & cycling routes
Provide a good walking and cycling network, so that the car is not the only option

Enough space for pedestrians
Create enough space to invite people to walk and to prevent crowding

Public transport
Foresee in a good public transport network as an alternative for car use

Provide enough options
Provide enough options, for example routes, public transport stops, etc., so that people have a choice other than the car

Provide enough options

Public transport

Mixed neighbourhoods

Enough space for pedestrians

Walking & cycling routes

(Laura C. Taylor, 2013)