Rental housing was historically a minimal feature of urban informality. Now it is surging amid municipal attempts to 'upgrade' informal settlements. Drawing upon a mixed-methods study of two favelas in São Paulo, we analyze how various cycles of upgrading shape informal rental housing at urban, community, block, and parcel levels. Although rental housing can increase precarity in urban living, it is an important source for improving existing neighborhoods by adding value to individual buildings and by offering new lost-cost opportunities to would-be renters and landlords alike. The study highlights the need for planners, policymakers, and scholars to further explore the nuances of rental housing and its links to upgraded settlements in Brazil.