

## RESEARCH

### When Quantitative Research Trumps Qualitative—What Makes Transfer of Development Rights Work?

An earlier column in this series was titled, “When Qualitative Research Trumps Quantitative.” The new title reflects a very different sort of research.

The winter issue of the *Journal of the American Planning Association* features an article titled “What Makes Transfer of Development Rights Work: Success Factors from Research and Practice,” by Rick Pruetz, FAICP, and Noah Standridge. Their subject has great practical import. TDR is an attractive option for preserving farmland and containing sprawl when local governments lack the resources to buy land outright. Yet, it is popular wisdom that TDR programs seldom realize their potential. What a gift to the profession it would be if these two have figured out what makes TDR programs successful!

Here is the approach they took. First, from an exhaustive inventory of 191 programs around the U.S., they identified the 20 most successful in terms of the amount of land preserved. That categorical definition became their dependent variable. Then they mined the literature about TDR guidelines for those program features most often cited as determining success. They identified 10 “success factors,” which became their independent variables. All were treated as binary: A program either allows TDRs to be used by right at receiving sites, or alternatively, requires discretionary approvals before they can be used.

Finally, Pruetz and Standridge reviewed program documents and conducted interviews with administrators to determine the factors that applied to each of the 20 top programs. Those factors common to all the programs were deemed “essential.” Those common to nearly all were considered “extremely important.” The remaining factors were judged “helpful.” To illustrate: Having adequate demand for TDRs because baseline density is low ended up in the “essential” category. Offering favorable

transfer ratios fell into the “extremely important” category. And having a publicly operated TDR bank to buy and sell development rights landed in the “helpful” category.

Pruetz and Standridge could have extracted even more information by conducting a quantitative analysis. In fact, they point in this direction without actually going there. They suggest that TDR programs with more success factors will generally preserve more land than those with fewer. They also note that the four programs with public TDR banks are responsible for over half of the total land preserved by the 20 programs. But they do not quantify individual or collective effects.

#### TDR SUCCESS FACTORS

Essential	Very Important	Helpful
Demand for bonus development <b>20</b>	Strict sending-area regulations <b>18</b>	Certainty of use <b>14</b>
Customized receiving areas <b>20</b>	Few alternatives to TDR <b>17</b>	Public preservation support <b>13</b>
	Market Incentives <b>15</b>	Simplicity <b>13</b>
		Promotion and facilitation <b>12</b>
		TDR bank <b>4</b>

To distinguish factors that are essential from those that are merely helpful, we would need data for unsuccessful as well as successful programs. Data are available only for successful programs. But the dataset does allow us to analyze degrees of success based on the presence or absence of individual success factors.

This is what I did. First, I redefined the dependent variable as the total acreage preserved through TDR, a continuous variable. Then I added control variables related to success. (Pruetz and Standridge provide one such variable—the number of years the program has been in existence—and the census provides others: land area, growth rate, population density, and median household income.) Next I converted each binary variable, defined by an x in the article, into a dummy variable, defined by a 1 or a 0. Finally, I estimated a series of multiple linear regression models.

Having done this, I learned that the number of success factors is, indeed,

related to the amount of land preserved, although not enough to preclude the possibility that the two are related only by chance. Having a TDR bank is the only factor that adds significantly to the success of a program, on average increasing the amount of land preserved by almost 30,000 acres. Another factor that comes close to statistical significance is the existence of outreach efforts—maintaining a webpage, for instance.

One factor appears actually to detract from the success of programs. The absence of other development incentives was presumed to enhance land preservation through TDRs by eliminating program competition. In fact, it has the opposite effect.

This isn’t to take away from the qualitative research conducted by Pruetz and Standridge. When they describe best practices and give real-world examples, we gain insights not available through quantitative research alone. I learned that some of the most successful programs allow transfers across jurisdictional boundaries in truly regional fashion. And I learned that some programs create a market for TDRs by tying additional densities at the time of upzonings to their purchase.

So perhaps the title of this column should be “When Mixed Quantitative and Qualitative Research Trumps Either Kind of Research Alone.”

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