

## Policy Studies Organization

---

From the Selected Works of Daniel P Aldrich

---

September, 2008

# Strong Civil Society as a Double-Edged Sword: Siting Trailers in Post-Katrina New Orleans

Daniel P Aldrich, *Purdue University*

Kevin Crook, *Tulane University*



SELECTEDWORKS™

Available at: [http://works.bepress.com/daniel\\_aldrich/3/](http://works.bepress.com/daniel_aldrich/3/)

# Strong Civil Society as a Double-Edged Sword

## Siting Trailers in Post-Katrina New Orleans

Daniel P. Aldrich

*Purdue University and Tokyo University*

Kevin Crook

*Tulane University*

To meet the dire need for housing following Hurricane Katrina, New Orleans and Federal Emergency Management Agency officials created lists of potential sites for trailer parks. We analyze approved sites to track which factors were linked with larger (or smaller) numbers of trailers and trailer sites per zip code block. Areas which displayed greater levels of social capital, as evidenced by voluntaristic activities such as voting, were slated for fewer trailers, controlling for race, income, education, flood damage, and other relevant factors. Civil society worked simultaneously to bring citizens together while mobilizing them against the threat of trailer parks in their backyards.

**Keywords:** *New Orleans; Hurricane Katrina; civil society; temporary trailers; facility siting*

New Orleans politicians, city officials, and the Federal Emergency Management Agency (FEMA) repeatedly stressed housing as their number one priority following Hurricane Katrina, which by some estimates damaged 434,000 homes in the New Orleans area and destroyed nearly 140,000 of them. While everyone in New Orleans publicly agreed that housing remained the most critical obstacle to rapid recovery after Hurricane Katrina, local controversy stalled the siting of temporary housing after the storm. Most citizens recognized the need for facilities like trailer parks and modular homes, but many sought that these facilities be placed elsewhere. Which communities would be selected to host these trailers and their occupants was a critical but unanswered question.

This article, set against a backdrop of local opposition, investigates which communities and areas in and around New Orleans were selected as hosts for FEMA travel trailers and mobile homes. We find that, controlling for a large number of factors, the strength of local-level civil society best predicts which zip codes will be chosen as hosts for more trailers and trailer parks. Those localities with more politically active and involved citizens who voted in past elections—a proxy we interpret as defining an area with stronger ties and a more vibrant civil society—were the ones which

received the fewest trailers. Conversely, authorities selected those zip codes which demonstrated weaker political activism for larger numbers of trailers.

This is an important finding because it calls into question nascent literature which uncritically links stronger civil society with more rapid recovery from disaster. While initial research on postdisaster rebuilding focused on the physical amount of damage or aid received by an area (Dacy and Kunreuther 1969), or whether or not the area had learned to upgrade mitigation systems from previous disaster experiences (Eoh 2005), newer research seeks to link levels of social capital to the pace of rebuilding. An enormous canon of literature in sociology and political science connects higher levels of civil society, defined as networks of trust and reciprocity among citizens, to better economic and government performance, at local (Coffe and Geys 2005), regional (Knack 2002), and national (Putnam 1993) levels. It is a logical extension to test to see if stronger ties

**Authors' Note:** We want to acknowledge the assistance of Scott Croft and his colleagues at C&C Technologies, the Center for Geographic Analysis at Harvard University, Adam Glynn, the Housing Office of the City of New Orleans, Robert Paarlberg, the Program on U.S.–Japan Relations for research funding, and Ezra Zuckerman.

among citizens create an environment where rebuilding takes place rapidly and efficiently.

Research on postdisaster situations has demonstrated that in the aftermath of crisis situations, individuals embedded in stronger networks have more resources, both emotional and material, with which to rebuild their lives (Hurlbert, Haines, and Beggs 2000). Scholars have also illuminated the critical role played by active social capital in recovery following Turkish, Indian, and Japanese earthquakes (Özdem and Jacoby 2006). Others sought to connect state responses to the 2004 Indian Ocean tsunami to vibrant civil societies at the local level (Tata Institute of Social Sciences 2005). Shaw and Goda (2004) showed how the 1995 Kobe earthquake enhanced Japanese civil society and allowed nongovernmental organizations (NGOs) to play a more prominent role alongside the government in the rebuilding process. In a comparative study of India and Kobe, researchers argued that areas which displayed greater levels of trust and stronger networks were better able to recover after the Indian Ocean tsunami and the Kobe earthquake, although evidence was primarily impressionistic as opposed to quantitative (Nakagawa and Shaw 2004).

Building on Foley and Edwards (1996), we see in post-Katrina New Orleans a situation underlining the so-called “paradox of civil society.” In their article, Foley and Edwards underscored that scholars often envision civil society in contradictory forms. One vision of civil society emphasizes the (often positive) impact of associational life on civility and governance while another common approach focuses on the power of civil society as a counterweight to the state (Hasegawa 2004). These two visions are logically and empirically at odds with each other. Here, we argue that civil society plays a dual role in the rebuilding process following disasters. It simultaneously strengthens the ability of local citizens to engage in practices of “informal insurance” (de Allesi 1975) and overcome collective action problems (Olson 1965), while orienting them to defend their area against unwanted but perhaps necessary projects, such as trailer parks, which speed recovery. Here, the “bonding” social capital which connects neighbors to each other simultaneously prevent them from “bridging” beyond their own area’s needs to allow in trailers (Putnam 2000).

Our article demonstrates that stronger local civil societies act as dual-edged swords during postdisaster situations, helping draw back refugees to their communities and providing them with support but, at the same time, not providing assistance to the citywide process

of rebuilding. Those areas where citizens have mobilized together also end up as zones where authorities anticipate encountering the strongest levels of resistance to often controversial facilities such as trailer parks. If city planners avoid siting in areas that they judge stronger in social capital and search for alternate locations for temporary trailers because of actual or potential local resistance, those administrative, financial, and personnel resources cannot be spent on other recovery activities. Hence pockets and blocks of stronger social capital may not necessarily result in an overall quicker pace of rebuilding.

### **Trailers as “Public Bads”**

Scholars and policymakers alike claim that temporary shelters, housing, and housing infrastructure are among the critical needs after disasters (Anderson and Woodrow 1998, 10; Richardson 2006). However, in post-Katrina New Orleans, many local residents viewed trailer parks as an additional blight, rather than the solution to the housing problem. At Lakewood Estates in the Algiers section of New Orleans, local residents used human and vehicular chains to block construction and surveying equipment brought by federal workers who intended to begin siting a new temporary housing development.

The statement of one resident who told reporters that, “I don’t want my neighborhood ruined because theirs is [sic]” epitomized the problem facing decision makers seeking to site temporary housing after the Hurricane Katrina. Councilwoman Cynthia Hedge Morrell summed up the thinking of many locals when she stated that, “You can’t rebuild a community if you are taking sacred parts of that community and destroying it” (quoted in Varney and Carr 2005). New Orleans Councilman Jay Batt put up campaign posters with an image of a temporary FEMA trailer crossed out by a red circle with a line through it next to the heading, “He protected the integrity of neighborhoods in district A by not allowing trailers to be placed in parks and playgrounds where our children play” (Batt 2005).

Out of sixty-four parishes across the state of Louisiana, half immediately banned new group trailer sites after the storm. Scholars have estimated that approximately one in four FEMA trailer parks initially proposed for previously undeveloped sites by either FEMA or the city of New Orleans were rejected by the potential host communities (Davis and Bali 2006). Mayor Ray Nagin criticized the influx of “not in my neighborhood thinking” and

pleaded with residents to “come together as neighbors, as friends” (quoted in Nelson and Varney 2005). Against this backdrop of NIMBY (Not In My Back Yard)ism, Mayor Nagin and the Housing Department within his administration worked with FEMA to create, revise, re-revise, and eventually release a list of approved sites for temporary trailers and housing.

Trailer parks, often located on the “wrong side of the tracks,” are heavily stigmatized (Takahashi 1998). They are viewed as magnets for crime, loitering, drug use, increased foot and vehicle traffic, and lower property values (MacTavish 2006). Furthermore, despite reassurances that temporary trailers are, in fact, temporary, many communities, such as those in Florida which hosted trailer parks after Hurricane Andrew, continued to host trailer parks several years after disasters (Peacock, Morrow, and Gladwin 1997). Some critics interpreted local reactions to trailer parks as evidence of the continuing racial and class divisions which have plagued New Orleans for decades (Nelson and Varney 2005).

We categorize temporary trailers and trailer parks as other forms of “public bads” which impose focused costs on local communities but provide diffuse benefits to cities and regions as a whole. The term public bad is used to emphasize the focused costs and diffused benefits which accompany such projects and contrast them with public goods, such as lighthouses and national defense, which provide diffused benefits and diffused costs (Aldrich 2005; Frey, Oberholzer-Gee, and Eichenberger 1996, 1298 fn. 1; cf. Reuter and Truman 2004). Trailers provide necessary housing for workers and families who will improve the economic conditions of the city and region, but focus potential externalities, whether actual or expected, on local host communities. States and developers around the world regularly struggle to site controversial facilities, including nuclear power plants, incinerators, and airports. Temporary housing after a disaster seems to be no exception.

### **Explanations for Siting Decisions**

Different observers see dissimilar landscapes when envisioning how authorities decide where to locate controversial facilities. Previous research has sought to identify the factors which influence the likelihood that local residents will end up with unwanted projects in their vicinity. Some authors have focused on technocratic criteria, such as the space available in the target area and the density of the local population. Others have underscored the

potential for environmental racism, where siting authorities deliberately site unwanted projects in the backyards of ethnic and racial minorities. Socioeconomic conditions, such as poverty, unemployment, and house ownership may be linked to the potential for receiving such projects. Following a super-catastrophe like Hurricane Katrina, the amount of damage in an area may best predict siting outcomes. Finally, some scholars such as Hamilton (1993), Clinger Mayer (1994), and Aldrich (forthcoming) argue that authorities take into account the potential for collective action in local communities. Areas with higher levels of social capital and volunteerism are more likely to mobilize against controversial facilities and are less attractive to decision makers as potential sites for public bads.

Table 1 below lays out five approaches along with their key siting criteria: technocratic criteria, discrimination against minorities, socioeconomic, amount of damage, and civil society.

Technocratic criteria, such as the amount of land in an area or zip code block, or the density of population nearby, may push developers to select or exclude communities as hosts for trailer parks. Areas that have little land or are densely populated, such as urban, metropolitan areas may be worse candidate sites than more rural, loosely populated ones. To test this theory we include measures of the area (in square miles) of the zip code block along with measures of population density (people per square mile).

Proponents of the environmental racism argument, on the other hand, see controversial and unwanted facilities like nuclear power plants and airports located in clusters of ethnic, racial, and religious minorities (Hurley 1995; Pastor, Sadd, and Hipp 2001). Such landscapes center on disadvantaged groups who bear the brunt of public bads. In the United States, for example, numerous waste repositories and incinerators are found in communities with large populations of African Americans, Native Americans, and Hispanics. A variety of community advocacy groups have formed to combat what they see as policies harmful to communities of people of color. Critics of the post-Katrina rebuilding process have argued that the locations of temporary trailers reflect color lines within the city. We measure this variable through the percentage of residents in the zip code who are not white.

Another common explanation for the siting of public bads focuses on the economic conditions in local communities. House owners may be concerned about loss of property values. Poorly educated, less wealthy individuals may be more comfortable with

**Table 1**  
**Potential Explanations for Siting Trailer parks**

Explanation	Logic	Key Siting Criteria
Technocratic Criteria	Developers concerned solely with nonpolitical characteristics in selecting host communities	Area, population density
Discrimination against Minorities	Racial/ethnic majority punishes minority	Percentage of residents who are nonwhite
Socioeconomic	Wealthy areas push away facilities; poorer ones more comfortable with such projects	Income, unemployment, percentage below poverty line, education level, house prices
Amount of damage	More damaged areas have a greater need for trailers and will host more	Depth of flood waters in the area
Civil Society	Mobilization against facilities depends on trust, networks, and social capital	Percentage of eligible residents voting in elections

the idea of living near a trailer park than wealthier, better educated residents. For example, small towns in rural North Carolina view prisons as public goods because of the jobs and other economic benefits (Hoyman 2001) despite fears of jail breaks, riots, and other potential negative externalities. Others argue that we are likely to find facilities like industrial waste dumps and incinerators in communities with lower levels of income (Mohai and Bryant 1992). However, studies of waste facility siting in Canada dismissed claims that siting was based on economic disadvantage whether measured in terms of income or unemployment (Castle and Munton 1996, 78). We measure socioeconomic conditions through income, unemployment, percentage of the population with income below the poverty line, education level, and house prices.

An alternative theory might posit that the number of trailers in an area is proportional to the amount of damage that the area received from Hurricane Katrina. A community with relatively little damage because of flooding might have less demand, and perhaps less interest, in hosting refugees and trailers from the storm, while an area which suffered devastation would allow or welcome trailer parks because of the large number of local residents involved. We tested three different measures for flood water depth after Hurricane Katrina to model the amount of damage to each zip code block.

A final map of the siting landscape shows civil society characteristics. This approach centers on the relative strength of horizontal associations, the ties between individuals, and the depth of shared norms and behavioral expectations. Research on siting in North America demonstrates that private developers avoid areas with higher potential for mobilization against their projects (Hamilton 1993). Authorities recognize that tighter-knit, well-connected communities can better overcome collective action problems.

Similarly, local areas with more homogeneous constituents, i.e. areas with stronger horizontal bonds between citizens, are more likely than areas with more heterogeneous constituencies to create zoning policies which exclude unwanted group homes (Clingermayer 1994). In communities with more social capital and better linkages, antifacility groups find it easier to mobilize and organize against unwanted projects (Aldrich 2008).

A large body of research demonstrates that social networks are important resources for survivors of disasters. A decisive factor in rebuilding is the support labeled as “informal insurance” in which neighbors lend each other money, tools, housing, and assistance (Beggs, Haines, and Hurlbert 1996). Residents in areas with greater levels of social trust and social capital share information about bureaucratic procedures and upcoming application deadlines, work to monitor public areas to prevent dumping, and share responsibility for deterring looting. Hence research continues to stress the importance of local networks and social capital in rebuilding (Shaw and Goda 2004; Nakagawa and Shaw 2004; Tata Institute of Social Sciences 2005; Özerdem and Jacoby 2006).

While researchers and local community members envision a strong local civil society as a resource for survivors, states and developers may see it in other terms. Research has shown that across nation states and in a wide variety of project types, both state authorities and private developers use pre-siting surveys to gauge the strength of local civil society. Areas which demonstrate fragmented civil society, low potential for mobilization, and weaker bonds are envisioned by the state as better hosts for controversial facilities, as such areas will protest less rigorously than their stronger counterparts. In the North American radioactive waste siting cases, for example, researchers have uncovered how many companies utilized a “windshield survey” conducted by driving



through potential host communities and noting the existence of signs of disconnectedness, low social capital, and poverty.

In one notable case, court proceedings showed that a surveyor had written “trailers everywhere” in his description of a potential host of low-level radioactive waste, and then designated the site as “in” rather than “out” (Sherman 2006). In Japan, governmental officials surveyed the strength of local nongovernmental organizations in civil society, such as farmers’ and fishermen’s cooperatives, recognizing that the strength of these groups strongly determined whether or not proposed nuclear power plants would overcome local opposition (Aldrich forthcoming). Nations such as the United Kingdom undertake similar investigations to estimate potential opposition within civil society, sometimes through straightforward surveys of local communities (Rüdig 1994, 84). French authorities may have selected several localities in Normandy for nuclear power plants based on survey research which showed towns in that area more favorable to siting than in other regions (data reproduced in Hecht 1998, 248). Hence in New Orleans, stronger bonds at the local level may mean that authorities sought to find more acquiescent host communities for trailers elsewhere to avoid predicted stalls and delay in the rebuilding process.

To test theories connecting the strength of civil society at the local level with selection as a host for trailer parks, we follow Hamilton (1993) and use voter turnout in recent presidential elections as a proxy for social capital and civic engagement.<sup>1</sup> Research has long connected political participation through activities like voting to broader engagement in citizen networks and activism (Verba and Nie 1972). Individuals who make the effort to vote—a costly activity—demonstrate a stronger orientation to political and social issues and a willingness to volunteer their time than nonvoters. Walsh and Warland (1983), for example, interviewed close to seven hundred “activists” (those participating in antinuclear activities) and “free riders” (individuals expressing antinuclear sentiment but not actively participating) and found that activists were more likely to have voted in both the 1976 and 1980 presidential elections. Following the lead of previous scholarship in this area, we assume that this proxy of social capital is constant over time. That is, areas which demonstrated strong voter turnout in past presidential elections are assumed to be as likely to do so in future ones, and those areas remain bastions of stronger civil society and interconnectedness.

We test the accuracy of these theories using data on the siting decisions for thousands of temporary trailers that the local and federal government hoped to place in and around New Orleans following the devastation of Hurricane Katrina.

## Data and Method

Our universe of cases includes all of the potential zip codes in and around New Orleans where both FEMA and the city administration of New Orleans could have placed temporary housing units following Hurricane Katrina. We used the TAC-RC Master List, dated June 29, 2006, provided by the Governor’s Hurricane Housing Task Force and New Orleans Housing Department to create a comprehensive list, by zip code, of approved sites and trailers. With 114 zip codes in our data set, we need not use methods such as endogenous, choice-based sampling or weighting to make sure that our sample of cases closely matches the actual population. Rather, this data set captures all of the areas in and around New Orleans where trailers could have been sited by city and governmental authorities.<sup>2</sup>

We have measures of two different outcomes for our dependent variable: the number of trailers in a zip code, and the number of trailer parks. These are highly correlated (measured at close to .8) but nonetheless are both investigated in separate analyses because of their importance; an area may have more trailer parks but fewer overall trailers than comparable zip codes, and vice versa. Because our dependent variables involve count data (the number of trailer sites or trailers themselves per zip code block) and are bounded at zero, typical ordinary least squares (OLS) regression analyses would be inappropriate. Additionally, zero truncated Poisson models involve assumptions about inaccurate nonzero counts within the dependent variable which we do not believe are relevant here. Instead, we use the negative binomial model, which is a variant of the Poisson model but overcomes the main problem with the Poisson model, namely its assumption that the mean and variance are the same. With the negative binomial, we allow for mean-variance inequality. We used multiple imputation to fill in for missing values (a total of five data points) across the data set.

Because our dataset investigates the number of trailers and trailer parks per zip code, we must be careful about making inferences at lower levels of analysis. We cannot speak directly about the case-by-case decision making heuristics employed by decision

makers, such as Mayor Nagin and the New Orleans housing department. Our strongest claims can be about the factors within zip code blocks which are correlated with greater or less numbers of temporary housing units. Mayor Nagin and his team of advisors were the primary actors who selected the final trailer park sites immediately following Hurricane Katrina. We assume that decision makers' impressions of local level social, racial, technocratic, and civil society factors were based on available data which had been recorded or intuited prior to the storm, and based at broader spatial levels, such as the zip code block level, as opposed to block-by-block or case-by-case.

One potential obstacle to zip-code based analysis is the issue of spatial dependency; while there are various technical fixes for issues of spatial dependency which can be found in the epidemiological literature, we assume that zip code blocks do not interact with each other. Given the small size of trailers vis-à-vis the available areas in typical zip codes, we have no empirical or theoretical reason to believe that the number of trailers or trailer parks in one zip code interacts with or influences the number of trailers in another, neighboring one.

We use the percentage of a zip code block's voting-age population that voted in the 2004 presidential election as a proxy for the strength of local civil society, following previous scholars who have tied this measure into the potential for collective action (Hamilton 1993). Furthermore, surveys of hundreds of post-Katrina New Orleans residents indicate strong correlations (chi-squared values of .001 using cross-tabulation) between voting in presidential elections and participation in local civil society organizations (Student Hurricane Network 2007). This proxy fits well with the indices of civil society created by such experts as Robert Putnam, who includes voting in national as well as local elections as a representative action of civic engagement (Putnam 2000). The Louisiana Secretary of State website provided the number of voters that turned out for the 2004 presidential election for each of the precincts. An archived file, also provided by the Secretary of State, listed registered voters updated on a weekly basis for each of the past three years. We used a combined list of active and inactive registered voters as of October 29, 2004, the most recent data before the presidential election. Data on socioeconomic indicators came from the 2000 U.S. national census, while information on water levels was taken from a number of sources, including NOAA (National Oceanic and Atmospheric Administration) lidar plots and local

observers' estimations. Table 2 below provides descriptive statistics about our data set.

Note the enormous variation across our variables. There were an average of five trailer sites, also known as trailer parks, per zip code, with some areas receiving only a single site and others receiving as many as seventy-three. Furthermore, while the average zip code block was slated to receive more than 450 trailers, some had as few as three or as many as 3,800.

We use variation inflation factors (VIF) to test for multicollinearity among our variables. Among the full list of variables within the data set there is considerable correlation, especially among the voting age population, income, and water-level variables. Rabe-Hesketh and Everitt (2007, 69) report that "a mean of the VIF factors considerably larger than one suggests collinearity" and suggest a value under three would be acceptable. Dropping factors with high levels of multicollinearity, the mean VIF value in the variables under study is under 2.45. We use skewness tests to investigate the distribution of our dependent variables (the number of trailer parks and the number of trailers) and find that they are positively skewed with kurtosis (thin tails in these measures). Given that our count data displays a positive skew and thin tails, it does not fit the normal distribution. To correct for the heteroskedasticity of our dependent variable (White 1980), we use robust standard errors.

## Results

We used a negative binomial regression using robust standard errors to analyze which factors influenced the number of trailers or trailer site per zip code. Table 3 below reports the coefficients from this model.

A number of factors proved to be statistically significant at the .01 level, including if the zip code was in New Orleans or outside it, population density, percent unemployed, and voter turnout. Of these variables, those with the largest effect (that is, with the absolute largest estimated coefficients) on the number of trailers per zip code are the New Orleans dummy variable and the percentage of eligible voters voting in past elections. It is important to note that we cannot directly interpret these estimated coefficients as we might with a typical OLS regression because of the structural form of the binomial model. While some analysts have used incidence rate ratios (irrs) to better understand the effects of negative binomial model coefficients, we instead provide simulations and confidence intervals that produce more intuitive displays of the variables (King, Tomz, and Wittenberg 2000, 341). Here,

**Table 2**  
**Descriptive Statistics of Full Data Set**

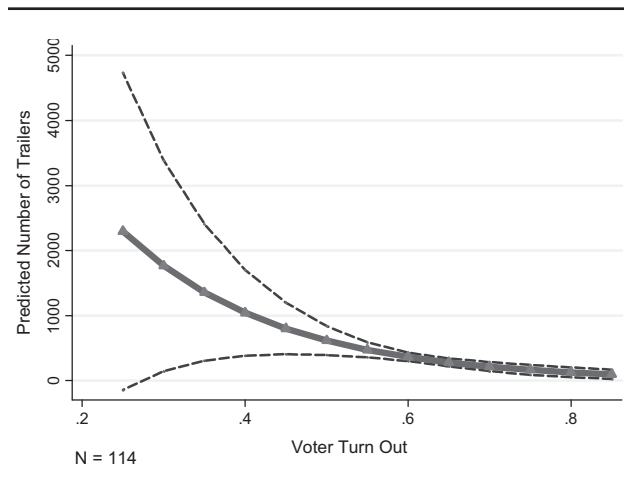
Variable	Number of Observations	Mean	Standard Deviation	Minimum	Maximum
Dependent Variables					
Number of Trailer Sites	114	5.640351	10.49579	1	73
Number of Trailers	114	465.0439	624.1753	3	3787
Technocratic Criteria					
Area (square miles)	114	75.69211	98.16411	0.4	445.7
Population density (people per square mile)	114	1676.119	2720.305	7.482612	12836.92
Discrimination against Minorities					
Percentage of the population which is not white	114	42.93246	26.18343	2.4	98.5
Socioeconomic Indicators					
Percentage of the population above sixty-five	114	11.31754	2.92288	3.8	20.2
Percentage of the population which attended university	114	14.62544	9.652344	0	50.6
Percentage of the population which attended high school	114	70.05789	9.778692	40.1	92.1
Income	114	30544.71	8524.116	7448	52375
House prices	114	79577.19	25839.15	42900	184300
Percentage of the population beneath the poverty line	114	23.10614	10.36919	5.6	71.9
Percentage of the population that is unemployed	114	4.596491	1.906901	1	10.3
Amount of Damage					
Flood damage (calculated through raster image estimation)	114	0.7273392	1.657396	0	8.5
Flood damage (calculated through fewer point estimates and maps)	114	0.7406798	1.658053	0	8.22
Flood damage (calculated solely through LIDAR estimation)	114	0.6015877	1.534462	0	8.117
Strength of Civil Society					
Voter turnout	114	0.6056942	0.064015	0.390533	0.7698048
General Variables					
New Orleans (dummy variable)	114	0.1578947	0.366252	0	1
Population	114	17426.12	13516.77	472	57638
Number of individuals of voting age	114	71.5421	6.457607	14.3	86.8

**Table 3**  
**Negative Binominal Regression Model Coefficients**

Dependent Variable: Number of Trailer Units (negative binomial model, robust standard errors)	Coefficient	Robust Standard Error	z	P> z	Low 95% Confidence Interval	High 95% Confidence Interval
New Orleans (dummy variable)	0.986198	0.412185	2.39	0.017	0.17833	1.794065
Area	-0.001488	0.001146	-1.3	0.194	-0.00374	0.000758
Population density	-0.000165	0.000044	-3.74	0	-0.00025	-7.8E-05
House prices	-8.72E-07	5.47E-06	-0.16	0.873	-1.2E-05	9.85E-06
Percentage of the population which attended high school	0.033492	0.013797	2.43	0.015	0.006451	0.060533
Percentage of the population which is not white	0.014204	0.005586	2.54	0.011	0.003255	0.025154
Percentage of the population that is unemployed	-0.211801	0.064027	-3.31	0.001	-0.33729	-0.08631
Voter turnout	-5.26376	1.495056	-3.52	0.0	-8.19402	-2.3335
Flood damage	0.20741	0.085361	2.43	0.015	0.040106	0.374714
_cons	7.249693	1.08301	6.69	0.0	5.127032	9.372355
/lnalpha	/lnalpha	-0.127247	0.120351	—	-0.36313	0.108637
alpha	alpha	0.880516	0.105971	—	0.695496	1.114757



**Figure 1**  
**The Stronger the Mobilization Potential, the Fewer Trailers per Zip Code**



our quantity of interest is the number of trailers per zip code. The predicted number of trailers is displayed as a solid line, with dotted lines bounding it on either side showing the 95 percent confidence intervals. For these simulations we set all independent variables at their means except for the quantity of interest (that is, voter turnout).

Figure 1 demonstrates that those locales with a more politically active citizenry received far fewer trailers than their less politically active counterparts. Setting all other variables at their means (employment levels, housing prices, education, population density,

percentage nonwhite, etc.), the model predicts that an area where the vast majority (close to 80 percent) of the population voted would be slated to receive fewer than one hundred trailers. On the other hand, a less active zip code area where only 30 percent of the eligible population showed up at election time would be chosen to receive as many as 1,200 trailers. Also, our model predicts that a zip code outside New Orleans would receive approximately 278 trailers (with a 95 percent confidence interval of 214 to 342) while one within the New Orleans city limits would receive closer to 1,029 (with a larger confidence interval of 166 to 1,893). Hence developers were more likely concentrate trailers inside the limits of New Orleans, perhaps with the intention of easing access to grocery stores, medical services, and other needs.

To ensure that the results are not a function solely of the number of trailers, we also tested to see if these factors influenced the number of trailer sites. The coefficients from these regressions are below in Table 4.

Note here again that a number of factors were statistically significant, including the New Orleans dummy variable, high school education, and the voter turnout. Those which were both significant at the .01 or smaller level and had a strong impact on the dependent variable (that is, a large estimated coefficient) were few: the presence or absence of the zip code within New Orleans itself, and voter turnout. As before, we use simulation and confidence techniques to demonstrate the effect of civil society on our quantity of interest, which in this case is the number of trailer sites (as opposed to trailers themselves).

**Table 4**  
**Negative Binominal Regression Model Coefficients**

Dependent Variable: Number of Trailer Parks (negative binomial model, robust standard errors)	Coefficient	Robust Standard Error	z	P> z	Low 95% Confidence Interval	High 95% Confidence Interval
New Orleans (dummy variable)	1.182	0.397	2.980	0.003	0.405	1.959
Area	-0.001	0.001	-1.210	0.224	-0.003	0.001
Population density	0.000	0.000	-0.210	0.835	0.000	0.000
House prices	0.000	0.000	-0.940	0.347	0.000	0.000
Percentage of the population which attended high school	0.038	0.010	3.670	0.000	0.018	0.059
Percentage of the population which is not white	0.006	0.005	1.380	0.168	-0.003	0.016
Percentage of the population that is unemployed	-0.078	0.052	-1.490	0.135	-0.181	0.024
Voter turnout	-5.278	1.460	-3.610	0.000	-8.140	-2.416
Flood damage	0.186	0.096	1.920	0.054	-0.003	0.374
_cons	2.115	0.897	2.360	0.018	0.358	3.873
/lnalpha	-1.109	0.190	—	-1.482	-0.736	—
alpha	0.330	0.063	—	0.227	0.479	—

**Figure 2**  
**The Stronger the Civil Society,**  
**the Fewer Trailer Parks per Zip Code**

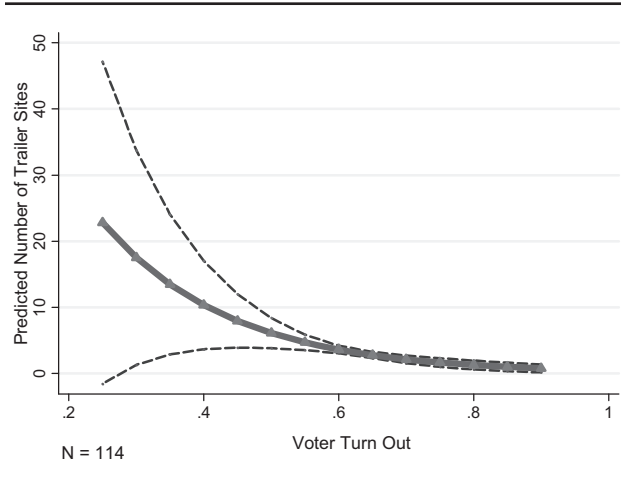


Figure 2 displays more support for the argument that areas with stronger networks of politically active voters were not selected to host unwanted projects—in this case, trailer parks. Our model predicts that an area where 80 percent of the voters turnout in elections would receive only a single trailer park, in stark contrast to an area where less than 40 percent did so, which would receive fifteen or more.

## Discussion

Some observers might imagine that these results, which indicate that siting authorities took potential resistance seriously when selecting sites for trailers, were a function of the emergency conditions under which FEMA and the city of New Orleans sought to place temporary housing. After Hurricane Katrina, with an extreme shortage of housing, these governmental organizations may have used impressions and measurements to identify and avoid areas with high levels of social capital to respond quickly to the enormity of the disaster.

Such thinking would overlook other studies which have demonstrated even in nonemergency settings, where siting procedures can take years, if not decades, authorities take seriously the potential for resistance from local communities. Aldrich (forthcoming) demonstrated that with controversial facilities such as nuclear power plants, dams, and airports, which can require up to three decades to site, Japanese authorities placed projects with an eye to the strength of local civil society organizations. Hamilton (1993) illuminated that private organizations seeking to expand existing controversial facilities projects under normal decision-making conditions

selected areas based on measures of social capital, which indicated to site planners the degree of potential resistance. Finally, Sherman (2006) revealed that siting authorities seeking new locations for radioactive waste took notice of social and demographic indicators which tied into levels of social capital. In short, these results are not the function of an emergency situation, but rather reveal that even when not pressed for time, authorities seek to place unwanted projects in backyards with less potential for controversy.

## Issues for Future Research

This article has used the aggregate, zip code block as its unit of analysis, but an alternative approach would involve a multilevel, hierarchical model which would use the smallest unit of analysis available, the voting district, in conjunction with zip code level characteristics. However, in doing so the researchers would need to think carefully about the counterfactuals implicit in such a procedure: available lists of trailer sites do not provide information on the areas that were not initially selected into a pool of potential sites for political, civil society, or other reasons. One solution might be endogenous, choice-based sampling, with a matched site of observations using available technocratic criteria, but this would also involve both strong assumptions (that the sampling technique sufficiently captured alternative sites not publicly discussed by siting authorities) and would be resource-intensive. Another approach would use probit or logit with clustering around zip codes to investigate trailer park siting in New Orleans (cf. Davis and Bali 2006).

Our results diverge to some degree from the conclusions of other scholars of trailer siting post-Katrina, such as Davis and Bali (2006), who found that a number of factors, including local politics, sociodemographic characteristics, need, and site specific factors were at work in explaining the rejection of individual sites. One explanation for the discrepancy between our findings might be that Davis and Bali focused on greenfield development of individual sites as opposed to aggregate numbers at the zip code level which could either be greenfield sites or leased into existing areas.

## Conclusions

Our zip-code level data support arguments that decision makers within New Orleans and FEMA took seriously the threat from better organized and better connected local areas when selecting sites for unwanted

facilities. Edward Banfield and James Wilson (1963) set off a strong debate with their argument that certain urban-based ethnic communities were “private-regarding,” that is, concerned for private, as opposed to broader public gain, in contrast to “public-regarding” worldviews which favored efficiency and good government. This article has gone beyond such binary categorizations to show that communities which are in fact “public regarding” in terms of turning out to vote may, deliberately or not, create outcomes which are “private-regarding” in terms of unwanted facilities. Our results fit with those of others scholars who emphasize the importance of civil society in siting divisive projects (Hamilton 1993; Clingermayer 1994; Sherman 2006; Aldrich forthcoming).

By avoiding potentially contentious areas, planners hope to speed up the process of recovery. Councilwoman Jacquelyn Clarkson, whose district includes Algiers and the French Quarter, spoke openly about her quest to ensure that any trailers placed in her district would be in locations that “don’t intrude on our lifestyle.” Seeing resistance to trailers as “common sense,” and not NIMBY politics, Clarkson predicted early on that attempts to site trailers in the area of the Lakewood Country Club would fail, as pressure from organized local residents would ensure that the club “was coming off that damn list [of potential sites].” Her comment that politicians and decision makers should “know our districts better,” (quoted in Nelson and Varney 2005) fits well with the model predicted by our data. That is, savvy politicians—if not always the FEMA and city bureaucrats selecting locations for housing—should recognize the communities where stronger bonds between citizens bring them into active participation in politics and siting decisions and avoid those when selecting locations for controversial projects.

Given that New Orleans and FEMA officials evidently sought to avoid delay and controversy by selecting areas with less social capital for trailers, how can we explain the loud disagreements and protest over trailer sitings? We offer two explanations. First, planners themselves may make “forecast errors” where they misjudge potential levels of local resistance. In many past conflicts between citizens and governments, officials underestimated the capability for local resistance (Apter and Sawa 1984). Second, even if the individuals living nearby the planned site do not participate in protest, extra-local individuals, civil rights and environmental groups, and other activists may often take up the issue to raise its salience. Even the best-planned sites often end up embroiled in well-publicized contestation.

While scholars may continue to envision higher levels of social capital and civil society as inevitably leading to more efficient outcomes and better governance, this study has given credence to the “counterweight” theories of civil society in which local citizens join together to balance against state plans. Even after a disaster, tighter and deeper local networks bring with them a double-edged quality, assisting those nearby but not necessarily those further away.

## Notes

1. Some observers might be concerned that local elections, such as those for mayoral races, would better capture levels of social capital. We tested this theory using data from the most recent run-off mayoral election in New Orleans on May 20, 2006 which incumbent Mayor Ray Nagin won. However, out of our 114 zip codes, only seventeen had voting districts in New Orleans city itself, and our attempts at integrating this small number of observations into our large-scale quantitative analysis resulted in incredibly high levels of multicollinearity along with far less analytic efficiency (as we were forced to drop close to one hundred observations to match the in-city blocks). Furthermore, turnout for the mayoral election itself did not measurably affect the number of trailers per zip code, while the percentage of voters from the zip code voting for Mayor Nagin was only somewhat significant (p value of .014). Furthermore, based on coefficient estimates of these seventeen data points, zip codes which voted for Mayor Nagin were more likely to be slated as hosts for trailer parks, an outcome which seems counterintuitive (as Nagin would not want to punish his supporters following a close election with a four-point spread). As a result of these tests, we rely instead on presidential vote turnout.

2. The full data set is available in the Murray Research at Harvard University for replication at <http://dvn.iq.harvard.edu/dvn/dv/mra/faces/study/StudyPage.jsp?studyId=565&tab=catalog>.

## References

- Aldrich, Daniel P. 2005. Controversial facility siting: Bureaucratic flexibility and adaptation. *The Journal of Comparative Politics* 38 (1): 103-23.
- . 2008. Site fights: Divisive facilities and civil society in Japan and the West. Ithaca and London: Cornell University Press.
- . (forthcoming). Location, location, location: Selecting sites for controversial facilities. *Singapore Economic Review*.
- Apter, David, and Nagayo Sawa. 1984. Against the state: Politics and social protest in Japan. Cambridge, MA: Harvard University Press.
- Anderson, Mary, and Peter Woodrow. 1998. Rising from the ashes: Development strategies in times of disaster. Lynne Rienner: Boulder and London.
- Banfield, Edward, and James Wilson. 1963. *City politics*. New York: Vintage Press.
- Batt, Jay. 2005. Campaign flyers for Jay Batt distributed in New Orleans.
- Beggs, John, Valerie Haines, and Jeanne S Hurlbert. 1996. Situational contingencies surrounding the receipt of informal support. *Social Forces* 75 (1): 201-22.
- Castle, Geoffrey, and Don Munton. 1996. Voluntary siting of hazardous waste facilities in Western Canada. In *Hazardous*

- waste siting and democratic choice, ed. Don Munton. Washington DC: Georgetown University Press.
- Clingermayer, James. 1994. Electoral representation, zoning politics, and the exclusion of group homes. *Political Research Quarterly* 47 (4): 969-84.
- Coffe, Hilde, and Benny Geys. 2005. Institutional performance and social capital: An application to the local government level. *Journal of Urban Affairs* 27 (5): 485-501.
- Dacy, Douglas, and Howard Kunreuther. 1969. *The economics of natural disasters: Implications for federal policy*. The Free Press: New York.
- Davis, Belinda, and Valentina Bali. 2006. Not in my district: The Placement of FEMA trailer parks. Paper prepared for the Sixth Annual State Politics and Policy Conference, Texas Tech University, Lubbock. May 19-20.
- De Alessi, Louis. 1975. Toward an analysis of postdisaster cooperation. *The American Economic Review* 65 (1): 127-38.
- Eoh, Min Sun. 2005. A comparative study of recovery time between counties that experience floods frequently and infrequently. Unpublished PhD dissertation for Texas A&M University.
- Foley, Michael W., and Bob Edwards. 1996. The paradox of civil society. *Journal of Democracy* 7 (3): 38-52.
- Frey, Bruno, Felix Oberholzer-Gee, and Reiner Eichenberger. 1996. The old lady visits your backyard: A tale of morals and markets. *Journal of Political Economy* 104 (6): 1297-313.
- Hamilton, James. 1993. Politics and social costs: Estimating the impact of collective action on hazardous waste facilities. *RAND Journal of Economics* 24 (1): 101-25.
- Hasegawa, Kōichi. 2004. *Constructing civil society in Japan: Voices of environmental movements*. Australia: TransPacific Press.
- Hecht, Gabrielle. 1998. *The radiance of France: Nuclear power and national identity after World War II*. Cambridge, MA: MIT Press.
- Hoyman, Michele. 2001. Prisons in North Carolina: Are they a viable strategy for rural communities? In *International Journal of Economic Development, S.P.A.E.*, special volume on Community Economic Development.
- Hurlbert, Jeanne, Valerie Haines, and John Beggs. 2000. Core networks and tie activation: What kinds of routine networks allocate resources in nonroutine situations? *American Sociological Review* 65 (4): 598-618.
- Hurley, Andrew. 1995. *Environmental inequalities: Class, race, and industrial pollution in Gary Indiana 1945-1980*. Chapel Hill: University of North Carolina Press.
- King, Gary, Michael Tomz, and Jason Wittenberg. 2000. Making the most of statistical analyses: Improving interpretation and presentation. *American Journal of Political Science* 44 (2): 347-61.
- Knack, Stephen. 2002. Social capital and quality of government: Evidence from states. *American Journal of Political Science* 46 (4): 772-85.
- MacTavish, Katherine A. 2006. We're like the wrong side of the tracks: Upscale suburban development, social inequality, and rural mobile home park residence. RPRC Working Paper No. 06-03.
- Mohai, Paul, and Bunyan Brant. 1992. Environmental racism: Reviewing the evidence. In *Race and the incidence of environmental hazards: A time for discourse*, ed. Bunyan Brant and Paul Mohai. Boulder, CO: Westview Press.
- Nakagawa, Yuko, and Rajib Shaw. 2004. Social capital: A missing link to disaster recovery. *International Journal of Mass Emergencies and Disasters* 22 (1): 5-34.
- Nelson, Rob, and James Varney. 2005. "Not in my back yard" cry holding up FEMA trailers: Emotional tone of opposition hints at role of stereotypes of race, class. *New Orleans Times Picayune*. December 26.
- Olson, Mancur. 1965. *The logic of collective action; public goods and the theory of groups*. Cambridge, MA: Harvard University Press.
- Özderdem, Alpaslan, and Tim Jacoby. 2006. *Disaster management and civil society: Earthquake relief in Japan, Turkey and India*. London and New York: I. B. Tauris.
- Pastor, Manuel, Jim Sadd, and John Hipp. 2001. Which came first? Toxic facilities, minority move up, and environmental justice. *Journal of Urban Affairs* 23 (1): 1-21.
- Peacock, Walter, Betty Morrow, and Hugh Gladwin. 1997. *Hurricane Andrew: Ethnicity, gender, and the sociology of disasters*. Miami, Florida: Laboratory for Social and Behavior Research.
- Putnam, Robert. 1993. *Making democracy work: Civic traditions in modern Italy*. Princeton, NJ: Princeton University Press.
- . 2000. *Bowling alone: The collapse and revival of American community*. New York: Simon and Schuster.
- Rabe-Hesketh, Sophia, and Brian Everitt. 2007. *A handbook of statistical analyses using stata*, 4th ed. Boca Raton, FL: Chapman & Hall/CRC.
- Reuter, Peter, and Edwin Truman. 2004. *Chasing dirty money: The fight against money laundering*. Washington DC: Institute for International Economics.
- Richardson, James. 2006. What's needed for Post-Katrina recovery. Financial Services Roundtable Working Paper.
- Rüdiger, Wolfgang. 1994. Maintaining a low profile: The anti-nuclear movement and the British state. In *States and anti-nuclear movements*, ed. Helena Flam. Edinburgh: Edinburgh University Press.
- Shaw, Rajib, and Katsuhiko Goda. 2004. From disaster to sustainable civil society: The Kobe experience. *Disasters* 28 (1): 16-40.
- Sherman, Daniel. 2006. Not here, not there, not anywhere: The federal, state and local politics of low-level radioactive waste disposal in the United States, 1979-1999. Paper Presented at the 2006 Northeastern Political Science Association Conference: Boston, Massachusetts
- Student Hurricane Network. 2007. Dataset of survey responses carried out in metropolitan New Orleans, Spring.
- Takahashi, Lois. 1998. *Homelessness, AIDS, and stigmatization: The NIMBY syndrome in the United States at the end of the twentieth century*. Oxford: Clarendon Press.
- Tata Institute of Social Sciences. 2005. *The state and civil society in disaster response: An analysis of the Tamil Nadu tsunami experience*. TATA Institute: Mumbai.
- Varney, James, and Martha Carr. 2005. FEMA drafting trailer park map: Uptown, West Bank sites on initial list. *New Orleans Times Picayune*. October 26.
- Verba, Sidney, and N. H. Nie. 1972. *Participation in America*. New York: Harper and Row.
- Walsh, Edward J., and Rex H. Warland. 1983. Social movement involvement in the wake of a nuclear accident: Activists and free riders in the TMI Area. *American Sociological Review* 48 (6): 764-80.
- White, Halbert. 1980. A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica* 48:817-30.