Abstract: Does sustainable neighborhood design hold up over time?
Very little is known about the long-term sustainability of neighborhood design with respect to energy use over time. The project is a cross-sector comparison—assessing energy used for transportation, for appliances, and for home heating and cooling—of two very different Davis neighborhoods. One is a 30-year old community that was considered an energy-saving pioneer when it was built because it featured passive and active solar homes, bike paths, an edible landscape, and was designed with an emphasis on energy efficiency. The other is a newer neighborhood, which, while more typical of today's communities with larger homes, may be more energy efficient because of compliance with newer design standards and installation of more energy efficient appliances. This research poses the question: has the older community sustained its aspects of sustainability over time when compared to the newer neighborhood? We collected individual household appliance inventory and usage data along with transportation data using a mail out survey and we also retrieved monthly utility bills for sampled households. This examination of energy use in the context of neighborhood design will help inform policy-makers as to the likely long term durability of energy savings produced through local design and appliance standards, and those realized through behavior change of residents.