

Using Photo Elicitation to Understand Hiker Perceptions of Energy and Communication Related Development Along the Appalachian Trail

Alan Graefe, The Pennsylvania State University, United States, gyu@psu.edu

Jordan C.E. Blair, The Pennsylvania State University, United States

Michael Ferguson, The Pennsylvania State University, United States

Andrew Mowen, The Pennsylvania State University, United States

As a result of a growing population, the demand for energy and communication related development has increased. Development needs inadvertently fall within boundaries or cut-through protected areas (i.e., national park units). Understanding impacts resulting from energy and communication related infrastructure development on an individual's recreational experience is important to resource management agencies such as the National Park Service (NPS). Specifically, with eight power-lines stretching over 2,000 miles through six states associated with the Appalachian Trail (AT), understanding the impact of energy and communication related development is of increased concern. The purpose of this presentation is to provide results of a photo-elicitation study conducted with AT users in conjunction with the NPS and Appalachian Trail Conservancy (ATC) to determine hiker perceptions towards various energy and communication related infrastructure.

Data for this project were obtained from a study of recreational users' opinions towards energy and communication related infrastructure development within the mid-Atlantic region (e.g. Virginia, West Virginia, Maryland, Pennsylvania, and New Jersey) of the Appalachian National Scenic Trail (AT). A total of 611 useable on-site interviews were conducted from May to October 2014 at designated sampling points selected in consultation with the NPS and ATC. During the interviews, participants were shown a series of six, randomly ordered photographs representing different types and degrees of energy and communication related infrastructure. A series of quantitative and qualitative questions were asked to obtain users' perceptions towards varying degrees of development. See Figure 1 for an example photograph and responses to the questions asked for each scene.

Quantitative results indicate individuals responded more negatively to power-line infrastructure than communication towers while responding more positively and with mixed reactions to wind energy development. Not surprisingly, respondents also preferred fewer and smaller structures that were further from the trail. Findings also showed statistically significant variations based on user group (i.e. day users, thru hikers), wilderness preferences, and overall opinions towards energy and communication related development. Results of a qualitative analysis of an open-ended response question are used to provide further insights into the aforementioned findings. For example, wind turbines were often referenced as providing a more natural form of energy development than power lines while also being a symbol of sustainability. Additionally, communication towers were often rated more



Figure 1. Respondent ratings corresponding to Photo Master ID number 17.^a

	Mean
Please rate the <i>scenic value</i> of this photo. ^b	2.46
Please rate the <i>effect on your enjoyment</i> if this was the actual view. ^c	2.63
Please rate your <i>likelihood to return</i> if this was the actual view. ^d	2.80
Does the development depicted in this photo have less, the same, or more impact than other existing projects... ^e	1.80

^a Coded as: Type = Powerline; Density = High; Proximity = Near; Authenticity = Real.

^b Measured on a scale where "1" = very low scenic value and "7" = very high scenic value

^c Measured on a scale where "1" = very negative effect and "7" = very positive effect.

^d Measured on a scale where "1" = much less likely to return and "7" = much more likely to return.

^e Measured on a scale where "1" = less impact, "2" = about the same and "3" = more impact.

negatively than wind turbines, but were cited as a necessity for safety purposes and much easier to ignore from view sheds than power lines. Future research needs and management applications will be further addressed.