

AN EVALUATION OF OPEN SPACE QUALITY IN SUBURBAN RESIDENTIAL COMMUNITIES: A COMPARISON OF NEOTRADITIONAL, CLUSTER, AND CONVENTIONAL DEVELOPMENTS

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Abstract This paper analyzes the success of protected open spaces in fifteen suburban residential developments across the United States. Using case studies from five regions across the country, neotraditional, conservation and conventional residential developments are analyzed and compared for their habitat, recreational, visual landscape quality and water quality goals. The paper identifies and analyzes the original open space and green infrastructure protection goals of the developments and their outcomes, along with pre-and post-development forest stand and open space protection success.

The flight of homeowners out of cities to relatively inexpensive land and housing in the suburban fringe has placed tremendous pressure on ecosystems, water quality, visual quality and recreation opportunities. For these reasons, the goals for green infrastructure (open space) in many suburban developments over the past two decades have been to provide active and passive recreational areas, to serve as stormwater quality enhancements, wildlife habitat, and as a visual buffer to the hard surfaces of urban areas. This was certainly the case with neotraditional and conservation developments of the late 1980's and 90's which were simultaneously seen as an antidote to the placeless sprawling suburbs and the environmental degradation that ensued.

However, almost 20 years after neotraditional and conservation developments were brought into common use the question remains: How effective have they been, particularly in comparison with other more conventional development styles, in protecting functioning open space systems? In the literature, post occupancy assessments of suburban forest and open space systems have been few. These have largely focused on the total land area protected (and in some cases patch size) (Brabec 2001), rather than the functionality and condition of the protected area. Specific assessments of Kentlands and other neotraditional communities have focused on the increased real estate values achieved (Tu and Eppli 2001), walkability (Lee and Ahn 2003), and sense of community (Kim and Kaplan 2004) rather than on the open space system.

This paper, therefore, serves as an initial step in the analysis of the success of suburban developments for recreational, habitat, visual landscape quality and water quality goals. The paper identifies and analyzes:

1. Open space and green infrastructure protection goals through two methods: a content analysis of public documents filed in connection with development and site plan approvals, and interviews with the developer, planners and designers;
2. Evaluation of pre-development forest stand protection through the comparison of current and pre-development aerial photographs and site level inventory, resulting in a finding of the amount and quality of existing forest stands that were protected during the development process;
3. Forest stand and open space protection measures and outcomes, using aerial photographs, a detailed site-level inventory of ecosystem, recreational, visual and water quality indicators, and an analysis of local

regulatory and homeowners association codes; and

4. Level of compliance and achievement of green infrastructure protection goals through a comparison of current conditions and intended outcomes.

The findings from this analysis are mixed. Success in open space conservation and optimal function with respect to habitat, stormwater, recreation and visual quality, depends as much on the vision and sophistication of the developer as in the method chosen. In many cases, no matter which method is chosen, the execution contained serious flaws that compromised the ecological system. For example, water quality goals hampered by direct discharge of stormwater into the stream system, and an inability of protected stream buffers and other BMP's to absorb levels of site runoff created by new development. In addition, the mix of jurisdictional control of protected areas and the lack of removal of invasive exotics in many instances compromised the ability of the areas to serve as native habitat, and attractive, passive recreational areas.

References

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