TU e Technische Universiteit Eindhoven University of Technology

Architecture, Building & Planning **Design and Decision Support Systems Unit** Modeling actor decisions in the context of Brownfield redevelopment

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Research phase 1 Research phase 2 **Fuzzy Delphi Method:** Game Theory: Acquisation attributs: 5-8 attributes from FDM analysis Project in brief attributes: 1. Parcelation D1 2. Land Use distribution **Conjoint Analysis:** Eliminate 1st D2 alternatives: Udeveloper = round Ufutur < satisfaction Biding system Ucurrent + Ufutur + Uostatus Ucurrent = Acquisition Ufutur = Project in brief Uostatus – Owning the land or D3 not **Evaluate alternatives:** Evaluate alternatives: Umunicipality1 = Umunicipality2 = **U**futur B(bid) Dn **Bid protocol**

2nd

round

Research Design:

Objective: Analyze and predict the occurrence of conflicting interests in redevelopment processes, and offer recommendations concerning process governance interventions.

Motivation: Accelerate Brownfield Redevelopment.

Data: On-line survey with experts.

Methods: In the first phase, we indentified the most important REF by Fuzzy Delphi and create the utility functions for different developers in Conjoint Analysis. In the second phase, these utilities are used as an input for the auction in Game Theory environment. The conclusions that derive from the Game Theory analysis will advance a biding protocol.

Expected Results: Design and select the most suitable biding games (ex. war of attraction, dollar auction, vickrey auction) for urban development practice. The conclusions of the game selection and rules are used to advanced existing protocol thus making the research design operational.

Implications: Suggested biding model eliminate long negotiation processes and involves more parties thus achieving the greatest value for the developed land. Servicing and reparcelling the land is done by private developers and/or end users. This more freedom in development is regarded as an additional incentive neccesary for the Brownfield Redevelopment

Land development	Initial situation on	Acquisition of a	Servicing and	Acquisition of
strategy	land market	Brownfield	reparceling the land	building plots
(5) Biding model	Original owner(s)	Municipality acquires all land	Private developers; end users	End users