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Siting Trailers in Post-Katrina New Orleans”

by Daniel P. Aldrich and Kevin Crook

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Abstract

To meet the dire need for housing created by the devastation of Hurricane Katrina in August 2005, Mayor Ray Nagin of New Orleans and the staff of the Federal Emergency Management Agency (FEMA) worked to create lists of potential sites for trailer parks. This procedure took place within an environment of Not In My Back Yard-ism, or NIMBYism, where a number of communities and individuals expressed their opposition to hosting such trailer sites both publicly and privately. We analyze the final list of city-approved sites to track which factors were correlated with larger (or smaller) numbers of trailers and trailer sites per zip code bloc. Our data show that areas which displayed greater levels of social capital, as evidenced by voluntaristic activities such as turning out to vote, were slated for fewer trailers, controlling for race, income, flood damage, area, population density, and other relevant factors. Despite theories uncritically connecting denser social capital with more rapid rebuilding, areas of strong civil society weakened the city's ability to recover quickly by forcing it to invest more effort in locating amenable sites for temporary housing.

Keywords: civil society, social capital, Hurricane Katrina, disaster recovery, trailer parks, NIMBY, spatial location.

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Introduction

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, destroying close to 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 end up hosting these trailers and their occupants is a critical but unanswered question.

This paper, set against a backdrop of local opposition, investigates which communities and areas ended up being 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 local ties and a more vibrant civil society – were the ones which received the fewest trailers. Conversely, those which demonstrated weaker local ties were more likely to end up hosting large numbers of trailers.

This is an important finding because it reverses a nascent literature investigating the factors which facilitate a more rapid recovery from disaster. While initial research on post-disaster rebuilding focused upon 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 links 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, often defined as networks of trust and reciprocity among citizens, to better 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 among citizens can create a more efficient and rapid process of rebuilding.

Research on post-disaster situations has demonstrated that following crisis situations, individuals embedded in stronger networks have more resources, both emotional and material (Hurlbert, Haines, and Beggs 2000). Scholars illuminated the critical role played by active social capital in recovery following Turkish, Indian, and Japanese earthquakes (Özerdem 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 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 (Nakagawa and Shaw 2004).

However, we argue that civil society plays a dual role in the rebuilding process following disasters, simultaneously strengthening the ability of local citizens to engage in practices of “informal insurance” (de Allesi 1975) and overcome collective action problems, while orienting them to defend their neighborhood against unwanted but

perhaps necessary projects, such as trailer parks, which speed recovery. Here, the “bonding” social capital which connects neighbors to each other may simultaneously preventing them from “bridging” beyond their own neighborhood’s needs to allow in temporary trailers (Putnam 2000). In this way, stronger local civil societies act as a dual edged swords during post-disaster situations, perhaps helping draw back refugees to their communities and providing them with support but simultaneously slowing the overall process of rebuilding in the city as a whole by stalling or preventing the siting of unwanted projects. If city planners must continuously search for new potential locations for temporary trailers and housing because of local resistance, that time and resources cannot be spent on other recovery activities. Further, such resistance slows down the placement of new housing and thus prevents refugees, workers, and administrators from returning to the affected area.

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). In New Orleans, however, trailer parks were seen by local residents not as a solution to the housing problem, but as an additional blight which would negatively impact residents already suffering losses from Hurricane Katrina. At Lakewood Estates in Algiers, section, local residents used human and vehicular chains to block construction and surveying equipment brought by federal workers who were supposed 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 house

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 64 parishes across the state of Louisiana, half immediately banned new group trailer sites. Scholars have argued 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 (Davis and Bali 2006). Mayor Ray Nagin criticized the “not in my neighborhood thinking” which surfaced 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 created, revised, re-revised, and eventually released a list of approved sites for FEMA temporary trailers and housing.

Trailer parks, often located on the “wrong side of the tracks,” bring with them stigmatization and are viewed as magnets for crime, loitering, drug use, increased foot and vehicle traffic, and lower property values (MacTavish 2006). Further, despite reassurances that temporary trailers are, in fact, temporary, many communities, such as those in Florida which hosted trailer parks after Hurricane Andrew, find trailers still in place several years after disasters (Peacock, Morrow, and Gladwin 1997).¹ Some critics

¹ For precisely this reason, FEMA has banned religious services and other events at trailer parks which could encourage long term community building among residents (*National Journal* 13 March 2006).

saw in local reactions to trailer parks evidence for continuing racial and class divisions which have plagued New Orleans for decades (Nelson and Varney 2005). We can categorize the siting of trailer parks as another form of a “public bad” which imposes focused costs on local communities but provides diffuse benefits to cities and regions as a whole. The term *public bad* is used to contrast these facilities with public goods, such as lighthouses and national defense, which provide diffused benefits and are accompanied by diffuse costs. Trailers provide much needed housing for workers and families who will improve the economic condition of the city and region, but focus potential externalities, whether actual or expected, on local host communities. States and developers around the world struggle to site such controversial facilities, including nuclear power plants, incinerators, and even old age homes (Aldrich 2005), and temporary trailers are no exception.

Explanations for Siting Decisions

Previous research has sought to identify the factors which make it more or less likely 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 area and the density of 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 a neighborhood may best predict outcomes. Finally, some scholars, such as Hamilton

(1993) and Aldrich (forthcoming), argue that authorities take into account the potential for collective action in local communities. Developers and government decision makers alike recognize that areas with higher levels of social capital and volunteerism are more likely to mobilize against controversial facilities and avoid siting in such communities if possible. As such, strong civil society may act as a double edged sword: while providing “informal insurance,” information, and organizational power to local communities (Beggs, Haines, and Hurlbert 1996), it simultaneously impedes the ability of local authorities to accomplish some necessary tasks after reconstruction.

Table 1: Potential Explanations for Siting Trailer parks

| <i>Explanation</i> | <i>Logic</i> | <i>Key Siting Criteria</i> |
|--|---|--|
| 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 non-white |
| Socioeconomic | Wealthy neighborhoods 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 upon trust, networks, and social capital | Percentage of eligible residents voting in elections |

Different observers see dissimilar landscapes when envisioning how authorities choose where to locate public bads. Table 1 above lays out five approaches along with their key siting criteria.

Technocratic criteria, such as the amount of land in an area or zip code bloc, 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 bloc 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 (Bullard 1994). 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 upon 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

than wealthier, better educated residents with the idea of living near a trailer park. 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 negative effects on the neighborhood. 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 below 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 due to flooding might have less demand for, and perhaps less interest in hosting refugees and trailers from the storm, while an area which suffered devastation would suffer 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 bloc.

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 which are made up of more homogeneous constituents, i.e. areas with stronger horizontal bonds between citizens, are more likely to create zoning policies which exclude unwanted group homes than heterogeneous ones (Clingermayer 1994). In communities with more social capital and better linkages, anti-facility groups find it easier to mobilize and organize against unwanted projects. 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 neighborhoods 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, as such areas will protest with less rigor than their stronger counterparts. In the North American radioactive waste siting cases, for example, researchers have uncovered how many

companies utilized a “windshield survey” where they would drive through potential host communities and note 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 summed up the site as “in” rather than “out” (Sherman 2006). In Japan, governmental officials surveyed the strength of local non governmental 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 opposition (Aldrich forthcoming). States around the world, 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 were forced to find better host communities for trailers elsewhere to avoid stalling 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 elections as a proxy for social capital and civic engagement.

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

Data and Methodology

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 29 June 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 where trailers could have been sited by city and governmental authorities.

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 models involve assumptions about inaccurate non-zero 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 for missing values (five data points) across the data set.

Because our dataset investigates the number of trailers and trailer parks per zip code, we must be quite careful about making inferences at lower levels of analysis. We cannot speak directly about the decision making heuristics employed by decision makers, such as Mayor Nagin and the New Orleans housing department, on a case-by-case basis. Our strongest claims can be about the factors within zip code blocs 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 do not know how much information these planners had access to, but we assume that it was at the broader community level as opposed to site-by-site. That is, the decision makers' impressions of local level social, racial, technocratic, and civil society factors were more than likely based solely on available data which had been recorded or intuited prior to the storm, and hence were based at broader spatial levels, such as the whole neighborhood.

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 interact or influence the number of trailers in another, neighboring one.

We use the percentage of a zip code bloc'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). 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 29 October 2004, the most recent data before the presidential election. Data on socioeconomic indicators came from the 2000 US national census, while information on water levels was taken from a number of sources, including NOAA lidar plots and local observers' estimations. Table 2 below provides descriptive statistics about our data set.

Table 2: Descriptive Statistics of 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 65 | 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 | | | | | |
| Percentage of eligible population voting | 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 |

Note the enormous variation across our variables. There were an average of five trailer sites or parks per zip code, with some areas receiving only a single site and others receiving as many as 73. Furthermore, while the average zip code bloc was slated to receive more than 450 trailers, some had as few as three or as many as 3800.

Results

We used a negative binominal regression to analyze which factors impacted the number of trailers or trailer site per zip code. Table 3 below reports the coefficients from this model.

Table 3: Negative Binominal Regression Model Coefficients

| Dependent Variable: Number of Trailers | Coefficient | Std Error | Z | P> z | Low CI (95%) | High CI (95%) |
|---|--------------------|------------------|----------|-----------------|---------------------|----------------------|
| New Orleans (dummy variable) | 1.309 | 0.498 | 2.630 | 0.009 | 0.333 | 2.285 |
| Population | 0.000 | 0.000 | 2.570 | 0.010 | 0.000 | 0.000 |
| Percentage of the population above 65 | 0.024 | 0.037 | 0.660 | 0.507 | -0.047 | 0.096 |
| Area | -0.002 | 0.001 | -1.650 | 0.100 | -0.004 | 0.000 |
| Population density | 0.000 | 0.000 | -3.630 | 0.000 | 0.000 | 0.000 |
| House prices | 0.000 | 0.000 | 0.720 | 0.469 | 0.000 | 0.000 |
| Income | 0.000 | 0.000 | -0.330 | 0.742 | 0.000 | 0.000 |
| Percentage of the population which attended high school | 0.025 | 0.018 | 1.410 | 0.159 | -0.010 | 0.060 |
| Percentage of the population which attended university | -0.013 | 0.019 | -0.690 | 0.487 | -0.049 | 0.024 |
| Percentage of the population which is not white | 0.012 | 0.006 | 1.980 | 0.048 | 0.000 | 0.024 |
| Percentage of the population that is unemployed | -0.207 | 0.066 | -3.130 | 0.002 | -0.337 | -0.078 |
| Flood damage | 0.159 | 0.089 | 1.800 | 0.072 | -0.015 | 0.333 |
| Percentage of eligible population voting | -5.289 | 1.835 | -2.880 | 0.004 | -8.885 | -1.693 |
| Constant | 7.368 | 1.357 | 5.430 | 0.000 | 4.710 | 10.027 |
| /lnalpha | -0.184 | 0.120 | | | -0.419 | 0.052 |
| alpha | 0.832 | 0.100 | | | 0.658 | 1.053 |

A number of factors proved to be statistically significant, including if the zip code was in New Orleans or outside it, population and population density, percent unemployed, and the percentage of the eligible population which voted. Of these variables, those with the largest **effect** on the number of trailers per zip code are the New Orleans dummy variable and the civil society proxy, i.e., the percentage of eligible voters voting in past elections. It is important to note that we cannot directly interpret these coefficients as we might with a typical OLS regression due to the structural form of the 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, 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.

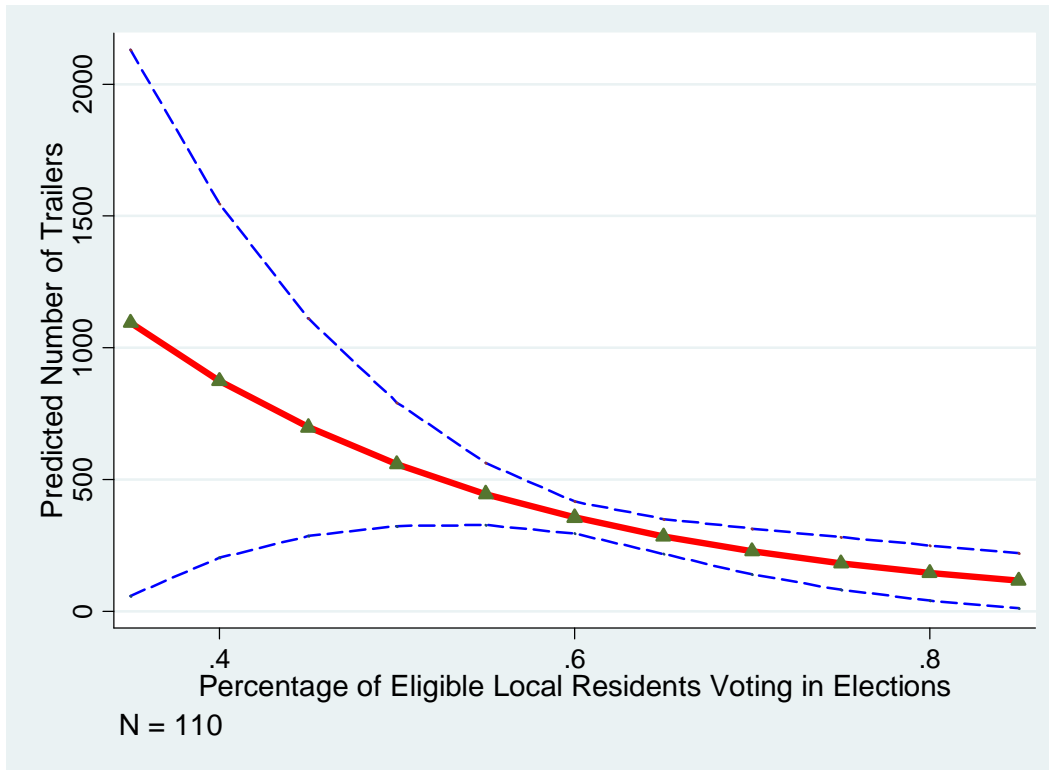
Figure 1: The Stronger the Mobilization Potential, the Fewer Trailers per Zip Code

Figure 1 demonstrates that those locales with a more politically active citizenry received far fewer trailers than their counterparts with less activism. Setting all other variables at their means (employment levels, income, population, 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 100 trailers. On the other hand, a less active zip code area where only 30 percent of the population showed up at election time would be chosen to receive as many as 1200 trailers. Also, our model predicts that a zip code outside New Orleans would receive approximately 278 trailers (with a 95% confidence interval of 214 to 342) while one within the New Orleans city limits would receive closer to 1029 (with a larger confidence interval of 166 to 1893). 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 impacted the number of trailer sites. The coefficients from these regressions are below in Table 4.

Table 4: Binominal Regression Model Coefficients

| Dependent Variable: Number of Trailer Sites | Coef. | Std Err | z | P>z [95% | Low CI (95%) | High CI (95%) |
|---|--------------|----------------|----------|--------------------|---------------------|----------------------|
| New Orleans (dummy variable) | 1.7664 | 0.3156 | 5.6000 | 0.0000 | 1.1478 | 2.3849 |
| Population | 0.0000 | 0.0000 | 4.5900 | 0.0000 | 0.0000 | 0.0000 |
| Percentage of the population above 65 | 0.0482 | 0.0284 | 1.7000 | 0.0900 | -0.0075 | 0.1040 |
| Area | -0.0017 | 0.0010 | -1.7200 | 0.0850 | -0.0036 | 0.0002 |
| Population density | -0.0001 | 0.0000 | -2.0400 | 0.0420 | -0.0002 | 0.0000 |
| House prices | 0.0000 | 0.0000 | 1.3500 | 0.1760 | 0.0000 | 0.0000 |
| Income | 0.0000 | 0.0000 | -0.5800 | 0.5650 | 0.0000 | 0.0000 |
| Percentage of the population which attended high school | 0.0579 | 0.0149 | 3.9000 | 0.0000 | 0.0288 | 0.0870 |
| Percentage of the population which attended university | -0.0611 | 0.0149 | -4.1100 | 0.0000 | -0.0903 | -0.0320 |
| Percentage of the population which is not white | 0.0048 | 0.0048 | 0.9900 | 0.3230 | -0.0047 | 0.0142 |
| Percentage of the population that is unemployed | -0.0183 | 0.0565 | -0.3200 | 0.7460 | -0.1290 | 0.0924 |
| Flood damage | 0.1040 | 0.0504 | 2.0600 | 0.0390 | 0.0052 | 0.2028 |
| Percentage of eligible population voting | -6.1971 | 1.4670 | -4.2200 | 0.0000 | -9.0723 | -3.3218 |
| Constant | 0.3874 | 1.1494 | 0.3400 | 0.7360 | -1.8654 | 2.6402 |
| /lnalpha | -1.7994 | 0.3368 | | | -2.4596 | -1.1392 |
| alpha | 0.1654 | 0.0557 | | | 0.0855 | 0.3201 |

Note here again that a number of factors were statistically significant, including the New Orleans dummy variable, population, high school and college education, and the voter turnout. Those which were both significant and had an impact were few: the

presence or absence of the zip code within New Orleans itself, and the percentage of the eligible population voting. As before, we use simulation and confidence techniques to demonstrate the impact of civil society on our quantity of interest, which in this case is the number of trailer sites (as opposed to trailers themselves).

Figure 2: The Stronger the Civil Society, the Fewer Trailer Parks

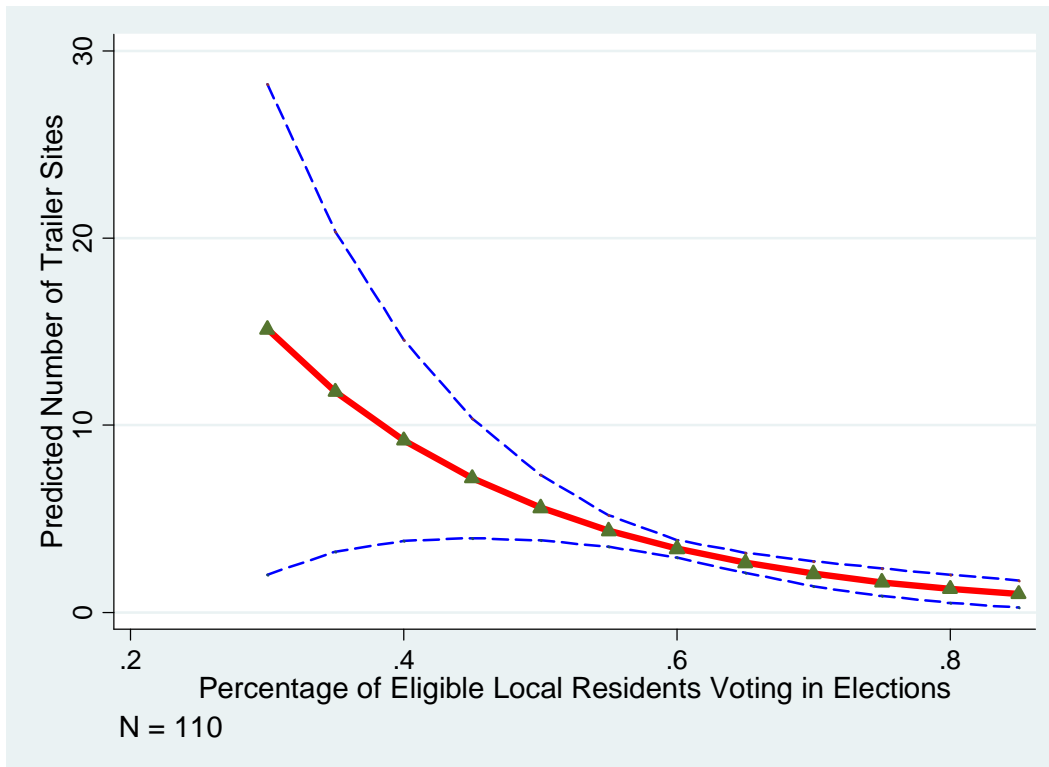


Figure 2 displays more support for the argument that areas with stronger networks of politically active voters were not selected to host unwanted projects – in this case, trailer parks. Our model predicts that an area where 80 percent of the voters turn out in elections would receive only a single trailer park, in stark contrast to an area where less than 40 percent did so, which would receive 15 or more.

Issues for Future Research

This paper has used the aggregate, zip code bloc as its unit of analysis, but an alternative approach would involve a multi-level, 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 strong trade-offs and strong assumptions. Another approach would use probit or logit with clustering around zip codes to investigate trailer park siting in New Orleans (cf. Bali and Davis 2006).

Our results diverge to some degree with the conclusions of other scholars, such as Davis and Bali, 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 (2006). 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 local communities when selecting sites for unwanted facilities. As Hamilton found in his study of the expansion of existing “public bads” (1993) and as Aldrich has argued for larger scale controversial facilities (forthcoming), developers and city authorities recognize that better organized and more easier mobilizable populations will make these siting processes more difficult. 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 trailer 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 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 should recognize the communities where stronger bonds between citizens bring them into active participation in politics and also into siting decisions and avoid those when selecting locations for controversial projects.

Despite the mass public's agreement that housing is a critical issue for recovery post-Katrina, communities within New Orleans which are better connected to each other through bonding capital have demonstrated their ability to avoid being selected as hosts for trailer parks. Those local areas with less politically active, and hence less connected

and networked communities, are more likely to be chosen as hosts for these controversial projects. Due to the opposition from well-organized locales, city planners and government officials have had to revise, cancel, and rework temporary housing plans. While scholars may continue to envision social capital and civil society as inevitably positive, this study has sought to demonstrate that tighter local networks after disasters may have an unpredicted double-edged quality to them.

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