

Economy ADU

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AFFORDABLE FOR WHOM?

Economy is the fifth in a series of design research projects to examine the Accessory Dwelling, a building type with a unique relationship to the socio-economic history and possible future of US housing. Here, we looked at the economy of the ADU and its production—economy in the broadest sense, both as a financial instrument and as the prudent marshalling of resources in their production. The investigation is an explicit attempt to expand upon the question of affordability by engaging the broader micro- and macro-level implications for a particular ADU design within the material and political economy of Houston, Texas.

To address these concerns at a commensurate scale, students proposed how to rapidly design and construct thousands of infill housing units using automated design and construction methods. The proposals are both radical and deeply pragmatic, incorporate a high degree of technical resolution, and evaluated, in part, by estimating construction costs and mapping their financial viability across central Houston.

Two of the proposals are contrasted at right. One approach (Figure 1) made use of panelized construction and a design combining a series of rooms with an oversized corridor as a way to create spatial efficiency. An optimized set of panels can be reconfigured for different sized lots. The second project (Figure 2) is a tall ADU of minimal footprint, standard in form for off-site manufacture and non-standard in on-site configuration to maximize density such that nearly 15% of parcels can accommodate 3 additional dwellings.

In the student's analysis, the panelized project (the most conventional with cost estimates in-line with market conditions) represented the greatest degree of variation in return on investment. Conceived initially as a single-story as a way to reduce costs, in practice, the project correlates more variably with lot size: only on larger lots, in predominately wealthier neighborhoods, is the project economically viable. In its triplex configuration, the second project again demonstrates that density and economies of scale offer the most potential for the

ADU to provide affordable housing throughout the urban core. Materially, the project is not the least expensive, but it is the most efficient as a financial instrument.



\$140,563

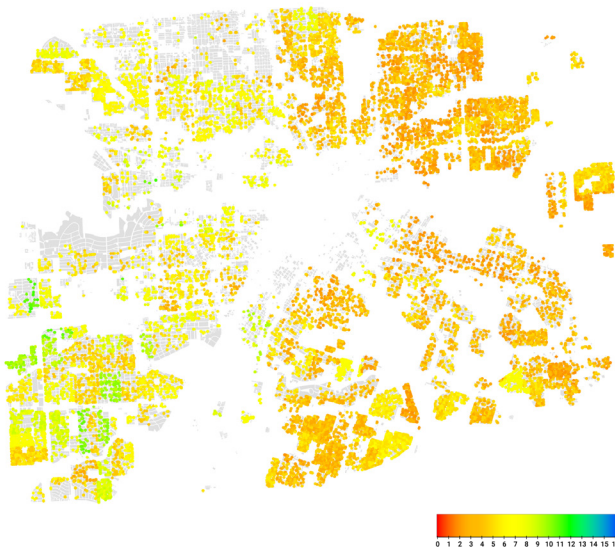
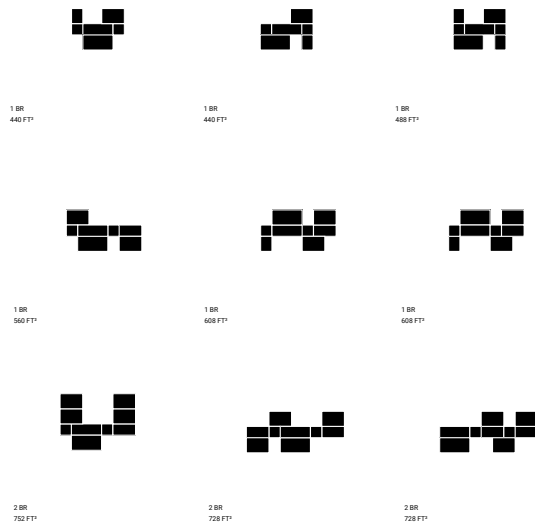


Figure 1. Panelized approach with example project rendering, cost estimate, excerpt of possible configurations and return on investment map of central Houston. By Siobhan Finlay and Adam Berman.



\$124,597 (each)

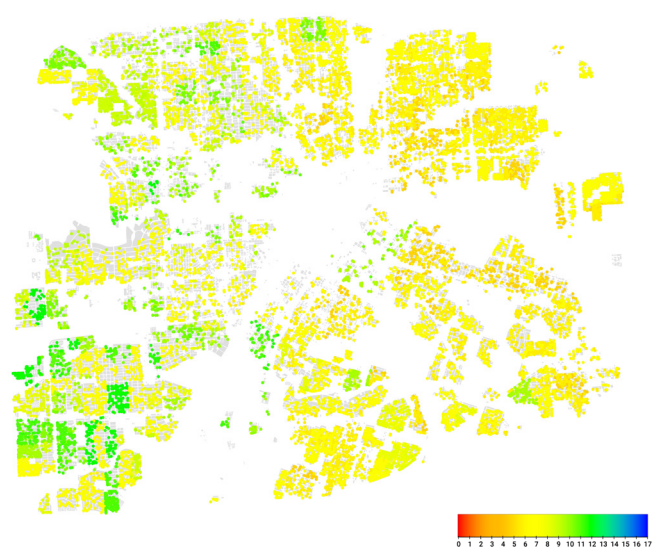
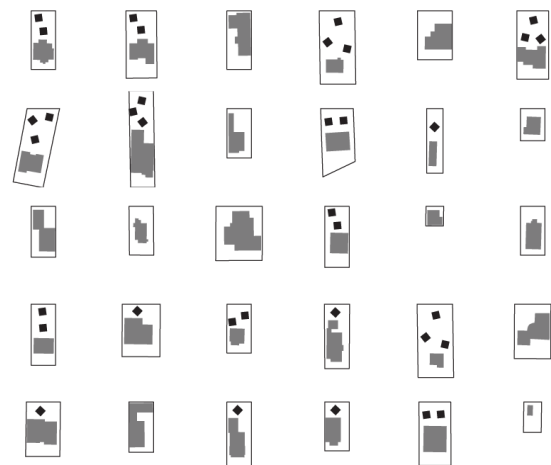


Figure 2. Triplex approach with example project rendering, cost estimate, excerpt of automated site configurations and return on investment map of central Houston. By Peter Zhang and Benson Xie.