

A Vision Making Exercise for Twente Region; Development and Assessment

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Abstract : the overall objective of this study is to develop two alternative plans of spatial and infrastructural development for the Netwerkstad Twente (Twente region) until 2040 and to assess the impacts of those two alternative plans. This region is located on the eastern border of the Netherlands, and it comprises of five municipalities. Based on the strengths and opportunities of the five municipalities of the Netwerkstad Twente, and in order develop the region internationally, strengthen the job market and retain skilled and knowledgeable young population, two alternative visions have been developed; environmental oriented vision, and economical oriented vision. Environmental oriented vision is based mostly on preserving beautiful landscapes. Twente would be recognized as an educational center, driven by green technologies and environment-friendly economy. Market-oriented vision is based on attracting and developing different economic activities in the region based on visions of the five cities of Netwerkstad Twente, in order to improve the competitiveness of the region in national and international scale. On the basis of the two developed visions and strategies for achieving the visions, land use and infrastructural development are modeled and assessed. Based on the SWOT analysis, criteria were formulated and employed in modeling the two contrasting land use visions by the year 2040. Land use modeling consists of determination of future land use demand, assessment of suitability land (Suitability analysis), and allocation of land uses on suitable land. Suitability analysis aims to determine the available supply of land for future development as well as assessing their suitability for specific type of land uses on the basis of the formulated set of criteria. Suitability analysis was operated using CommunityViz, a Planning Support System application for spatially explicit land suitability and allocation. Netwerkstad Twente has highly developed transportation infrastructure, consists of highways network, national road network, regional road network, street network, local road network, railway network and bike-path network. Based on the assumptions of speed limitations on different types of roads provided, infrastructure accessibility level of predicted land use parcels by four different transport modes is investigated. For evaluation of the two development scenarios, the Multi-criteria Evaluation (MCE) method is used. The first step was to determine criteria used for evaluation of each vision. All factors were categorized as economical, ecological and social. Results of Multi-criteria Evaluation show that Environmental oriented cities scenario has higher overall score. Environment-oriented scenario has impressive scores in relation to economical and ecological factors. This is due to the fact that a large percentage of housing tends towards compact housing. Twente region has immense potential, and the success of this project will define the Eastern part of The Netherlands and create a real competitive local economy with innovations and attractive environment as its backbone.

Keywords : economical oriented vision, environmental oriented vision, infrastructure, land use, multi criteria assesment, vision

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