TESTING THE FUTURE

UrbanISM is a 'scenario testing' tool that enables stakeholders and the public to rapidly explore and assess the potential of masterplans and options for growth, delivering an empirical evidence base to support planning and development decisions

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The model's strength is in testing a range of scenarios, each of which may attain desired development targets across different configurations. Preferred characteristics such as the percentage of homes within 10 minutes' walk of green space are factored in. The game 'score' becomes higher as the configuration is refined to deliver more desirable outputs

UrbanISM (Integrated Spatial Model) developed through an interactive 'planning' board game, first played in Ashford, Kent, several years ago as a means of exploring growth options across the town. The game was then played in many more locations at a range of scales, and has now been refined into a powerful computer-based tool that 'tests' the performance of towns and cities; rapidly assessing development potential and proposals for existing and planned streets, green spaces, blocks and pedestrian and vehicle movement. It aids social infrastructure planning by measuring the need, against national benchmarks, for new schools, health centres, energy centres and emergency services. By integrating these key elements, urbanISM users are able to robustly 'test' masterplans and growth scenarios, creating and refining layouts time- and cost-effectively.

'When we originally played the planning game, it 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,' says Jonathan Tricker, Associate Director at Urban Initiatives, and a key developer of the model. UrbanISM is a sophisticated extension of the game: an algorithm-driven spreadsheet interface mirrors, captures and records screen-based game activity – relating to constraints, demographics, place asset – as the game is played.

Each 'game's' development 'rules' and 'values' are rooted in best practice policy and guidelines, and linked to local design frameworks and plans. The model uses standard GIS data, which many organisations already own. The model is robustly

tested and fully transparent: game parameters are calibrated to an existing place based on census data, allowing third party scrutiny as needed. When a game scenario is 'played', the outputs arising can be understood very quickly. 'If we then change the scenario, we can see how those outputs change in real time,' says Andy Sheldon, a co-developer of the system. Scale is important: at the Aylesbury Estate in Southwark, London, the game explored development at a fine grain because the team were required to double the density of a large social housing estate in order to bridge funding gaps. In Ashford and Taunton, however, the games were played to explore key decisions about growth. 'We build up to a critical mass. We see at what level development becomes viable. Once contextual rules are defined, the game begins to deliver potential outcomes very quickly,' says Tricker.

CARBON FOOTPRINTING
The urbanISM team has been using the model to explore carbon footprinting. Along with partners such as Transport Research Laboratory, work around transport carbon emissions and trip rates has led to an understanding of travel patterns, car trips and transport carbon emissions. Using the model adds transparency to the carbon impact of development decisions, says Tricker. 'This became clear when we played with councillors and stakeholders. When they placed tiles for potential employment centres in certain out of town sites, the transport carbon levels increased