Appendix B

Table B.1. Standard ODD reporting for urban agent-based model in Chapter 5.

Overview	**Purpose** *"provides a guide for what to expect in the model description that follows"*	To develop an agent-based urban growth model that incorporates microeconomic theory that drives the location selection of new urban areas by private residential developers.
	State variables and scales *"How the agents are described? What is the spatial and temporal resolution"*	Agent: Residential developer (D) has the main attributes of i) initial capital (Z_o), ii) and lending capacity (Z_l). Spatial scope: the JMA, 300 meter resolution. Time scale: no time scale but running simulation limited to 100 time-step.
	Process overview and scheduling *"scheduled actions (and reactions) in schematic order (flowchart)"*	Developer performs urban development (i.e. land search, assessment, decision, action) based on microeconomic framework (i.e. profit is larger than development cost). See **Error! Reference source not found.** for the sequential process within the model.
Design	**Design concepts**	*Emergence:* New urban growths emerge from the decision of developers to *develop*. *Stochasticity*: Developers move randomly.
Details	**Initialization** *"how the environment and agent situation at the start of the simulation"*	Agent: there will be 50 developers at initial time with particular amount of capital depending on the scenario, Environment: Land cover of 1994
	Input *"environment condition which varies over time"*	No external input that changes over time. Land cover and land values changes as a consequence from developers' location decision.
	Sub-models *"details of Process overview "*	Developer roams the study area to find suitable location that matches its expected profit. When the developer finds the suitable location, it holds the location and performs cost-benefit assessment to determine the possible profit generated from developing the land. If the developer decided to develop the land, the land will turn into urban and land value of the site and the surrounding areas increase.

Model specification	
Platform: NetLogo 5.0.5	Code: https://goo.gl/t89F6Q
Programming language: NetLogo with GIS extension	Docs: contact author
Operating System: Platform Independent	Dataset: Please contact author
Licensed Under: GNU GPL, Version 2	a.wahyudi1@uq.edu.au; agungwah@yahoo.com