

Rules of Engagement:

A Study of Community-Facility Interaction in an Environmental Justice Community

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Abstract

This Masters Project explores the phenomena of how an environmental justice community and its neighboring facilities interacted during a recent Title V permit application process. A case study methodology was used to define a study area, identify cases and interview subjects, and collect and analyze data. Semi-structured interviews were conducted with three key actors in the North Birmingham (Alabama) neighborhood. These participants provided different perspectives on community-facility engagement: a facility manager, a neighborhood leader and a permitting agency. Data analysis consisted of thematic coding using the framework originated by Bowen, Newenham-Kahindi, and Herremans (2010) and incorporated inductive coding to identify emergent themes. The results showed that community-facility interaction isn't only experienced during the permitting process; that the neighborhood leader desired engagement efforts that go beyond what is legally required; and that unexpected external factors can impacted community-facility interactions.

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Context

In 1994, President Clinton issued Executive Order 12898 requiring federal agencies, like the Environmental Protection Agency (EPA), to address environmental justice in minority populations and low income communities (Executive Order 12898, 1994). Over the subsequent decades, agencies have taken action to implement this executive order. The EPA has outlined the following goal for its environmental justice efforts:

“The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.” (Environmental Protection Agency, n.d.)

In 2013, EPA went further when it publicly outlined how it will address environmental justice (EJ) during permit actions. Their "Promising Practices for Permit Applicants Seeking EPA-issued Permits" states the following:

“EPA learned from its conversations with business stakeholders that dialogue with the community early in the permitting process promotes reasonable expectations among the public and, therefore, more predictable outcomes for the permit applicant. EPA also learned that permit applicants that invest in outreach may avoid the costs of delay, negative publicity among peers and investors, and community distrust resulting from a community objecting to a permit late in the permitting process.” (78 Federal Register 27220, 2013)

This excerpt is interesting for two reasons. First, the excerpt draws a relationship between community engagement and a number of outcomes including permit delays, negative attention, and community trust. Second, the excerpt names only one stakeholder, “business stakeholders,” as the source of this information.

This study will explore the relationship (articulated above) between facility-led community engagement, community trust and negative outcomes, like permit delays and negative attention. This study will also expand the conversation to include community members and

permitting agency representatives, not just business stakeholders. The study will approach the conversation in the context of major source air permitting.

The Clean Air Act, Title V, defines “major sources” of air pollution as facilities that have the potential to emit more than:

- 100 tons per year of a single criteria pollutant,
- 10 tons per year of a single hazardous air pollutant, or
- 25 tons per year of a combination of hazardous air pollutants.

Title V facilities operate in communities across the county and are required to obtain a construction and operating permit, which must be renewed every five years. The Title V permitting process allows for public participation. Title V permitting is typically a nine month process incorporating multiple layers of review. Public opposition to a facility has the potential to delay this already lengthy process. All of these factors make this an appropriate context for investigating community-facility interaction in environmental justice communities.

Literature Review

There are three bodies of literature that inform this study. First, literature on community engagement offers a theoretical framework for categorizing community-facility interaction. Second, literature on environmental decision-making helps connects community engagement to different process outcomes. Third, literature on community trust creates a bridge that can help explain why and when community engagement lead to specific outcomes.

Community Engagement

In their sweeping review and synthesis of community engagement research, Bowen, Newenham-Kahindi, and Herremans (2010) identify three types of community engagement strategies: 1) *transactional engagement*, 2) *transitional engagement*, and 3)

transformational engagement. These engagement types create a continuum of community outreach styles that can be used to understand community engagement and associated community trust.

At one end of the Bowen *et al.* (2010) continuum is *transactional engagement*. Transactional engagement is associated with giving back to the community through donations, volunteering, and information dissemination. Communication flows one way, from the facility to the community, and the facility controls the interaction.

Moving along the continuum is *transitional engagement*. This type of interaction is characterized by community involvement through stakeholder dialogue and consultative meetings. As with transactional engagement style, facilities drive the interactions, but there is more two-way communication and information sharing than is seen with transactional engagement.

Transformational engagement is the last type of engagement on the continuum. This type of engagement fully integrates facilities and the community in making decisions and solving problems. It will be achieved through frequent interaction and two way communication with a small number of communities. Key characteristics of all three engagement styles are outlined in Table 1 below.

Table 1: Characteristics of Transactional, Transitional, and Transformational Engagement

	TRANSACTIONAL ENGAGEMENT	TRANSITIONAL ENGAGEMENT	TRANSFORMATIONAL ENGAGEMENT
CORPORATE STANCE	Community investment/information “Giving back”	Community involvement “Building bridges”	Community integration “Changing society”
OUTREACH TACTICS	Charitable Donations Volunteering Information Sessions	Stakeholder Dialogue Public Consultation Town-hall Meeting	Joint Projects Joint Decision-making Co-ownership
CONTROLS PROCESS	Firm	Firm	Shared
COMMUNICATION	One-way: firm-to- community	Two-way: more firm- to-community than community-to-firm	Two-way: Community- to-firm as much as firm-to-community
FREQUENCY OF INTERACTION	Occasional	Repeated	Frequent
NATURE OF TRUST	Limited	Evolutionary	Relational
NUMBER OF COMMUNITIES	Many	Many	Few

Table adapted from Bowen *et al.* (2010, p. 305)

Environmental Decision-Making

Environmental decision-making literature investigates how decisions concerning the environmental are made. This field of study includes research on public involvement in the environmental permitting, like the major source air permitting. Previous studies have found that community involvement in environmental permitting decisions leads to a less confrontational process, more satisfactory outcomes, and fewer project delays (Caron & Rezaee, 2012; Chess & Purcell, 1999; Freudenberg *et al.* (2010); Gallagher & Jackson, 2008; Mackenzie & Krogman, 2005). These studies suggest that community engagement produces beneficial outcomes for all parties involved. However, community engagement has not been studied extensively within the context of major source air permitting in EJ communities.

Community Trust

Research on community trust helps explain the link between community engagement in environmental decision-making and beneficial outcomes. Table 1 shows that the “nature of trust” differs for each type of engagement (see Bowen *et al.*, 2010). Transaction engagement produces limited trust while transformational engagement results in relational trust. “Relational” trust refers to the Bowen *et al.* (2010) conclusion that personal relationships lead to increased understanding between parties, which that builds trust. They explain:

“Frequent interaction with a small number of partners leads to the development of trust based on personal relationships and mutual understanding” (p. 306).

Bowen *et al.* (2010) go on to explain that trust in transitional engagement is more fragile than trust in transformational engagement because it is based on evolving interactions between the parties, not on personal relationships and mutual understanding. Gallagher & Jackson (2008) also found evidence of a positive relationship between environmental justice, community engagement and trust. However, there is not extensive research about community engagement and trust within the context of EJ communities.

Expectations

The study reported here will add to existing literature by describing the variables impacting community engagement, environmental decision-making, and trust in one environmental justice community. Based on EPA’s “Promising Practices” (2013) document and the literature review, the researcher expects to find:

1. Transformational engagement with EJ communities by the facility early in the permitting process will reduce community distrust.
2. Reduced community distrust will result in fewer negative comments or requests for public hearing, which can delay a permit. Therefore,

3. Transformational engagement with EJ communities by the facility early in the permitting process will reduce permit delays.

Study Design

A case study analysis methodology was used to study the phenomena of EJ community-facility interaction during Title V permitting. This approach was used because it allows for in-depth exploration of community engagement, environmental decisions making and trust in a real life environmental justice context. The study design, modeled after Caron & Rezaee (2012), consisted of a defined study area, a methodology for identifying cases and interview participants, and data collection and analysis procedures.

Study Area

Specific cases were sought in Jefferson County, Alabama. Compared to other local air agencies in EPA Region 4, Jefferson County has low median household income and a high minority population (see Table 2), which are characteristic of environment justice communities. Jefferson County also received an “F” in the American Lung Association’s 2015 State of the Air report (American Lung Association, 2015).

Table 2: Comparison of Region 4 Local Air Agencies Based on Jurisdiction Demographics

MEDIAN HOUSEHOLD INCOME		% MINORITY	
Miami-Dade County, Florida	\$43,100	Shelby County, Tennessee	57.7
Louisville, Kentucky	\$44,159	Jefferson County, Alabama	46.0
Buncombe County, NC	\$44,713	Mecklenburg County, NC	40.8
Jefferson County, Alabama	\$45,429	Jacksonville, Florida	40.6
Pinellas County, Florida	\$45,535	Huntsville, Alabama	39.7
Forsyth County, North Carolina	\$45,724	Nashville, Tennessee	39.5
Shelby County, Tennessee	\$46,250	Broward County, Florida	35.0
Nashville, Tennessee	\$46,686	Forsyth County, NC	32.5
Hamilton County, Tennessee	\$46,702	Orange County, Florida	31.0
Jacksonville, Florida	\$47,557	Louisville, Kentucky	29.4
Palm Beach County, Florida	\$47,581	Hillsborough County, Florida	24.7
Orange County, Florida	\$47,581	Hamilton County, Tennessee	24.4
Knox County, Tennessee	\$47,694	Palm Beach County, Florida	23.9
Huntsville, Alabama	\$48,881	Miami-Dade County, Florida	22.1

Hillsborough County, Florida	\$49,596	Pinellas County, Florida	16.9
Broward County, Florida	\$51,251	Knox County, Tennessee	13.7
Mecklenburg County, NC	\$55,444	Buncombe County, NC	10.4
Source: U.S. Census Bureau, 2015a			

Identifying Potential Cases

For the purposes of this study, the case was defined as the interaction between key actors over specific Title V permit applications. Seven potential cases were identified within the study area using the following methodology:

1. An initial population of 37 Title V facilities was identified from records obtained from the Jefferson County Department of Health (JCDH).
2. The sample was narrowed to facilities that were issued a permit that required a public comment period between 2013 and mid-2015.
3. The remaining list was filtered using demographic data for the facility's zip code. Only facilities in zip codes with communities where >30% of the citizens live within 150% of the federal poverty line and with <50% white (Gallagher & Jackson, 2008) were retained.

Interview participants in this case provided three different perspectives: that of facility, neighborhood and permitting agency. These were the main actors identified in the prior literature. These three perspectives allowed for triangulation of data. After reaching out to the key stakeholders in all seven cases, only one case had key actors for all three perspectives agree to participate.

The Case

This paper presents a single case, the 2012-2013 Title V permit renewal of Nucor Steel Birmingham, Inc. (Nucor), a steel mill located adjacent to the Collegeville and North Birmingham neighborhoods of Birmingham, Alabama. According to the U.S. Census Bureau (2015b), residents of this area are predominantly minority (89%) and poor (40.6% living

below the poverty line). This was the highest percentage of residents below the poverty line of any of the potential cases.

In 2012, Nucor submitted a Title V renewal application to JCDH. According to the facility, Nucor did not do any special outreach around the permitting process. This was cross-verified by other key actors in the case who did not recall any specific outreach or community engagement during Nucor's Title V permit renewal.

On December 9, 2012, JCDH released the Nucor's draft Title V Operating Permit for a 30 day public comment period, as required by law. Notice of availability of the draft permit was published in the local newspaper, also required by law. According to JCDH, no comments or hearing requests were received. On January 28, 2013, JCDH issued a final Title V Operating Permit to Nucor. JCHD reported there were no delays during the permit process.

The Key Actors

Three key actors in the case agreed to participate in interviews. Each participant offered a unique perspective on the case:

- The *facility perspective* came from Steve Messier, Environmental Manager at a Title V steel manufacturing facility in North Birmingham. The facility has operated in North Birmingham for several decades. Messier has worked at the facility since 1997. The interview was conducted in person at the Nucor facility in October, 2015. This was the longest interview, lasting 72 minutes.
- The *neighborhood perspective* was presented by Sandra Brown, a North Birmingham resident. Brown served as neighborhood association president from 2012-2014 and currently serves as an elected official within the City of Birmingham. This interview was conducted over the phone in January, 2016. This was the shortest interview, lasting approximately 25 minutes, and coding was from notes rather than a transcript.
- The *permitting agency perspective* was offered by Jason Howanitz, a Senior Air Pollution Control Engineer with the Jefferson County Department of Health. Howanitz has been

with the agency since 2006 and organizes many of the agency's community engagement efforts. This interview was conducted over the phone in November, 2015. The interview lasted 33 minutes.

Data Collection

Data was collected through semi-structured interview questions (see Appendix A). Interviews were arranged using an IRB-approved protocol that included an initial invitation to participate along with an interview information sheet.

Participation by the permitting agency representative was secured by the researcher, who has professional connections with JCDH. Representatives from two different facilities agreed to be interviewed, but only one completed the interview. The second could not get permission from her company to participate as a company representative.

Interview requests were sent to five neighborhood association officers in North Birmingham and Collegeville using contact information provided by JCDH. JCHD contacted one additional neighborhood leader by phone. Of the six contacted, one neighborhood leader agreed to participate in an interview. Another potential participant requested additional information about the study but did not respond to repeated follow-ups. Discussion of the low response rate and limited sample size is included in the limitations section.

Interviews were conducted between October, 2015 and January, 2016. One interview was in person; two were completed by phone. Interviews were recorded (when possible), transcribed, and analyzed using inductive and deductive coding.

Coding System

Initial coding was derived from previous literature, specifically, Bowen *et al.* (2010).

Deductive codes fell under four meta-themes:

- Transactional

- Transitional
- Transformational
- Trust

Inductive coding was used to capture emerging themes and issues that were not addressed by Bowen *et al.* (2010). Three meta-themes emerged from inductive coding:

- Superfund
- Negative Attention
- Outsiders

The full coding system is outlined in Appendix B, along with the number of instances each theme appeared in the case.

Results

First Impressions

Case Boundaries: As a result of the interviews, the boundaries of the case shifted. This study was designed to look at community-facility interaction during the permitting process, so the case boundaries were very narrowly defined as the interaction during the Nucor permit renewal. However, all three participants described the community-facility integration outside the scope of this case (a singular permit). Since these participants experienced the phenomena of community-facility interaction more broadly than as a permit-by-permit interaction, the analysis here will also venture beyond the original boundaries of the case.

Facility Perspective: This interview offered three unique qualities. First, Messier frequently emphasized doing the right thing (complying with legal requirements) and seemed to imply that internal action was the foundation for a good relationship with the community.

Obviously we can have the best relationship in the world personally, but if we're not doing the right thing, they aren't going to be patting us on the back. To me, that's ultimately the thing that matters, is the organization's commitment to doing the right thing, is going to carry through.

Messier was the only participant who spoke explicitly and repeatedly about compliance during his interview. Second, community outreach was most frequently described in terms

of giving-back and maintaining a positive image, which are sub-themes of transactional engagement (see Bowen *et al.*, 2010). However, Messier shared examples of being involved in more transformational stakeholder groups, especially on the topic of water. Finally, Messier's current views of community engagement seemed heavily influenced by a perceived "honest nest" involving another facility in the area. This theme will be discussed in more detail in the "New Themes" section below.

Neighborhood Perspective: This interview offered unique insight into the desirable qualities of facility outreach to the community. Brown appreciated proactive outreach from facilities, including pre-emptive explanations of facility changes and attending neighborhood meetings simply to listen.

Agency Perspective: Howanitz identified a shift in the dynamic between facilities and the surrounding communities due to influences from outside the community. This theme will be discussed in more detail in the "New Themes" section below. Howanitz also characterized in a positive way agency-led outreach in terms of community education and consultation.

Analysis of Themes from Literature Review

Transactional engagement was the most frequent theme exhibited in this case. Examples of transactional engagement were given by all three interview participants. It was the most frequent theme for two of the three participants. In addition, the role played by facilities in "giving back" was spoken of positively by all participants. For example:

We've paid for and covered the electronic recycling day events that hosted twice a year, and covered those costs. We've done some other things with just different community organizations, given money when some of the neighborhoods or local areas have asked for money for head start school or projects that they've needed or a ball team. - Messier

One facility invests time, employees, and funding in a couple of the schools. They are the only plant in our vicinity that goes that far as far as helping the area. - Brown

[D]uring the holidays [facilities] would do stuff for the community... They're kind of our fixture for the communities. – Howanitz

All participants specifically cited charitable donations and employee volunteering in describing facility-community interactions. These are both indicators of transactional engagement (see Bowen *et al.*, 2010).

In addition to speaking positively about facilities giving back to the community, the neighborhood leader also expressed appreciation for proactive communication from facilities to the community.

If a company knows there is going to be an issue pending, it would be nice if it notified people in the area either through the neighborhood presidents or by coming to a meeting. - Brown

In the example above, the neighborhood leader shows a desire for facilities to provide information to the community. Providing information to the community is another characteristic of transactional engagement (Bowen *et al.*, 2010).

The neighborhood leader also spoke positively of transactional engagement efforts initiated by the permitting agencies. JCHD provided neighborhood residents with training on the permitting process and enhanced notification of permit actions. The enhanced notification practices were seen as necessary by both Howanitz and Brown:

The newspaper doesn't work anymore. I don't even get a newspaper. You may not even have one to distribute; that's been difficult... We've found that the legal notices are very, very small even when you know what you're looking for. They're difficult to find. – Howanitz

The health department sends notice of permit renewals through the mail. If it weren't for those, the only way you know is through the newspaper. The newspaper isn't a good way to give notice. - Brown

Both participants made similar comments about the ineffectiveness of using newspapers to advertise public comment opportunities, which is the only public involvement required by

the current Title V regulations. In this vein, Messier connected JCHD's enhanced outreach efforts to the broader topic of environmental justice:

Actually with what's going on with environmental justice issues here, and this being an environmental justice site, future permits are going to require more intentional community notices than we've done in the past. - Messier

Messier anticipated additional community outreach requirements during the next permit renewal process because of the site's proximity to disadvantaged communities.

There were also examples of transitional engagement in the interviews, though fewer than transactional engagement. The transitional engagement theme captured instances of two-way communication, dialogue, and consultation (see Bowen *et al.*, 2010). When asked to describe good communication from facilities, the neighborhood leader most frequently mentioned qualities consistent with transitional engagement. For example, a neighboring facility (American Cast Iron Pipe Company, or ACIPCO) was often praised as an example of good communication and engagement because the facility regularly attended neighborhood meetings.

Representatives come out to neighborhood meetings every month or every other month... They are there to listen... We've had a good relationship, I trust the information I receive from them. - Brown

Here, Brown illustrates how transitional engagement builds relationships that result in trust (regular meeting attendance and listening are both characteristics of transitional engagement, see Bowen *et al.*, 2010). It was clear that transitional engagement was valued by Brown, who placed value on facilities that seek community input and feedback.

If a facility was really interested in the community, they would go to the neighborhoods meeting to find out if people had any complaints or concerns dealing with the company. - Brown

For Brown, proactive dialogue with the community at neighborhood meetings is an indicator that a company is "really interested in the community." This mirrors comments made by Howanitz, who suggested that citizens prefer to voice their concerns in meetings.

We've always had a hard time, still do, getting people to let us know if they got an issue. They seem to wait until we have a meeting, and they start saying a hundred things that we didn't know were going on. – Howanitz

This perceived preference for voicing concerns in meetings may explain why the neighborhood leader felt facilities representatives should attend neighborhood meetings. It may be that community members are more comfortable voicing concerns in places where they have more control over the interaction, like at neighborhood meetings. If true, this finding would have implications for the institutional structure that currently dictates public participation in the Title V permit process.

There are only a couple of instances of transformational engagement, the theme that captured joint decision-making and collaboration (Bowen *et al.*, 2010). The only examples of collaborative decision making came from the facility perspective.

[The] person who is running the Village Creek Society Environmental Justice Organization that asked me to come on their advisory board and that was historically a company that was more of a contentious one. ...[now there is] a new person there who is really trying to reach out take a more collaborative approach. – Messier

It is interesting to note that this example of transformational engagement is between an environmental nongovernmental organization and a facility, where the facility did not initiate the relationship. The constructs associated with transformational engagement did not appear at all in the neighborhood leader interview, even when asked what type of engagement would be ideal.

There were limited instances of trust exhibited during the interviews. However, when trust was discussed, it most often overlapped with two-way communication and face-to-face opportunities to share concerns.

What we found is that those facilities and the communities that have an open line of communication, whether it's a hotline or a go-to person (usually both)... that usually helps. [The facility] can come talk to the neighborhood meetings when they have ... an issue. It works back and forth. [The facility] wants to build a new project; they

come and talk to [the community] and explain it to them. When the public knows, I don't get questions or concerns about it. – Howanitz

If [the community doesn't] feel like they have someone they can go to and talk to and at least get an explanation and that type of thing, there is no trust because they feel like they're ignoring them. – Howanitz

Howanitz implies that “open lines of communication” allows neighborhood concerns to be addressed by facilities in a timely manner. In turn, responsiveness to concerns creates trust because neighbors do not like to think they are being ignored.

While the neighborhood leader did not raise the topic of trust independently, she affirmed that having an established relationship with a specific facility close to her influenced her decisions to trust the information she received from the facility, as noted above.

This limited evidence suggests that two-way communication helps build interpersonal relationships, and relationships help build trust. Two-way communication is indicative of transitional and transformational engagement, but not transactional engagement (Bowen *et al.*, 2010). Therefore, there is evidence in this study that both transitional and transformation engagement can build trust.

There is also limited evidence that establishing two-way communication can result in reduced permit delays.

The ones that have a good calm relationship currently, ... we don't get any concerns. Usually they contact the facility with their concerns... It usually works better because they can handle the problem faster. – Howanitz

In the excerpt above, the Howanitz perceived that relationships between facilities and the community promoted communication and reduced permit delays.

In summary, Table 3 describes the number of times each of the major themes was identified in each interview. An in-depth discussion of each theme is included below.

Table 3: Theme Frequency Matrix

	FACILITY	COMMUNITY	AGENCY	SUM
TRANSACTIONAL	22 (31%)	6 (32%)	10 (18%)	38
TRANSITIONAL	12 (17%)	7 (37%)	13 (23%)	32
TRANSFORMATIONAL	2 (3%)	0 (0%)	3 (5%)	5
TRUST	1 (1%)	2 (11%)	9 (16%)	12
SUPERFUND	6 (8%)	2 (11%)	8 (14%)	16
NEGATIVE ATTENTION	15 (21%)	2 (11%)	7 (12%)	24
OUTSIDERS	14 (19%)	0 (0%)	7 (12%)	21
SUM	72	19	57	148

Analysis of Emergent Themes

In addition to the existence of themes discussed in the literature review, other themes emerged from the interviews that seemed relevant to understanding community engagement in this case. Three additional themes were inductively derived based on the content of interviews: superfund, negative attention, and outsiders. Each of the inductive themes has a high degree of intersect with the other, as shown in Table 4.

Table 4: Number of Times Inductive Themes Intersect

THEME	OUTSIDERS	NEGATIVE ATTENTION
OUTSIDERS	-	-
NEGATIVE ATTENTION	2	-
SUPERFUND	3	5

The superfund theme captured references to the 35th Avenue Superfund site specifically, or to EPA initiatives in North Birmingham generally. All participants referenced these superfund activities in their interviews, which suggests that all interview participants believed this theme was meaningful when discussing facility-community interaction.

The EPA did some studies in this area and some different chemicals were found in the area, and after all of that, everyone started taking an interest in air pollution. – Brown

Some of the confusion of Superfund may have unintentionally, or somehow it got out that, they believed that, somebody misinterpreted it being the soil is contaminated because of air deposition. – Howanitz

EPA came in and fueled the fire, promising some things... As they've done more and more sampling, it's really not turned out to be as bad as originally predicted or even presented to the community.... I think this is where EPA is going to be learning lessons on how do you present this to the community. – Messier

Basically you have too many people involved in one area, is probably the best way to put it is. Too many people saying different things...alphabet soup or something like that. – Howanitz

All interview participants suggested that superfund activity changed the dynamic in the North Birmingham community. The neighborhood leader cited the superfund activity as a catalyst for interest in air quality issues. Messier and Howanitz both described superfund activity as changing the dynamic between facilities and the community. Specifically, they both described a change in neighborhood dynamics that they believe is motivating companies to NOT engage with the community.

The caution and fear surrounding community engagement was captured within the negative attention theme. Messier and Howanitz both described the current atmosphere in the community as hostile. They believe any attempt at community engagement could attract accusations and distrust.

[E]very facility is a little gun shy about wanting to go out and talk to the community like they did before. They still interact with them; it's just they don't want to be in the lime light because right now the media has portrayed a guilty by association. If you're talking about an issue or something, then you must have done it. ... I think right now it's not that nobody's communicating better than others; it's just some are able to [communicate] based on where activities are going on and what the temperature is in that area. - Howanitz

We have to be careful now because even if we want to go out and do something that is good for the community, that's going to be viewed as, ah you're guilty. You're just showing it. – Messier

It has been, for the lack of better terms, a delicate dance of how we work in the neighborhood right now because of some of the aggressive nature of not just some of the citizens, but also the agencies. – Messier

It took us some years to solidify that and build a trust, and I would say with all stuff going on currently it's strained that a little bit, but we've been able to maintain that. It hasn't been easy. - Howanitz

The use of terms like “before” and “now” shows that Messier and Howanitz perceived a real change of dynamic in North Birmingham.

While the theme of negative attention overlaps with the superfund theme, it also overlaps the outsider theme. The outsider theme captures instances when a participant described someone or something from outside the community that impacts what happens inside the community, and it included environmental groups, media, and occasionally EPA.

We've got a very activist group that's led by not necessarily the community, but by people that feel like they're doing well for the disadvantaged communities, but it's really not the communities owning it. – Messier

Really the only thing that's changed is that the environmental groups will come in on the permit. – Howanitz

Most of the time we were getting questions, concerns more about misconceptions that had been put out by environmental groups about things that were just not correct. – Howanitz

As seen in the quote above, outsiders were often credited with providing the community misinformation or with upsetting the balance. The outsider theme was only seen in the Messier and Howanitz interviews. This pattern may imply adversarial relationships with outsiders, since both facilities and agencies were competing with outsiders for standing with the community.

Limitations

The small sample size limits the generalizability of the findings, and the single case limits the study's external validity because there is no opportunity for cross-case analysis. These limitations are a result of the difficulty in finding facility contacts and neighborhood leaders willing to participate.

There are several hypothesized reasons about why facility managers may not have wanted to participate. First, facilities may have been unclear about permitting agency involvement with the research. The initial invitation to participate in this student research project was sent to

facilities from Jefferson County Health Department, the permitting agency. Originally, the researcher thought this existing relationship would make facilities more willing to participate, but in reality, it may have made facility contacts uncomfortable. Messier, the only facility manager who agreed to participate, was approached by the researcher through an existing professional connection rather than through JCHD.

Second, low participation by facility managers may be related to the superfund and negative attention themes described above. Facilities may have felt it was not in their best interests to participate. Anecdotally, another facility contact had agreed to be interviewed but then canceled the interview when clearance was denied from management. It seems likely that the target facility was aware of contentions over the 35th Avenue Superfund site and may have been advised not to participate for legal or image reasons.

The response from neighborhood leaders was also low. There are a couple of possible reasons for the low response rate. First, the community may be fatigued from studies like those mentioned in the superfund discussion. This concept was echoed by Howanitz during pre-interview exchanges to get background information about the case. Secondly, the researcher was not a community insider and did not have the resources to travel to North Birmingham frequently. Therefore, the researcher could not establish relationships and trust through face-to-face interaction. Bowen *et al.* (2010) emphasize the importance of relationships for building trust (see Conclusions below), and evaluation of qualitative research methods by past researchers has shown that a researcher's position as a community insider or outsider can impact the outcomes of Community-based Participatory Research (Garzon *et al.*, 2013; Milner, 2007; Muhammad *et al.*, 2015).

Conclusions and Recommendations

Experiences of Community-Facility Interaction Happen Outside the Permitting Process

The researcher thought community-facility interaction would be structured around the permit, but it was not. Instead, the interview participants shifted the boundaries of the case to the much broader way they experience community-facility interactions. While each facility might see itself as distinct, and the agency may see each permit as different, the community experiences a set of interconnected interactions that span individual facilities and permits. Future studies should define cases much more broadly to be sure all relevant perspectives are included.

Along the same lines, Mackenzie and Krogman (2005) have highlighted the inadequacy of making decisions using a permit-by-permit process rather than evaluating the overall spatial and temporal context. While their study was focused on animal farming operations in rural Canada, their recommendation that policymakers take a more holistic view to environmental decisions making (Mackenzie & Krogman, 2005) is linked to the expanding case boundary overserved in this case.

Evidence Reveals Flaws in Original Expectations

Based on the literature (Bowen *et al.*, 2010; Caron & Rezaee, 2012; Chess & Purcell, 1999; Gallagher & Jackson, 2008), the researcher expected to find that:

1. Transformational engagement with EJ communities by the facility early in the permitting process will reduce community distrust.
2. Reduced community distrust will result in fewer negative comments or requests for public hearing, which can delay permit. Therefore,
3. Transformational engagement with EJ communities by the facility early in the permitting process will reduce permit delays.

Each of these expected findings is discussed below.

Transformational engagement with EJ communities by the facility early in the permitting process will reduce community distrust. Based on the findings relative to the case boundaries, the premise of this statement is flawed. The statement implicitly defines the community-facility interaction within the scope of the permit. Results showed, however, that interactions extend well beyond individual permits and that transformational engagement is based on relationships formed through regular and repeated interactions. This flaw aside, there was evidence that engagement style characterized by regular, two-way communication (like transitional and transformational engagement) build relationships, and relationships build trust.

Reduced community distrust will result in fewer negative comments or requests for public hearing, which can delay permit. There was one facility (ACIPCO) that the neighborhood leader explicitly stated she trusted. Follow-up inquires revealed that JCDH did not receive any comments (positive or negative) or hearing requests on that facility's most recent permit application. However, the Nucor permit also did not receive and comments or hearing requests, and there is not any evidence that the neighborhood leader had a relationship with or trusted that facility. The evidence is inconclusive.

Transformational engagement with EJ communities by the facility early in the permitting process will reduce permit delays. Messier described transactional community engagement focused on giving back to the community to maintain a positive image. As stated above, the permit renewal for the facility was not delayed and received no negative comments. So, while there is not enough evidence to determine whether transformational engagement is associated with reduced permit delays, there is evidence that transformational engagement is not a prerequisite for reducing permit delays.

[Neighborhood Leader Desires Engagement Beyond Minimum Legal Requirements](#)

There is some evidence that this EJ community leader may not feel comfortable engaging through the typical institutional structure in which permitting decisions are made. This was

seen in comments by Brown and Howanitz about the inadequacy of publishing notices in the newspaper and in Howanitz's comments that community members prefer voicing concern in meetings rather than calling in or commenting on permits. This preference may be because community members may feel more comfortable voicing concerns at neighborhood meetings where they have more control over the interaction. Sharing control of the interaction is a quality associated with transformational engagement. But interestingly, the neighborhood leader's interview lacked any explicit discussion of engagement techniques associated with transformational engagement. Consequently, it is unclear if the theme was not present because community participants would not value that type of engagement or if the community participants had not experienced that type of engagement and therefore would not think to include it in the context of the interview. Future studies should attempt to measure or gauge whether EJ communities would value transformational engagement techniques.

Existing literature on community and minority empowerment focuses largely on methods for helping underrepresented communities build capacity to more fully participate in the institutional environmental decision-making processes (Chambers, 2007; Clarke & Agyeman, 2011; Roberts, 1998). This neighborhood leader's preferences for engaging outside the institutional process may have larger implications for how to meaningfully engage EJ communities. A facility or permitting agency may need to physically go to the community and interact in situations where power is shared or where the community can control the interaction. In that context, the institutional processes may themselves need to change. Defining a new model for institutional public participation is an opportunity for future researchers.

[External Factors Impact Community-Facility Interaction](#)

This study also produced evidence that factors beyond community-facility relationships can impact engagement activities. The dynamic created by superfund activities and input from outsiders has influenced how facilities make decisions about community engagement. While

Messier still views community engagement as good in principle, there are concerns that community engagement can attract negative attention in some situations, concerns which were echoed by Howanitz. Future research could help describe or measure the impact that any superfund activity has impacted community-facility interaction in North Birmingham and help clarify the impact outsider influence has in shaping community trust in environmental decisions-making.

Despite Small Sample Size, Results and Conclusions are Meaningful

Given the limitations described above, some researchers may argue that no conclusion can be drawn about the phenomena. However, the study was rigorously designed and executed in accordance with Gibbert *et al.* (2008) to ensure reliability and validity. This assertion is supported by Appendix C, which contains a discussion of this study's reliability, internal validity, construct validity, and external validity. Therefore, the results and conclusions are meaningful and can contribute understanding to the phenomena of community-facility interaction. Future studies should focus on gathering data from a larger sample size, including getting input from multiple actors representing the same perspective.

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Appendix A: Semi-structures Interview Questions

Facility Manager Questions

Ice Breaker:

1. How long has your worked for [Facility name]?
2. What is your role within the organization?

Community Engagement:

3. Does [facility name] ever communicate directly with the surrounding community about any topic? Environmental/permitting topics?
4. Did [facility name] communicate with the surrounding community during your most recent permit action [insert specific about permit action – timeframe, type]?

Follow-up for affirmative answers:

5. When did the communication start, how early in the permitting process?
6. What methods did you use to engage the community?
7. Did community member have a way to ask questions or give input about the information you shared with them?
8. What factors affected your decisions to engage/not engage?
9. How does your facility benefit by engaging the community during the permitting process [not engaging the community]?
10. What is the best way for the community to be involved in the permitting process

Community Trust:

11. How does the surrounding community perceive your work/your facility?
12. How often do you hear from member of the surrounding community? What are their concerns?
13. Is there anything else you'd like to share with me about your experience during you most recent permit action?

Permit Engineer Questions

Ice Breaker:

1. How long has your worked for Jefferson County Department of Public Health?
2. What is your role within the organization?

Community Engagement:

3. Do you remember weather [facility name] communicated with the surrounding community during their most recent permit action [insert specific about permit action – timeframe, type]?

Follow-up for affirmative answers:

4. Do you remember when the engagement start, how early in the permitting process?
5. Do you know what methods [facility name] used to engage the community?
6. Did Jefferson County communicate with the community surrounding [facility name] during the most recent permit action?

Follow-up for affirmative answers:

7. What methods did Jefferson County communicate with the community and when that that communication start?

Community Trust:

8. Where any comments received during the public comment period?

Follow-up for affirmative answers:

9. What was your impression of the comments?
10. What concerns did you hear?
11. Was a public hearing requested?

Follow-up for affirmative answers:

12. What was your impression of the comments at the public hearing?
13. What concerns did you hear?

14. Is there anything else you'd like to share with me about your experience during you most recent permit action?

Neighborhood Leader Questions

Ice Breaker:

1. How long have you lived in this neighborhood?
2. Probe based on response to build rapport [e.g. are you a close knit community? Do you still have family in the area? What do you like best about this neighborhood?]

Community Engagement:

3. Does [facility name] ever communicate with your community about any topic?
Environmental/permitting topics?
4. How did you first hear about [describe permit action]?
5. Did [facility name] communicate with you or other community members before, during, or after they submitted their permit application [insert specific about permit action – timeframe, type]?

Follow-up for affirmative answers:

6. When did the communication start, what time of year?
7. How did you hear from them?
8. Did you understand the information they shared with you?
9. Did you have a way to ask questions or give input about the information they shared? Or about the facility in general?
10. Would you like to be more involved in future permit actions?
11. How would you like to be involved?

Community Trust:

12. At the time, how did you feel about the permit that was issued to [facility name]?
13. In general, how do you feel about [facility name]?
14. Do you have concerns about the facility? –probe for elaboration-
15. Where can you go to get information about the facility that you trust?

16. Is there anything else you'd like to share with me about your experience during your most recent permit action?

Appendix B: Interview Coding System

THEMES	INSTANCES
Transactional	6
-Image	8
-Charitable Donation	8
-Employee Volunteering	2
-Information Session	8
-Firm2Community Communication	6
Transitional	7
-Public Consultation	8
-Stakeholder Dialogue	7
-Town Hall Meeting	0
-2way Communication	10
Transformational	5
Trust	12
Super Fund	16
Negative Attention	24
Outsiders	16
-Media	5
TOTAL	155

Appendix C: Study Design Discussion

Reliability

To ensure the study is transparent and reproducible, detailed descriptions of the case, the interview participants, and the evidence are included.

Internal Validity

To increase internal validity, the study design was modeled after an existing case study analysis by Caron and Rezaee (2012), which explored communication between Title V facility and non-EJ communities in New Hampshire. Inductive codes were derived explicitly from the community engagement literature (Bowen *et al.*, 2010), which became a model for interpreting the findings.

Construct Validity

Data was collected through document review and interviews to aid in data triangulation. Public comment records were also requested, but no comments were submitted for the case, and so no public comments were reviewed. Semi-structured interviews were conducted in person and by phone over a three month period. Interviews captured the three perspectives (facility, neighborhood, and permitting agency) about the case.

Interviews were arranged using an IRB-approved protocol, which included an initial invitation to participate along with an interview information sheet. Follow-up communication, with sample interview questions, was necessary to secure participation from a neighborhood leader. The semi-structured Interview questions can be found in Appendix A.

External Validity

Environmental justice communities are characterized by high minority populations and low incomes (Gallagher & Jackson, 2008). As shown in Table 2, Jefferson County, Alabama has low median household income and a high minority population, compared to other local air agencies in EPA Region 4. Jefferson County, Alabama also received an “F” in the American Lung Association’s 2015 State of the Air report (American Lung Association, 2015), and that agency agreed to assist the researcher.

Potential cases were identified within the study area as follows. An initial population of 37 Title V facilities was identified within Jefferson County. The sample was narrowed to facilities that were issued a permit that required a public comment period between 2013 and mid-2015. The remaining list was filtered using demographic data for the facility's zip code. Only facilities in zip codes with communities where >30% of the citizens live within 150% of the federal poverty line and with <50% white (Gallagher & Jackson, 2008) were retained. From this list, six facilities were targeted for interviews, but only one agreed to participate. Discussion of the limited sample size is included in the limitations section.