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Environmental justice is exhausting: five decades of air pollution and community advocacy at Ezra Prentice Homes in Albany, New York

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ABSTRACT

This narrative case study used semi-structured interviews, participant observation, and archival research to document the ongoing environmental injustices faced by the predominately Black residents of Ezra Prentice Homes, a public housing complex adjacent to the Port of Albany in the South End of Albany, New York. We highlighted the context of the relocation of minorities to this public housing complex for the construction of the Empire State Plaza, and impacts to residents from polluting port industrial activities and heavy-duty diesel trucks. Using a social justice Theory of Change framework, we evaluated the diversity of outcomes and relevance of an innovative suite of advocacy tools employed by policy activists and discussed the factors constraining the resolution of continued environmental injustices. We observed a complex legacy of environmental racism, power struggles, and an ongoing mindset of expendability of marginalised public housing residents targeting this community for hosting locally unwanted land uses and delayed long-term solutions. While policy activists employed a diversity of advocacy tools instrumental in winning lawsuits, expanding their base of support, attracting media, and bringing widespread state and national visibility to the struggles and necessary solutions for protecting residents, this “middle coalition” facilitated successful yet temporary policy outcomes in terms of long-term protections for residents. This research fills an important gap in the environmental justice literature that explores the phenomenon of public housing complexes inappropriately sited adjacent to polluting port facilities. Future research is needed to better understand community risk perceptions related to public housing and long-term public policy responses.

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Environmental justice; ports; public housing; advocacy tools; air pollution

1. Introduction

The purpose of this research was to formally document the legacy of environmental injustices faced by the predominately Black residents of Ezra Prentice Homes, a public housing complex located in the South End of Albany, New York. As a foundation, we first explain the historical context of the displacement and then relocation of Albany's minorities, and New York State's ill-fated decision to site public housing for these individuals adjacent to the Port of Albany, resulting in both human and environmental harm from exposure to multiple polluting activities and transportation routes.

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We then explore lessons beyond the specific story of the residents at Ezra Prentice Homes by examining the diversity of outcomes and relevance of the innovative suite of advocacy tools employed by a loosely organised coalition of civil society and resident policy activists, university researchers/scientists, elected officials, and state and federal agencies. Finally, we discuss stakeholder preferences for longer-term solutions, and the logistical and systemic conundrums thwarting the resolution of continued environmental injustices and/or relocation of public housing residents. Our research draws extensively on Klugman's (2011) theory of change framework for social justice advocacy, with "theory-of-change" broadly understood throughout the advocacy community as an "articulation of a strategy that could plausibly lead to desired changes in policy or norms" (Hestres 2015, 208). We define the focus of "advocacy" here as the process of establishing a problem definition, identification of solutions, espousing such agendas to politicians and decisionmakers who set policy and implementation, and sustaining such efforts "in the face of opposition or bureaucratic apathy" (Klugman 2011, 147). While the environmental justice (EJ) policy arena includes a diversity of allies and stakeholders, like Klugman (2011), we employ the term "policy activists"

To denote the link to social movements, and the recognition that mobilization of those most affected can in itself change the policy environment, in particular the public discourse, to get specific problems and preferred solutions onto public and policy agendas. The choice of the term "policy activist" aims to signal the desirability, from a social justice point of view, of building the capacity of individuals and groups who are part of or closely tied to grassroots movements, to play this role. (147)

The overarching research questions guiding this narrative case study and evaluative research included:

- (1) What suite of advocacy tools have been utilised by policy activists living in or adjacent to Ezra Prentice Homes, and to what extent did this produce successful/unsuccessful outcomes for addressing environmental injustices?
- (2) To what extent have elected officials, city, state and federal agencies/institutions, and the Port of Albany intervened on behalf of the residents of Ezra Prentice Homes – what outcomes have been realised, and what are the still unmet needs?
- (3) What are the preferred outcomes of policy activists in relation to reducing human exposure to environmental toxins and harms at Ezra Prentice Homes?

1.1. Environmental injustices in Albany's South End and beyond

In 1962, the State of New York (NYS) seized and demolished 98 acres of housing units to construct the Empire State Plaza (Hochfelder 2015).¹ Ezra Prentice Homes was one of three public housing complexes built during this period of forced relocation. Poor air quality in NYS (broadly) was a concern from the onset – in 1966 Citizens for Clean Air wrote NY Governor Rockefeller to highlight health issues related to pollution from diesel engines in urban areas – an issue Rockefeller ignored. Built in 1967, the 176-unit apartment complex houses roughly 400 children and adults. Residents are 95% people of colour, with 61% making 30% below the area's median income (ProPublica 2021).² The Ezra Prentice Homes complex is located on both sides of South Pearl St., a major thoroughfare for heavy duty diesel truck (HDDT) traffic (Houston, Krudysz, and Winer 2008), adjacent to the Port of Albany, a railyard, Interstate Highway 787, and the county's sewage treatment plants (Figure 1). In 1925 the Albany Port District, a public-benefit corporation, was created to develop and manage port facilities (The Port of Albany 2019). One of the largest inland ports in the nation, it ships generators, turbines, grain, molasses, scrap iron, and wood pulp (Port of Albany 2019). The Port hosts facilities that manage gasoline and ethanol, store asphalt, mill flour, process construction and demolition debris, as well as the Albany County Water Purification facility, a solid waste transfer station, and recycling businesses. The presence of these facilities coupled with the air pollution from



Figure 1. Ezra Prentice Homes and surrounding urban-industrial infrastructure. (Credit: Charlie Bettigole.)

HDDT, train, and marine vessel traffic has caused community air quality to deteriorate (DEC 2019; Lucas 2020).

The NYS Department of Environmental Conservation (DEC) identified the neighbourhood surrounding Ezra Prentice Homes as a *potential environmental justice area* in 2003, one where a minority and/or low-income community “may bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies” (DEC 2013, 1). This historical neglect and displacement of minorities was addressed in a 2021 statement by DEC Commissioner Basil Seggos: “This is a legacy of environmental racism, a textbook example of it, where you’re putting a housing complex right next to an industrial area. Can they co-exist? ... that remains to be seen” (WMHT 1). During a 2016 interview, Jim Freeman (Greenpeace) stated “I believe this is the worst example of environmental racism I’ve ever seen in my life” (Fowler 1).

Policy activists working to protect the residents of Ezra Prentice Homes have deliberately presented their case within the EJ Framework, which has included the EJ work of the non-profit organisation AVillage Inc. (AVillage), the Ezra Prentice Homes Tenants Association, the Radix Ecological Sustainability Centre, attorneys from Earthjustice, university researchers, elected officials, and (at times) the media. Founded by Willie White in 2009, AVillage’s mission is to create just communities within EJ neighbourhoods where residents have equitable access to opportunities and resources by

identifying inequities and their root causes (AVillage 2021). Also founded in 2009, The Radix Ecological Sustainability Centre is a non-profit ecological justice literacy organisation based in the South End of Albany, NY. Radix maintains a one-acre demonstration site of regenerative tools and technologies that promote intersectional activism and access around matters of equity, urban ecology, climate, food, and health. Co-founder and Educational Director Dr. Scott Kellogg sits on the Albany Common Council's Sustainability Advisory Committee (Radix Ecological Sustainability Center 2021).

1.2. New York State Department of Environmental Conservation air quality research in Albany's South End

For over 30 years the environmental injustices and unsafe living conditions at Ezra Prentice Homes were neglected by the City of Albany and state and federal government agencies; there was little to no accountability to address ongoing injustices. As early as 1999, the Geography and Planning Department at the State University of NY at Albany studied the impacts of HDDT traffic on S. Pearl St., and proposed the establishment of an "Albany Port Interchange" for direct access to I-787, where trucks weighing five tonnes or more would be prohibited from neighbourhood streets around Ezra Prentice Homes to mitigate the local air pollution and noise; this plan was never adopted. In 2014, DEC responded to residents' concerns about poor air quality by conducting an air screening study of Volatile Organic Compounds (VOCs) (DEC 2019). The first study indicated that VOCs were at the high end of concentrations measured, compared to other locations across NY (DEC 2019). This conclusion led residents with higher-than-average rates of lung-related diseases and cancers to advocate for more research (Lucas 2019). As a result, a second air quality study was launched in 2017, with \$500,000 dedicated to a comprehensive, 15-month study with extensive fixed and portable air monitoring (DEC and citizen science data collection – DEC issued backpack air quality monitors worn by college students and community members) (DEC 2019; Lucas 2019). Benzene samples were collected at over 100 locations, with concentrations ultimately attributed to the activities at the Ports of Albany and Rensselaer (DEC 2019). Traffic-related air pollutants (TRAPs) were higher at Ezra Prentice Homes when compared to another South End control group location. One thousand six hundred and fifty two trucks and buses were counted on the road bisecting Ezra Prentice Homes daily (Capital District Transportation Committee 2018). DEC also observed buses and HDDTs' local traffic (including entering and leaving the Port) contributed higher particle concentrations at Ezra than daily (stationary) Port activities (Figure 2).

1.3. Environmental justice struggles with TRAPs, HDDTs, and port facilities

Air pollution is in the World Health Organisation's Top Ten Chemicals of Public Health Concern. Annually, 7 million deaths worldwide are attributed to air pollution (WHO 2021). Increased levels of TRAPs are associated with the incidence and exacerbation of asthma, chronic obstructive respiratory disease, and cardiovascular diseases (Bourdel et al. 2017; Costa et al. 2020; Lee et al. 2003; Rider and Carlsten 2019; Thomson 2019). Residents living near roadways with HDDT traffic are more likely to experience reduced lung function and chronic respiratory ailments than people living 300 m. or more away from roadways (Lin et al. 2002; Ryan et al. 2005; Van Vliet et al. 1997). Pollution from HDDT traffic presents specific concerns as they "emit high levels of particulate matter (PM) and oxides of nitrogen, as well as a complex mixture of gaseous air pollutants, many of which have been listed by the State of California as toxic air contaminants" (Houston, Krudysz, and Winer 2008, 38). Additionally, research by California's South Coast Air Quality Management District (2000) demonstrated that 70% of excess cancer risk is associated with diesel particulate matter (DPM) around the Ports of Long Beach and Los Angeles.

EJ struggles related to ports and their facilitation of HDDT traffic and TRAPs have been well documented. In a study of 43 U.S. "harbor areas", Rosenbaum, Hartley, and Holder (2011) found that low-income populations, non-Hispanic Blacks, and Hispanics were about 2–3 times as likely to live in

areas of high exposure to diesel particles. In a similar vein, more recent research by Greenberg (2021) found that in relation to 50 large U.S. ports, people who lived within 2 miles tended to be minority, relatively poor, and have less formal education. Additionally, in relation to contaminants, those within the 2-mile area around large ports tended to live near facilities with risk management plans, closer to hazardous waste sites, with environments having higher levels of National Air Toxics Assessment's diesel, respiratory, and air toxin exposures, as well as fine particulates.

EJ struggles working to alleviate polluting port activities near EJ areas have been documented at the Ports of New York and New Jersey (Lena et al. 2002), Oakland, CA (Gonzalez et al. 2011), Houston, TX (Johnson et al. 2014), San Francisco, CA (Greenaction 2019), among many others. At the Ports of Los Angeles and Long Beach the low-income and minority communities of Wilmington and the west portion of the City of Long Beach are exposed to emissions from 400 to 600 trucks per hour for several hours during the day and exhibited high rates of asthma and chronic diseases (Houston, Krudysz, and Winer 2008; Korfmacher 2019). THE (Trade, Health, Environment) Impact Project is a community-academic partnership created to remedy a diversity of threats to those who live near the ports, and Houston, Krudysz, and Winer (2008) noted that port-related emissions have resulted in EJ struggles which included community opposition, awareness, action, and resistance that has stalled port infrastructure projects for years, as well as "refocused unchecked port expansion toward a vision for growing green that conditions future growth on greater protections for air quality and public health" (45). While far from permanent fixes that will halt threats to human health, Houston, Krudysz, and Winer (2008) discussed partial solutions including the adoption of the 2006 (\$1.8 billion USD) San Pedro Bay Ports Clean Air Action Plan, including the Clean Truck Program, reducing air pollution from HDDT by 80% by replacing or retrofitting older trucks to ensure that they meet new federal emissions and fuel standards for on-road diesels.³ In 2012, HDDTs not meeting the standards were not allowed to enter the port. Further, they recommended planning processes that incorporate more community and elected official feedback for defining alternatives to port projects, and a diversity of "green" alternatives for on-site machinery. Of important note, while authors cited the state's recommendation that residences, schools, day care centres, and playgrounds, be sited at least 500 ft. or farther from high-traffic roadways (California Air Resources Board 2005), their research recommended that "transportation projects implemented to improve the flow of HDDTs through adjacent communities should ensure a separation of at least 200 m, or about 650 ft, from sensitive land uses to mitigate community exposure to diesel exhaust" (Houston, Krudysz, and Winer 2008, 44). More permanent solutions to protecting the health of EJ communities from HDDTs between the Ports of Los Angeles and Long Beach included the use of a one-mile electrified highway known as the eHighway (Simpson 2017), as well as at the Unified Port of San Diego and National City Marine Terminal, where all trucks weighing more than 5 tonnes were rerouted to roads external to the EJ community, significantly improving "air quality in the primary affected corridor and resulted in a 99% reduction in diesel particulate matter emissions and an 87% reduction in diesel truck vehicle miles traveled" (Karner et al. 2009, 1).

Yet threats to EJ communities from port facilities are not solely limited to HDDT traffic. Schneller et al. (2020) reported that due to increased oil production in the Bakken Shale Formation in Montana and North Dakota, domestic rail shipments of crude oil increased from 9500 train car loads in 2008 to 493,146 train car loads in 2014. A chain-link fence separates Ezra Prentice Homes from train tracks, and between 2012 and 2017 oil trains at the Port of Albany carried 1.8 billion gallons of crude past Ezra Prentice Homes annually, with many trains staged less than 50 feet from the public housing complex and its playground (Sutcliffe 2016). Nationwide accidents involving crude by rail have resulted in fires, explosions, environmental harm, property damage, and even fatalities, thus earning the nickname "bomb trains" from rail operators (Mason 2018; Mikulka 2019). Existing train safety measures (nationally) include train car inspections by company owners, rail operator maintenance of railroads and infrastructure, as well as periodic inspections of rail infrastructure by the Federal Railroad Administration (FRA)⁴ (Mason 2018; Mikulka 2019). Risks are not limited to derailment disasters, off-gassing is also a concern. Rail car engines also emit diesel exhaust, while crude

by rail and other petroleum-related activities release VOCs such as benzene into the air, which are teratogenic and/or carcinogenic (Thomas 2018). Thomas (2018) combined geographical and sociological methods of scrutiny to document how women of colour face disproportionate environmental perils, with research aimed at incorporating gender into an intersectional exploration of environmental inequality. His research is echoed by Hogrefe et al. (2016), who also found that Black women bear disproportionate burdens of ecological encumbrances in communities exposed to toxins and air pollution.

1.4. Coalitions and a social justice theory of change framework

Advocacy efforts have a diversity of outcomes in relation to remedies for EJ issues globally. Perez (2015) discussed the global debate of *who* should be leading the EJ movement – influential political actors/elected officials with greater economic and social standing, or grassroots organisations and community members who lived/founded the movement? Some argue political actors may neglect to acknowledge individuals who are the backbone, while others believe communities need influentials to build momentum (Perez 2015).⁵ Klugman (2011) noted that in relation to social justice and policy advocacy,

No one organization should ever be expected or expect itself to deliver all of the outcomes, but rather that a mix of organizations would collectively work to achieve these. Collaboration between organizations in recognition that they each have something to contribute, rather than competition for attribution of victories, is not only a “good” value, but is what is needed to be effective. (1520)

Kreger et al. (2011) described paths to success within a case where a network of coalitions employed an EJ approach to policy advocacy to reduce risk factors for asthma in school-aged children. EJ stakeholders coalesced into formal (mature) coalitions established by The California Endowment (CA’s largest health foundation), and their (well-endowed) Community Action to Fight Asthma Initiative that incorporated evaluators from the Philip R. Lee Institute for Health Policy Studies (UCSF) to track indicators of EJ policy and systems change. Evaluators used the Lafferty and Mahoney theory of change framework who noted that “a theory of change approach is useful for evaluation of a Comprehensive Community Initiative because it guides the evaluation in exploring what is plausible, what is doable, and what is testable” (Lafferty and Mahoney 2003, 34).

Klugman (2011) presented a useful theory of change framework for social justice advocacy in her case study that compared factors that facilitated or constrained reproductive rights policy wins during the transition from apartheid to democracy in South Africa. This theory of change framework incorporated outcome categories (in part based on the work of Reisman, Gienapp, and Stachowiak S 2007) for evaluating progress and areas for improvement, including changes in organisational capacity, base of support, alliances, data and analysis, problem definition and potential policy options, visibility, public norms, and population level impacts. Even in the face of hard-fought policy wins, she highlighted the need for ongoing revision of strategies, vigilance/monitoring of policy implementation, and that “building and maintenance of organisational and leadership capacity is as important as any other of the outcome categories in enabling success” (46).

1.5. Advocacy strategies

In relation to expanded advocacy networks and the role of legal actions, researchers have written extensively about the increased focus on, and collaborative work between traditional litigious environmental organisations and grassroots EJ struggles (Agyeman 2005; Cole and Foster 2000). While states and citizen class-action lawsuits have documented successes (Bullard and Wright 1993), environmental law focused organisations have not historically taken up the cause of EJ struggles; however, more contemporary work in the form of successful legal actions to protect

individuals living in EJ areas from transportation related injustices have met with success (Karner et al. 2009; Sutcliffe 2016).

The adoption of innovative social media campaigns have also been proven to scale-up community toolboxes and the effectiveness of advocacy and organising for EJ struggles across the globe (Espiritu 2017; Young, Teixeira, and Hartnett 2015). Social media campaigns have helped to build sustainable and active international environmental communities in support of positive outcomes, give voice to the exploited, make visible the offline activism of social movement actors, and enhance free speech and information sharing. Virtual organising can also exceed spatial and social boundaries by bridging the rural/non-rural divide, connecting disenfranchised groups, and uniting allies powerful enough to challenge imbalances.

Community-based participatory research (CBPR) and “ground-truthing” have been widely implemented in EJ struggles, both as a research design and community – academic collaboration (Corburn 2005; Gonzalez et al. 2011; Israel et al. 1994). According to Sadd et al. (2014), ground-truthing helps make EJ Screening Methods accessible to community members through direct engagement, while promoting hazard reduction strategies in EJ communities. And innovations as described by Corburn (2017) and Wilson (2010) showed that web and social media-based community-driven mapping⁶ can be a successful component of EJ research, especially among youth.

2. Methods

2.1. Research overview

Our narrative case study documented the historical and more contemporary environmental injustices faced by the residents of Ezra Prentice Homes, as well as employed a social justice theory of change framework to better understand the outcomes of the suite of advocacy tools employed by policy activists.

This research was approved by the Albany College of Pharmacy and Health Sciences Institutional Review Board (Protocol # 20-015). Due to survey fatigue and isolation during the global Covid-19 pandemic, this most recent research effort did *not* include extensive surveying or interviews with the residents of Ezra Prentice Homes; however, the community-based policy activists interviewed for this research had built close connections with residents over many years. Further, NGO and media coverage of policy activists and protests, as well as lawsuits and survey data collection efforts built a substantial base of knowledge to draw from (one co-author of this manuscript was also the Principal Investigator of the South End Community Health Survey⁷). The case study approach was chosen as a “research approach that is used to generate an in-depth, multi-faceted understanding of a complex issue in its real-life context” (Crowe, Creswell, and Robertson 2011, 2).

2.2. Sampling, qualitative instrumentation, and data analysis

The research team consisted of three students and two professors from two regional colleges. To understand the roles of the diversity of stakeholders, their level of engagement, and preferences, we triangulated both our data sources and methods (Creswell 2013). Purposive sampling was conducted via 11 semi-structured interviews, archival analysis, and six years of participant observation. Purposive sampling is the deliberate choice of a participant based on the qualities they possess (Etikan 2016). Galletta (2013) describes semi-structured interviews as an interview style crafted to create openings for a narrative to unfold while simultaneously including questions informed by legitimate theory. Semi-structured interviews provide for participants and interviewers to explore together what contextual influences could potentially be intertwined within their narratives (Galletta 2013). Research questions in this regard are most meaningfully answered by focusing on the characteristics of a participant and the greater population of interest. Our

interviews included 20 open-ended questions (discussion format), that worked to unpack the complexities of the broader Research Questions (above). Voice recorded interviews were transcribed to word processing software, coded for topical commonalities and deviant cases, and analysed utilising a social justice theory of change framework and descriptive narratives, presented below in our Findings (Creswell 2013; Klugman 2011; Reisman, Gienapp, and Stachowiak 2007; Silverman 2006).

Our six years of participant observation included the design and implementation of the South End Community Health Survey, attendance at the *Break Free* protest (among others), attendance at multiple agency meetings, and facilitation of urban agriculture/food security/sustainability initiatives. This participant observation allowed for the compilation of a broad spectrum of narratives, documentation of stakeholder attributes in relation to the theory of change framework and provided a diversity of perspectives from both within and outside of this marginalised community, helping us to answer our three overarching Research Questions.

2.3. Research respondents

A diversity of policy activists, civil society representatives, elected officials, doctors/university researchers, authors, and municipal, state, and business community stakeholders were represented in 11, two-hour long semi-structured interviews. Respondents were chosen due to their historical and ongoing direct engagement in efforts to address environmental injustices faced by the residents of Ezra Prentice Homes (Table 1). Informed consent was obtained prior to interviews. Interviews were conducted at the height of the Covid-19 pandemic, via online Zoom Conferencing and telephone, and recorded with digital conferencing tools.

3. Results

3.1. Advocacy tools: outcomes and watershed moments

3.1.1. Litigation

One specific watershed moment that resulted in successful litigation (and heightened issue visibility and alliances) (Table 2) occurred when Global Companies LLC. (Global) proposed in 2013 to heat crude oil at the Port, with the potential to increase benzene emissions, further threatening the health of Ezra Prentice Homes residents. The NY DEC ignored their own EJ policy and did not inform community members about Global's application. In response, on behalf of the Ezra Prentice Tenants Association (with now deceased President Charlene Benton), Earthjustice attorney Chris

Table 1. Stakeholder semi-structured interview respondents.

Name	Position
David Carpenter, MD	Institute for Health and the Environment at the State University of New York – Director. Rail Safety Blue Ribbon Panel.
Alana Kedell-Tuckey, J.D.	NYSDEC Office of Environmental Justice – Public Affairs Specialist/Attorney
Kathy Sheehan	Mayor – City of Albany
Scott Kellogg, Ph.D.	Radix Ecological Sustainability Centre – Co-founder and Educational Director. City of Albany Sustainability Council.
Dominick Calsolaro	Former Albany Common Council Representative. South End Resident.
Erin Bell, Ph.D.	Environmental Epidemiologist, University at Albany School of Public Health. Ezra Prentice Community Advisory Committee. Rail Safety Blue Ribbon Panel.
Rich Hendrick	Port of Albany – CEO
John McDonald	NYS Assembly Member, 108th District
Justin Mikulka	Author <i>Desmog</i> and “Bomb Trains: How Industry, Greed, and Regulatory Failure put the Public at Risk”
Willie White	AVillage Inc. – Founder & Former Executive Director. Ezra Prentice Tenant Association.
Tammy Miller	Ezra Prentice Resident Outreach Worker

Table 2. Theory of change outcome categories associated with social justice advocacy processes (Klugman 2011; Reisman, Gienapp, and Stachowiak 2007).

Outcome category	Factors facilitating and constraining the achievement and implementation of protections for residents of Ezra Prentice Homes
Strengthened organisational capacity	<p>Facilitation</p> <ul style="list-style-type: none"> • Strong leadership and training among (some) policy activists • High degree of networking and communications capacity • Formal community-academic research effort that included youth/residents in CBPR (methods design, data collection, and dissemination of results) <p>Constraints</p> <ul style="list-style-type: none"> • Lack of a well-defined leading organisation with an “adaptive capacity” able to take coalition members through a strategic process of reflection and growth • Challenging community environment: low-pay/volunteer policy activists working under constraints of family/employment obligations • High turnover in policy activist leadership due to chronic health, death, and financial constraints • <i>Slow violence</i> – years of abuse, marginalisation, and lack of privilege • - COVID-19 pandemic
Strengthened base of support and alliances	<p>Facilitation</p> <ul style="list-style-type: none"> • Mobilisation of constituencies interested in equity for environmental justice (EJ) areas and climate justice • Collaboration between key policy activists, tenants, youth, university researchers/scientists/experts, and elected officials • Effective issue framing for education, outreach, news media, social media, and protests • Successful 2015 collaborative Earthjustice lawsuit to stop Global proposed heating of crude oil at Port of Albany <p>Constraints</p> <ul style="list-style-type: none"> • Changes in leadership within state agencies, NGOs, and Tenants Association • Parachute activism by national environmental organisations • Lack of funding and a formal sustained coalition • Decreased threats from Bomb Train = public and elected official (perceived) decreased immediate threat to residents • Cycle of quiescence: feeling of powerlessness to address injustices/feeling defeated/fear of retribution
Increased data and analysis from a social justice perspective	<p>Facilitation</p> <ul style="list-style-type: none"> • Director of Institute for Health and the Environment critical response to original 2014 DEC study • Personal testimony from residents (health concerns & threats to life and property) • South End Community Health Survey/CBPR formalised alliances between university scientists, residents, and NGOs • Research closely linked with advocacy and mobilisation = data that informed advocacy strategies, legitimised policy demands, and increased responsiveness of agencies and elected officials • 2017 DEC funded collaborative research and dissemination of data – formally defining threats from HDDT <p>Constraints</p> <ul style="list-style-type: none"> • Research/data informing DEC policies: some policies to reduce human exposure to HDDT emissions are voluntary • Lack of data and monitoring to assure expedient policy implementation (see Figure 2)
Increased support for a specific problem definition and policy options	<p>Facilitation</p> <ul style="list-style-type: none"> • Stakeholders and DEC Office of EJ consistent use of the EJ Framework defining the issue for all internal and external communications • Multiple research findings and data used to frame policy demands • Strategic use of data from South End Community Health Survey and community-based truck count resulted in DEC funded air quality research

(Continued)

Table 2. Continued.

Outcome category	Factors facilitating and constraining the achievement and implementation of protections for residents of Ezra Prentice Homes
Increased visibility of issue in policy processes resulting in positive policy outcomes	<ul style="list-style-type: none"> • Road blockade protests, results of the DEC's air quality study, and extensive media coverage reframed threats from Bomb Trains to (also) include threats from HDDT • Renegotiated policy solutions (See Figure 2): holding agencies and decision makers accountable <p>Constraints</p> <ul style="list-style-type: none"> • Agency and decision maker focus on band-aid fixes and policy solutions – less so on relocation of public housing • Lack of unanimous support for total relocation of residents <p>Facilitation</p> <ul style="list-style-type: none"> • Policy activists' readiness to advance policy demands to Governor of NY after Break Free Northeast protests and after data released from multiple health and air quality studies • Mobilising public concern via social media and print media • Successful litigation forcing state action and the defeat of proposals to expand fossil fuel infrastructure in Port of Albany • Social amplifications of perceived risks from Bomb Trains • Researcher and policy activist participation in public meetings and dissemination of the South End Community Health Survey data/findings <p>Constraints</p> <ul style="list-style-type: none"> • Unmet need for further legal actions • Lack of access to broadband internet/information • Inconsistent lobbying and pressuring of elected officials • Perception by key policy activists that "The political route has not worked that well for us" (McPheeters personal communication) • Ineffective mechanisms for monitoring implementation of actions to reduce human exposure to toxics (as described in Figure 2)
Shift in social norms	<p>Facilitation</p> <ul style="list-style-type: none"> • Greater visibility of the EJ perspective on policy issues (nationally) • Ability to facilitate public outrage as a means for policy activists to pressure agencies and elected officials to take action • Lack of external opposition to policy activists' demands to improve air quality and protect community health • Framing Bomb Train (risks) as a threat to the broader Albany community was linked to political agendas/movements advocating for a "just transition" to renewable energy <p>Constraints</p> <ul style="list-style-type: none"> • Society's continued reliance on fossil fuels • Systemic infliction of injustices (racism) • Political parties actively fighting policies that work to mitigate climate change • Perception of expendability: that lower income, marginalised South End residents remain powerless
Changes in impact	<p>Facilitation</p> <ul style="list-style-type: none"> • Potential for improved air quality if DEC list of actions to reduce HDDT pollution are monitored for full implementation (see Figure 2) <p>Constraints</p> <ul style="list-style-type: none"> • Bureaucratic apathy and a perception of expendability • Continued proposals to expand polluting industries at the Port of Albany • Ineffective communication and need to educate agencies and officials on how to better address marginalised residents and communities

Amato successfully halted this proposed expansion after filing a state court lawsuit in 2015 against Global and NYS, in collaboration with the Centre for Biological Diversity, Riverkeeper, Sierra Club Atlantic Chapter, and the Waterkeeper Alliance. Willie White, the former Executive Director at AVI-lage, explained the context of the successful lawsuit:

Five Decades of Air Pollution at Ezra Prentice Homes

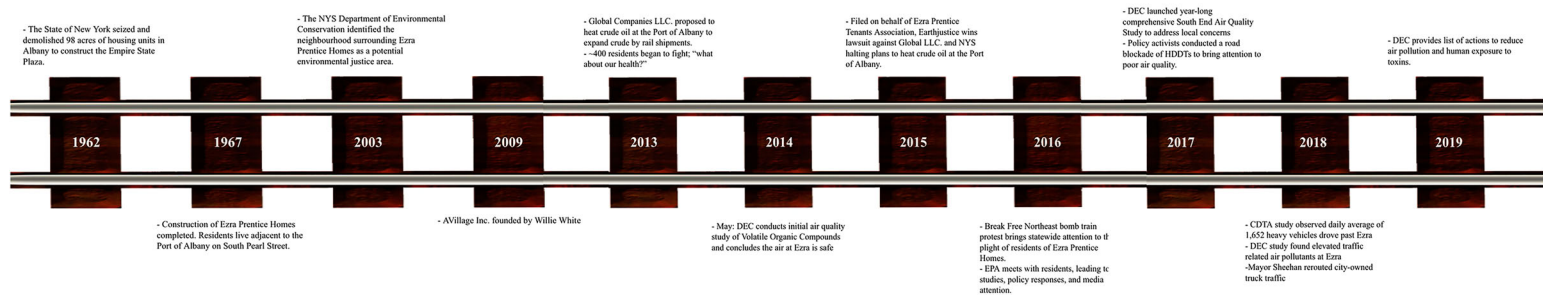


Figure 2. Five decades of air pollution at Ezra Prentice Homes.

There's a lot of players down at the Port of Albany that didn't want to play fair, so we forced them to play fair. The lawsuit with Global ... they were playing hardball and didn't want to work with us. One of the things Global wanted to do was get legislation passed without talking to the residents ... we felt like the residents were harmed, we filed the lawsuit and said "You can't do this". This sparked a lot of action on our behalf. (personal communication 2021)

Policy activists argued that litigation has been a continuous need that has either gone unmet or unexplored by stakeholders that are fighting for EJ for residents. McPheeters, COO at AVillage, asserted AVillage needs to re-explore this tool, as legal action is specialised and important work that is needed to "keep everybody's feet to the fire and make sure that promises get met" (personal communication 2021).

3.1.2. *Protests, direct action, and social media*

In addition to successful litigation, public protests increased the base of support, formed alliances, and heightened the visibility of EJ struggles at Ezra Prentice Homes. In 2015 the NYS Nurses Association staged a rally and "die-in" during their annual convention to bring attention to public health threats posed by bomb trains in Albany, and shortly after protested in 2016 at the Port with the residents of Ezra Prentice Homes. Social media (as an organising tool) has not been extensively utilised by Ezra Prentice policy activists; however, this highly visible protest was organised through social media and planned by 350.org, AVillage's former Director White, Citizens Action of New York, and 97 other regional groups coordinating *Break Free Northeast*, with Ezra Prentice Homes residents the focus of this campaign. This was one of many climate justice protests attended by thousands of citizens from across the Northeastern US, non-profit organisations, and elected officials (Fowler 2016). Organised via a diversity of social media platforms, tens of thousands of people in 13 countries also protested in unison, with 350.org co-founder Bill McKibben, calling the global demonstrations the "largest civil disobedience in the history of the environmental movement" (Fowler 2016, 1). This highly coordinated Albany protest resulted in arrests, attracted multiple media outlets, and heightened elected officials' interest in the EJ plight of Ezra Prentice residents, as well as dozens of similar EJ communities throughout the country; Ezra Prentice Homes was not alone in this struggle, yet were indicative of a disturbing pattern of injustices. White described how this collaborative work was a watershed event for the residents of Ezra Prentice Homes:

It brought a lot of awareness to the situation. The *Break Free* Movement was just so beautiful. We had thousands and thousands of people in our community, we laid down on the railroad tracks. We wanted to bring awareness to this major injustice that was going on in our community and it was a great collaboration between so many NGOs. One of the things that we accomplished through that process, was the Governor [Cuomo] and other major players started listening to us. So when we all come together as a people, regardless of race, creed, or colour, people will listen to us! (personal communication 2021)

Unfortunately, while the *Break Free* protests momentarily heightened the visibility of EJ struggles at Ezra Prentice Homes, it was also a case of "parachute activism" where large (regional/national) environmental organisations parachute into a community for an "action", yet fail to sustain support, alliances, or communications. Kellogg explained:

Groups drop in when the story is big. They can get attention that way, but then they leave the scene when it's over. When you make a commitment to people in a community, it means following through with it, and not just walking away from it when it's no longer in the media spotlight. (personal communication 2021)

3.1.3. *Community Based Participatory Research (CBPR) and policy advocacy*

Another watershed moment occurred in 2016 directly related to increased data and analysis from a social justice perspective, when AVillage and Radix initiated the community-academic South End Community Health Survey that observed statistically significant elevated levels of asthma among residents of Ezra Prentice Homes. This effort also included a HDDT count; community members, university students, and volunteers counted a daily average of 997 trucks passing by Ezra Prentice Homes on S. Pearl St. These data were released in the summer of 2016 during a public meeting

- DEC is working with identified vehicle fleets to evaluate ways fleets can reduce emissions (removing or retrofitting specific high-emitting vehicles).
- DEC and DOT are making \$20 million available from the Volkswagen settlement and other resources to fund clean trucks statewide, with a focus on environmental justice communities like the South End. DEC has allocated an additional \$52.4 million for future projects to replace transit, school, and paratransit buses statewide.
- DEC continues to conduct periodic enforcement checks on South Pearl Street and impose fines on trucks and buses with high emissions.
- DOT has reclassified four roads within the Port of Albany. This change will make the routes within the port eligible for transportation grants.
- DOT is committed to providing technical support to the City of Albany, including direct engineering assistance, in support of the city's continued assessment of South Pearl Street and potential alternative routes for truck traffic.
- The City of Albany's Mayor's Office is helping to coordinate the voluntary rerouting of frequent truck traffic by several businesses in the South End, and has directed the Albany Department of General Services (DGS) to prohibit its vehicles from using South Pearl Street other than for regularly scheduled solid waste pickup and street cleaning. DGS will also purchase a street-cleaning vacuum (not a sweeper) to help reduce road dust.
- DEC, the Mayor's Office, and the Albany Housing Authority (AHA) are leading a workgroup to develop mitigation strategies and ensure implementation of overall approaches. The workgroup will evaluate the effectiveness of roadside barriers, such as green walls, where appropriate.

Figure 3. DEC list of actions to reduce traffic pollution and human exposure (DEC 2019).

organised by former Albany Common Council member Dominick Calsolaro, current Councilmember Dr. Dorcey Applryrs, and AVillage. In attendance was EPA Regional Administrator Judith Enck, who months earlier forced NYS to take action on PFOA contamination in Hoosick Falls (Albany Times Union, Feb. 22, 2017). This watershed meeting increased support for the specific problem definition and policy options, increased visibility and media coverage, as well as spurred DEC to take action. Calsolaro explained:

The day before Enck was coming, that's when the DEC finally contacted us, contacted Dr. Applryrs, and said DEC Commissioner Seggos wants to talk ... and that's when they announced the DEC's half-million dollar air quality study. (personal communication 2021)

This new 2017 DEC year-long community air quality study worked to better understand the air quality issues and responded to community member complaints about VOCs and TRAPs (DEC 2019); however, policy activists applied continued pressure, and organised a 2017 road blockade that worked to gain the attention of the mainstream media and increase the visibility of EJ struggles in the community. White described the impetus for this act of civil disobedience:

We've got the bomb trains in their backyard and the diesel trucks in their front yard. These people are inundated with toxic air. We decided to protest and stand in front of the trucks and stop them from coming through. It was symbolic because we knew it wasn't going to stop overnight. I thought I was going to jail that day, but I didn't ... and I didn't care if I went to jail because I wanted to bring awareness ... it's all about awareness and making people listen! (personal communication 2021)

Finally in 2019, as a result of DEC's year-long community air quality study, the agency reported that trucks, buses, and other vehicles contribute to greater pollution along S. Pearl St. at Ezra Prentice Homes, with DEC, DOT, and City of Albany committing to the positive policy outcomes as described in Figure 3. Further, DEC found activities at the Port also contribute to local benzene concentrations, and as a result, increased enforcement and conducted more frequent leak detection inspections at petroleum facilities. Due to market fluctuations and the low price of crude oil, coupled with the construction and repair of major pipelines in the Midwestern US (Dakota Access Pipeline), crude oil is no longer shipped through the Port behind Ezra Prentice Homes (Schneller et al. 2020).

Albany Mayor Sheehan stated that while trains staged at the Port cannot be banned, HDDT traffic on S. Pearl St. can be reduced, and directed the Albany Department of General Service's fleet to use alternate routes, which she estimated reduced truck traffic through Ezra Prentice Homes by 30%. The Mayor also discussed her advocacy efforts to electrify buses, but stated "The air quality, I think it's

improving, but it's not where it needs to be" (personal communication 2021). Additionally, NYS Assembly Member McDonald mentioned that work with the NYSDOT has been helpful in addressing HDDT emissions. He explained funded efforts within the Port to improve road infrastructure and provide an alternative truck route, away from Ezra Prentice Homes. However, in terms of real progress, Dr. Bell explained that although the City of Albany rerouted their HDDTs, the broader impacts of these vehicle policies have not been discussed/measured at length. And while the progress is encouraging, her experiences on the Ezra Prentice Community Advisory Committee showed that enforcement of rerouted traffic, speed limits, and installation of traffic signs, have met with "mixed results", slowed further by the pandemic (personal communication 2021). Despite these challenges she praised the significant policy activist and community successes in bringing attention to the severity of injustices, and the proposed solutions.

3.2. *Still unmet needs*

Interview respondents explained that education and outreach could always be better developed advocacy tools. White described that while flyers on doors were ineffective for garnering support for protests and other advocacy, outreach at cookouts and block parties were effective. Unfortunately, Ezra residents were at times uneasy speaking out, being on camera, and feared removal from public housing, and as a result, seeing the full participation of all residents was challenging. He additionally discussed that policy activists need to practice consistent lobbying and pressuring of elected officials, including more aggressive demands and protests. AVillage's McPheeters and Dr. David Carpenter, a nationally recognised expert on the public health impacts of toxic chemicals – Director of the Institute for Health and the Environment at the State University of NY at Albany – discussed the usefulness of social media, yet it remains a resource that's a privilege in many marginalised communities, as some individuals still don't have access to the internet, or can't afford it. Digital methods of communication still remain inaccessible to some low-income and minority populations when compared to whiter and wealthier communities. Carpenter explained the lack of reliable broadband reduces an area's opportunities. He believes this disparity can be addressed by making sure that information is readily available in multiple formats. A diversity of *ineffective* advocacy tools and stakeholders were also discussed by McPheeters, who complained that even when elected officials were lobbied and pressured, they've generally been unhelpful:

The political route has not worked that well for us. We've talked to Senator Gillibrand's [NY] staff. We talked to the Mayor on multiple occasions. We talked to the Housing Authority. We actually have the County Executive saying publicly several times we have to move [Ezra], but that he doesn't have the power to do that. Politics is important. Reaching out to elected leaders is important... but it doesn't always get you what you need. The one thing that the Mayor was able to do was to say, "I'll move my trucks off of S. Pearl so you won't see any city trucks going by". That's nice, but it's not very much. (personal communication 2021)

Dr. Carpenter's experiences paralleled those of McPheeters. Carpenter submitted a response to the original 2014 DEC study, demonstrating South End residents face a significantly greater risk of cancer and other diseases because of chronic exposure to toxic pollutants associated with crude oil operations. His report (using DEC data) observed benzene levels in the area exceed long-term health standards. Dr. Carpenter characterised DEC as "irresponsible" in their 2014 statement that the South End air monitoring results didn't raise a public health concern (Earthjustice 2014). In relation to DEC's short-term 2014 air quality study, now deceased President of the Ezra Prentice Tenant Association, Charlene Benton exclaimed:

We don't understand how DEC could have concluded that there are no public health issues without having spoken to a single resident of Ezra Prentice about what it's like to live here and breathe this polluted air. Who is going to protect our children, our old people, and everyone who lives here if DEC walks away from this? (Earthjustice 2014, 1)

In our 2021 interview with Carpenter, he stated that his official report “Increased awareness in the general public of the problems. I think it has also increased the frustration, because people understand there’s a real danger there”. Anger grows when individuals realise no one is doing anything to solve these ongoing threats: When we have a clear demonstration of something being dangerous, then it’s automatically assumed that “someone in a political position of power must be doing something about it ... that’s where this has not happened”. Dr. Carpenter also expressed understanding limitations – when political leaders become involved in addressing the concerns of communities facing environmental injustices “there’s never enough money to do everything you want, or to take drastic action” (personal communication 2021). This may involve “Tearing down the whole complex and moving everyone someplace else”, yet this would cost an “enormous amount of money”. And while Dr. Carpenter stated that Mayor Sheehan and DEC Commissioner Seggos and staff have tried to be responsive and later implemented the second air quality study in 2017 (discussed above), nothing has happened: “There have been air pollution monitoring stations put up and a lot of measurements taken ... but the measurements don’t change the amount of air pollutants” (personal communication 2021). These sentiments parallel longtime Albany EJ activist, epidemiologist, and former President of the Sierra Club, Aaron Mair, who in a 2021 interview stated “At the end of the day, the end result is that these people are still stuck here. Government has failed these people” (WMHT 2021, 1).

While Dr. Carpenter highlighted communication as a key for advocacy, he described the issue of ineffective communication as a “major problem”. He believes educating professionals and officials on how to address “just ordinary people” and communities with lower literacy levels is a tool that should be used more often. Dr. Bell echoed this sentiment in the lack of fairness and inclusivity in effective communication, and discussed that stakeholders sometimes take control without listening to what the community wants: “What *doesn’t* work well is when we come with our scientists and public health researchers and people who don’t live there, and say, ‘we think this is what you need’, and it doesn’t jive with what the community needs”. Bell explained that “preconceived assumptions”, not listening to the community’s priorities, and going in with a directing mindset, are “going to fail”. She continued “You have to listen and follow ... because they’re the ones living there. It’s their life and they have every right to stay and fight. But it’s their decision ... what are their priorities?” (personal communication 2021).

3.3. Impediments to resolving environmental injustices at Ezra Prentice Homes

3.3.1. Legacies of neglect and expendability

Ongoing Port activities, coupled with the perception of expendability – that lower income South End residents remain powerless – are major impediments to efforts to protect residents and the environment. Earthjustice Attorney Chris Amato’s statement addressing Global’s crude oil projects next to Ezra Prentice Homes remains timeless: “It’s an absolute injustice what is taking place. I guarantee that this would not be happening in a middle-class white community” (Sutcliffe 2016, 1). Case in point, in April of 2021 Waste Management of NY applied to DEC for a solid waste permit modification to accept municipal solid waste about 1,000 feet from Ezra Prentice Homes. While this proposal was ultimately denied due to successful policy activist opposition, our interview respondent Calsolaro published an Op-ed in the Albany Times Union urging DEC to deny Waste Management’s request and uphold the state mandates for protecting DEC-identified EJ areas. Calsolaro posited the rhetorical question:

So why is Waste Management again proposing to bring garbage into an environmental justice community? Is it because we are a community of color and low-income earners, so Waste Management feels we don’t have the financial means to fight this multi-billion-dollar-a-year corporation in the courts? Is it because, traditionally, communities of colour have been the primary choice for locating dumps, incinerators (remember the notorious ANSWERS plant?), and other pollution-spewing industries? Is it because historically, our elected officials have

protected wealthier white suburban communities from becoming home to these same industries at the expense of low-income, mostly minority urban neighborhoods? (2021, 1)

During our interview with Calsolaro he highlighted lack of data as a limiting factor, and that research and data collection needs to continue to better protect residents at Ezra Prentice Homes, and that despite his communications and requests to DEC to bring lawsuits against polluters, they lack the power to stop the sources of pollution. However, as seen above, DEC does have the power to deny new permits, a duty to solicit comments and directly communicate with residents, to uphold protections for EJ areas, and to protect community air quality.

3.3.2. Resolution and policy at a standstill

Stakeholders discussed a diversity of limited solutions and a mix of strategies that have yet to be fully implemented as best avenues to justice. CEO Hendrick of the Port stated that while the Port strongly encourages any vehicles leaving Port facilities *not* use the S. Pearl St. corridor in front of Ezra Prentice Homes, it's ultimately out of their control, as they're not an agency with law enforcement powers. To reduce HDDT emissions from Port industrial tenants, trucks are monitored with cameras, the Port's only enforcement tool, coupled with the potential for cancellation of Port tenant leases. However, the Port has also encouraged the City of Albany and Albany County to use law enforcement to better enforce truck traffic. Whether tickets have been issued or leases rescinded is unknown.

3.4. Preferred outcomes for reducing human exposure to environmental toxins at Ezra Prentice Homes

Relocating the residents remains a contentious issue. While any resident has the option of requesting to move to a different location (and a few have), there is a large demand for limited public housing in the City of Albany. Relocating individual residents to other housing units as they become available also ignores the life-stress inherent in moving, and the community bonds families have built over decades as neighbours. Terea Alston, Vice President of the Ezra Prentice Tenant Association described this complex situation in a recent news story:

Health effect-wise with the air pollution and the trucks traveling back and forth, over time, cancer, asthma ... and the noise issue could cause psychological issues. I feel like more could be done and change is realistic. Down here it's fairly peaceful, it's very kid friendly, so a lot of people do not want to move because of the amenities that this complex provides. However, there are some people that have strongly expressed that they would like to move. (WMHT 2021, 1)

Dr. Carpenter regarded moving residents away from the highway, train traffic, and other Port activities as ideal, but unrealistic. A more realistic approach in his opinion would be to reroute HDDTs away from the public housing complex (as discussed by Mayor Sheehan and Hendrick above); however, this could possibly shift the burden to a different neighbourhood. He noted that building a noise reduction wall, which was "recommended to the Mayor's committee ... just did not happen". Further, while reducing noise, it would not resolve the sources of pollution. In addition to agreeing with Amato's statement above, Dr. Carpenter mentioned political influence and socioeconomic status as impediments to a resolution:

People with money have influence. People without money have much less influence because they don't contribute to political campaigns. They have the same voting impact as someone from more affluent communities, but they're so often frustrated and don't see the system responsive to their needs ... so they don't bother to use their power at the polls ... that's a tragedy because it does help to promote these injustices. (personal communication 2021)

Former Director White and McPheeters, representing AVillage, agreed that relocation is one of the best possible solutions. McPheeters explained that the community's close proximity to an industrial site is inappropriate and unresolvable. "It was one of the most boneheaded developments everybody looks at and says, 'how did this get here'? But it was done in the late 60s, early 70s as part

of the Rockefeller development of the Empire State Plaza". He continued by arguing, "Everybody agrees with that [fact]. It's just that ... how do you do that [relocation]?" White further described the difficulty of relocation:

So ultimately, this is what's got to happen ... Ezra Prentice has got to be relocated. We want to keep the community together. It's literally impossible to pick Ezra up and move it somewhere, but symbolically that's what we've got to do. We have to secure a safe environment where they are not breathing this air every day. They are living in an industrial area where humans shouldn't live. Just because they are not dying now, long term, they're going to have some serious respiratory issues. There's over 200 kids that live there, and the powers that be are ignoring the situation. (personal communication 2021)

McPheeters described that some Ezra Prentice residents don't want to move and fear being separated from family, friends, and the community they've built. Echoing McPheeters, Radix's Dr. Kellogg was angered why public housing was built in such close proximity to polluting industrial sites in the first place: "Public housing is built there because people in wealthier neighbourhoods don't want public housing, they are afraid of their properties being devalued. People value money at the expense of human lives" (personal communication 2021).

Regarding relocation, Mayor Sheehan stated that Ezra Prentice Homes is in a safer and more convenient location than other public housing in the City. CEO Hendrick of the Port of Albany also described the neighbourhood as "safe" and "quiet", and that The Albany Housing Authority offered to move anybody who wanted to move, but there were very few people who raised their hand and said, "I want out of here" (personal communication 2021).

4. Discussion

The irony of the Empire State Plaza, the Capital of NYS, being the purported centre of policy and justice for the people of NYS cannot be ignored. Even before the opening of the Legislative Office Building (the first to open in 1972), decisions were made that resulted in five decades of ongoing injustices for marginalised communities of colour. Our findings highlight the roots and more contemporary EJ struggles ongoing for the residents of Ezra Prentice Homes. As documented by Karner et al. (2009), permanent and expedient solutions have been facilitated for EJ communities living adjacent to ports and the associated HDDT traffic, as well as for other (whiter) EJ areas in NY, such as with PFOA contamination in Hoosick Falls. However, the predominantly Black residents in Albany's South End, along with their policy activist, scientist, university, and elected official allies, are still advocating to protect a state identified EJ area and the environment. In this vein, our respondents above described the "legacy of environmental racism" at Ezra Prentice Homes, continued neglect and power struggles, and the ongoing mindset of expendability that continues to not only delay long-term solutions, but also perniciously and continually targets this minority community for locally unwanted land uses. Would this have happened in a whiter wealthier community, and can residents at Ezra Prentice Homes co-exist with the pollution? The answer to the first question is clearly "No", and as for the second, not unless serious threats to human health are perceived as an acceptable outcome for public housing residents.

4.1. Implications for coalitions, forms of mobilisation, and advocacy

In detailing the theory of change outcome categories associated with social justice advocacy processes (Table 2) we documented how policy activists facilitated a mix of tools including protests/direct action, political pressure, public meetings, social media, community BBQs, and door-to-door flyering. CBPR in collaboration with DEC and university researchers was extensive (similar to those documented by Corburn 2005; Gonzalez et al. 2011; Israel et al. 1994; Sadd et al. 2014), along with highly visible public campaigns, protests, and the development of an informal network

that included the scaling-up of successful actions such as lawsuits (Agyeman 2005; Bullard and Wright 1993; Cole and Foster 2000; Karner et al. 2009; Schneller et al. 2020; Sutcliffe 2016). While policy activists have not sustained their use of social media as a mobilising tool (Espiritu 2017; Young, Teixeira, and Hartnett 2015), they have continued to lobby/meet with elected officials and state and federal agencies, and have proffered formal objections to state sponsored research findings. These efforts have been instrumental in garnering sympathy, expanding a base of support, forming alliances, attracting the media, and bringing widespread state and national visibility to this EJ struggle, while promoting necessary solutions for protecting residents.

Yet while we documented multiple instances of complex collaborative work contributed by a mix of organisations (with meaningful outcomes) (Klugman 2011), dissimilar to the California air pollution (asthma) case presented by Kreger et al. (2011), no formally organised coalition exists to advocate for the residents of Ezra Prentice Homes. As a result of the more grassroots and piecemeal advocacy efforts of Ezra Prentice policy activists – sometimes temporarily conducted in collaboration with national environmental organisations – outcomes have resulted in patchwork/temporary successes. The network of policy activists advocating for Ezra Prentice residents more closely resemble the “middle coalitions” described by Kreger et al. (2011), and faced constraints in their “organizational development, leadership, and/or the community environment in which they were working, and varied widely in their capacities and activities” (210). Would a more formal/mature coalition result in strengthened organisational capacity and greater resolution of injustices?

However, despite the uneven frequency of the advocacy efforts, this clearly defined EJ struggle had admirable successes that included CBPR closely linked with advocacy, mobilisation, and policies that resulted in mandatory removal of Albany Department of General Services vehicles from S. Pearl St.; state funded rail infrastructure repairs; increased state sponsored enforcement and more frequent leak detection inspections at petroleum facilities; DEC funding and facilitation of more in-depth air quality studies; Port of Albany promotion of rerouting HDDTs away from S. Pearl St. (potentially forthcoming); lawsuits defeating permits to expand crude oil and solid waste management infrastructure; and more. Yet similar to the findings of Klugman (2011), while our research documented decades-long collaborative strategies coupled with serendipitous windows of opportunity (ie: heightened visibility and alliances formed during the global *Break Free* protests), unfortunately, the intensity of advocacy that influenced the wins mentioned above have not been sustained to advance long-term policy decisions and permanent solutions. This was espoused by Radix’s Kellogg above who described the consequences of “parachute activism” by national environmental organisations and their failure to make a longer-term commitment to the community. Klugman (2011) echoes with a warning: evaluating the effectiveness of one policy change doesn’t always allow for ongoing learning to ensure appropriate (further) strategies; [and] policy wins can be overturned and thus need vigilant monitoring and advocacy for implementation (146). In this vein, it is unknown the extent to which the policies in Figure 2 have been implemented, who is monitoring progress, and broadly, where policy victories are not resulting in effective implementation. While the pandemic may have temporarily decreased commerce, port-related HDDTs have resumed driving through Ezra Prentice Homes on S. Pearl St. in 2022. Further, as of Fall 2022, the dedicated (promised) funding from state agencies used to reroute traffic and fund clean trucks (statewide) is coming too late and too slowly for public housing residents living next to this Port infrastructure.

4.2. Implications for policy responses and further research

Relocating Ezra Prentice Homes would not set a new precedent in terms of policy responses to EJ struggles. Between 1997 and 2008, the USEPA spent \$25.5 million (USD) to relocate over 400 families in the neighbourhoods bordering Pensacola Florida’s “Mt. Dioxin”, to comparable replacement housing (Gukeisen and Schneller 2020). In 2017, a 515-acre farm located 40 miles north of Isle de

Jean Charles was purchased for \$48.3 million (USD) by the State of Louisiana for relocation of the Biloxi, Chitimacha, and Choctaw community, dubbed the US first climate refugees. Some tribal members were outraged that changes the State made didn't reflect the goals and objectives of the Tribe's original plan, and refused to move, even in the face of known risks to their health and property (Glaser and Schneller 2019). Similarly, the ultimate conundrum in terms of a permanent long-term solution (relocation of Ezra Prentice residents), is that while this might be the most sustainable, responsible (and expensive) outcome for reducing human exposure to toxins, some residents will choose to stay in the neighbourhood (and fight), despite known long-term risks to their health, with their forced relocation possibly creating even further injustices. Residents may face the reemergence of former afflictions (the return of crude by rail) and new (unforeseen) proposals to expand Port industrial operations. As such, there are ample opportunities for future research to work to better understand residents' technological risk perceptions at Ezra Prentice Homes, as well as the effect of agency and decision makers' technological risk perceptions on public policy responses, or lack thereof.

Notes

1. For heating and cooling the Plaza, an oil burning steam plant in Sheridan Hollow (a predominantly Black community) was converted to a refuse burning incinerator. This Solid Waste Energy Recovery System (ANSWERS) was closed in 1994 due to citizen outrage and policy activism highlighting toxic air in the community (Los Angeles Times, March 6, 1994).
2. The median household income for the City of Albany is \$45,825 (U.S. Census Bureau 2019).
3. In an effort to protect EJ communities, the Port of Oakland (CA) also removed and/or retrofitted older trucks with diesel particulate filters (DPFs) and implemented trucks with newer engines equipped with particle filters (Dallman, Harley, and Kirchstetter 2011).
4. FRA enforces regulations created by the Pipeline and Hazardous Materials Safety Administration (PHMSA). Incidents with crude oil transported via rail are handled by the National Transportation Safety Board (NTSB), the investigatory agency responsible for recommending changes to regulations and policies based on the circumstances surrounding past accidents (Burton and Stretesky 2014).
5. For a more thorough academic treatment on why certain actors are better positioned to affect change in social justice and EJ struggles (see Martinez-Alier, Temper, and Scheidel 2016; Tajik and Minkler 2006; Tarrow 2011).
6. www.crimemapping.com; www.everyblock.com; www.seeclickfix.com; www.infrastructurist.com/f-this/; www.appsfordemocracy.org/stumble-safely; <http://www.mybikelane.com>; www.healthycity.org; and software developed to map community hazards and assets: www.ushahidi.org.
7. While asthma rates at Albany's Creighton Storey public housing complex (~20%) are on par with some national recorded rates for African Americans living below the poverty level, the survey of 119 of 176 Ezra Prentice households observed self-reported active asthma rates at Ezra Prentice Homes are 33%, statistically significantly higher (Pettigrew et al. 2021).

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