



Strengths and Weaknesses of Sustainable Land Use Policy in Greensburg, Kansas

Erin Mulryan

Abstract: Sustainable development and planning have been the driving agents of European land use policies for many years, but the concept of sustainability has been slow to take hold in the United States until recent years. This article briefly explores the strengths and weaknesses of new sustainable land development regulations in Greensburg, Kansas, which was devastated by a tornado in 2007. Community leaders and residents worked collaboratively to establish new regulations to rebuild a “greener” Greensburg, and the community’s accomplishments will hopefully serve as examples of sustainable land use policies for other cities and towns in the nation to follow.

On May 4, 2007, Greensburg, Kansas was hit by a tornado that rated five on the Enhanced Fujita (EF) scale, a system developed by weather researchers to rate tornados based on wind speeds and physical damage. The tornado destroyed over 90 percent of structures in the small city that 1,389 residents called home. In the months following the tragedy, the city adopted the Greensburg Long-Term Community Recovery Plan, which was prepared through the Federal Emergency Management Agency's Long-Term Community Recovery program. The process for developing this plan involved steering committee meetings, stakeholder interviews, and discussions with citizens, civic groups, business owners, and local, state, and federal officials.

The final Long-Term Community Recovery Plan identified important projects for the city. One recommended project was to develop the Sustainable Comprehensive Plan, which was listed "with a high recovery value as it serves as a blueprint for the redevelopment in Greensburg" (Greensburg Sustainable Comprehensive Plan, 2008). The Sustainable Comprehensive Plan (2008) represented the visions of city officials and residents "to rebuild a prosperous future through sustainable community design." This plan was also recommended to be used as a guide by city administrators and the City Planning Commission to refine the city's zoning codes and ordinances.

The Greensburg Planning Commission, in keeping with the recommendations of the Sustainable Comprehensive Plan, adopted the Sustainable Land Development Code in March of 2011. Within the Land Development Code is the Sustainable Zoning Ordinance (SZO); the stated purpose of the SZO is "to establish zoning districts and regulations governing the sustainable development and use of land within the City of Greensburg" (Article 1, Section 1.1). Also within the Sustainable Land Development Code is the Sustainable Subdivision Regulations (SSR) code. Article 1, Section 1.3 of the SSR states that, "these regulations are intended to create

development patterns that will be sustainable over time.” The SSR contains regulations such as the procedures for development approval, lot subdivision, design standards, development of conservation subdivisions, and administration of the SSR.

City officials and residents worked hard to capture goals and initiatives that meet their social, economic, and sustainability objectives. Review of the SZO and the SSR within the Sustainable Land Development Code found numerous strengths and few weaknesses. For the purposes of this article, I chose three strengths and three weaknesses of policies in the SZO and SSR to discuss.

Strengths

Provisions for horticulture activity, local produce cultivation, and local produce sales are promoted in Article 3 of the SZO. Accessory structures such as sheds and greenhouses are allowed only in the side and rear yards in residential districts, but “horticulture activity” is permitted as accessory use and is allowed to be located in any yard, including the front (Section 3.1 B, #8). In addition, Section 3.11 D permits the seasonal sale of locally grown farm produce, and allows for temporary structures in the front yard required by the ordinance for all residential lots for the duration of the sale. (Note: “horticultural activity” is not defined in Article 17, Definitions.)

Article 4 of the SZO “promotes the use of solar energy systems to reduce the on-site consumption of natural gas and/or utility power” (Section 4.1A). This article regulates the yard setbacks for all solar and wind energy systems and allows for solar systems to have the same lot line setback regulations as accessory structures such as sheds and greenhouses (lot line setbacks refer to the distance from the building structure to the property line). In addition, Article 2,

Section 2.2 A (5) allows for “passive solar energy systems” to project (overhang) into front yards up to ten feet and into side yards up to six feet, further promoting the installation of solar systems in all zoning districts. These regulations permit homeowners to install solar systems on their houses as well as in yards, promoting the generation of more renewable power.

Low Impact Design, storm water management, and erosion control are addressed in Article 6 of the SZO. Standard 3 of this article requires the use of bio-retention areas, rain gardens, dry wells, and the utilization of grass channels to filter pollutants before they leave the site. The intent, as stated in Section 6.1, is to “promote storm water management practices that maintain pre-development hydrology...and detain storm water close to its source” (6.1 A), and to “protect natural resources...from degradation that could be caused by construction activities and post-construction conditions” (6.1 B). The regulations in Article 6 represent one of the methods to reduce pollution from runoff as discussed by Campbell and Corley (2012, pg. 180).

Weaknesses

As stated, there are few weaknesses in Greensburg’s SZO and SSR. One weakness is found in Article 7, Section 7.4 of the SZO, Sustainable Landscaping. This section neither promotes nor requires the use of native plants for landscaping. Furthermore, the use of native plants in storm water management is not specifically stated in Article 6 regulating Low Impact Development (discussed above). Gill (2000) asserts that “native plants possess certain traits that make them uniquely adapted to local conditions, providing a practical and ecologically valuable alternative for landscaping, conservation and restoration projects, and livestock forage.” The sustainable landscaping requirements of Article 7 could be strengthened by requiring developments to utilize native plants for a specified percentage of the overall landscaping, and

by requiring the use of natives for the bio-retention areas and vegetation strips discussed in Article 6 for use in storm water management and runoff control.

As discussed previously, Article 3 of the SZO allows for horticulture activity and private local produce sales. Article 6 of the SSR, Conservation Subdivisions, lays out many regulations for lot sizes and the permitted uses, ownership, and management of the open spaces required by this article. (Note: 40 percent of a conservation subdivision must be open space.) Section 6.4 C (6) permits open spaces to be used for “agriculture, horticulture, silviculture or pasture uses, provided that all applicable best management practices are used to minimize environmental impacts.” Brown and Jameton (2000), in their research of the Plant-People Council, found that “recreational gardening has been observed to be a way to relax and release stress.” This article could be strengthened by specifying that a portion of the required open space or another space within the conservation subdivision be used for community agriculture, which would promote neighborhood cohesion and personal wellness by allowing for a community space where neighbors can interact with each other, relax, and enjoy recreational gardening.

Perhaps the biggest weakness of the Sustainable Land Development Code is the lack of clarity regarding when and where conservation subdivisions are to be built. The SZO, in Article 2, provides for the designation of zoning districts and states minimum lot sizes and yard setbacks for residential districts, but the lot sizes and yard setbacks for these residential districts are different from those in Section 6.2 C of Article 6 for conservation subdivisions. Also, the zoning map in the SZO does not show any areas that are specifically zoned as conservation subdivisions.

These points highlight that, although conservation subdivisions are regulated, there is no regulation that *requires* that all residential districts abide by the standards of conservation subdivisions nor does it require that specific natural areas be conserved. Although

“sustainability” is stated in one way or another as the goal of the Land Development Code in several places (in nearly every article in the SZO and the SSR, in fact), the code is weak in that it only provides for requirements for conservation subdivisions *if* a developer decides to abide by the requirements. A better way to ensure neighborhoods are built more sustainably and that natural areas are protected in perpetuity is to require *all* neighborhoods be built to the conservation subdivision regulations. The Planning Commission could also revise the code to require that some areas be conserved and make available a Transfer of Development Rights (TDR) program as discussed by Feiock, et al. (2008), in order to protect environmentally sensitive areas.

City officials and residents laid out several goals for rebuilding a “greener” Greensburg in the Sustainable Comprehensive Plan. The SZO and SSR contain many protections for reducing pollution, promoting alternative energy systems and horticultural activity, and the preservation of open space. These command and control land use policies were borne from stakeholder involvement, public outreach meetings, and recommendations of the Sustainable Comprehensive Plan, exemplary of sustainable policy development. Although these regulatory zoning tools, according to Campbell and Corley (2012), “focus on regulating behavior rather than providing for economic incentive for alternative behaviors,” they still promote sustainable initiatives to reduce the city’s impact on land, water, and air, and help to ensure that Greensburg rebuilds so that future generations will enjoy a cleaner, greener community.

References

- Brown, K.H., & Jameton, A. (2000). Public health implications of urban agriculture. *Journal of Public Health Policy*, 21(1), 20-38.
- Campbell, H., & Corley, E. (2012). *Urban environmental policy analysis*. Armonk: M.E. Sharp.
- City of Greensburg, Kansas. (2011). Sustainable land development code. Retrieved October 27, 2012, from <http://www.greensburgks.org/departments/building-codes-department/greensburg-sustainable-land-development-code/view>
- Earth Gauge. (n.d.). *Greensburg, Kansas: Rebuilding after the May 4, 2007 tornado*. Retrieved October 27, 2012, from http://www.earthgauge.net/wp-content/uploads/2009/03/eg_greensburg.pdf
- Feiock, R.C., Tavares A.F., & Lubell, M. (2008) Policy instrument choices for growth management and land use regulations. *The Policy Studies Journal*, 36(3), 461-480.
- Gill, D. A. (2000). *Landscaping with native plants*.. Retrieved November 2, 2012, from <http://infohouse.p2ric.org/ref/21/20747.pdf>
- Greensburg Sustainable Comprehensive Plan. Retrieved October 27, 2012, from <http://www.greensburgks.org/residents/recovery-planning/sustainable-comprehensive-master-plan/view>