ADOPTING A COMPUTATIONAL APPROACH TO IDENTIFYING AND MODELLING FUTURE DEVELOPMENT INITIATIVES WITHIN THE URBAN CONTEXT

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Abstract

In 2002 the State Government of Victoria, in partnership with the City of Greater Geelong and Deakin University, initiated an urban design framework to explore development opportunities of a series of redundant industrial sites adjacent to Geelong’s central activities area (CAA). One of the objectives of the framework was to explore a range of initiatives based on the expansion of the Deakin University Waterfront campus from 700 students to an expected cohort of 5000 students. Working with a set of predefined constructs for different types of city-based user groups, such as net floor space requirements and time/travel distances between facilities, the following paper presents a simple computational approach to assist in identifying, mapping, and spatially exploring different development scenarios.

Keywords

Urban design, computational, mapping

INTRODUCTION

Based on a case study research into the proposed expansion of the Deakin University Waterfront campus at Geelong, from a present cohort of 700 students to a planned cohort of 5000 students, the following paper explores a simple computational approach to assist in exploring future development initiatives. By generating and context mapping a diverse range of development scenarios, based on net floor space requirements and time/travel distances, the approach attempts to enhance conventional brainstorming and workshop practices by inhibiting ‘convergent thinking’ (Guilford 1967) and ‘design fixation’ (Janson and Smith, 1991; Purcell et al. 1994) during the early stages of the planning process. Both of these conditions often give rise to limited or unresolved development options, which invariably fall short of providing a balanced response to the expectations and needs of different stakeholder groups. The purpose of the approach is not to resolve an optimal or ideal solution, but rather to generate an array of different outcomes that extend the range of potential development scenarios beyond the limits of an ad-hoc approach.