

# Short-Term Land use Planning and Optimal Subsidies

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Urban planning is a complex problem which includes choosing a social objective for a city, finding the associated optimal allocation of agents and identifying instruments like subsidies to decentralize this allocation as a market equilibrium. We split the problem in two independent steps. First, we find the short-term optimal allocation for a social objective and, second, we derive subsidies that reproduce this optimal allocation as a market equilibrium. This splitting is supported by a fundamental result asserting that the optimal allocation of any social objective can be decentralized by applying feasible subsidies, which can be computed even in the case with location externalities and transportation costs. In the first step, we compute the optimal allocation using an algorithm to solve a convex urban planning problem, which is applicable to a wide class of objective functions. In the second step, we compute optimal subsidies in several political situations for the planner, like budget constraints and limited impact on specific agents, zones, rents and/or utilities. As an example, we simulate a prototype city which aims at improving social inclusion.