

Saint Louis University School of Law  
**Scholarship Commons**

---

All Faculty Scholarship

---

8-31-2019

## Environmental Racism in St. Louis

Thomas Harvey  
*ArchCity Defenders*

John McAnnar  
*ArchCity Defenders*

Michael-John Voss  
*Saint Louis University School of Law Library, michaeljohn.voss@slu.edu*

Dutchtown South Community Corporation

Action St. Louis

*See next page for additional authors*

Follow this and additional works at: <https://scholarship.law.slu.edu/faculty>



Part of the [Civil Rights and Discrimination Commons](#), [Environmental Law Commons](#), [Social Welfare Law Commons](#), and the [State and Local Government Law Commons](#)

---

### Recommended Citation

Harvey, Thomas, McAnnar, John, Voss, Michael-John, Dutchtown South Community Corporation, Action St. Louis, and Sierra Club. Environmental Racism in St. Louis (August 31, 2019).

This Report is brought to you for free and open access by Scholarship Commons. It has been accepted for inclusion in All Faculty Scholarship by an authorized administrator of Scholarship Commons. For more information, please contact [ingah.daviscrawford@slu.edu](mailto:ingah.daviscrawford@slu.edu).

---

**Authors**

Thomas Harvey, John McAnnar, Michael-John Voss, Dutchtown South Community Corporation, Action St. Louis, and Sierra Club

# ENVIRONMENTAL RACISM IN ST. LOUISIS



## Table of Contents

Summary.....	1
Introduction.....	3
1. Lead Poisoning.....	5
2. Asthma.....	7
3. Mold.....	9
4. Air Pollution.....	11
5. Home Energy Costs.....	13
6. Limited Access to Healthy Food.....	15
7. Vacant Properties.....	18
8. Illegal Trash Dumping.....	19
Conclusion.....	21
Endnotes.....	22



*DUTCHTOWN SOUTH COMMUNITY CORPORATION'S COMMUNITY DEVELOPMENT MANAGER SUNNI HUTTON AND "SO FRESH SO CLEAN SO CREATIVE" COMMUNITY CHAMPIONS EDUCATE RESIDENTS ABOUT RECYCLING AND WASTE STREAMS*

## SUMMARY

---

Black St. Louisans are exposed to considerably greater environmental risks than white residents, contributing to stark racial disparities regarding health, economic, and quality of life burdens:

- Black children in the City of St. Louis are 2.4 times more likely than white children to test positive for lead in their blood and account for more than 70% of children suffering from lead poisoning.
- Black children in St. Louis make roughly 10 times more emergency room visits for asthma each year than white children. Black children make more than 42 emergency room visits per 1,000 children, compared to less than 4 visits per 1,000 children for their white counterparts.
- Mold complaints are more common in majority-black areas than elsewhere in the City.
- Most of the City's air pollution sources are located in neighborhoods of color, and more building demolitions – which create harmful dust that may contain asbestos and lead – occur in majority-black neighborhoods.
- Black households in St. Louis are disproportionately affected by energy burdens (the percentage of income spent on utilities), far exceeding the citywide median.
- Black residents of St. Louis are almost twice as likely to have limited access to healthy food as white residents because there are no supermarkets in close proximity and they are more likely to have limited access to a vehicle or adequate public transit to reach more distant grocery stores.
- Majority-black neighborhoods experience most of the City's illegal trash dumping.
- More than 90 percent of the City's exceptionally-large inventory of vacant properties are located in majority-black neighborhoods.

These issues are interrelated and impose multiple, cumulative burdens on the City's black residents. Poorly maintained rental housing frequently subjects tenants to increased risks of exposure to lead and mold, as well as high utility bills. Neighborhoods containing many vacant properties are targeted by those seeking to illegally dump construction debris and other trash. Fixing these deeply-rooted problems will require solutions that explicitly seek to eliminate environmental racism and achieve racial justice.





### **REVEREND RODRICK BURTON: WE NEED A MOVEMENT FOR CHANGE**

Reverend Rodrick Burton is the pastor of New Northside Missionary Baptist Church in Ward 27. “Many children in my congregation have asthma, and they need rescue inhalers to breathe when they have an asthma attack. However, you need a prescription to get those inhalers, and many people don’t have health care. The cost can be prohibitive too, with or without insurance. Some parents ask the church for help in getting inhalers for their children. Our children are being hospitalized and even dying of asthma, in part because they can’t get inhalers but also because it’s hard for people to get to medical clinics. St. Louis is a car town and these are areas where there is the least automobile access, so buses are the only way for many to get to life-saving treatment and supplies.”

This problem affects not only Rev. Burton’s congregation, but his family as well. Rev. Burton has “a wife and children who suffer from asthma and the suffering from it worsens and worsens each year.” Rev. Burton notes that air pollution is a particular problem for people with asthma. “Our air quality is bad, and climate change is causing longer and more intense pollen seasons. The air pollution and pollen both make things worse for people with asthma. Poor people have it coming and going. There are problems inside their homes – lead paint, mold – and then outside the air pollution is bad because of all of the coal-fired power plants, gas emissions and particles from highways, and the increasingly harsh pollen seasons.”

Rev. Burton is also concerned about the limited food access for his community and congregation. “Two grocery stores closed in the past few years, and people in the community struggle to get groceries, let alone fresh fruit and vegetables. Many people don’t have cars and money to travel to buy fresh food, and instead get their food from small marts and discount stores that only sell packaged foods. There’s a bus that brings fresh food around; we need more of them.”

Illegal trash dumping is an ongoing problem, particularly on vacant properties. “We have been working on this with three different Aldermen over the years. Vacant homes are an eyesore and a daily reminder that you live in an area that is not prioritized. They also attract dumping; people dump a lot of construction and other waste in our neighborhoods. The City seems quicker to respond to problems in the Central West End than in majority black neighborhoods in North St. Louis, and it’s not for lack of political leadership on this.”

Rev. Burton’s church responded to the challenge of high energy bills by installing solar panels on the roof of the church. That enables them to save about \$3,000 each year on their electricity bills.

Rev. Burton emphasizes the importance of economics. “If you’re not including economics, then the conversation about justice is just talk. We have benign neglect, intentional neglect, and economic neglect, and it’s affecting everybody. If you’re not walking the walk in your finances, then you’re not really doing it.”

Rev. Burton’s church is hosting a Green the Church summit in St. Louis in October, to encourage African-American churches to address environmental justice. “These are issues they’ve been dealing with but haven’t had the language. People need to be part of this movement, or they already are and don’t know it.”



## INTRODUCTION

---

This report calls out environmental racism—“the disproportionate impact of environmental hazards on people of color”<sup>1</sup>—in St. Louis. While these disparities have been part of the long-standing discriminatory and profit-driven policies and practices known too well by black St. Louisans, the issue of environmental racism has rarely been addressed in the City.

At least three recent reports—*For the Sake of All*,<sup>2</sup> *Segregation in St. Louis: Dismantling the Divide*,<sup>3</sup> and *Equity Indicators*<sup>4</sup>—document the heavy health, economic, and quality of life burdens that the St. Louis region imposes on its black residents. This report complements those by focusing on the burdens related to environmental factors.

It should come as no surprise that black St. Louisans are disproportionately harmed by lead poisoning, asthma, mold,

and high energy costs—all of which are associated with factors such as substandard housing conditions and air pollution—due to living near industrial facilities, highways, and building demolitions. In addition, the City’s focus on enhancing majority-white areas has left majority-black areas without adequate access to public transit or healthy food, and with high concentrations of vacant properties and illegal trash dumping.

While this report largely uses statistics and maps to highlight various elements of environmental racism, its overarching concern is how harshly these injustices impact the daily lives of thousands of St. Louisans. Like many others: M.J.'s family rushes to the emergency room with asthma flare-ups due to unsafe housing conditions; Kaliah West's daughter still suffers the effects of early childhood lead exposure; Janice Rideout ends up in court in a frustrating effort to get her landlord to fix the extensive mold in her apartment; a South Side resident faces exorbitant electricity bills and her landlord refuses her pleas for help in identifying the problem; Tonja Bulley struggles to find adequate transportation, requiring her to take three buses to get to work and rely on family and friends to go to the grocery store; and Regina Dennis-Nana describes how institutional racism contributes to illegal trash dumping and undermines community pride. Reverend Rodrick Burton sees the cumulative impact of environmental injustice on his parishioners. Although people like Tosha Phonix and Tyrean Lewis have stepped up to provide healthy food to communities that otherwise lack access to it, so much more needs to be done to address the systemic, institutional forces that place such heavy and disproportionate burdens on the City's black residents.

Institutional racism in St. Louis has deep roots. Missouri entered the Union in 1821 as a slave state.<sup>5</sup> The Old Courthouse downtown is known for the Dred Scott case, in which the U.S. Supreme Court ruled that descendants of slaves were not "citizens," had no rights under the Constitution, and could not use the courts to sue for their freedom.<sup>6</sup> St. Louis was a major slave auctioning center in the 1850s and "free" blacks needed licenses to live in the city, were banned from voting, and faced housing restrictions, curfews, bans on education, and other discriminatory forces.<sup>7</sup>

St. Louis has long been one of the most segregated cities in the country. Named one of the most "hypersegregated" cities in the U.S. in 1980,<sup>8</sup> it was the seventh-most segregated city in 2000 as well as throughout the period 2013-2017.<sup>9</sup> This segregation is caused not only by discriminatory acts of individuals and corporations, but also by government policies and practices. As the St. Louis-based federal appeals court said in a 1974 case involving the effort by the then all-white City of Black Jack to prevent the construction of integrated housing, "segregated housing

in the St. Louis metropolitan area was 'in large measure the result of deliberate racial discrimination in the housing market by the real estate industry and by agencies of the federal, state, and local governments.'"<sup>10</sup>

The City of St. Louis has long used its planning and zoning powers not only to enforce racial segregation, but also to confine blacks to areas with greater environmental and health risks, including industrial areas with polluting facilities.<sup>11</sup> In addition, the City has historically focused its urban development and code enforcement efforts primarily on majority-white areas and cleared majority-black areas of residences for various development projects or allowed them to deteriorate.<sup>12</sup> As the federal appeals court observed in the Black Jack case: "The concentration of blacks in the city and in pockets in the county is accompanied by the confinement of a disproportionate number of them in overcrowded or substandard accommodations."<sup>13</sup>

Reflecting what Manning Marable terms the "symbiotic processes of institutional racism and capital accumulation [that] affect all American working and poor people,"<sup>14</sup> systemic forces have placed a disproportionate share of blacks in poverty and thereby aggravated their exposure to environmental injustice. Blacks in the St. Louis area are and have historically been more than three times as likely to be living in poverty as whites.<sup>15</sup>

The 1987 groundbreaking study, *Toxic Wastes and Race in the United States*, called out St. Louis as one of six cities with both large black populations and high numbers of uncontrolled toxic waste sites.<sup>16</sup> This history is by no means behind us. As Reverend Burton explains below, his parishioners in the 27th Ward—a majority-black and low-income area in the northwestern part of the City—face multiple environmental challenges, compounded by poverty and limited access to adequate health care and other necessities.



# 1. LEAD POISONING

Although the City of St. Louis started prioritizing childhood lead poisoning in the early 1970s, and various programs and funding commitments have come and gone in the nearly 50 years since,<sup>17</sup> this preventable yet devastating problem persists today.

It harms predominantly the City's black children, who are 2.4 times more likely than white children to test positive for lead in their blood and accounted for more than 70% of children found to suffer from lead poisoning in 2016.<sup>19</sup> As shown in Figure 1.1 below, four of the five wards with the highest childhood lead poisoning rates in 2017 were majority-black (Wards 1, 4, 20, and 21), compared to just one of the six wards with the lowest childhood lead poisoning rates (Ward 19).

Compounding these racial disparities is the fact that the City of St. Louis as a whole suffers disproportionately from childhood lead poisoning.<sup>21</sup> Children in the City are twice as likely to have lead poisoning as children statewide in Missouri.<sup>22</sup>

One factor contributing to the City's high levels of childhood lead poisoning is the fact that nearly 90% of the City's

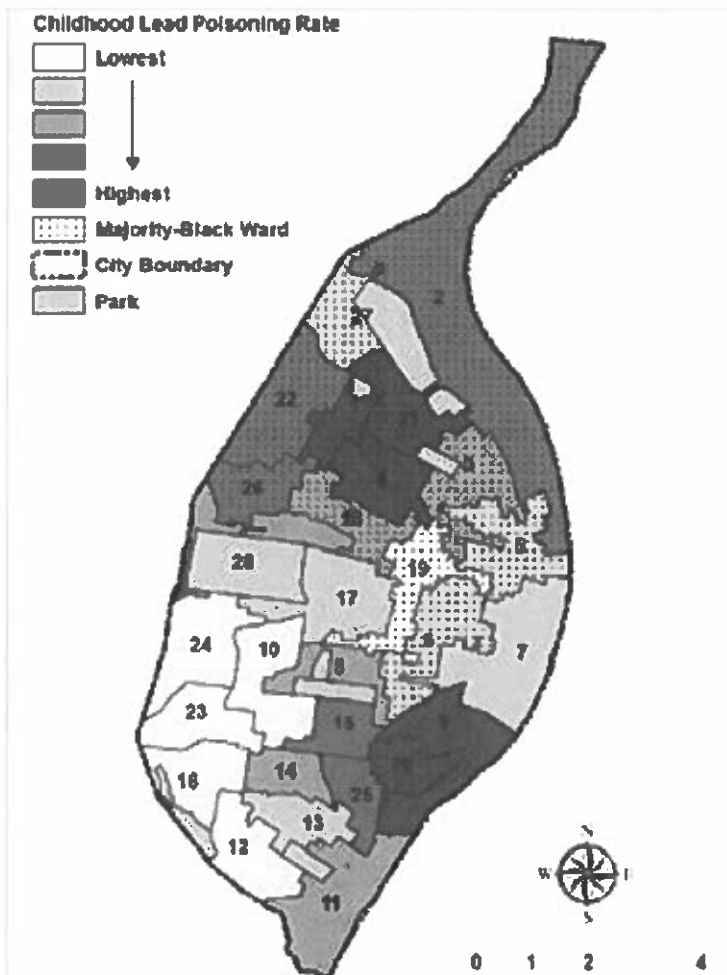


FIGURE 1.1. CHILDHOOD LEAD POISONING RATES BY WARD, 2017<sup>19</sup>

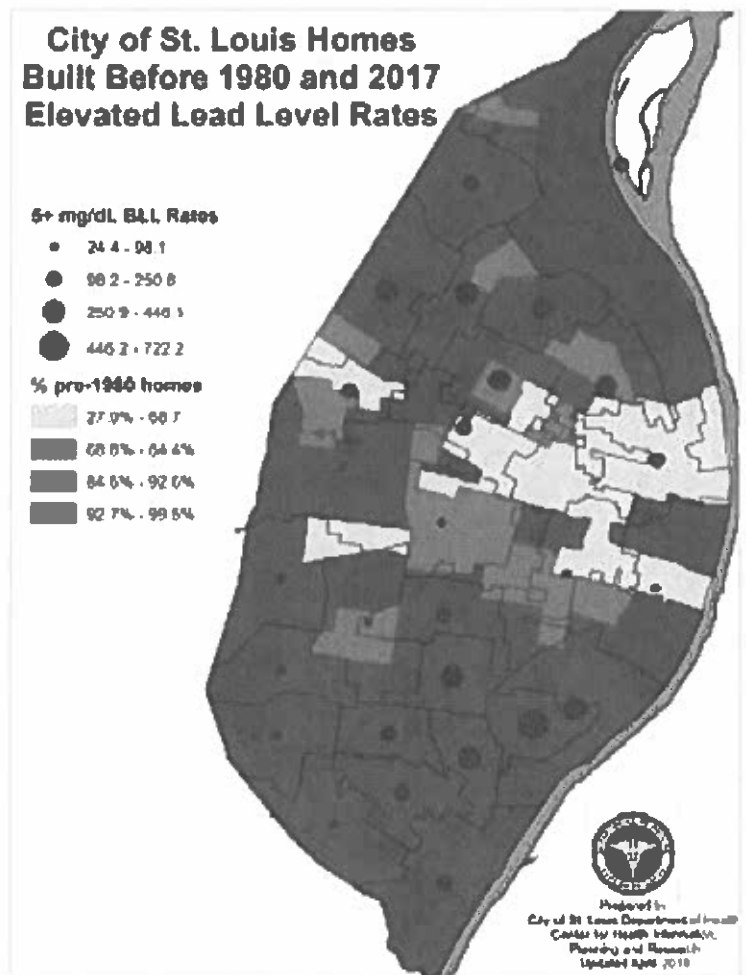


FIGURE 1.2. PERCENTAGE OF HOMES BUILT BEFORE 1980 AND CHILDHOOD LEAD POISONING RATES BY WARD, 2017<sup>19</sup>

homes were built before 1980<sup>23</sup> and therefore likely contain lead paint because lead paint was not banned for use in housing until 1978.<sup>24</sup> By contrast, just over half of the homes in Missouri—and nationwide—were built before 1980.<sup>25</sup>

However, housing age does not explain the racial disparities in childhood lead poisoning in St. Louis. As Figure 1.2 shows, in several wards in South St. Louis which have a very high percentage of pre-1980 homes and are majority-white, childhood lead poisoning rates are very low compared to Wards in other areas that also have a high percentage of pre-1980 homes but are majority-black. For example, even though they have similar percentages of pre-1980 homes, in 2017 less than 2% of children tested in majority-white

Wards 10, 16, 23, and 24 were lead poisoned compared to over 10% of the children tested in majority-black Wards 1, 4, 20, and 21.<sup>26</sup> Therefore, although building age is a factor in childhood lead poisoning rates, factors such as inadequate building maintenance and other underlying unsafe housing conditions likely contribute to lead exposure disparities in St. Louis.<sup>27</sup>

In addition, as Figure 1.3 shows, the areas with the highest childhood lead poisoning rates are also typically areas where a sizeable portion of the population is living below the federal poverty level. These areas, too, tend to be majority-black.<sup>29</sup>

As the City's Health Department stated in its most recent lead poisoning report, "lead poisoning has been occurring much longer and the rates continue to be higher in the northern section of the city and southern along highway 55."<sup>31</sup> The prevalence of lead poisoning in black children, with its lifelong injuries, reflects long-term and ongoing racial discrimination that results in less opportunity for home ownership, greater poverty, and greater concentration of blacks in areas with poor housing conditions and landlords who fail or refuse to abate lead hazards.<sup>32</sup>

Some Americans face a 'triple whammy' of increased risk based on poverty, race, and place. Evidence dating back to the 1970s has shown that lead poisoning rates are higher in inner cities and low-income and minority neighborhoods than in white, affluent, and suburban neighborhoods. ... [G]overnment-supported suburban development and racial segregation after World War II contributed to lead poisoning by concentrating minority families in substandard urban housing. ... [D]iscriminatory government policies effectively excluded minority families from buying homes in suburban neighborhoods, leaving them trapped in cities, where a vicious cycle of deterioration and disinvestment exacerbated lead hazards.<sup>33</sup>

### THE DANGERS OF LEAD POISONING

There is no safe level of exposure to lead,<sup>34</sup> and it is especially harmful to children.<sup>35</sup> Childhood lead poisoning can cause permanent damage to the brain and nervous system, make it more difficult to learn and pay attention, and slow a child's growth and development.<sup>36</sup> Lead poisoning can also cause learning disabilities, behavioral and emotional problems, and aggression, resulting in increased school drop-out rates, suspensions, and delinquency as well as criminal activity and violence.<sup>37</sup> Children are most likely to get lead poisoning when lead from household paint gets into household dust, the dust gets on children's hands, toys, or other objects, and children place those things in their mouths.<sup>38</sup> Because lead poisoning has no obvious symptoms, a blood test is needed to determine whether a child is suffering from lead poisoning.<sup>39</sup>

### KALIAH WEST: A MOTHER'S UNWANTED DISCOVERY

Ms. Kaliah West is a current resident of University City, where she lives with her daughter and uncle. From 1 to 2 years of age, Kaliah's daughter resided in North City with her grandmother while Kaliah was incarcerated. During that time, her daughter suffered from lead exposure, something Kaliah did not discover until her release. Five years have passed since the exposure to dangerous conditions in the grandmother's home, and her daughter's blood lead levels have returned to normal. Kaliah reports that her daughter still experiences behavioral issues, a common side effect of lead exposure.

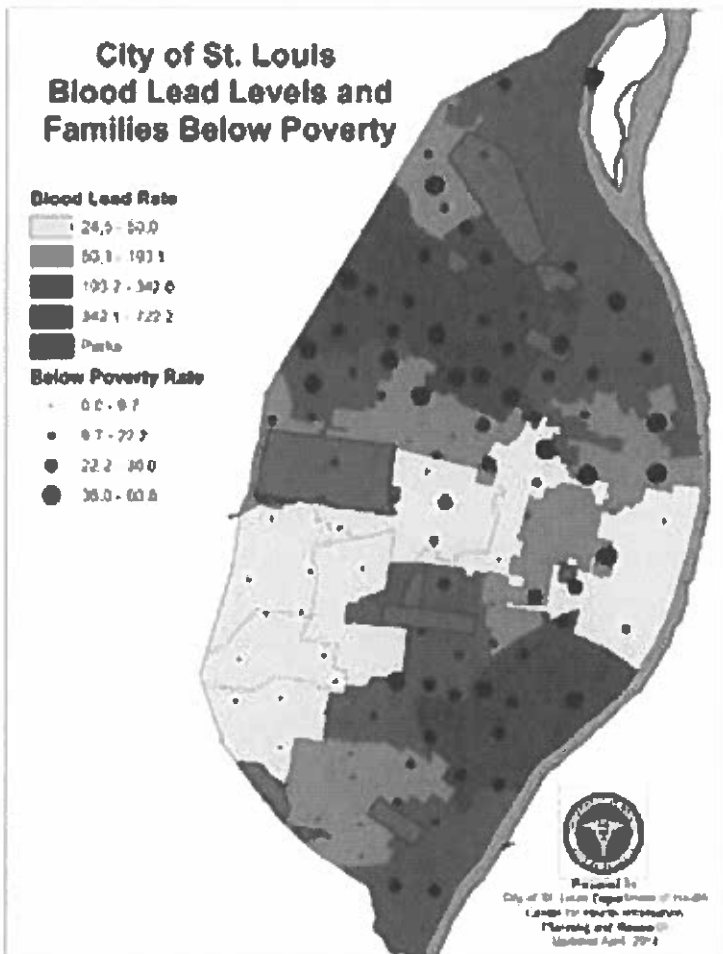


FIGURE 1.3. PERCENTAGE OF RESIDENTS LIVING IN POVERTY AND CHILDHOOD LEAD POISONING RATES BY WARD, 2017<sup>39</sup>

## 2. ASTHMA

Residents of the St. Louis region have long experienced high asthma rates.<sup>40</sup> Within the region, the asthma burden is felt most heavily in the City of St. Louis.<sup>41</sup> And within the City, the burden falls most heavily on black residents.

Several of the factors explored later in this report—including mold and air pollution—together with poor quality housing and limited access to preventive health care contribute to the significant racial disparity for asthma.<sup>42</sup> As Figure 2.1

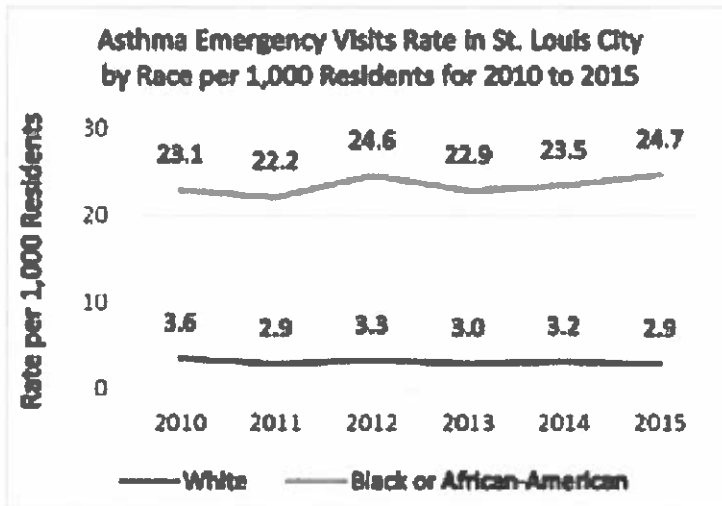


FIGURE 2.1 NUMBER OF EMERGENCY ROOM VISITS (PER 1,000 RESIDENTS) DUE TO ASTHMA IN ST. LOUIS BY RACE, 2010-2015<sup>46</sup>

shows, black St. Louisans made 8.5 times more visits to the emergency room (per 1,000 residents) for asthma than did white St. Louisans between 2010 and 2015.<sup>43</sup> The gap is even wider among the City's children. Black children in St. Louis made 10.8 times more emergency room visits for asthma (42.44 visits per 1,000 children) than did white children (3.93 visits per 1,000 children) in 2015.<sup>44</sup> The City's 2018 Equity Indicators Baseline Report gave St. Louis the lowest possible score for racial inequity (1 out of 100) regarding childhood asthma.<sup>45</sup>

The zip code comparisons in Figures 2.2 and 2.3 further demonstrate the racial disparity for asthma in St. Louis. As shown in Figure 2.2, the zip codes with the highest number of emergency room visits due to asthma in 2015—63106 and 63107 in North City and 63118 in South City—are majority-black. Furthermore, all zip codes in North City, which are all majority-black, were in the two highest tiers for asthma emergency room visit rates in 2015. In contrast,

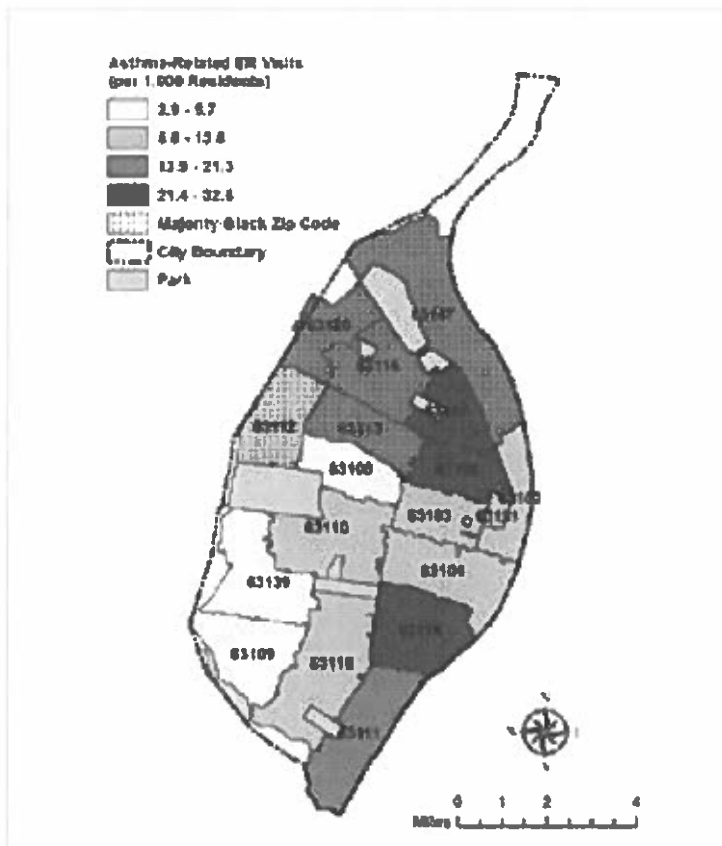


FIGURE 2.2. NUMBER OF EMERGENCY ROOM VISITS (PER 1,000 RESIDENTS) DUE TO ASTHMA BY ZIP CODE, 2015<sup>48</sup>

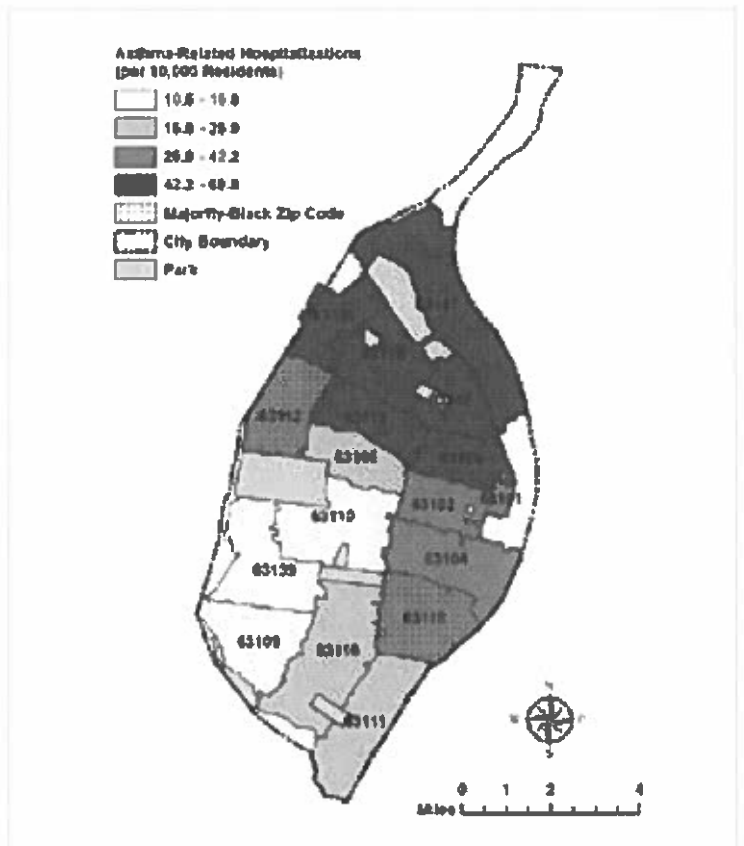


FIGURE 2.3. NUMBER OF HOSPITALIZATIONS (PER 10,000 RESIDENTS) DUE TO ASTHMA BY ZIP CODE, 2012-2014<sup>49</sup>

the zip codes with the lowest asthma emergency room visit rates in 2015 are either majority-white (63109 and 63139) or have no racial majority (63108).<sup>47</sup>

Similarly, as shown in Figure 2.3, asthma hospitalization rates were highest in six majority-black zip codes in North City and lowest in three majority-white zip codes in South City between 2012 and 2014.

These racial disparities in asthma within the City's population are further magnified when comparing St. Louis with surrounding counties and the rest of the state. As shown in Figure 2.4, asthma-related emergency room visit rates were significantly higher in 2015 for City residents than for residents of St. Louis County, St. Charles County, and the state of Missouri. However, this burden is borne disproportionately by the City's black residents, while the City's white residents actually fare better than whites statewide. The asthma-related emergency room visit rate for white City residents (2.9 visits per 1,000 residents) is well below the statewide average (5.3 visits per 1,000 residents).<sup>50</sup> In sharp contrast, the rate for black City residents (24.7 visits per 1,000 residents) is about 4.6 times higher than the statewide average.<sup>51</sup>

### THE IMPACTS OF ASTHMA

Asthma is a lung disease which makes it harder to breathe due to swollen or inflamed airways.<sup>53</sup> While asthma has no cure and can be life-threatening, with good medical care it can be managed.<sup>54</sup> Unfortunately, lack of access to adequate medical care also disproportionately affects minority communities.<sup>55</sup> Common asthma triggers include air pollution, stress, illness, smoking, and exposure to allergens such as mold, pollen, dust, dust mites, and pets.<sup>56</sup> At least two of those triggers—air pollution and mold—also disproportionately affect black St. Louisans.

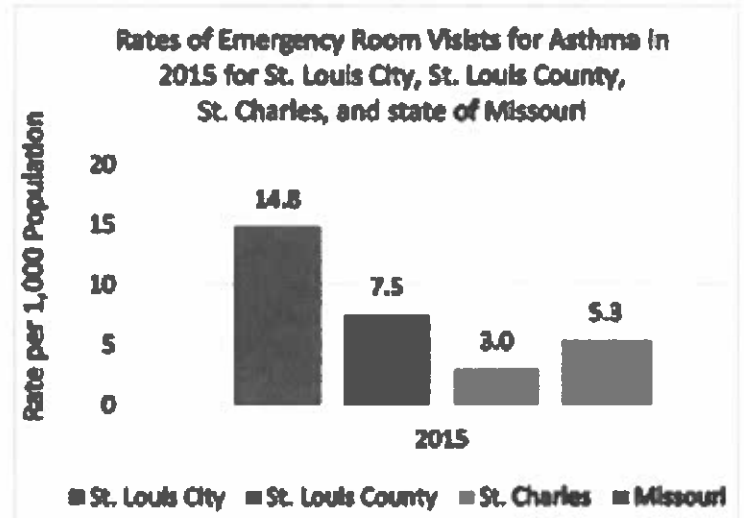


FIGURE 2.4. COMPARISON OF ASTHMA-RELATED EMERGENCY ROOM VISIT RATES FOR ST. LOUIS CITY, ST. LOUIS AND ST. CHARLES COUNTIES, AND MISSOURI, 2015<sup>52</sup>

### M.J.'S FAMILY STRUGGLES WITH ASTHMA

M.J. is a mother to a 22-year-old son who has had asthma for many years. When they moved into their current apartment in Dutchtown, M.J.'s son had a flare up right away and went to the hospital. He was treated, stayed overnight, and then was better. Afterwards, his 6-year-old step-daughter, who was then staying with M.J. and her son, had an asthma attack and had to go to the emergency room. The step-daughter never had asthma before this.

M.J.'s son switched bedrooms with his step-daughter, and he had an asthma attack and had to go to the emergency room. They suspected that the room might be triggering the asthma attacks, and found what looked like mold in the corner. M.J.'s son now has to use his inhaler again, and his step-daughter is using both an inhaler and a breathing machine. M.J. has told her landlord about the mold, but he hasn't yet responded. The last time she found mold in another room, the landlord told her he would give her some paint to cover it up, but that didn't solve the mold problem.

M.J.'s family's health is put at risk by unsafe housing conditions that are difficult if not impossible to detect before signing a lease.

### 3. MOLD

Mold disproportionately impacts black St. Louisans. As Figure 3.1 shows, all but one of the City’s majority-black wards had at least 6 interior mold complaints to the Citizens’ Service Bureau in 2018, and 70% of the wards with 6 or more interior mold complaints were majority-black.<sup>57</sup>

Mold was the third-most common complaint referred to Community Sanitation by the Citizens’ Service Bureau in 2016.<sup>59</sup> Further, in a major 2011 allergy study, St. Louis tied for the 6th worst major city in the US for patients showing sensitization to mold, with 16% of patients having a mold sensitization.<sup>60</sup>

Mold is a particularly challenging problem to address because it is expensive to remove, there are no legal standards for mold exposure, and landlords often refuse to do anything about it.<sup>61</sup> Table 3.1 shows cost estimates for mold sampling, identification, and remediation. Because of the high costs to remediate mold, landlords often refuse to do it, and a lawsuit to force a landlord to do so is likely to cost thousands of dollars, requiring substantial legal work, expert testimony, and one or more medical visits.<sup>62</sup> With the majority of the City’s residents living in rental housing and over a fifth of the City’s population living below the federal poverty level,<sup>63</sup> addressing mold is out of reach for many who are most affected by it.

Mold-Related Activity	Low Estimate of Cost	High Estimate of Cost
Airborne Mold Sampling	\$70	\$150
Complete Mold and Moisture Inspection	\$290	\$1040
Professional Mold Remediation	\$1100	\$3400+

TABLE 3.1. AVERAGE COSTS ASSOCIATED WITH MOLD IN THE HOME<sup>64</sup>

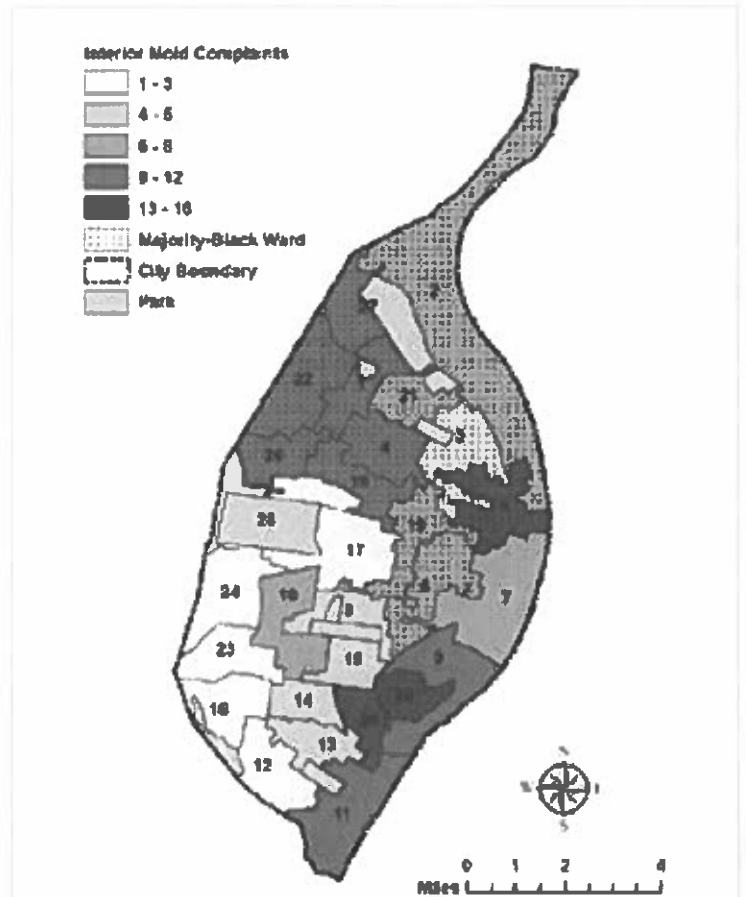


FIGURE 3.1. INTERIOR MOLD COMPLAINTS TO THE CITIZENS’ SERVICE BUREAU BY WARD, 2018<sup>58</sup>

#### WHY MOLD MATTERS

Mold exposure can cause or make worse the following symptoms: nasal and sinus congestion, cough/sore throat, chest tightness, breathing difficulty, nosebleed, upper respiratory tract infection, headache, skin irritation and eye irritation.<sup>65</sup> Mold can also trigger an asthma attack.<sup>66</sup>



### **JANICE RIDEOUT'S BATTLE TO RID HER APARTMENT OF MOLD**

After Janice Rideout became the guardian of her 13- and 11-year old grandsons, she moved into a larger apartment in her Dutchtown neighborhood. She noticed water on the floor, and at first thought it was from the garbage disposal, which she knew had to be replaced. But then the water problem got a lot worse, and she traced the water back to the kitchen pantry. There was black mold all over the ceiling and a little on the walls. In the bedroom, the paint was buckling and she could see moisture there too. A leaking roof was to blame.



Ms. Rideout told her landlord about the mold, but he didn't find a roofer in his price range and didn't fix the problem. She withheld her rent and called the City's building inspector, which saw the mold and sent the landlord a citation. She also called the health department, and they also found the mold. The landlord retaliated against her and got an emergency eviction order. When they went to court, the judge assigned a mediator, but the landlord refused to fix the mold problem and the meditation didn't resolve things. The case went to trial, and Ms. Rideout won. She told the judge that she didn't want to stay in the apartment but needed time to find a new place. She has since moved, and doesn't know whether the landlord ever fixed the mold problem.

### **KALIAH WEST'S REPEATED ENCOUNTERS WITH MOLD**

Kaliah West found mold in several of her former homes. She also suffers from asthma. Mold makes her symptoms worse, sometimes triggering asthma attacks severe enough to land her in the emergency room. Past landlords failed to address the issue, forcing Kaliah to relocate herself and her young daughter. Like many tenants, Kaliah had no choice but to either live with the mold, or seek another apartment elsewhere. But for people like Kaliah, finding a new apartment without a mold problem is a difficult

proposition. Kaliah was convicted of a felony in 2007. She served her time, but still faces repercussions. Kaliah has difficulty finding employment because of her record, and many landlords do not want to rent to a person with a felony conviction. We believe that people in this country deserve second chances, Kaliah says, but "where's my second chance? The only places I can get are places that are not decent, because of my background. I refuse to accept that."

## 4. AIR POLLUTION

Black St. Louisans are exposed to air pollution from industries and power plants, vehicles, and building demolitions. St. Louis has been in violation of the federal health-based air standard for ozone since 1979,<sup>68</sup> and violated the federal health-based standard for fine particle pollution from 2005 through 2017.<sup>69</sup>

Particle pollution—small inhalable particles found in the air, such as organic compounds, metals, dust, pollen, and mold—contributes to premature death, heart attacks, aggravated asthma, and reduced lung function.<sup>70</sup>

As Figure 4.1 shows, most air pollution sources in St. Louis are located in neighborhoods of color. The blue dots represent sources that have air pollution permits or are otherwise regulated by the EPA, state, and local air pollution agencies, and the darker shades of red indicate areas with high percentages of residents of color. A cluster of polluting sources is particularly evident along the Mississippi River, in areas with high percentages of residents of color.

In addition, with vehicles creating unhealthy air pollution,<sup>72</sup> it is noteworthy that many areas bordering the major highways are majority-black, as shown in Figure 4.2.

Building demolitions also add harmful air pollution to St. Louis neighborhoods.<sup>74</sup> Concentrations of harmful dust can be 3 to 11 times higher than normal levels at sites downwind of demolitions.<sup>75</sup> If not done properly, demolitions also spread lead and/or asbestos into the surrounding neighborhood.<sup>76</sup> Figure 4.3 shows both the majority-black neighborhoods in St. Louis and each neighborhood's percentage of the 3,025 total demolition permits issued citywide between 2014 and 2019.<sup>77</sup> Lead exposure is of particular concern in Wells/Goodfellow (232 permits issued), Walnut Park East (182 permits issued), and Baden (179 permits issued).<sup>78</sup> More permits were issued in North City and the Dutchtown neighborhood—which have high concentrations of black residents—than in other areas of the City.

Students and teachers at the Gateway school complex in North City complained for months during the 2017-2018 school year about asthma and breathing problems that

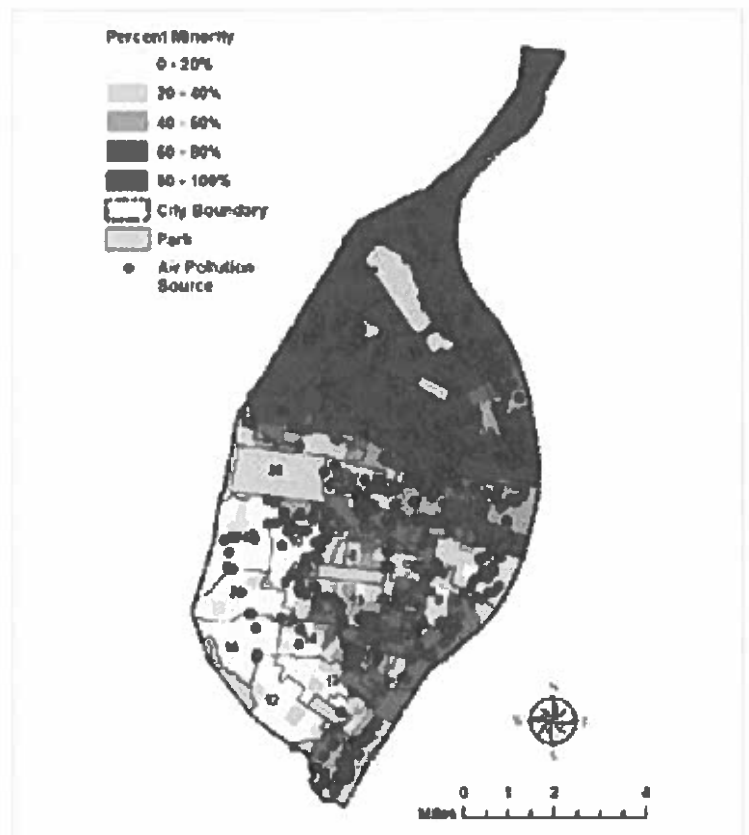


FIGURE 4.1. AIR POLLUTION SOURCES AND PERCENT RESIDENTS OF COLOR BY WARD<sup>71</sup>

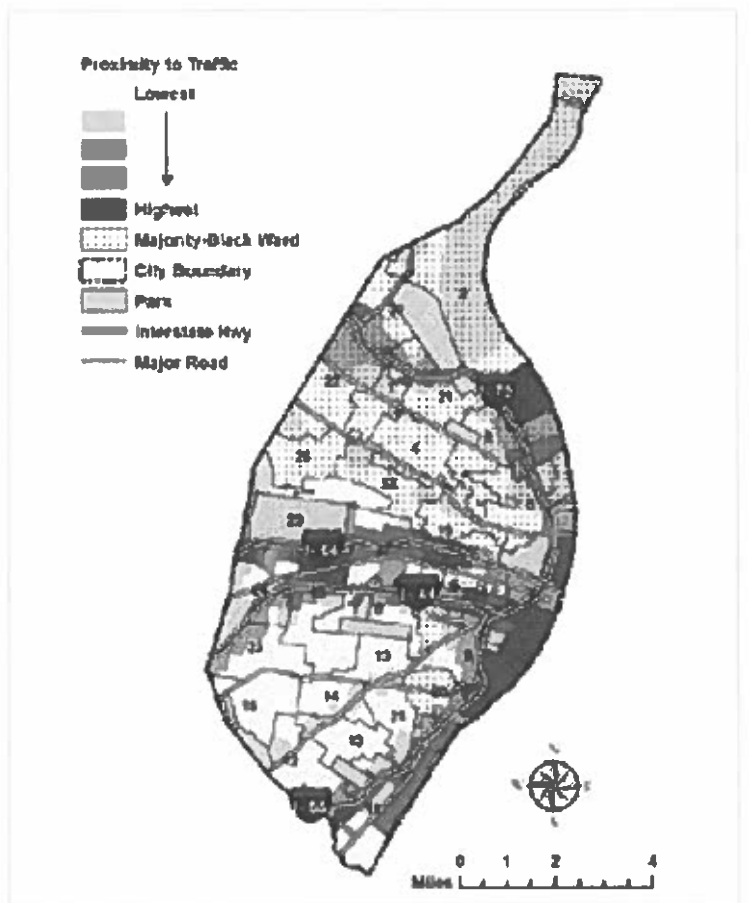


FIGURE 4.2. EXPOSURE TO AIR POLLUTION FROM VEHICLE TRAFFIC BY WARD<sup>73</sup>

appeared to be caused by nearby demolitions at the National Geospatial-Intelligence Agency site and dumping of the debris at the old Pruitt-Igoe site.<sup>79</sup>

There are too few air pollution monitoring stations in St. Louis<sup>81</sup> to allow for comparisons of air pollution in different neighborhoods. However, the locations of air pollution sources, vehicle emissions, and demolitions all indicate that minority communities in St. Louis are being disproportionately exposed to harmful air pollution.

### HEALTH RISKS OF AIR POLLUTION

Ozone pollution—the primary component of smog, which occurs when pollutants from vehicles, power plants, and other sources chemically react in the presence of sunlight—causes more frequent asthma attacks, and worsens lung diseases such as emphysema and chronic bronchitis.<sup>82</sup> Ozone pollution also causes breathing difficulty, lung infections, damage to lungs and airways, coughing, and sore throats.<sup>83</sup> Other health effects related to air pollution include cardiovascular diseases and adverse birth outcomes, such as low birth weight and pre-term birth.<sup>84</sup> Recent studies indicate that air pollution may also affect diabetes and neurological development in children.<sup>85</sup> Globally, 4.2 million premature deaths occur each year due to air pollution.<sup>86</sup>

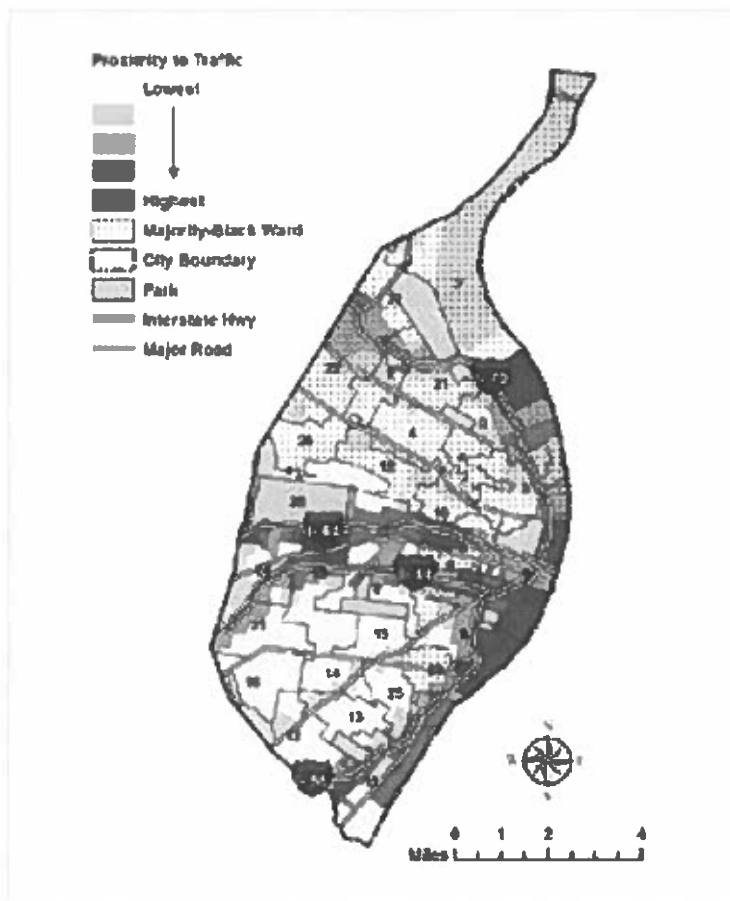


FIGURE 4.3. PERCENTAGE OF TOTAL DEMOLITION PERMITS BY NEIGHBORHOOD, 2014-2019<sup>80</sup>

## 5. HOME ENERGY COSTS

“Energy burden” refers to the percentage of household income spent on utilities.<sup>87</sup> As shown in Figure 5.1, low-income, black, and renting households in St. Louis face significantly higher energy burdens than the St. Louis population at large.<sup>88</sup>

In addition, nearly 52% of low-income households and 46% of black households in St. Louis face energy burdens that are more than twice the citywide median.<sup>90</sup> These disproportionate burdens are reflected nationwide. Across the country, about one-half of all low-income households and about one-half of all black households have trouble paying energy bills or maintaining adequate heating and cooling.<sup>91</sup> Of the 48 largest cities in the United States, St. Louis places the 6th highest energy burden on black households.<sup>92</sup>

Poor housing quality, which includes energy inefficiency, contributes to these high energy burdens. Low-income, renting, black, and Latino households pay above-average energy costs per square foot due to less-efficient housing.<sup>93</sup> Inefficient—and therefore needlessly costly—energy use is caused by poor insulation, air leaks, and old or inefficient heating and cooling systems and appliances.<sup>94</sup> When tenants pay for utilities, landlords lack financial incentives to provide newer, more efficient appliances or to invest in improvements such as better insulation.<sup>95</sup> Additionally, low-income homeowners cannot afford to upgrade their homes and make them more efficient—an investment that pays off down the road but requires an upfront payment.<sup>96</sup>

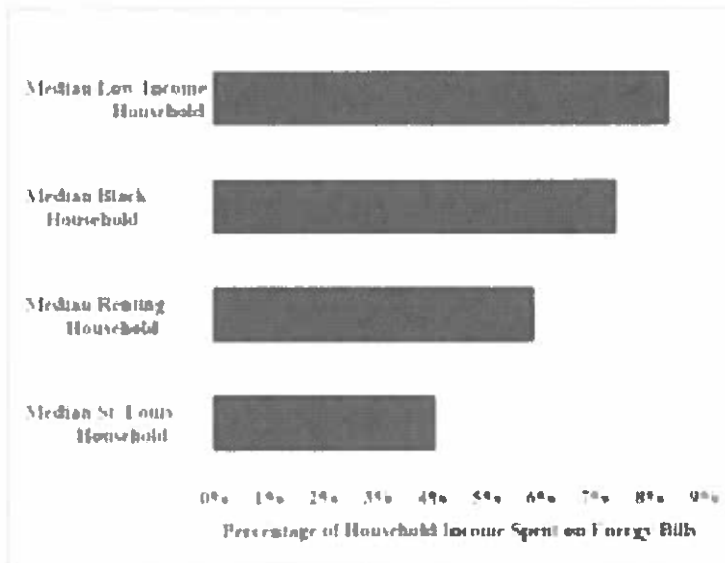


FIGURE 5.1: MEDIAN ENERGY BURDENS OF LOW-INCOME, BLACK, AND RENTING HOUSEHOLDS IN ST. LOUIS COMPARED TO THE CITYWIDE MEDIAN<sup>89</sup>

These disparities exist despite several programs aimed at alleviating the energy burden on low-income households. The federal government’s Weatherization Assistance Program provides services such as installing insulation, sealing and repairing ducts, and tuning and repairing heating and cooling units.<sup>97</sup> These upgrades can reduce the cost of fuel, electricity, and/or natural gas by upwards of 25 percent per dwelling.<sup>98</sup> Eligibility for this program is based on income; for example, a four-person household is eligible with an annual income of no more than \$49,200.<sup>99</sup> The State of Missouri also provides limited bill-paying assistance to low-income households through the federally-funded Low-Income Home Energy Assistance Program.<sup>100</sup> The program pays a maximum of \$300 from June to September and \$800 from November to May.<sup>101</sup> However, the funding only reaches 20-25% of eligible households.<sup>102</sup> In addition, Ameren offers rebates and home energy audits for home energy efficiency upgrades for qualifying customers.<sup>103,104</sup> There is also some bill support funded by Ameren’s ratepayers.<sup>105</sup>

However, these programs are not protecting low-income households from crushing energy costs. For example, funds in the state’s Low-Income Home Energy Assistance Program fell \$23 million short of ensuring that St. Louisans living 50% below the poverty level could afford their energy bills in 2018.<sup>106</sup>

### THE MANY COSTS OF HIGH ENERGY BURDENS

When utility bills take a large share of one’s income, some people cut back on basic necessities like food and medicine.<sup>107</sup> People also cut back on heating and cooling, keeping their homes too cold in the winter or too hot in the summer to be healthy or safe.<sup>108</sup> Some lose heating and cooling completely when the utility cuts off service or equipment breaks and the household cannot get it fixed.<sup>109</sup>

**KALIAH WEST: “I WONDER WHY IT COSTS SO MUCH ... THEY GIVE US A GRAPH ON OUR BILL BUT WE DON’T UNDERSTAND THAT STUFF.”**

Kaliah West and her daughter moved into an apartment in November, only to discover that the heat was not working. Her landlord was unresponsive, not bothering to fix the heating until February. In the interim, she and her daughter coped by using their oven to warm the home, receiving electricity bills that sometimes were over \$600, money that Kaliah did not have. The electric companies were unsympathetic. Extensions are hard to come by. When Kaliah called her electric company, she was met with little help and told to borrow the money if she had to.

“The way they treated me was just awful. They know my background. They know I have a felony. They know my credit isn’t good. And so they think they can get away with not dealing with issues.”

That summer, Kaliah discovered that the A/C also was not working, though that was fixed after two or three weeks. When it got cold again the following fall, the heat again stopped working and was never fixed. Kaliah has a lawsuit pending against her landlord.

**A SOUTHSIDE RESIDENT’S STRUGGLES WITH HIGH ENERGY BILLS**

Three months after moving into her new apartment, a South Side resident’s electric bills suddenly increased to four or five times their previous levels. She called her electric company to ask them to check the meter. The company would not come out unless invited by the landlord and the landlord would not agree. Although rent for her four-bedroom apartment is \$700, her electric bills are frequently as high as \$500-\$700 each month, with occasional “low” bills in the \$200-\$300 range. Although she has found partial bill assistance through charitable organizations and reduces her use of electricity to the absolute minimum – sometimes avoiding using the stove or oven to cook meals for her family – she continues to receive extremely high electric bills. Her landlord and electric company are not willing or able to correct the issue.



## 6. FOOD APARTHEID: LIMITED ACCESS TO HEALTHY FOOD

Black residents of St. Louis are almost twice as likely to have limited access to healthy food as white residents—11.9% of black residents compared to 6.3% of white residents.<sup>110</sup> Food justice advocates have termed this phenomenon “food apartheid” to reflect the role of systemic racism in engineering this result.<sup>111</sup>

Food apartheid in St. Louis is largely due to two factors: (1) there are few grocery stores and markets with fresh food in majority-black parts of the City; and (2) it is difficult for people to reach more distant stores because many do not own cars and are poorly served by public transportation.

Figure 6.1 shows that many of the City’s census tracts that are low-income and have low supermarket access—meaning a significant share of the population lives more than a half mile (or mile) from the nearest supermarket—are in North City.<sup>112</sup> It also shows that most of those tracts are majority-black. Even in South City, where there are fewer majority-black census tracts, the tracts that are majority-black tend also to be low-income and have low supermarket access.

As shown in Figure 6.2, most of the City’s census tracts with low vehicle availability correspond with neighborhoods in which the population lives more than a half mile from the nearest supermarket. Unsurprisingly, most of these tracts are also majority-black.<sup>114</sup> “Perhaps the best measure of whether someone who lives far from a grocery store faces obstacles to accessing affordable and nutritious food is whether or not he or she has a car. Access to a car allows people to leave the food desert and shop at supermarkets and large grocery stores outside of their neighborhoods.”<sup>115</sup>

### WHY HEALTHY FOOD ACCESS MATTERS

“Access to healthy food is associated with lower risk for obesity and other diet-related chronic diseases.”<sup>122</sup> Black St. Louisans have less access to healthy food and higher rates of diet-related chronic diseases than whites. “In St. Louis City, 38% of African American adults are obese” compared to 27% of white City residents.<sup>123</sup> In addition, “14% of African Americans have been diagnosed with diabetes compared with 11% of whites.”<sup>124</sup> Furthermore, “for each chronic disease type, African Americans have a higher rate of death compared to whites.”<sup>125</sup>

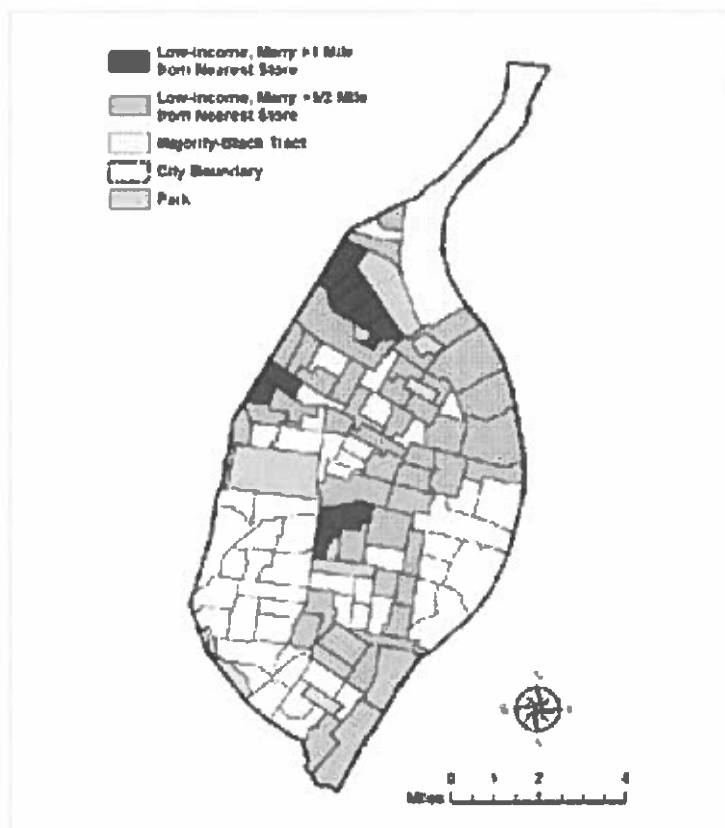


FIGURE 6.1. LOW-INCOME CENSUS TRACTS WITH LOW SUPERMARKET ACCESS<sup>113</sup>

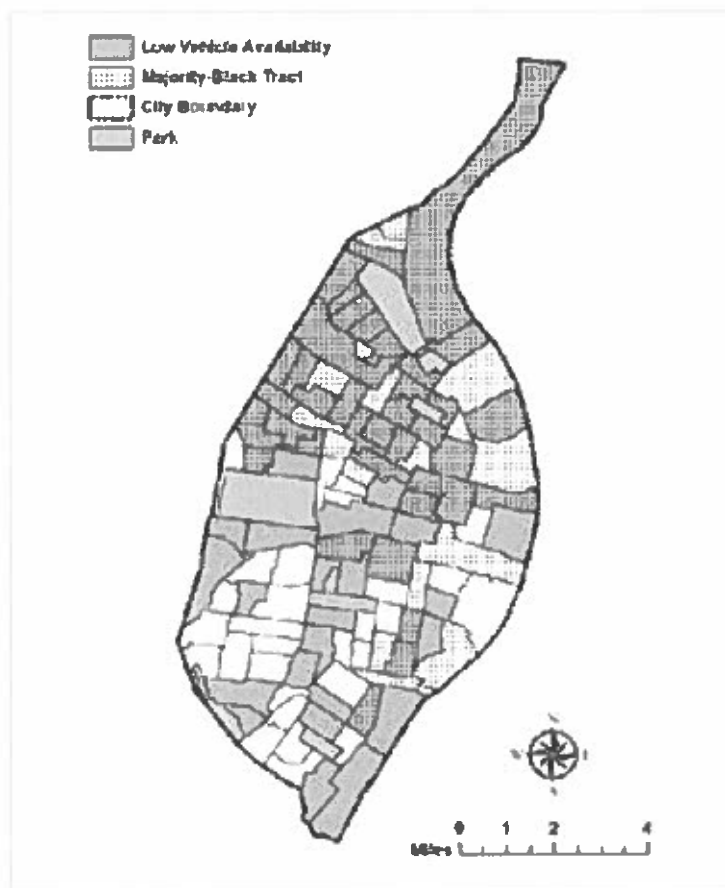


FIGURE 6.2. CENSUS TRACTS WITH LOW VEHICLE AVAILABILITY TO ACCESS HEALTHY FOOD<sup>116</sup>

Although public transportation can potentially increase mobility in residential areas with low vehicle availability, the St. Louis Metro (“Metro”) transit system prioritizes commercial areas over residential areas. When Metro released its first long-range plan in 2010, it noted that focus group participants identified expansion of services into North and South City as top priorities.<sup>117</sup> Although Metro has since opened a new transit center in North County,<sup>118</sup> it has not yet expanded service in North City. The leader of a recent study regarding possible MetroLink light-rail expansion into North and South City emphasized the problems with the existing service: “There is a demand for transit in this area, and there is a need for transit. Proportionally, more study area residents use transit to commute and don’t have access to a car, compared to other areas across the city and region. We’re trying to connect people to jobs.”<sup>119</sup>

Small-scale food retailers, urban agriculture, and mobile markets are working to improve healthy food access for St. Louisans. City Greens Market in the Forest Park Southeast neighborhood is a small food retail outlet that started in 2004. It sells produce to low-income families at wholesale prices. Gateway Greening supports community gardens throughout St. Louis. Urban Harvest and Good Life Growing—both urban agriculture operations—grow produce for distribution throughout the City, focusing on communities with low access to healthy food.<sup>120</sup> Urban Harvest does this in part through its MetroMarket, a refurbished city bus that services “low income, high need communities”<sup>121</sup> in North St. Louis. The bus makes three scheduled stops: in JeffVanderLou, North County, and Carr Square. Despite these and other promising programs and initiatives, more needs to be done to address disparities in healthy food access in St. Louis.

### **TOSHA PHONIX, FOOD JUSTICE ORGANIZER**

Tosha Phonix, Food Justice Organizer at the Missouri Coalition for the Environment, highlights the hard work and potential of urban growers in St.



Louis. Tosha works with about 25 growers in North City, North County, and the Metro East. She helps them find ways to access land, establish farms, and create value-added products from what they grow. According to Tosha, “Food justice is not like any other social activism you’ve seen—it takes into account all social ills.”

As Tosha points out, “there is food in these communities, it’s just not anything worth eating.” Fast food restaurants and corner stores simply do not offer the whole, nutritious foods that make up a healthy diet. In 2011, a local partnership started the St. Louis Healthy Corner Store Project to change this, but the project has faced resistance in many communities because corner stores have a reputation for being hubs of illegal activity. There also are concerns about cleanliness, and the produce offered at corner stores often is overpriced or expired. “You can bring fresh produce into corner stores but if the community doesn’t have a good relationship with the store, they’re not gonna come in and buy it.”

Looking at the maps showing food access in St. Louis City, “you would think that no one is doing the work, but that’s not true. If people aren’t in tune, they’ll never know about city growers, but you have amazing people in your community doing amazing things.” Local growers don’t just provide healthy food; they encourage communities to take ownership of their neighborhood by making them safer and more self-sufficient.

Tosha notes that while local growers are bringing healthy food to some City residents, it’s very hard for others to get to grocery stores. “Some buses only come once an hour, and you have to time your trip very carefully to catch the return bus. It’s especially difficult when you work during the day. It takes a lot of time to go grocery shopping by bus, and the buses run less frequently in the evenings and on weekends. The whole system is jacked up and inconvenient.”



### **SPOTLIGHT ON HERU URBAN FARMING**

Tyrean Lewis is the founder and president of Heru Urban Farming and Garden. Its mission is to provide quality organic food and herbal supply for under-resourced and health-stricken areas within urban communities. The project started in 2018 with three lots in the Kingsway West neighborhood in Ward 1, where 33% of the population lives below the poverty line. Most of the residents are elderly and lack reliable transportation. The community was excited to learn about and help out with the urban farm. This pilot farm was so successful that Heru Urban Farming acquired four more lots in the College Hill neighborhood in Ward 3, where 41% of the residents live below the poverty line. Tyrean is excited to see what the second year in operation will bring because the first exceeded expectations.

### **TONJA BULLEY'S TRANSPORTATION STRUGGLES**

Tonja Bulley is a resident of the Greater Ville neighborhood in St. Louis City. She grew up in the City then moved out to the County to raise her children. She relocated back to the City because rent is much more affordable. Ms. Bulley cares for her aunt who suffers from Alzheimer's disease and works as a home health aide.

Recently, Ms. Bulley had to start using public transportation because she does not have a vehicle. What was previously a twenty-minute car ride to work now takes

over an hour and requires three separate buses. Bus fare is costly and adds up. Often, Ms. Bulley asks family and friends for a ride but feels burdensome. However, she would rather catch a ride to the grocery store than shop at a local corner store. Ms. Bulley emphasized the high-priced foods and poor treatment of customers by management.

## 7. VACANT PROPERTIES

St. Louis has an unusually high number of vacant properties, primarily in North City and in the southeastern portions of the City.<sup>126</sup> More than 40% of the City's census tracts have at least 10% vacant properties, ranking St. Louis as one of the worst cities in the nation for "hypervacancy."<sup>127</sup> The situation has gotten progressively worse in recent decades.<sup>128</sup> The City's vacant properties, which include both abandoned structures and vacant land, impose heavy burdens on nearby residents.

Unlike the decades of reinvestment that benefitted the City's majority-white central corridor, majority-black areas like North City have been left to decline through benign neglect.<sup>129</sup> Among the forces contributing to vacancy are disinvestment in majority-black and low-income neighborhoods, and other discriminatory public policies and practices, including "redlining and predatory or negligent investors."<sup>130</sup> As shown in Figure 7.1, vacant properties are overwhelmingly located in majority-black areas. Upwards of 90% of the City's vacant properties are in majority-black neighborhoods,<sup>131</sup> with just three of those neighborhoods—Wells Goodfellow, Jeff Vanderlou, and Greater Ville—containing about 25% of all the vacant properties in the City.<sup>132</sup> Each of these neighborhoods is more than 97% black.<sup>133</sup>

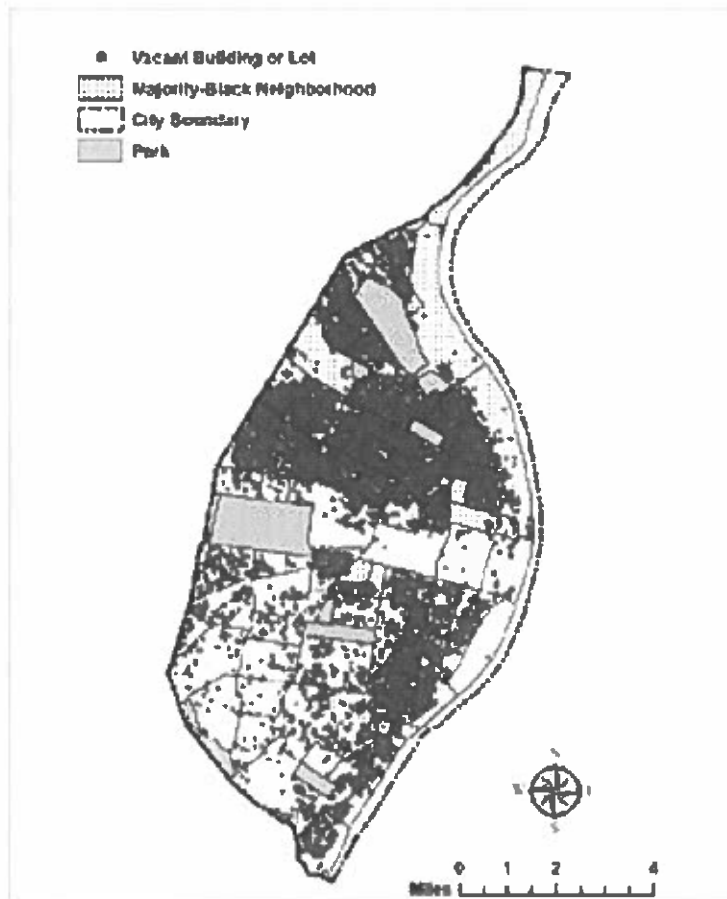


FIGURE 7.1. VACANT PROPERTIES IN ST. LOUIS<sup>134</sup>

Abandoned buildings may contain asbestos in insulation and in floor and ceiling tiles, lead-based paint, and, in the case of commercial or industrial buildings, oil, PCBs, or other chemicals.<sup>135</sup> The longer abandoned buildings are left to deteriorate, the more likely they are to grow dangerous mold, especially in humid areas such as St. Louis. In addition, as discussed in the Air Pollution section above, the demolition of vacant buildings exposes residents to harmful dust, lead, and/or asbestos.<sup>136</sup>

### DANGERS POSED BY VACANT PROPERTIES

Vacant properties harm their surrounding neighborhoods in physical, economic, and emotional ways. "[T]hese dangerous structures are a breeding ground for unsafe, and sometimes criminal activities that have been known to lead to traumatic narratives of suffering and even death."<sup>137</sup> Vacant properties also reduce the property values of surrounding homes, and are a drain on limited taxpayer dollars.<sup>138</sup> In addition, vacant properties are demoralizing to neighborhood residents.<sup>139</sup>

## 8. ILLEGAL TRASH DUMPING

One consequence of the City's high vacancy rate is that deteriorating buildings and untended lots are attractive targets for those seeking to dump trash. Unscrupulous contractors, many from outside of the City, illegally dump construction waste, used tires, and other trash rather than pay to use licensed disposal facilities.<sup>140</sup> This is one of many costs of disinvestment in the City's majority-black and low-income neighborhoods.

In 2017, 22,000 tons of trash were illegally dumped on City streets and in alleys—compared to 9,000 tons of trash dropped off by individuals at the City's two transfer stations.<sup>141</sup> Measured by complaints to the City's Citizens' Service Bureau, most of this dumping occurred in majority-black neighborhoods.<sup>142</sup> As Figure 8.1 shows, all six neighborhoods with the most illegal dumping complaints in 2017 were majority-black: Baden, Dutchtown, Greater Ville, Penrose, Walnut Park East, and Wells Goodfellow.

The City has begun targeting illegal dumping by increasing enforcement, including posting surveillance cameras and hiring police officers to work overtime.<sup>144</sup> It is not yet apparent that this has reduced the problem, and there are many community concerns regarding increased law enforcement presence and surveillance in low-income black communities.

Complaints from Dutchtown residents regarding illegal dumping have increased by more than 20% since 2015.<sup>145</sup> The Dutchtown South Community Corporation has raised the profile of this issue. The Corporation's "So Fresh, So Clean, So Creative" project is educating City officials and the public about the issue and advocating to reduce illegal dumping and ensure adequate and equitable trash collection service.<sup>146</sup>

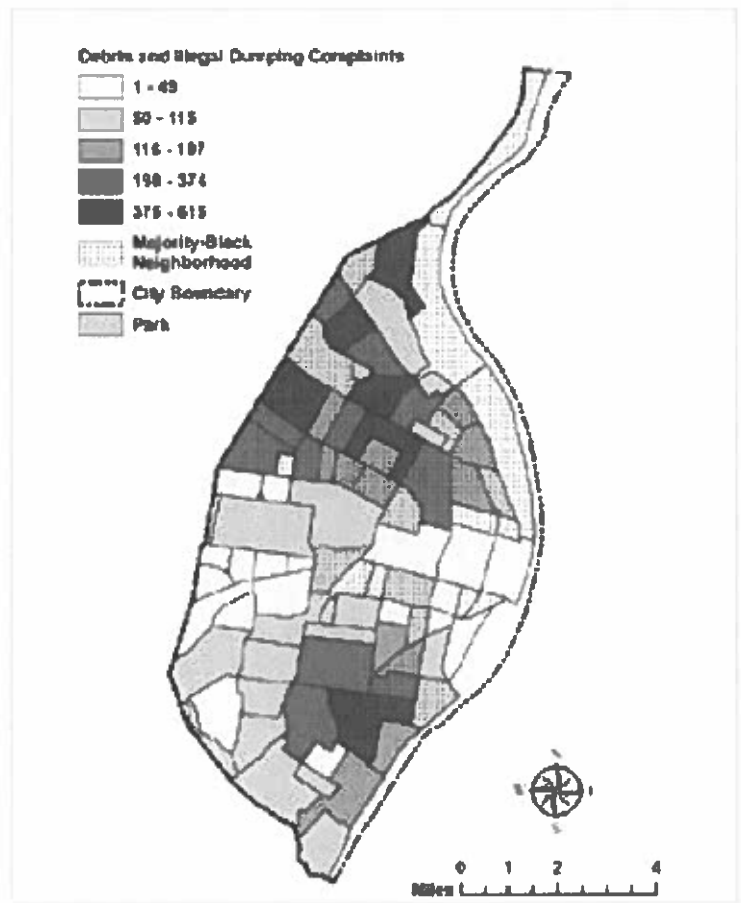


FIGURE 8.1. CITIZENS' SERVICE BUREAU COMPLAINTS FOR DEBRIS AND ILLEGAL DUMPING BY NEIGHBORHOOD, 2017<sup>143</sup>

### HEALTH THREATS RELATED TO ILLEGAL DUMPING

Illegally-dumped trash poses many kinds of health risks, such as:

- The trash may contain chemicals that are harmful to breathe or touch.
- Nails sticking out of materials, or sharp edges, can cause cuts and infections.
- The trash may attract animals and insects that carry disease.
- Broken glass or syringes may also carry disease.<sup>147</sup>

Illegal dumping can become an even worse threat to a neighborhood because seeing the piles of trash may embolden others to add more illegally-dumped trash.<sup>148</sup>





HYDE PARK COMMUNITY SPRING CLEAN UP

### **REGINA DENNIS-NANA ON ILLEGAL DUMPING**

Regina Dennis-Nana lives in the Hyde Park neighborhood in Ward 3, a majority-black ward in North City. She serves on the Board of the Hyde Park Neighborhood Association. Regina discussed her concerns about illegal dumping and community pride. “We tolerate it. People from other places would report it. Folks here allow outsiders to drop their trash and just say nothing about it. There is a lack of education, a whole generation of people who are missing a sense of community pride.”

Regina sees these issues as linked to the larger system of institutional racism. “I believe that we are fighting against a socially accepted narrative about young Black America that has been adopted as a norm. We can change this with constant messaging and imagery, as well as community celebrations to address what people can do to keep our neighborhood together beyond our own square footage.”

## CONCLUSION

---

The issues covered in this report are interconnected and are the result of generations of institutional racism and profiteering off the backs of the poor. A long and ongoing history of discrimination has left many black St. Louisans with limited access to quality housing, adequate public transit, and healthy food. The housing that is available exposes many residents to lead and mold. Inadequate insulation, leaky windows and doors, and inefficient appliances result in needlessly high energy bills that force too many tenants to choose between living in unsafe conditions or cutting back on necessities such as food and medicine.

Landlords are too often unwilling to fix these problems and intimidate tenants who ask them to do so. In addition, mold and air pollution, including dust from building demolitions, trigger or worsen asthma symptoms. And living near vacant properties and illegally-dumped trash also poses health risks associated with rodents and other pests, as well as exposure to asbestos, lead, and other toxic materials.

These issues are not new. While there have been, and are now, efforts to address some of these problems, the risks persist and continue to disproportionately impact and endanger black St. Louisans. As a result, racial injustice is perpetuated if not intensified by the absence of a robust environmental justice agenda. Those impacted suffer immensely – medically, economically, and in overall quality of life – while society as a whole pays the costs of avoidable medical and hospital bills, lost opportunity and productivity, and the tangible and intangible harms of living in a region plagued by deep inequity.

Creative new approaches are required. The disparities highlighted in this report call for ensuring that all St. Louisans, not only the most privileged, have:

- Safe, affordable, and energy-efficient housing;
- Sufficient air monitoring stations to ensure clean air and effective air quality management;
- Reliable, affordable, public transportation;
- Healthy, fresh, and accessible food; and
- Neighborhood-based revitalization efforts that include addressing vacant properties and illegal dumping, directed by and for the benefit of local residents rather than the profit motive.

The present failures in each of these respects must be seen as manifestations of institutional racism and an economic system that has allowed some to profit at the expense of black and low-income communities in St. Louis. The broad recommendations of the recent *Dismantling the Divide* report<sup>149</sup> as well as those of its predecessor *For the Sake of All*,<sup>150</sup> aim to eliminate racial disparities while providing quality, affordable housing and access to public transportation and healthy food, among other goals.

While endorsing those recommendations, this report also calls for those who are most directly impacted to play a leading role in crafting programs and policies to address these critical issues. For any solution to be effective in eliminating environmental racism and achieving racial justice, it must also be transparent in design and implementation. We hope that this report can be a tool for impacted communities to lead the way in this process.

# ENDNOTES

- 1 Energy Justice Network, Environmental Justice/Environmental Racism, available at <https://www.ejnet.org/ej/>.
- 2 Washington University in St. Louis and St. Louis University, For the Sake of All: A Report on the Health and Well-Being of African Americans in St. Louis and Why It Matters for Everyone (rev. ed. July 31, 2015), available at [https://cpb-us-w2.wpmucdn.com/sites.wustl.edu/dist/3/1454/files/2018/06/FSOA\\_report\\_2-172d1xm.pdf](https://cpb-us-w2.wpmucdn.com/sites.wustl.edu/dist/3/1454/files/2018/06/FSOA_report_2-172d1xm.pdf) ("For the Sake of All").
- 3 Nancy Cambria et al., Segregation in St. Louis: Dismantling the Divide, Washington University in St. Louis (2018), available at <https://cpb-us-w2.wpmucdn.com/sites.wustl.edu/dist/3/1454/files/2018/06/Segregation-in-St.-Louis-Dismantling-the-Divide-22h4rw.pdf> ("Dismantling the Divide").
- 4 City of St. Louis, Equity Indicators Baseline Report (Jan. 2019), available at <https://www.stlouis-mo.gov/government/departments/mayor/initiatives/resilience/equity/documents/upload/Equity-Indicators-Baseline-2018-Report-Documents.pdf> ("Equity Indicators Report").
- 5 HistoryNet, Missouri Compromise, available at <https://www.historynet.com/missouri-compromise..>
- 6 Dred Scott v. Sandford, 60 U.S. 393, 404-405 (1857).
- 7 City of St. Louis, A Preservation Plan for St. Louis, Part I: Historic Contexts. 8 - The African-American Experience, available at <https://www.stlouis-mo.gov/government/departments/planning/cultural-resources/preservation-plan/Part-I-African-American-Experience.cfm..>
- 8 Colin Gordon, Mapping Decline: St. Louis and the Fate of the American City, University of Pennsylvania Press (2008), p. 31 ("Mapping Decline"). See also p. 11: "St. Louis retained (decade after decade) its dubious distinction as one of the nation's most segregated metropolitan areas."
- 9 William Frey, Black-white segregation edges downward since 2000, census shows, Brookings (Dec. 17, 2018), available at <https://www.brookings.edu/blog/the-avenue/2018/12/17/black-white-segregation-edges-downward-since-2000-census-shows/>. See also East-West Gateway, Where We Stand, 7th Edition, Update 3, Racial Segregation, 1970 to 2011-2015 (June 2017), available at <https://www.ewgateway.org/wp-content/uploads/2017/07/WWS7EdNo3.pdf>; East-West Gateway, Where We Stand, 6th Edition, Update 3, Where We Stand Update: Twenty Years Later (Jan. 2013), pp. 19-20, available at <https://www.ewgateway.org/wp-content/uploads/2017/08/WWS6EdNo3.pdf..>
- 10 United States v. City of Black Jack, Missouri, 508 F.2d 1179, 1186 (8th Cir 1974) (quoting in part from the decision below).
- 11 Richard Rothstein, The Color of Law: A Forgotten History of How Our Government Segregated America, Liveright Publishing Corp. (2017), pp. 48-50; Mapping Decline, p. 11; St. Louis Post-Dispatch, Tipping Point: A Legacy of Neglect (series of articles, Aug. 2018 - Mar. 2019), available at [https://www.stltoday.com/online/tipping-point-examining-critical-challenges-facing-st-louis-neighborhoods/collection\\_0bbe9971-8a2e-5b3c-8e6f-918a72326c7b.html](https://www.stltoday.com/online/tipping-point-examining-critical-challenges-facing-st-louis-neighborhoods/collection_0bbe9971-8a2e-5b3c-8e6f-918a72326c7b.html); Molly Metzger, It's time to dismantle TIFs as tool of segregation, St. Louis American (July 4, 2018), available at [http://www.stlamerican.com/news/columnists/guest\\_columnists/its-time-to-dismantle-tifs-as-tool-of-segregation/article\\_11813574-7f42-11e8-9c5b-0fb4db570319.html..](http://www.stlamerican.com/news/columnists/guest_columnists/its-time-to-dismantle-tifs-as-tool-of-segregation/article_11813574-7f42-11e8-9c5b-0fb4db570319.html..)
- 12 Patrick Cooper-McCann, The Trap of Triage: Lessons from the "Team Four Plan," Journal of Planning History 15: 149-169 (2016), pp. 150-153, 156-157, and 163 ("Trap of Triage").
- 13 United States v. City of Black Jack, Missouri, 508 F.2d 1179, 1183 (8th Cir 1974) (quoting from the decision below).
- 14 Manning Marable, How Capitalism Underdeveloped Black America, Haymarket Books (2015) (original edition by South End Press (1983)), p. 228.
- 15 East-West Gateway, Where We Stand, 7th Edition, Update 4, Addressing Racial Equity for a Sustainable Region (June 2017), available at <https://www.ewgateway.org/wp-content/uploads/2018/01/WWS7EdNo4.pdf>.
- 16 Commission for Racial Justice, United Church of Christ, Toxic Wastes and Race in the United States (1987), pp. xiv, 23-24, available at <http://uccfiles.com/pdf/ToxicWastes&Race.pdf>.
- 17 William L. Kincaid, Short History of Lead Poisoning in St. Louis, MO: Partnering to Shift into Primary Prevention (Oct. 2006), available at <https://www.cdc.gov/nceh/lead/ACCLPP/October2006/Attachment%201%20-%20Kincaid%20-%20LeadHistoryOct%202006final.pdf>; Lead Safe St. Louis Data, available at <https://www.mayorslay.com/sites/default/files/campaign/st-lead-safe-st-louis-summary1212.pdf>; 2017 Lead Safe St. Louis Documentary Part I: Lead Safe Children, available at <https://www.stlouis-mo.gov/government/departments/health/media/st-tv-lead-safe.cfm>.
- 18 City of St. Louis Department of Health, Childhood Lead Poisoning in St. Louis City (2018), p. 1, available at <https://www.stlouis-mo.gov/government/departments/health/documents/upload/2018-Lead-Poisoning-Report-8-15-18-1-3.pdf> ("2018 Childhood Lead Poisoning in St. Louis City"). When this report refers to "childhood lead poisoning" or "elevated blood lead levels," it means 5 micrograms per deciliter or above, unless the previous level of 10 micrograms per deciliter is specifically noted. In 2012, the U.S. Centers for Disease Control (CDC) lowered its measure for elevated blood lead level from 10 to 5 micrograms per deciliter. See CDC, Blood Lead Levels in Children, available at [https://www.cdc.gov/nceh/lead/acclpp/lead\\_levels\\_in\\_children\\_fact\\_sheet.pdf](https://www.cdc.gov/nceh/lead/acclpp/lead_levels_in_children_fact_sheet.pdf).
- 19 2018 Childhood Lead Poisoning in St. Louis City, p. 12.
- 20 Prepared by the Interdisciplinary Environmental Clinic. Data Sources: 2018 Childhood Lead Poisoning in St. Louis City, p. 9; City of St. Louis, Census Results (2010), Ward Results (2011 Boundaries), available at <http://dynamic.stlouis-mo.gov/census/ward11.cfm>.
- 21 2018 Childhood Lead Poisoning in St. Louis City, p. 1.
- 22 For the period July 1, 2016 through June 30, 2017, 3.53% of Missouri children who were tested had blood lead levels at or above 5 micrograms per deciliter, compared with 7.19% of St. Louis City children. Missouri Department of Health and Senior Services, Missouri Childhood Lead Poisoning Prevention Program Annual Report for Fiscal Year 2017, p. 10, available at <https://health.mo.gov/living/environment/lead/pdf/annual-report-fy2017.pdf>.
- 23 2018 Childhood Lead Poisoning in St. Louis City, p. 13.
- 24 CDC, Lead Prevention Tips, available at <https://www.cdc.gov/nceh/lead/tips.htm>.
- 25 2018 Childhood Lead Poisoning in St. Louis, p. 13.
- 26 Id., p. 9.
- 27 Id., p. 14.
- 28 Id., p. 13.
- 29 See Figure 1.1.
- 30 2018 Childhood Lead Poisoning in St. Louis, p. 17.
- 31 2018 Childhood Lead Poisoning in St. Louis City, p. 15.
- 32 Id., pp. 12, 14. See also the next endnote below.
- 33 Leif Fredrickson, The surprising link between postwar suburban development and today's inner-city lead poisoning, The Conversation (Feb. 25, 2016), available at <https://theconversation.com/the-surprising-link-between-postwar-suburban-development-and-todays-inner-city-lead-poisoning-54453>.
- 34 CDC, Lead, available at <https://www.cdc.gov/nceh/lead/default.htm>.
- 35 World Health Organization (WHO), Lead Poisoning and Health, available at <https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health>.
- 36 CDC, Lead Poisoning. Know the Facts, available at [https://www.cdc.gov/nceh/lead/tools/know\\_the\\_facts.pdf](https://www.cdc.gov/nceh/lead/tools/know_the_facts.pdf).
- 37 Equity Indicators Report, p. 39; National Institutes of Health, Lead in kids' blood linked with behavioral and emotional problems (June 30, 2014), available at <https://www.nih.gov/news-events/news-releases/lead-kids-blood-linked-behavioral-emotional-problems>; Lead Safe Illinois, Lead Poisoning, Behavior Problems, and Violence, available at <http://www.lead-safe-illinois.org/uploads/documents/FactSheetDelinquencyandCriminalBehavior.pdf>.
- 38 CDC, Lead Poisoning. Know the Facts, available at [https://www.cdc.gov/nceh/lead/tools/know\\_the\\_facts.pdf](https://www.cdc.gov/nceh/lead/tools/know_the_facts.pdf).
- 39 Id.
- 40 East-West Gateway, Where We Stand, 4th Edition, Update 1, Asthma and Allergy Risk Factors in the St. Louis Region (Apr. 2004), p. 1, available at <https://www.ewgateway.org/wp-content/uploads/2017/08/WWS4EdNo1.pdf> (St. Louis region ranked number one among peer metropolitan regions for asthma risks); OzarksFirst.com, St. Louis Named Top Asthma Capital for 2009 (Jan 28, 2009), available at <https://www.ozarksfirst.com/news/health-and-medical/st-louis-named-top-asthma-capital-for-2009-74979576>; East-West Gateway, Where We Stand, 6th Edition, Update 3, Where We Stand Update: Twenty Years Later (Jan. 2013), pp. 16-17, available at <https://www.ewgateway.org/wp-content/uploads/2017/08/WWS6EdNo3.pdf> (St. Louis region number one among peer regions for asthma risks in 2010, although 30 of the 35 regions studied reduced their asthma risks from 2006 to 2010, "St. Louis was one of the five regions that saw an increase in asthma risk.")
- 41 See Figure 2.3 and accompanying text below.
- 42 City of St. Louis Department of Health, Asthma Data Brief (Mar. 20, 2018), p. 1, available at <https://www.stlouis-mo.gov/government/departments/health/documents/upload/Asthma-Data-Brief-Q3-20-2018-2-hb.pdf> ("2018 Asthma Data Brief"); East-West Gateway, Where We Stand, 4th Edition, Update 1, Asthma and Allergy Risk Factors in the St. Louis Region (Apr. 2004), p. 1, available at <https://www.ewgateway.org/wp-content/uploads/2017/08/WWS4EdNo1.pdf> (St. Louis region ranked number one among peer metropolitan regions for asthma risks).
- 43 2018 Asthma Data Brief, p. 2. The data reflect total emergency room visits for asthma, not visits by different individuals. The emergency room disparities may also reflect disparities in access to preventive health care and lower-cost treatments.
- 44 Equity Indicators Report, p. 36. The data are based on total emergency room visits during 2015, not visits by different children. "Children" includes those age 19 and younger.
- 45 Id.
- 46 2018 Asthma Data Brief, p. 2.
- 47 See Equity Indicators Report, p. 261.
- 48 Prepared by the Interdisciplinary Environmental Clinic. Data Sources: 2018 Asthma Data Brief, p. 2; Equity Indicators Report, p. 261.
- 49 Prepared by the Interdisciplinary Environmental Clinic. Data Sources: Think Health St. Louis, Age-Adjusted Hospitalization Rate Due to Asthma, 2012-2014 Measurement Period, available at <http://www.thinkhealthstl.org/?module=indicators&controller=index&action=view&localeFilterId=1549&comparisonId=&indicatorId=14&localeTypeU=3>; Equity Indicators Report, p. 261.
- 50 Compare Figures 2.1 and 2.3.
- 51 Id.
- 52 2018 Asthma Data Brief, p. 1.
- 53 American Lung Association, What is Asthma, available at <https://www.lung.org/lung-health-and-diseases/lung-disease-lookup/asthma/learn-about-asthma/what-is-asthma.html>.
- 54 Id.
- 55 The Asthma and Allergy Foundation of America and The National Pharmaceutical Council, Ethnic Disparities in the Burden and Treatment of Asthma (Jan. 2005), p. iii, available at <https://www.aafa.org/meda/1633/ethnic-disparities-burden-treatment-asthma-report.pdf>.

- 56 Palo Alto Medical Foundation, Common Asthma Triggers, available at <http://www.pamf.org/asthma/overview/triggers.html#Other%20Triggers>; see also CDC, Common Asthma Triggers, available at <https://www.cdc.gov/asthma/triggers.html>.
- 57 Ward 25, one of the three wards with the most mold complaints, has no racial majority, but approximately one-half of its residents are black. See City of St. Louis, Census Results (2010), Ward Results (2011 Boundaries), available at <http://dynamic.stlouis-mo.gov/census/ward11.cfm>.
- 58 Prepared by the Interdisciplinary Environmental Clinic. Data Sources: City of St. Louis, 2018 Citizens' Service Bureau Service Request Data, available at <https://www.stlouis-mo.gov/data/upload/data-files/csb.zip>; City of St. Louis, Census Results (2010), Ward Results (2011 Boundaries), available at <http://dynamic.stlouis-mo.gov/census/ward11.cfm>.
- 59 City of St. Louis, 2016 Annual Environmental Health Report: Protecting People from Environmental Hazards and Disease (June 2017), available at <https://www.stlouis-mo.gov/government/departments/health/documents/upload/Environmental-Health-Report-2016-FINAL.pdf>.
- 60 Quest Diagnostics, Allergies Across America: The Largest Study of Allergy Testing in the United States (2011), p. 17, available at [https://www.questdiagnostics.com/dms/Documents/Other/2011\\_QD\\_AllergyReport.pdf](https://www.questdiagnostics.com/dms/Documents/Other/2011_QD_AllergyReport.pdf). Sensitization indicates that a patient has already been exposed to an allergen. See Daniel More, Sensitization and True Allergy: How Allergies Develop and Why Reactions Differ, Verywell Health (Mar. 25, 2018), available at <https://www.verywellhealth.com/what-is-sensitization-82988>.
- 61 There are no local, state or federal regulations regarding mold, and it is difficult to win an implied warranty of habitability claim for mold. See Janet Portman, Mold in Rentals: Landlord Liability, Responsibility, and Prevention, NOLO (undated), available at <https://www.nolo.com/legal-encyclopedia/mold-rentals-landlord-liability-responsibility-prevention-30230.html>.
- 62 Shamus O'Meara et al., Winning Strategies for Litigating a Toxic Mold Case (2001), cached version available at [https://webcache.googleusercontent.com/search?q=cache:ne8c3wVhSQJ:https://www.elwklaw.com/docs/Winning\\_Strategies7-24-01.pdf+&cd=1&hl=en&ct=chk&gl=us&client=firefox-b-1-d](https://webcache.googleusercontent.com/search?q=cache:ne8c3wVhSQJ:https://www.elwklaw.com/docs/Winning_Strategies7-24-01.pdf+&cd=1&hl=en&ct=chk&gl=us&client=firefox-b-1-d).
- 63 U.S. Census Quick Facts, St. Louis City, Missouri (County), available at <https://www.census.gov/quickfacts/fact/table/stlouismissouricitymissouricity/IPE120217>.
- 64 Home Advisor, How Much Does a Mold Inspection Cost?, available at <https://www.homeadvisor.com/cost/environmental-safety/test-or-remove-mold-and-toxic-material/>.
- 65 Melissa Stoppfer, Mold Facts, MedicineNet (undated), available at [https://www.medicinenet.com/mold\\_exposure/article.htm](https://www.medicinenet.com/mold_exposure/article.htm).
- 66 CDC, Common Asthma Triggers, available at <https://www.cdc.gov/asthma/triggers.html>.
- 67 Maria Hallas, Is Ameren Pollution Making Asthma Worse?, KSDK (Feb. 2, 2018), available at <http://www.ksdk.com/article/news/investigations/is-ameren-pollutionmaking-asthma-worse/63-513846423>.
- 68 Environmental Protection Agency (EPA), Missouri Nonattainment/Maintenance Status, available at [https://www3.epa.gov/airquality/greenbook/anyao\\_mo.html](https://www3.epa.gov/airquality/greenbook/anyao_mo.html); Missouri Department of Natural Resources, Revision to Area Boundary Designation Recommendation for the 2015 Ozone Standard (Feb. 1, 2018), p. 6, available at <https://dnr.mo.gov/env/apcp/ozone/revision-to-area-boundary-2015-ozone-02-01-2018.pdf>. While St. Louis is not meeting the current ozone standard set by EPA in 2015, ozone concentrations in the city have gone down over time – as has the acceptable standard. See One STL, Air Quality, available at <http://www.onestl.org/indicators/green/metric/air-quality>. See also EPA, Table of Historical Ozone National Ambient Air Quality Standards (NAAQS), available at <https://www.epa.gov/ground-level-ozone-pollution/table-historical-ozone-national-ambient-air-quality-standards-naaqs>.
- 69 EPA, Missouri Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants, available at [https://www3.epa.gov/airquality/greenbook/anyao\\_mo.html](https://www3.epa.gov/airquality/greenbook/anyao_mo.html).
- 70 EPA, Particulate Matter (PM) Basics, available at <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics>; EPA, Health and Environmental Effects of Particulate Matter (PM), available at <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm>.
- 71 Prepared by the Interdisciplinary Environmental Clinic. Data Sources: EPA, 2018 EJ Screen Public Geodatabase, available at [ftp://newftp.epa.gov/EJSCREEN/2018/EJSCREEN\\_2018\\_USPR\\_Public.gdb.zip](ftp://newftp.epa.gov/EJSCREEN/2018/EJSCREEN_2018_USPR_Public.gdb.zip); EPA, FRS Facilities Geodatabase, available at [https://www3.epa.gov/enviro/html/fii/downloads/FRS\\_INTERESTS\\_download.zip](https://www3.epa.gov/enviro/html/fii/downloads/FRS_INTERESTS_download.zip).
- 72 Grace Hill Settlement House, Grace Hill Clean Air Project: CARE Level II Grantee Final Report, p. 1, available at [https://www.epa.gov/sites/production/files/2016-09/documents/grace\\_hill\\_report-50B.pdf](https://www.epa.gov/sites/production/files/2016-09/documents/grace_hill_report-50B.pdf); Union of Concerned Scientists, Cars, Trucks, Buses and Air Pollution, available at <https://www.ucsusa.org/clean-vehicles/vehicles-air-pollution-and-human-health>.
- 73 Prepared by the Interdisciplinary Environmental Clinic. Data Sources: EPA, 2018 EJ Screen Public Geodatabase, available at [ftp://newftp.epa.gov/EJSCREEN/2018/EJSCREEN\\_2018\\_USPR\\_Public.gdb.zip](ftp://newftp.epa.gov/EJSCREEN/2018/EJSCREEN_2018_USPR_Public.gdb.zip); City of St. Louis, Census Results (2010), Ward Results (2011 Boundaries), available at <http://dynamic.stlouis-mo.gov/census/ward11.cfm>.
- 74 Farhad Azimi and Prashant Kumar, Ambient exposure to coarse and fine particle emissions from building demolition, Atmospheric Environment 137:62-79 (2016).
- 75 Id., p. 77.
- 76 EPA, On the Road to Reuse: Residential Demolition Bid Specification Development Tool (Sept. 2013), pp. 9-14, available at <https://www.epa.gov/sites/production/files/2013-09/documents/road-to-reuse-residential-demolition-bid-specification-201309.pdf>.
- 77 City of St. Louis, Demolition Permits by Neighborhood, available at <https://www.stlouis-mo.gov/data/demolition-permits/neighborhoods.cfm> (number of permits current as of May 23, 2019).
- 78 Felicia Rabito et al., The association between demolition activity and children's blood lead levels, Environmental Research 103:345-351 (2007), pp. 349-50; City of St. Louis, Demolition Permits by Neighborhood, available at <https://www.stlouis-mo.gov/data/demolition-permits/neighborhoods.cfm> (number of permits current as of May 23, 2019).
- 79 Ryan Delaney, 'Dust bowl' created by NGA project demolition blamed for sickening kids, teachers, St. Louis Public Radio (May 14, 2018), available at <https://news.stlpublicradio.org/post/dust-bowl-created-nga-project-demolition-blamed-sickening-kids-teachers#stream/0>.
- 80 Prepared by the Interdisciplinary Environmental Clinic. Data Sources: City of St. Louis, Demolition Permits by Neighborhood, available at <https://www.stlouis-mo.gov/data/demolition-permits/index.cfm>; City of St. Louis, Census Results (2010), Neighborhood Results, available at <http://dynamic.stlouis-mo.gov/census/neighborhood.cfm>.
- 81 See Missouri Department of Natural Resources, Statewide Network of Air Monitoring Sites, Links to Missouri's Air Monitoring Sites, available at <https://dnr.mo.gov/air/esp/aqm/critmap.htm>.
- 82 EPA, Ground-level Ozone Basics, available at <https://www.epa.gov/ground-level-ozone-pollution/ground-level-ozone-basics>; EPA, Health Effects of Ozone Pollution, available at <https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution>. See also Asthma and Allergy Foundation of America, Air Pollution, available at <https://www.aafa.org/air-pollution-smog-asthma/>; Michael Guarnieri and John Balmes, Outdoor air pollution and asthma, Lancet 383:1581-1592 (2014).
- 83 EPA, Health Effects of Ozone Pollution, available at <https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution>.
- 84 WHO, Ambient Air Pollution: Health Impacts, available at <https://www.who.int/airpollution/ambient/health-impacts/en/>.
- 85 Id.
- 86 Id.
- 87 Ariel Dreihobl and Lauren Ross, Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities, American Council for an Energy-Efficient Economy (Apr. 2016), p. 8, available for download at <https://aceee.org/research-report/ul502> ("Lifting the High Energy Burden").
- 88 Id., p. 48.
- 89 Prepared by the Interdisciplinary Environmental Clinic. Data Source: Lifting the High Energy Burden, pp. 47-49.
- 90 Id., p. 50.
- 91 Energy Information Administration (EIA), One in three U.S. households faced challenges in paying energy bills in 2015, available at <https://www.eia.gov/consumption/residential/reports/2015/energybills/>.
- 92 Lifting the High Energy Burden, p. 19.
- 93 Id., p. 4.
- 94 Id., pp. 11-12.
- 95 Id., p. 12.
- 96 Id.
- 97 U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Q&A: The Weatherization Assistance Program (Oct. 29, 2013), available at [www.energy.gov/eere/articles/qa-weatherization-assistance-program](http://www.energy.gov/eere/articles/qa-weatherization-assistance-program).
- 98 Benefits.gov, Missouri Weatherization Assistance Program, available at [www.benefits.gov/benefit/1864](http://www.benefits.gov/benefit/1864).
- 99 Id.
- 100 Missouri Department of Social Services, Low Income Home Energy Assistance Program, available at <https://dss.mo.gov/fsd/energy-assistance/>.
- 101 Id.
- 102 Lifting the High Energy Burden, p. 27.
- 103 Ameren Missouri, Residential Energy Efficiency Programs, available at <https://www.amerenmissourisavings.com/>.
- 104 Ameren Missouri, Ameren Missouri Community Savers Programs, available at <https://www.amerenmissourisavings.com/communitysavers>.
- 105 Ratepayer-funded bill support options can be found at <http://dollar.more.ameren.com/>.
- 106 Fisher, Sheehan & Colton, Home Energy Affordability Gap, Current Year Affordability Gap Data for Missouri, available at [www.homeenergyaffordabilitygap.com/03a\\_affordabilityData.html](http://www.homeenergyaffordabilitygap.com/03a_affordabilityData.html).
- 107 EIA, One in three U.S. households faced challenges in paying energy bills in 2015, available at <https://www.eia.gov/consumption/residential/reports/2015/energybills/>.
- 108 Id.
- 109 Id.
- 110 Equity Indicators Report, p. 146. See also For the Sake of All, pp. 33, 51-52.
- 111 The Guardian, Food Apartheid: the Root of the Problem with America's Groceries, available at <https://www.theguardian.com/society/2019/may/15/food-apartheid-food-deserts-racism-inequality-america-karen-washington-interview>.
- 112 U.S. Department of Agriculture, Economic Research Service, Food Access Research Atlas Documentation, available at <https://www.ers.usda.gov/data-products/food-access-research-atlas/documentation/>. "Low-income" is defined as having a poverty rate of 20 percent or greater, a median family income less than or equal to 80 percent of the state-wide median, or – in a metropolitan area – a median family income less than or equal to 80 percent of the metropolitan area's median. "Significant share" is defined as at least 500 people or 33 percent of the population.
- 113 Prepared by the Interdisciplinary Environmental Clinic. Data Sources: U.S. Department of Agriculture, Economic Research Service, Food Access Research Atlas Data Download 2015, available at <https://www.ers.usda.gov/weblofts/DataFiles/80591/DataDownload2015.xlsx?v=0>; Missouri Spatial Data Information Service, 2010 U.S. Census Tract Data, available at [http://msdis.archive.missouri.edu/archive/Missouri\\_Vector\\_Data/USCensus2010/tract10.zip](http://msdis.archive.missouri.edu/archive/Missouri_Vector_Data/USCensus2010/tract10.zip).
- 114 U.S. Department of Agriculture, Economic Research Service, Food Access Research Atlas Documentation, available at <https://www.ers.usda.gov/data-products/food-access-research-atlas/documentation/>. "Significant number" is defined as at least 100 households.

- 115 Michele Ver Ploeg, *Access to Affordable, Nutritious Food Is Limited in "Food Deserts,"* Amber Waves (Mar. 1, 2010), available at [www.ers.usda.gov/amber-waves/2010/march/access-to-affordable-nutritious-food-is-limited-in-food-deserts/](http://www.ers.usda.gov/amber-waves/2010/march/access-to-affordable-nutritious-food-is-limited-in-food-deserts/).
- 116 Prepared by the Interdisciplinary Environmental Clinic. Data Sources: U.S. Department of Agriculture, Economic Research Service, Food Access Research Atlas Data Download 2015, available at <https://www.ers.usda.gov/webfiles/DataFiles/80591/DataDownload2015.xls?v=0>; Missouri Spatial Data available at [http://msdis-archive.missouri.edu/archive/Missouri\\_Vector\\_Data/USCensus2010/tract10.zip](http://msdis-archive.missouri.edu/archive/Missouri_Vector_Data/USCensus2010/tract10.zip)
- 117 Metro, *Moving Transit Forward: St. Louis Regional Long-Range Transit Plan*, p. 34, available at <http://www.metrostlouis.org/wp-content/uploads/2016/03/moving-transit-forward-plan.pdf>. The report identifies "Downtown St. Louis through north city and into north St. Louis County" and "Downtown St. Louis through south city and into south St. Louis County" as two of five expansion priorities.
- 118 Matthew Hibbard, *North County Transit Center Makes Its Inaugural Debut*, Metro (Mar. 14, 2016), available at <https://www.metrostlouis.org/nextstop/north-county-transit-center-makes-its-inaugural-debut/>.
- 119 Citizens for Modern Transit, *2018 Annual Report, Transit: Benefits Beyond the Ride*, p. 3, available at <https://cmt-stl.org/app/uploads/2014/11/CMT-Annual-Report18web-only.pdf>.
- 120 Urban Harvest STL, *About Us*, available at [www.urbanharveststl.org/about-us](http://www.urbanharveststl.org/about-us).
- 121 St. Louis Metro Market, *About Us*, available at <https://www.stlmetromarket.com/about>.
- 122 Sarah Treuhaft and Allison Karpyn, *The Grocery Gap: Who Has Access to Healthy Food and Why It Matters, PolicyLink and The Food Trust* (2010), p. 8, available at [http://thefoodtrust.org/uploads/media\\_items/grocerygaporiginal.pdf](http://thefoodtrust.org/uploads/media_items/grocerygaporiginal.pdf).
- 123 *For the Sake of All*, p. 48.
- 124 *Id.*
- 125 *Id.*
- 126 Dana Malkus et al., *A Guide to Understanding and Addressing Vacant Property in the City of St. Louis*, St. Louis University School of Law, RISE, and Tower Grove Neighborhoods CDC (2018), p. 5, available for download at <http://www.risestl.org/what-we-do/public-documents/vacancy-guide/>.
- 127 Allan Mallach, *The Empty House Next Door: Understanding and Reducing Vacant Property in the City of St. Louis*, Lincoln Institute of Land Policy (2018), p. 29, available for download at <https://www.lincolinst.edu/publications/policy-focus-reports/empty-house-next-door>.
- 128 *Id.*, p. 32.
- 129 Trap of Triage, p. 163; *The Use of Federal Housing and Economic Development Funds in St. Louis: From "Team 4" into the Future*, Hearing before the Subcommittee on Housing and Community Opportunity, of the House Committee on Financial Services, 110th Cong. 77-81 (2008) (statement of Jamala Rogers, Chairperson of the Organization for Black Struggle).
- 130 Dana Malkus et al., *A Guide to Understanding and Addressing Vacant Property in the City of St. Louis*, St. Louis University School of Law, RISE, and Tower Grove Neighborhoods CDC (2018), p. 5, available for download at <http://www.risestl.org/what-we-do/public-documents/vacancy-guide/>.
- 131 STL Vacancy, *Vacancy Portal: Interactive Vacancy Map*, available at <https://www.stlvacancy.com/map.html>. Citywide dataset downloaded and analyzed by the Interdisciplinary Environmental Clinic.
- 132 STL Vacancy, *Vacancy Portal: All Metrics*, available at <https://www.stlvacancy.com/metrics.html>.
- 133 City of St. Louis, *Census Results (2010), Neighborhood Results*, available at <http://dynamic.stlouis-mo.gov/census/neighborhood.cfm>.
- 134 Prepared by the Interdisciplinary Environmental Clinic. Data Sources: STL Vacancy, Vacancy Portal; Interactive Vacancy Map, available at <https://www.stlvacancy.com/map.html>; City of St. Louis, *Census Results (2010), Neighborhood Results*, available at <http://dynamic.stlouis-mo.gov/census/neighborhood.cfm>.
- 135 Institute for Tribal Environmental Professionals, *Abandoned/Unsafe Buildings and Structures*, available at [http://www7.nau.edu/tep/main/HazSubMap/twrap\\_HzSubMap\\_AbanBldgs.asp](http://www7.nau.edu/tep/main/HazSubMap/twrap_HzSubMap_AbanBldgs.asp).
- 136 Felicia Rabito et al., *The association between demolition activity and children's blood lead levels*, *Environmental Research* 103:345-351 (2007), pp. 349-50; City of St. Louis, *Demolition Permits by Neighborhood*, available at <https://www.stlouis-mo.gov/data/demolition-permits/neighborhoods.cfm>.
- 137 *Vacancy Letter from Sundry Whiteside*, President of the Board of St. Louis Association of Community Organizations, available at <http://slaco-mo.org/sundry-whiteside-vacancy-letter/>.
- 138 *Id.*
- 139 *Id.*
- 140 Doug Moore, *Caught on camera: Look who the city nailed when it went after illegal dumpers*, St. Louis Post-Dispatch (Aug. 21, 2018), available at [https://www.stltoday.com/news/local/metro/caught-on-camera-look-who-the-city-nailed-when-it/article\\_5ca9af81-3589-5b7e-8cf3-ed342c424c3a.html](https://www.stltoday.com/news/local/metro/caught-on-camera-look-who-the-city-nailed-when-it/article_5ca9af81-3589-5b7e-8cf3-ed342c424c3a.html).
- 141 KSDK Staff, *St. Louis drops restriction to stop illegal dumping*, KSDK (Nov. 1, 2019), available at <https://www.kSDK.com/article/news/local/st-louis-drops-restriction-to-stop-illegal-dumping/63-610422321>.
- 142 Based on service requests to the Citizen's Service Bureau in 2017 for debris on alleys/streets, occupied and vacant buildings, and vacant lots, and for illegal trash dumping, where the neighborhood was identified.
- 143 Prepared by the Interdisciplinary Environmental Clinic. Data Sources: City of St. Louis, 2017 Citizens' Service Bureau Service Request Data, available at <https://www.stlouis-mo.gov/data/upload/data-files/csb.zip>; City of St. Louis, *Census Results (2010), Neighborhood Results*, available at <http://dynamic.stlouis-mo.gov/census/neighborhood.cfm>.
- 144 City of St. Louis, *Clean Up St. Louis*, available at <https://www.stlouis-mo.gov/government/departments/mayor/initiatives/clean-up-st-louis/index.cfm>. See also Doug Moore, *Caught on camera: Look who the city nailed when it went after illegal dumpers*, St. Louis Post-Dispatch (Aug. 21, 2018), available at [https://www.stltoday.com/news/local/metro/caught-on-camera-look-who-the-city-nailed-when-it/article\\_5ca9af81-3589-5b7e-8cf3-ed342c424c3a.html](https://www.stltoday.com/news/local/metro/caught-on-camera-look-who-the-city-nailed-when-it/article_5ca9af81-3589-5b7e-8cf3-ed342c424c3a.html).
- 145 Eli Chen, *Dutchtown Still Reports Many Cases of Illegal Dumping Despite City Efforts to Curb It*, St. Louis Public Radio (May 16, 2019), available at <https://news.stlpublicradio.org/post/dutchtown-still-reports-many-cases-illegal-dumping-despite-city-efforts-curb-it#stream/0>.
- 146 Dutchtown South Community Corporation, *So Fresh, So Clean, So Creative Southside*, available at <https://www.dutchtownsouth.org/so-fresh-so-clean-so-creative-south>.
- 147 Cumberland County (N.J.) Improvement Authority, *How does Illegal Dumping Effect Your Health?* (Aug. 4, 2015), available at <https://www.ccia-net.com/illegal-dumping-effect-health/>.
- 148 Mason County (WA) Public Health, *Illegal Dumping*, available at <https://www.co.mason.wa.us/health/environmental/solid-waste/illegal-dumping.php>.
- 149 *Dismantling the Divide*, pp. 98-104.
- 150 *For the Sake of All*, pp. 69-70.



