

wasn't as efficient as it needs to be, notes Tricker. Another interesting possible use for the model in future is design 'fingerprinting'. Using a custom-designed scoring set, the model can affect a direct comparison between different types of development on sites across the UK and Europe.

The model's interactive process can generate a framework for an objective analysis of place, and an objective way of looking at different spatial arrangements. Another possibility is generative design: by repeating, weighting and manipulating game scores for specific scenarios, the model can begin to deliver optimised arrangements for that context. Sheldon sees this aspect of the model as a cost-effective and rapid means of reaching optimum arrangements.

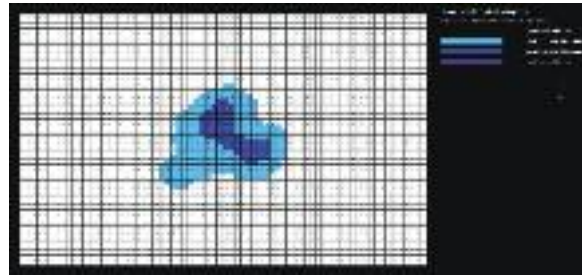
### EVIDENCE-BASED DEBATE

UrbanISM remains an integrated, 'broad brush' tool, with a balance to be struck between scope and depth of modelling. It facilitates discussion and 'evidence-based' debate for development trade-offs. A web-based version of the game, able to engage a wider range of people for broader consultation is also a future possibility. 'Instead of playing the game with a live audience, people could play independently and submit their own solutions online during a consultation process,' says Tricker.

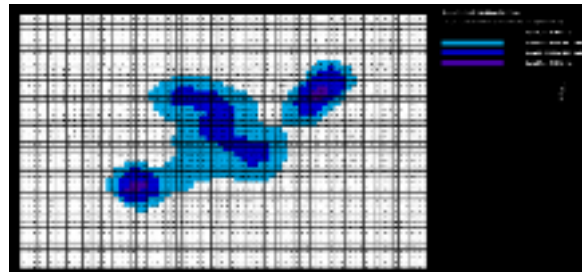
The model currently has five key modes (land use mix and density, accessibility, social infrastructure, constraints and deliverability) that work together to assess place performance. 'The way that we've approached the creation of urbanISM is that we are urban designers and transport engineers and planners,' says Tricker. 'The ways in which these core relationships integrate has been determined through our range of experiences. We wanted to create a model that educated people about the planning process. The model will grow as we grow, he adds. 'New people get involved and bring new things with them: an economist could add new modules, for example. It is people and skills that make it what it is.'

■ Jonathan Tricker and Andrew Sheldon spoke with Juliana O'Rourke

UrbanISM is available through consultancy from Urban Initiatives [www.urbaninitiatives.co.uk](http://www.urbaninitiatives.co.uk)



(above and below) A key model output is compactness, says Urban Initiatives' Jonathan Tricker: 'Compactness is more than simply density. It's about the number of people and things happening within a neighbourhood. We measure, for example, 800m around each "tile" and assess the population within that zone. We correlate compactness and accessibility. With high levels of compactness, we can normally achieve high levels of public transport; be it bus, rapid transit or tram or rail.' The model above counts the number of units within 800m of a cell for new developments; below the model counts the number of units within 800m of a cell for both new developments and existing developments



UrbanISM uses five key modes to assess place performance. The potential of the system lies in its ability to bring these modes together through a series of core relationships, developed through Urban Initiatives' masterplanning and place-making experience:

#### Constraints mode

Within the constraints mode, the process collates base data about a place including planning, physical and environmental constraints

#### Accessibility mode

Within the accessibility mode, UrbanISM is able to examine urban structure and movement patterns. Using a series of standard transport planning techniques, the system is able to assess public transport accessibility, walking isochrone catchments and road danger/street environment indices. Each grid square within the study area is given an index score

#### Land use mix & density mode

This mode captures the existing spatial arrangement of land use mix, along with residential and employment populations, in order to assess urban densities

#### Social infrastructure mode (SIM)

SIM provides a means to assess demographic change and the need for schools, libraries and healthcare resulting from planned growth. It reconciles this with existing provision, ensuring that development is fully inclusive and sustainable. The spatial dimension enables future-proofed planning

#### Deliverability mode

Within the deliverability mode, the process assesses existing land value and performs development viability calculations on proposed development

(left) The original planning game was simply a grid-based board, or map, with a series of tiles, each relating to different types of development, that could be 'played' on each grid square. The UrbanISM model is a sophisticated extension of the game: an algorithm-driven spreadsheet interface mirrors, captures and records screen-based game activity – relating to constraints, demographics, carbon impacts and place assets – as the game is played