

INTEGRATED PLANNING APPROACHES IN HIGHER EDUCATION:
COLLABORATIVE EDUCATIONAL PROTOTYPE TOWARDS
INTEGRATED APPROACHES IN THE PLANNING OF INCLUSIVE,
PEOPLE-CENTRIC AND CLIMATE-RESILIENT CITIES



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Fundamentals of Evidence-based Planning



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Fundamentals of Evidence-based Planning



Outline

In this module, we will introduce evidence-based design and planning and explore the role of spatial analysis in supporting the design process with evidence through analysis. We will also explain how the urban environment can be analyzed with regards to its network centrality, accessibility and density and how they impact the socio-economic factors. Finally, we will discuss how it can be applied to urban projects in different scales.

- Part 1: Introduction to analytical, Evidence-based planning and Design
- Part 2: Theories and methods of Evidence-based urban analysis
- Part 3: Application in Practice / case studies

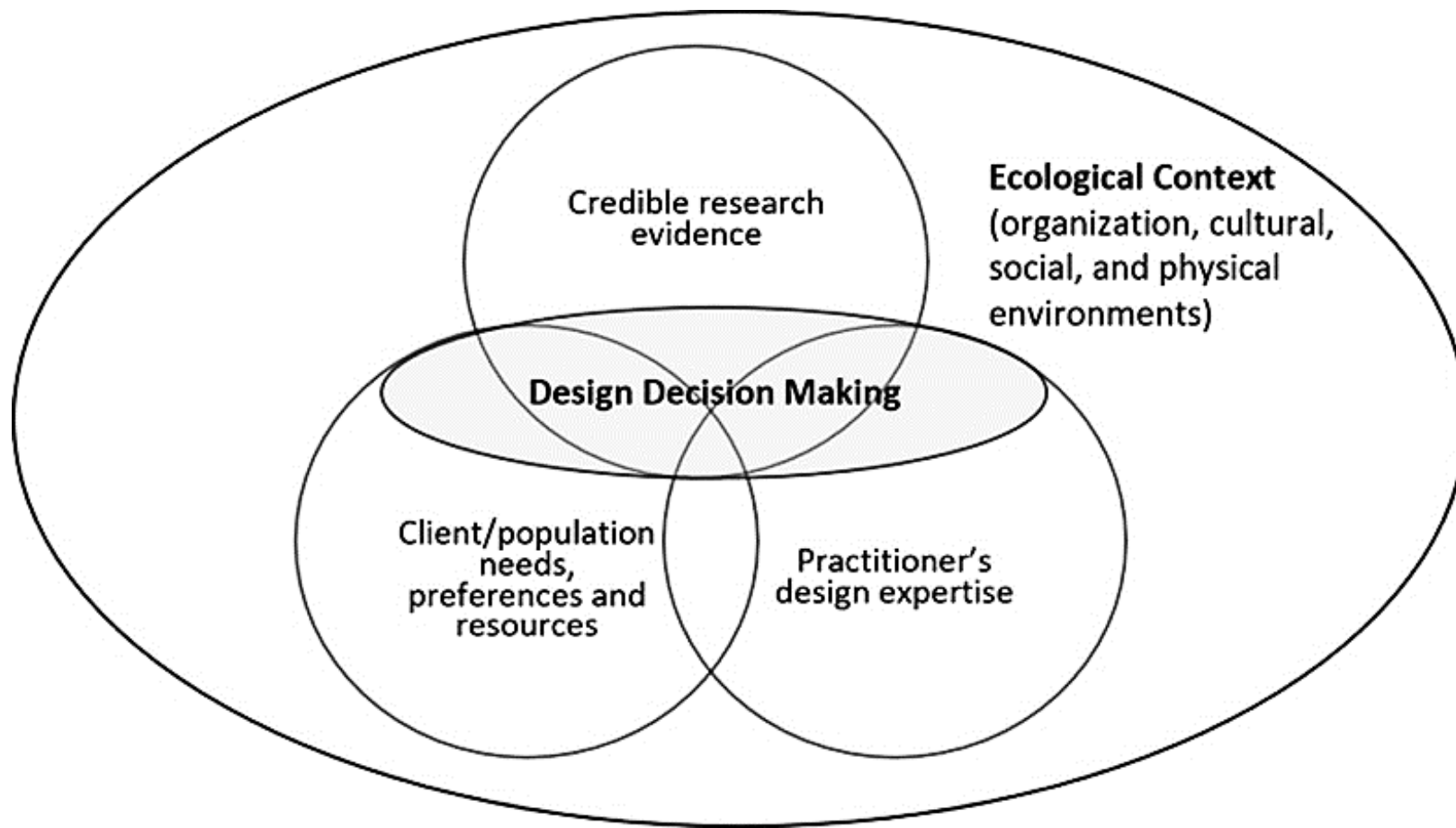


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What is evidence?



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EBDP conceptual model. Adapted from Satterfield et al. (2009).

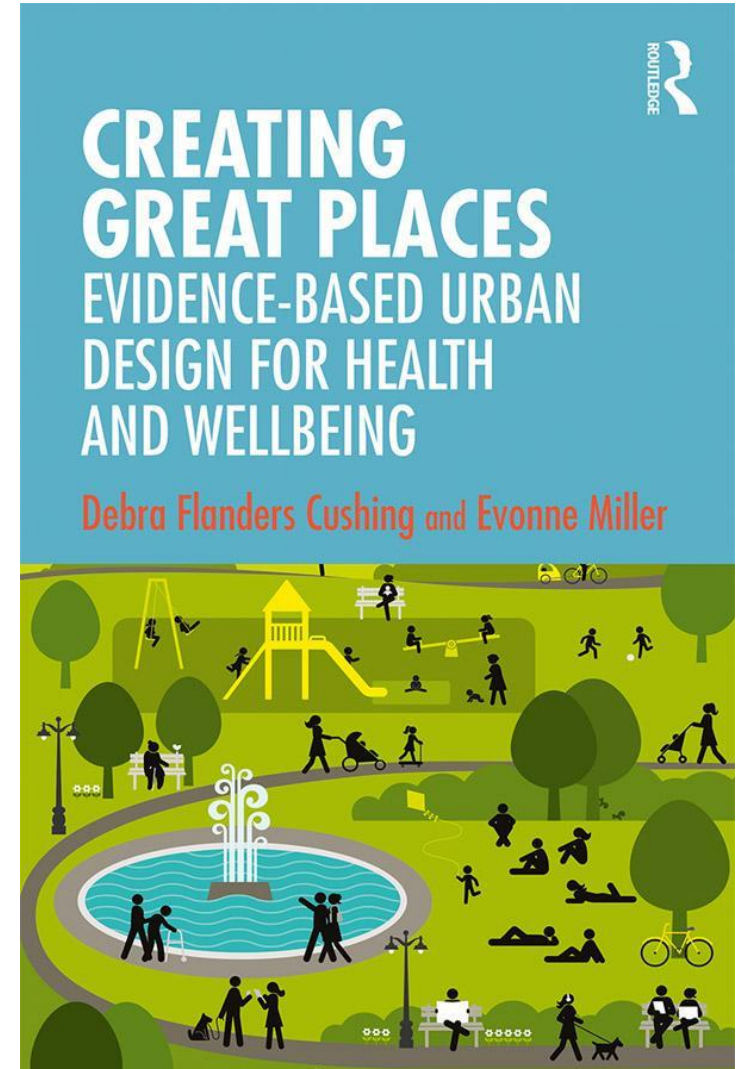
Introduction

Value and importance of EBDP

This approach can help address the complex challenges facing urban areas and create built environments that are functional, sustainable and responsive to people's needs by using data, research, and other types of evidence to inform decisions about the development of cities.

EBDP process

EBDP involves a process of research, data analysis, and evaluations that draws on a range of disciplines, including urban planning, urban design, architecture, economics, sociology, and psychology.



Introduction

What is Evidence-based Urban Design and Planning (EBDP)?

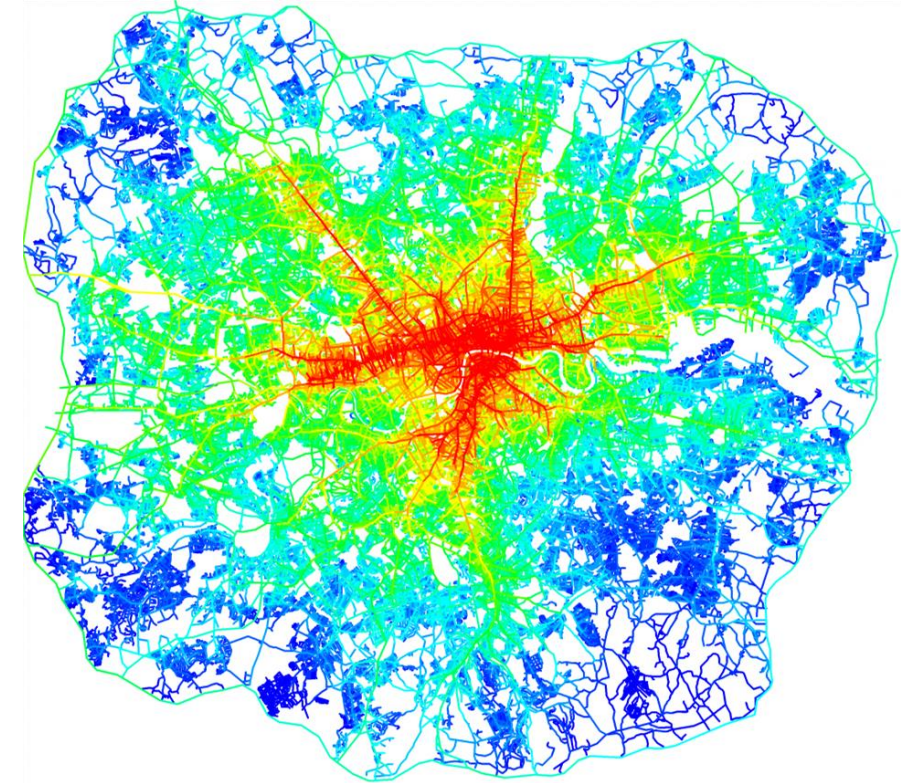
EBDP is an approach that emphasizes the use of **scientific research**, **empirical evidence** and **analytical methods** to inform decision making and design process for urban environments.



Theories and methods of Evidence-based analysis

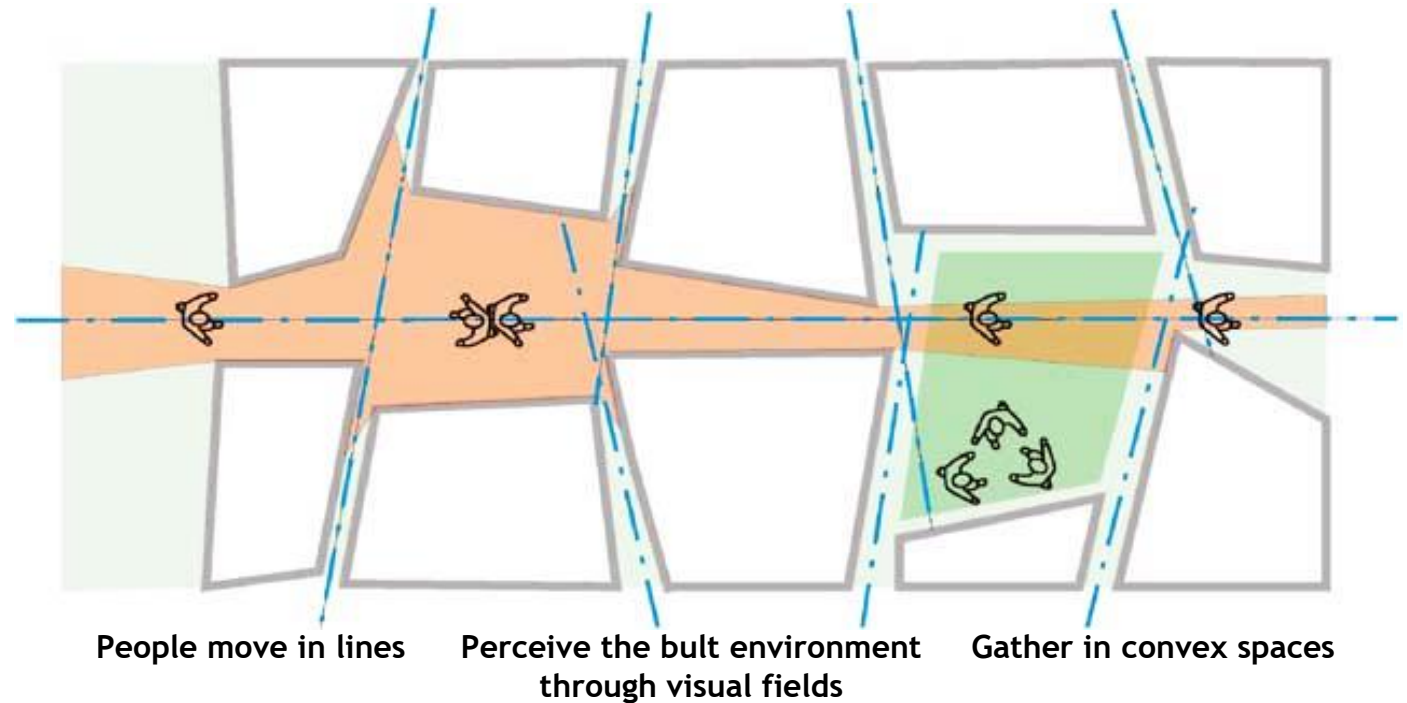
Space Syntax methodology

Space syntax is a set of techniques for analyzing spatial layouts and human activity patterns in buildings and urban areas. It is also a set of theories linking space and society, and connecting different disciplines.



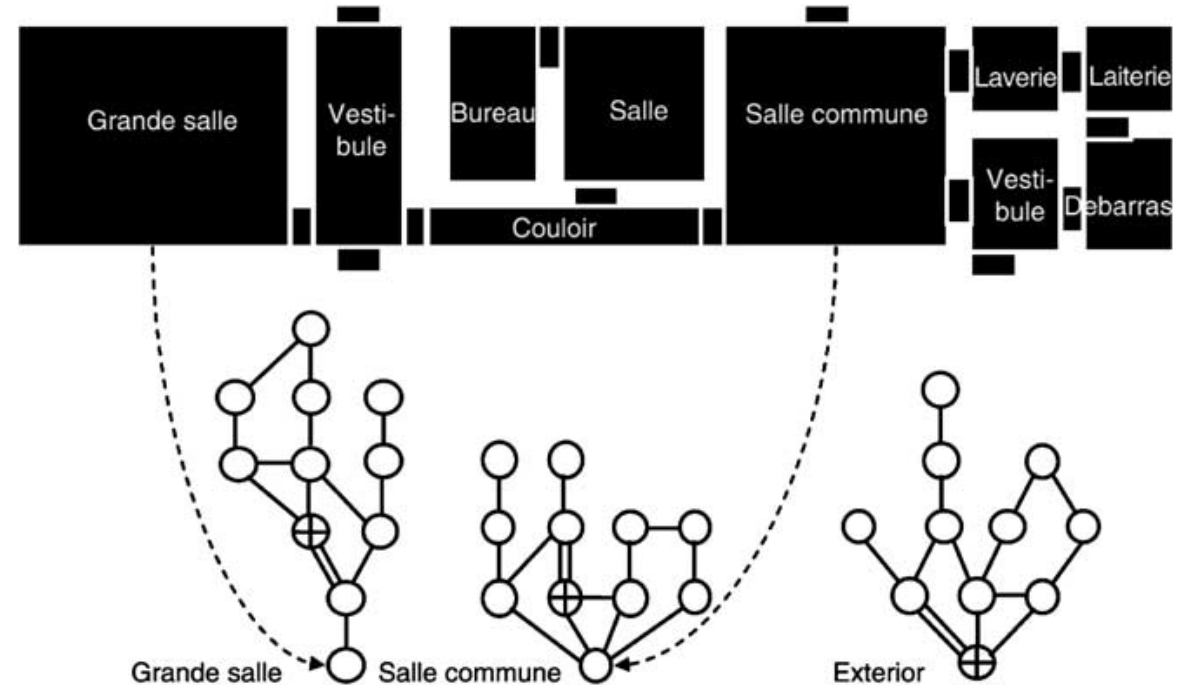
Space Syntax Approach: Spatial configuration and people

- Space syntax analysis of spatial configuration provides a powerful tool for designing, shaping and maintaining urban functions
- Based on that, modelling techniques has been developed for analyzing spatial configuration
- These techniques are based on concepts, such as movement, visual perception and human occupation, which link physical space with people directly



Space Syntax Approach: Spatial configuration and people

- The models use simple geometrical attributes, such as lines of sight and movement or visual fields, to create a network.
- This network is then turned into a pattern of relationships, or a graph representation
- It can be analyzed quantitatively to determine the relative role that each space plays in the configuration of the system, as a whole, or in its parts



Space Syntax Approach: Spatial configuration and people

- The output of the analysis is shown by a range of colors from dark red (most connected/integrated) to dark blue (least connected/segregated areas)
- The network of public spaces can be described by a series of 'axial' lines that represent the longest lines of sight and movement
- This creates a model of the spatial network that corresponds directly with how the network is perceived (visibility) and navigated through (movement) by people.



Method

Readings and websites

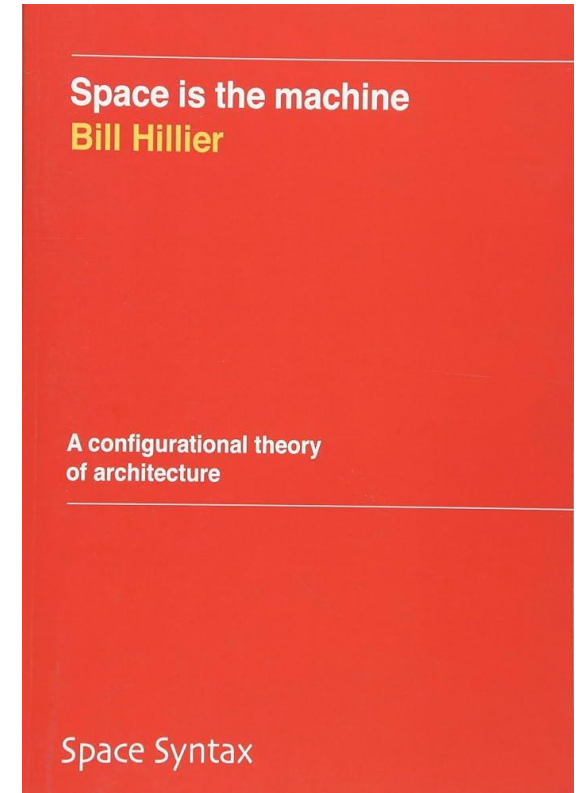
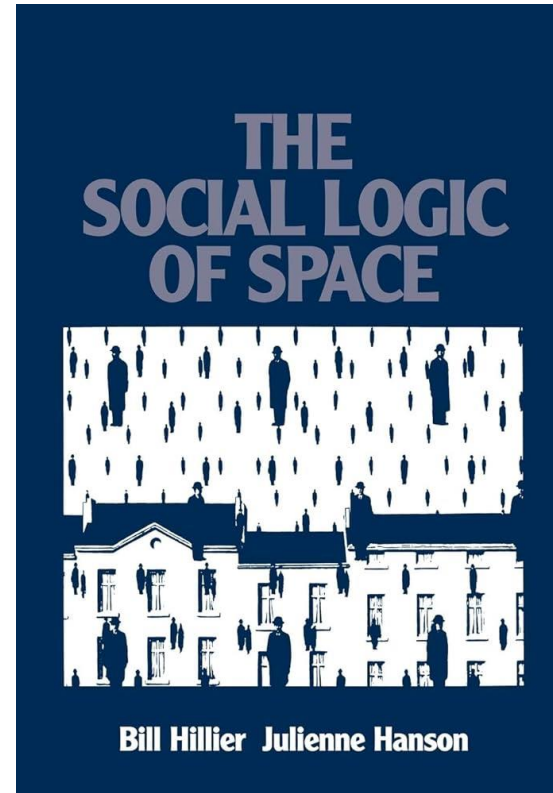
Space syntax model is based on a social theory of space

Recommended Books:

- The Social Logic of Space
- Space is the machine

Recommended websites:

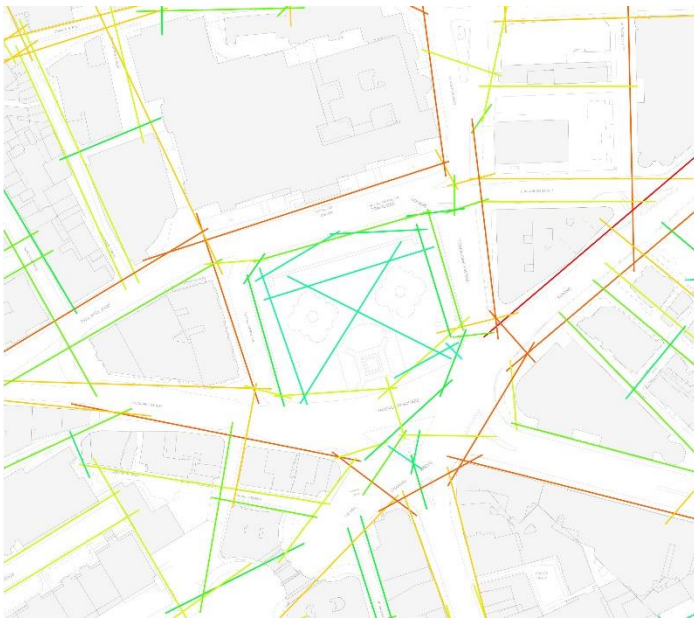
- <https://www.spacesyntax.net/online-training-platform/>
- <https://www.spacesyntax.online/>
- <https://spacesyntax.com/>



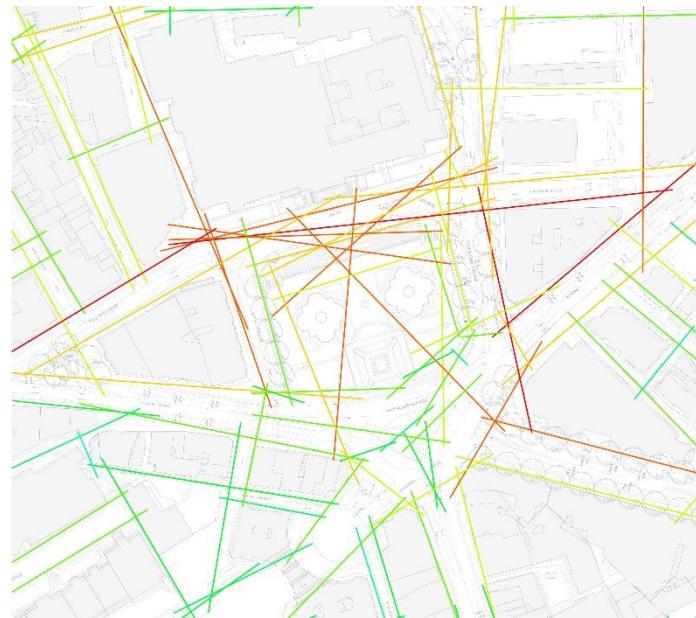
Application in Practice

Case study (1): Trafalgar Square

Space Syntax provided an initial analysis of pedestrian activity patterns, which highlighted two key issues: Londoners avoided the center of Trafalgar Square and tourists failed to make the journey between Trafalgar Square and Parliament Square.



Spatial accessibility model Before



Spatial accessibility model After



Pedestrian movement traces After

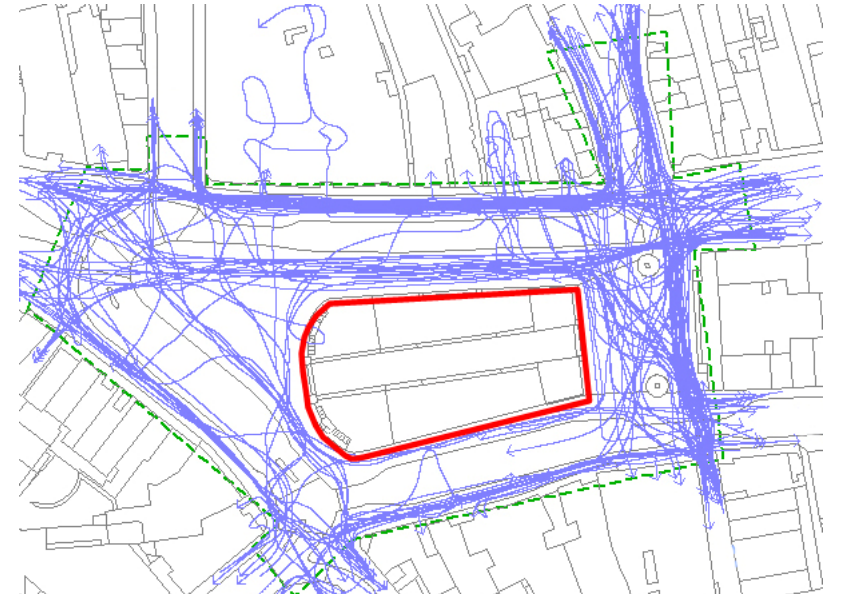
Application in Practice

Case study (2): Nottingham Old Market Square

The square was currently under-performing, especially in its central area, which 78% of pedestrians avoided. The new design has simple, highly accessible routes that pass through the square from corner to corner, bringing pedestrian animation to the centre.



30% of diagonal movement avoid the center



78% of observed movement did not enter the Square

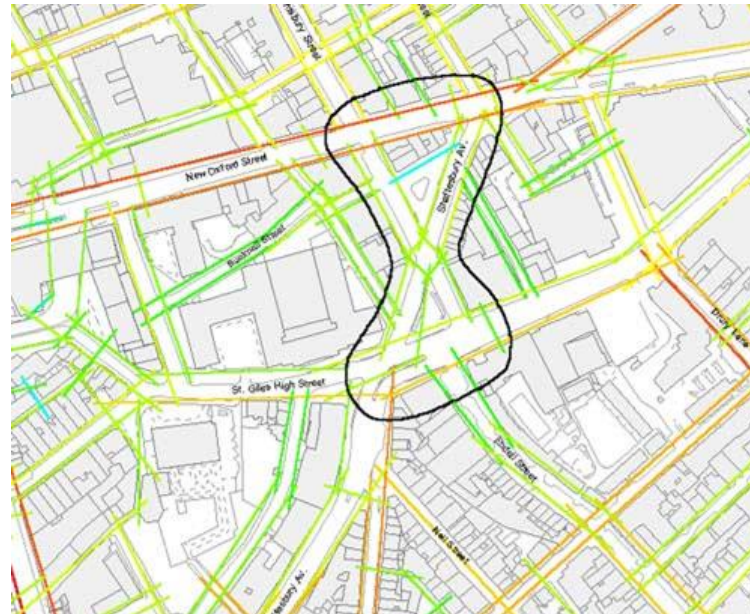
Application in Practice

Case study (3): Princes Circus

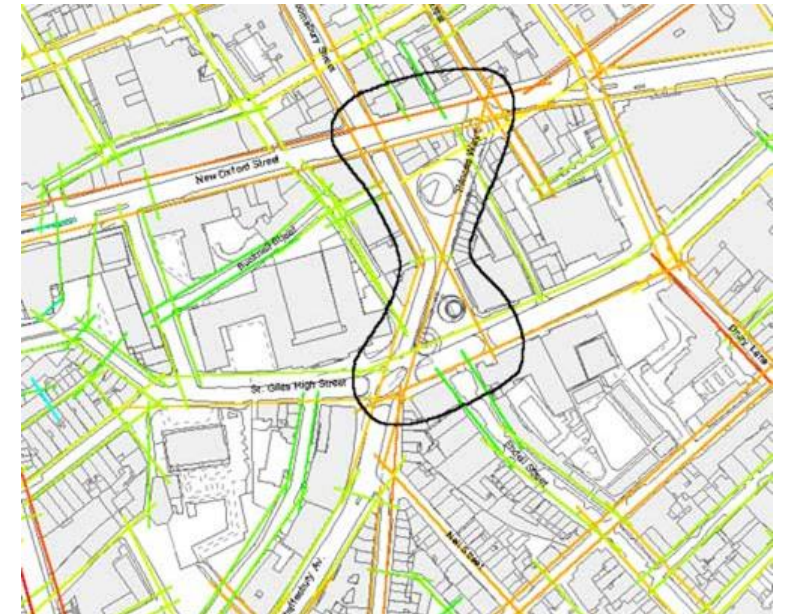
Pedestrian movement is impeded by fast-moving traffic and complicated pedestrian crossings. The public spaces are fragmented, unattractive. The Space Syntax design concept has helped marshal the interests of residents and businesses in the local area.



The proposed design for Princes Circus



Current movement potentials



proposed movement potentials



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thank you!



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