

COMMENTS

Health Impacts of Petrochemical Expansion in Louisiana and Realistic Options for Affected Communities

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I. INTRODUCTION

The chemical corridor along the eighty-five-mile stretch of the Mississippi River between Baton Rouge and New Orleans is home to well over 100 petrochemical plants. The Lake Charles area, too, is a petrochemical hub. Residents in these communities bear the brunt of environmental injustice in Louisiana, which has manifested in two key forms: (1) negative health impacts and (2) the destruction of historic Black communities. However, because the petrochemical industry has historically brought economic benefits to the state, it wields great power.

The question then becomes: *What is the ideal solution for impacted communities here in Louisiana, if existing petrochemical plants are here to stay?* Buyouts to help residents escape polluted areas? The re-establishment of buffer zones? Increased localized control for historically disenfranchised communities?

Louisiana presents a unique iteration of the battle between industry and environmentalists because the result of this battle may not realistically be an immediate and drastic reduction of industry. The region’s current economy *depends* on industry. Even if the state’s economy eventually moves toward renewables or other sectors, a solution to deal with the impacts of *existing* petrochemical industry will likely need to strike a compromise. And yet, Louisiana communities must find a new balance between economic values and public health concerns. While industry representatives argue that over-regulation could prompt an exodus of jobs, the deregulated setting as it stands allows industry to over-pollute and then displace vulnerable communities.

Current federal legal remedies fail to meet the needs of rapidly industrializing communities along the Mississippi. Title VI of the Civil Rights Act has not provided effective tools to address the discriminatory impact of industrialization nationwide, nor has Executive Order 12898. There is hope that, under the Biden Administration, the federal government will take more meaningful action on environmental justice issues. While big-picture reforms could help Louisianans seek recourse for

the discriminatory siting of industry in low-income and majority-Black communities, change at the local level might more effectively respond to actual community needs.

Different solutions may be appropriate in different localized contexts. Towns already afflicted with the health impacts of pollution and a declining housing market may decide they would be best served by a buyout program. However, communities that do not wish to abandon their land and instead want to better control encroaching industry may benefit from incorporation, which would increase their power over industrial tax exemptions and localized zoning policy. Local governments could then leverage that power to set emissions monitoring requirements, or to demand that local industry fund public health measures. These and other options should be considered, debated, and selected at the community level so as to best meet the unique needs of each affected area.

II. ZOOM OUT: THE LOWER MISSISSIPPI CHEMICAL CORRIDOR & LAKE CHARLES AREA

Much of what now composes the Industrial Corridor between New Orleans and Baton Rouge was formerly plantation land.¹ After the Civil War, communities of formerly enslaved people established unincorporated Black towns near the edges of old plantations.² These communities

1. RICHARD MISRACH & KATE ORFF, *PETROCHEMICAL AMERICA* 115 (2012) (“With Louisiana’s oil boom peaking in the 1960s, the river plantations were replaced nearly wholesale with facilities that refined and processed oil into an ever-growing suite of petrochemicals and products. This pattern has resulted in the landscape and culture of Cancer Alley, where today over one hundred petrochemical facilities and refineries are interspersed with poor historic settlements . . . [with] higher than average rates of cancers.”); *see also* Trymaine Lee, *Geography of Poverty, Part II: Cancer Alley: Big Industry, Big Problems*, MSNBC (June 9, 2015), <https://pulitzercenter.org/reporting/cancer-alley-big-industry-big-problems> [<https://perma.cc/XQ6R-DPAG?type=image>]; Julia Mizutani, *In the Backyard of Segregated Neighborhoods: An Environmental Justice Case Study of Louisiana*, 31 *GEO. ENV’T L. REV.* 363, 373, <https://www.law.georgetown.edu/environmental-law-review/wp-content/uploads/sites/18/2019/04/GT-GELR190004.pdf> [<https://perma.cc/AX3P-ZZKB?type=image>].

2. Lee, *supra* note 1; NAT’L. ACAD. OF PUB. ADMIN., *ADDRESSING COMMUNITY CONCERNS: HOW ENVIRONMENTAL JUSTICE RELATES TO LAND USE PLANNING AND ZONING* 192 (2003), <https://www.epa.gov/sites/production/files/2015-02/documents/napa-land-use-zoning-63003.pdf> [<https://perma.cc/2MGP-6S86?type=image>]; *see also* J. TIMMONS ROBERTS & MELISSA M. TOFFOLON-WEISS, *CHRONICLES FROM THE ENVIRONMENTAL JUSTICE FRONTLINE* 32 (2001) (“With few options after slavery was abolished, many exslaves continued to work on the plantations as wage laborers or sharecroppers. . . . Sharecroppers were advanced provisions at rates set by the landowner, and, once they were in debt to him, state law prohibited them from moving. . . . [M]ost lived on in what is called debt peonage Living hand to mouth, many exslaves were able to secure a small lot for a house and garden on the margin of the giant plantation tracts. They built small communities along a dirt lane off the river road.”).

remained primarily agricultural and residential through the 1800s. By 1901, however, a new resource was discovered in south central Louisiana: oil.³ Incoming corporations bought up old plantation land for new refineries and related industry along the river and next to these small, historic Black communities.⁴ The Mississippi River corridor offered important advantages to developing industrial plants: easy access to international shipping lanes, lots of cheap land, protective levees, and a lax regulatory regime that has never regularly monitored the air quality near major polluters.⁵ Because many of the homeowners in these Black communities did not have legal paperwork showing their title to the land, industrial companies could not buy land from them outright and instead built around them.⁶ The conversion of plantation farms to industrial facilities has created a pattern in which poor Black communities—which used to sit on the edge of plantations—now sit beside chemical plants.⁷

Between 1909 and the early 1930s, more than ten new chemical plants moved to Louisiana.⁸ Then, around the start of World War II, the sugar and cotton plantation systems in Louisiana collapsed and were quickly replaced by a booming the petrochemical industry.⁹ World War II brought a major infusion of federal funding to southcentral Louisiana, which was intended to enlarge the region's oil production and processing capacity.¹⁰ The War Production Board also invested in rubber and fuel facilities near Baton Rouge, and existing refineries expanded to meet

3. Craig Colten, *An Incomplete Solution: Oil and Water in Louisiana*, 99 J. AM. HIST. 91, 92 (June 2012), <https://academic.oup.com/jah/article/99/1/91/854658> [<https://perma.cc/764X-3BRM?type=image>].

4. Lee, *supra* note 1.

5. Tristan Baurick et al., *Welcome to "Cancer Alley," Where Toxic Air is About to Get Worse*, PROPUBLICA (Oct. 30, 2019), <https://www.propublica.org/article/welcome-to-cancer-alley-where-toxic-air-is-about-to-get-worse> [<https://perma.cc/EU4M-HZU3?type=image>]; Colten, *supra* note 3, at 93 (June 2012), <https://academic.oup.com/jah/article/99/1/91/854658> [<https://perma.cc/NA5Q-LS8P?type=image>].

6. See Leah Douglas, *African Americans Have Lost Untold Acres of Land Over the Last Century*, THE NATION (June 6, 2017), <https://www.thenation.com/article/archive/african-americans-have-lost-acres/>.

7. ROBERTS & TOFFOLON-WEISS, *supra* note 2, at 34 (also noting that though chemical plants tend to be built in the center of plantation lots, they grow closer to communities as they expand over time).

8. *Id.* at 33.

9. *Id.* at 33-34 (noting that the total number of farms in Louisiana was reduced by half between 1940 and 1960, and noting that while one in four of the state's workers were farmers in 1940, only one in thirty were by 1960); see also Beverly Wright, *Living and Dying in Louisiana's 'Cancer Alley,'* in THE QUEST FOR ENVIRONMENTAL JUSTICE: HUMAN RIGHTS & THE POLITICS OF POLLUTION 90 (Robert Bullard ed., 2005).

10. Colten, *supra* note 3, at 93.

increased wartime demands.¹¹ After World War II, chemical and metallurgical facilities expanded into rural locations, with several such facilities selecting sites immediately adjacent to unincorporated Black communities.¹²

Also since World War II, the Louisiana State Constitution has included an Industrial Property Tax Exemption Program (ITEP).¹³ The ITEP legislation gives manufacturing companies up to ten years of local property-tax relief on buildings, machinery, and equipment.¹⁴ Louisiana's ITEP was designed to encourage the growth of new industry within the state so as to create jobs, develop the state's resources, and increase tax

11. *Id.*

12. *Id.* at 94.

13. LA. CONST. art. 7, § 21(F) (1974). Until 1997, the program's "Rule One" required ITEP recipients to hire Louisianans and buy Louisiana goods as a means of promoting the local economy. In 1997, however, the U.S. Court of Appeals for the Fifth Circuit declared the preference for Louisiana labor and resources, as embodied in "Rule One," an unconstitutional violation of the commerce clause because it prejudiced out-of-state players. ITEP thus no longer requires that a certain proportion of jobs or supply orders go to Louisianans. *Pelican Chapter, Associated Builders & Contractors, Inc. v. Edwards*, 128 F.3d 910, 914; 918 (5th Cir. 1997) (stipulated facts). Concerns that ITEP "gives away" too much to industry and gets too little in return have prompted recent reforms by Governor John Bel Edwards. His Executive Order 2016-26 reformed ITEP in 2016 by reducing ITEP's 100-percent local property tax exemption to eighty percent. *COMPARE TASK FORCE ON STRUCTURAL CHANGES IN BUDGET AND TAX POLICY, LOUISIANA ECONOMIC DEVELOPMENT, OVERVIEW OF THE INDUSTRIAL TAX EXEMPTION PROGRAM (ITEP) 1* (July 2016), [https://revenue.louisiana.gov/Miscellaneous/LED%20Industrial%20Tax%20Exemption%20Program%20\(ITEP\)%20Overview.pdf](https://revenue.louisiana.gov/Miscellaneous/LED%20Industrial%20Tax%20Exemption%20Program%20(ITEP)%20Overview.pdf) [<https://perma.cc/Y2XW-WDWD?type=image>], with *Industrial Tax Exemption Program*, LA. ECON. DEV., <https://www.opportunitylouisiana.com/business-incentives/industrial-tax-exemption> [<https://perma.cc/5P3B-HST6?type=image>] ("[T]he program provides an 80% property tax abatement for an initial term of five years and the option to renew for five additional years at 80% property tax abatement on a manufacturer's qualifying capital investment related to the manufacturing process in the state."). Executive Order JBE 2016-26 also reformed ITEP by requiring the approval of local bodies of government before granting ITEP exemptions for proposed projects. The executive order further limited ITEP applications to new projects, no longer allowing applications for capital additions (i.e., maintenance and technological improvements) to existing facilities. *See also* Oliver A. Houck, *This Side of Heresy: Conditioning Louisiana's Ten-Year Industrial Tax Exemption Upon Compliance with Environmental Laws*, 61 TUL. L. R. 289, 303 (1986) (citing La. Dep't of Commerce, *Industrial Tax Exemption Contracts, Master Register* (1983)) (noting that only eight percent of the exemptions granted in 1983 were for the construction of new plants, while the remainder were granted for the expansion or replacement of equipment at existing plants).

14. Wright, *supra* note 9, at 91; LA. CONST. art. 7, § 21(F) (1974); *Industrial Tax Exemption Program*, LA. ECON. DEV., *supra* note 13.

revenue in the long term.¹⁵ It has certainly succeeded in its aim to encourage new industry.¹⁶

While all of these post-Civil War changes were occurring along Louisiana's industrial corridor, the state's Black residents were largely disenfranchised by Jim Crow laws.¹⁷

By the 1970s, 136 petrochemical plants and seven oil refineries lined the chemical corridor.¹⁸ Today, more than 150 plants and refineries line the corridor, including the world's eleventh and twelfth largest refineries, and together these facilities emit 129.3 million pounds of toxic releases each year.¹⁹ Louisiana is the nation's second-largest producer of refined oil, its second-largest producer of crude oil, and its fourth-largest producer of natural gas.²⁰ Approximately one-fifth of the country's petrochemicals are currently produced in the eighty-five-mile stretch between New Orleans and Baton Rouge.²¹ These numbers will likely continue to increase in the near future, as several massive plants (e.g., YCI Methanol One²²) have been approved but have not yet begun producing.

In addition to this chemical corridor, the Lake Charles area is likewise a hub of petrochemical industry.²³ More than 7,500 people in the

15. Op. La. Att'y Gen. 1174, 1175 (1938) ("The [exemption's] purpose is to encourage the establishment of manufacturing companies within the borders of this State and to increase the expenditure of capital so that more Louisianans can find employment and so that the State's natural resources can be further developed."); see also *Mattingly v. Vial*, 193 La. 1, 10 (1939) ("The purpose of the law was to foster employment of residents of the State and the use of Louisiana materials and eventually, after the exemption period, to increase the tax revenue.").

16. ROBERTS & TOFFOLON-WEISS, *supra* note 2, at 7 (citing LDEQ 2000).

17. *Id.* at 34.

18. Wright, *supra* note 9, at 93.

19. Lee, *supra* note 1; ROBERTS & TOFFOLON-WEISS, *supra* note 2, at 7 (citing LDEQ 2000); see also LOREN SCOTT, GROW LOUISIANA COALITION, THE ENERGY SECTOR: STILL A GIANT ECONOMIC ENGINE FOR THE LOUISIANA ECONOMY—AN UPDATE 4 (Apr. 2018), https://growlouisianacoalition.com/wp-content/uploads/2018/04/2018-THE-ENERGY-SECTOR-STUDY_GROW-LOUISIANA-COALITION.pdf [<https://perma.cc/U5HE-SBXQ?type=image>].

20. Wright, *supra* note 9, at 90; see also SCOTT, *supra* note 19, at iii.

21. Wright, *supra* note 9, at 90; 102.

22. Henrick Karoliszyn, *Seeing 2020: A Look at Some of the Area's Biggest Energy Projects*, HOUMA TODAY (Mar. 16, 2020), <https://www.houmatoday.com/news/20200316/seeing-2020-look-at-some-of-areas-biggest-energy-projects> [<https://perma.cc/RVS4-DGNC?type=image>] ("the project is expected to employ 1,450 new workers with an anticipated production rate of 1.7 million metric tons per year"). In early 2021, YCI Methanol One fired up one of its boilers, seemingly in preparation for production. David J. Mitchell, *Months After Bad Faith Claims in St. James Project, Chemical Companies Inch Toward Startup*, THE ADVOCATE (Jan. 26, 2021), https://www.theadvocate.com/baton_rouge/news/article_34fdb100-56bf-11eb-b1ad-130dd048e6c4.html.

23. Kristen Mosbrucker, *Hurricane Laura Heads Toward Southwest Louisiana, a Major Petrochemical Hub*, THE ADVOCATE (Aug. 25, 2020), https://www.theadvocate.com/baton_rouge/

Lake Charles area work at industrial sites.²⁴ Together, the Phillips 66 and Citgo Lake Charles manufacturing complexes alone process 674,000 barrels of crude oil each day.²⁵ The Sasol ethane cracker in Lake Charles produces 1.5 million tons of ethylene per year.²⁶ And as in the petrochemical corridor along the Mississippi River, the industrial hub in the Lake Charles area has a significant environmental impact on Black residents, who compose nearly half of the region's population.²⁷

The petrochemical industry has a substantial economic impact on the state. Jobs in the extraction, refining, and pipeline industries pay relatively well. While the average weekly wage in Louisiana's manufacturing sector was \$1,332 in 2018, jobs in the extraction sector paid \$2,343 per week (seventy-six percent higher), jobs in the refining sector paid \$2,259 per week (seventy percent higher), and jobs in the pipeline industry paid \$1,673 per week (twenty-six percent higher).²⁸ However, the *number* of jobs the oil industry provides has been on the decline since 2001.²⁹

These three oil-related industries directly paid \$688.7 million in state taxes and fees in the 2017 fiscal year, totaling 5.86 percent of the total taxes and fees collected in the state.³⁰ Louisiana's state government collected an additional \$1.3 billion indirectly through taxes on the \$19.2 billion in household earnings generated by these industries.³¹ The extracting, refining, and pipeline industries paid \$382.8 million in ad

news/business/article_09efda2c-e6fa-11ea-a6b5-db2ba6a9d33f.html [https://perma.cc/TG53-2RWD?type=image].

24. *Id.*

25. *Id.*

26. *Id.*

27. QUICK FACTS, LAKE CHARLES CITY, LOUISIANA, U.S. CENSUS BUREAU, <https://www.census.gov/quickfacts/fact/table/lakecharlescylouisiana/INC110219> [https://perma.cc/AA3V-FRJ7?type=image].

28. SCOTT, *supra* note 19, at 54. However, these statistics should be taken with a grain of salt. Loren Scott's consultancy is largely funded by the petroleum industry and thus may be skewed in favor of his clients. COMPANY, LOREN C SCOTT & ASSOCIATES INC, <http://www.lorenscottassociates.com/company.html> [https://perma.cc/D2EY-B8JU?type=image] (noting that his clients include BP, ExxonMobil, Entergy Corporation, Nucor, and Sasol, among others).

29. ROBERT HABANS, REWORKING THE WORKING COAST: ECONOMIC CHANGE AND THE GEOGRAPHY OF OPPORTUNITY IN SOUTHEAST LOUISIANA, THE DATA CTR. 10 (Oct. 2019), https://s3.amazonaws.com/files.datacenterresearch/2019-Coastal-Brief-Changing-Coast-Evolving-Coastal-Economy.pdf?utm_source=newsletter&utm_medium=email&utm_content=link&utm_campaign=Facts%20for%20Features%20-%20Katrina%20Impact [https://perma.cc/K6QU-SYK2?type=image] ("The Oil and Gas Production and Transportation cluster (e.g., refineries, drilling, pipeline transportation, and surveying) makes up about 23,000 jobs in the Super Region, but this is 6,000 fewer jobs than in 2001.").

30. *Id.* at iii-iv.

31. *Id.* at iv.

valorem taxes to local governments in 2016.³² However, overall, ITEP substantially reduces the local property taxes paid to parish governments by industrial manufacturers; estimates suggest that ITEP-approved contracts between 2008 and 2016 resulted in nearly \$10 billion in foregone local ad valorem tax revenues.³³

Any economic benefits of industry come at a cost: Louisiana's chemical corridor is frequently called "Cancer Alley" because of the heightened health risks associated with the regional petrochemical industry.³⁴ Seven of the ten census tracts with the highest cancer risk in the country are found within this eighty-five-mile stretch.³⁵ In Cancer Alley, the average cumulative cancer risk for emitted air toxics in 2012 was approximately forty-six per million, more than fifty percent higher than the average cumulative risk throughout the United States that same year.³⁶ This heightened cancer risk is caused by emissions from major industrial facilities along the Mississippi River.³⁷

Along Louisiana's chemical corridor, industrial sites have been clustered in areas with high concentrations of African American residents,

32. SCOTT, *supra* note 19, at iv.

33. TASK FORCE ON STRUCTURAL CHANGES IN BUDGET AND TAX POLICY, *supra* note 13, at 1.

34. Lee, *supra* note 1; see also ROBERTS & TOFFOLON-WEISS, *supra* note 2, at 47 (quoting a study conducted by Greenpeace) ("Deaths linked to cancer [we]re increasing [in the late 1980s] in the river [parishes] at a rate that is twice that of the rest of the nation and that increase is especially high in those parishes below Baton Rouge."). The corridor between New Orleans and Baton Rouge is also called "Death Alley" by local activists. See, e.g., *Who We Are*, Coalition Against Death Alley, <https://www.enddeathalley.org/our-coalition> [<https://perma.cc/RV29-JVJD?type=image>]. More recently, the Sierra Club dubbed it "Coronavirus Alley," as residents in the industrial corridor had experienced exceptionally high COVID-19 death rates as of May 2020. Krista Karlson, *Cancer Alley Now Coronavirus Alley*, Sierra (June 9, 2020), <https://www.sierraclub.org/sierra/cancer-alley-now-coronavirus-alley> [<https://perma.cc/?type=image>]; see also KIMBERLY TERRELL & JAMES WESLEY, AIR POLLUTION AND COVID-19: A DOUBLE WHAMMY FOR AFRICAN AMERICAN AND IMPOVERISHED COMMUNITIES IN CANCER ALLEY 11 (May 14, 2020), <https://law.tulane.edu/sites/law.tulane.edu/files/Files/Terrell%20-%20COVID-19%20-%20PM%202.5%20Louisiana%202020-5-14%20WEB%20VERSION.pdf> [<https://perma.cc/BJ6T-59ZR?type=image>] (noting that eight of the ten parishes with the highest COVID-19 death rates in Louisiana as of May 12, 2020 were located in Cancer Alley, and among these parishes, COVID-19 death rates were three to six times higher than the state average).

35. EPA, NAT'L AIR TOXICS ASSESSMENT, 2014 NATA NAT'L CANCER RISK BY SOURCE GROUP (XLS) (2014), <https://www.epa.gov/national-air-toxics-assessment/2014-nata-assessment-results#nationwide> [<https://perma.cc/AA47-3Q7E?type=image>].

36. Wesley James, Chunrong Jia & Satish Kedia, *Uneven Magnitude of Disparities in Cancer Risks from Air Toxics*, 9 INT'L J. ENV'T RSCH. & PUB. HEALTH 4365, 4369 (2012). The average cumulative cancer risk for air toxics throughout the United States was approximately thirty per million in 2012, so Cancer Alley's rate was approximately fifty-three percent higher than the national average.

37. *Id.* at 4370.

leaving approximately eighty percent of African American residents in the river parishes of Louisiana within three miles of a polluting facility.³⁸ Industry siting decisions negatively impact health outcomes for Black Louisianans: The cumulative risk posed by the toxic chemicals released in Black-dominant census tracts is sixteen percent higher than the risk posed in white-dominant tracts.³⁹ These health impacts can easily be misrepresented in over-generalized data sets.⁴⁰ An accurate assessment of industry's disparate impact on individual and community health thus demands a closer look at individual communities.

Industry siting decisions have not only imposed increased health risks on Black Louisianans, but they have also resulted in the destruction of historic communities.⁴¹ Towns once founded by formerly enslaved people—including Morrisonville, Reveilletown, Sunrise, Diamond, and Mossville—have since been polluted and bought out.⁴² These buyouts provided some relief for those residents who wanted to escape the declining housing market and quality of life in their now industrialized communities.⁴³ However, amongst the residents remaining in Mossville, for example, there is great pushback against the proposal that they abandon their ancestral home in exchange for a settlement that feels inadequate.⁴⁴

38. Wright, *supra* note 9, at 95 (summarizing data from Ascension, Jefferson, St. James, St. Charles, East Baton Rouge, Iberville, St. John, West Baton Rouge, and Orleans Parishes).

39. James, *supra* note 36, at 4373 (defining “black dominant” as those tracts in which more than seventy-five percent of residents are black, and “white dominant” as those tracts in which less than twenty-five percent of residents are black).

40. See, e.g., Agency for Toxic Substances and Disease Registry (ATSDR) testing of Mossville residents, as discussed *infra* Section III.B, where the agency retested a larger sample population to neutralize the alarming test results of people clustered near a vinyl chloride manufacturing plant.

41. Wright, *supra* note 9, at 102.

42. *Id.* at 102-03.

43. Rebecca O. Johnson, *The Exodus of the People of Mossville*, REIMAGINE! RACE, POVERTY, & THE ENV'T, <https://www.reimaginepe.org/21-2/johnson> [<https://perma.cc/3X8S-X7SV?type=image>] (quoting Mossville resident Christine Bennett as saying: “Sasol can’t pay for our suffering, our pain and everything, but we got to get out to save our lives.”).

44. See, e.g., Tom Valtin, *Louisiana Man Takes a Stand Against a Petrochemical Giant*, SIERRA CLUB (July 22, 2015), <https://www.sierraclub.org/planet/2015/07/louisiana-man-takes-stand-against-petrochemical-giant> [<https://perma.cc/3GRH-Y7GK?type=image>] (quoting Mossville native Stacey Ryan as saying: “Against my will, my property has been rezoned from residential to heavy industrial. I have not been offered a fair price for my property and I refuse to give it away. I am not someone who seeks the limelight, but I’m aware of my heritage and the ways in which industry can erase history. And because of that, I intend to continue to seek a just resolution.”); Katherine Sayre, *Closing Costs: As a Chemical Plant Expands, Mossville, Louisiana, Vanishes*, NOLA.COM (Nov. 15, 2017), https://www.nola.com/news/business/article_f478381c-ff36-57b3-adc2-2116c35982d9.html (quoting Sasol spokesman Michael Hayes as saying: “We had

III. ZOOM IN: HEALTH IMPACTS OF INDUSTRY IN UNINCORPORATED COMMUNITIES

An analysis of the health impacts of industry in Louisiana requires us to look closely at individual communities because the state produces insufficient localized data. For example, the Louisiana Tumor Registry (LTR) only began releasing cancer rates by census tract in 2017; prior to that, data was only accessible at the parish level.⁴⁵ Many other diseases, however, are not similarly tracked—pollutants have been shown to cause various respiratory and skin diseases, as well as immunological and hormone disorders. Yet there is no parish-wide data, nevermind data by census tract, for many health impacts caused by pollution.

A close look at two communities in particular, Reserve and Mossville, provides insights into the health impacts that accompany the production of chloroprene (used to manufacture synthetic rubbers) and vinyl chlorides (used to make PVC pipes and various plastics). Admittedly, the health data for these communities represent an extreme, but the data also help illustrate how harmful under-regulated industrial pollution in Louisiana can be. Also, the health data for Reserve and Mossville suggest how similarly situated communities throughout the state may be affected by industry: LaPlace, for example, located in St. John Parish, is also situated near a facility that emits chloroprene at alarming levels.⁴⁶ Morrisonville and Reveilletown, as discussed *infra*

a number of people who said, ‘Mossville is my home. I’m not interested in your money. I want to live here the rest of my life. I love where I live. I’m not going to sell.’”)

45. LSU HEALTH LA. TUMOR REGISTRY, CANCER INCIDENCE IN LOUISIANA BY CENSUS TRACT 2005-2015 1 (Mar. 2019), https://sph.lsuhscc.edu/wp-content/uploads/2019/04/01_Cancer-Incidence-in-LA-by-Census-Tract-2005-2015_FINAL_2019-4-26.pdf [<https://perma.cc/TM9K-684U?type=image>]. During the 2017 Louisiana Legislative Session, a new law went into effect requiring that the LTR produce and release cancer incidence counts and rates at the census tract level. The results were reassuring: Of the 146 census tracts in the Industrial Corridor, 128 of them (approximately eighty-eight percent) do not exhibit a significantly higher-than-average cancer rate. However, the LTR is not a perfect representation of all cancer cases in the state, even now that it charts reported cancers by census tract instead of only by parish. To compile the report, the LTR collected data on reported cancers from healthcare facilities, as well as death certificate files and in-patient discharge data. *Id.* at 2. This data collection process may leave rural Louisianans somewhat underrepresented due to the difficulties they face in accessing adequate healthcare. Further, cancer data for a census tract was only publishable if the tract had a population greater than 20,000 and at least sixteen cancer cases. *Id.* at 1. Thus, census tracts in which small unincorporated communities are surrounded by industry might be excluded from the data analysis due to insufficient population.

46. Victor Blackwell, Wayne Drash & Christopher Lett, *Toxic Tensions in the Heart of “Cancer Alley,”* CNN (Oct. 20, 2017), <https://www.cnn.com/2017/10/20/health/louisiana-toxic-town/index.html> [<https://perma.cc/7Z7Z-QYK4?type=image>] (noting that emissions readings

Section IV.A, were both impacted by vinyl chloride manufacturers. Looking at the data for Reserve and Mossville, then, gives us a better understanding of the impacts threatening other communities in Louisiana as well.

A. *Reserve, La. (St. John Parish)*

The predominantly Black town of Reserve, Louisiana, has the highest risk of cancer in the country—fifty times the national average.⁴⁷ Reserve is located on what was formerly the Belle Pointe plantation.⁴⁸ The plantation was sold after the Civil War and eventually converted into a dairy farm.⁴⁹ In the 1950s, DuPont Chemical bought the land and began manufacturing neoprene on site in 1968.⁵⁰ Since then, the plant, now operated by the Japanese company Denka, has been emitting chloroprene.⁵¹

After the Environmental Protection Agency’s December 2015 Air Toxicity Report revealed dangerous levels of the chemical in the air, the EPA has been more closely monitoring chloroprene emissions at DuPont’s facility in Reserve.⁵² The EPA’s recent readings revealed that chloroprene emissions were “routinely . . . dozens of times above the EPA’s guidance, suggesting residents living close to the plant had been constantly exposed for decades.”⁵³

The dangers of chloroprene should not have come as a surprise. In 1975, the Center for Disease Control published a bulletin explaining that responses to chloroprene included central nervous system depression, and injury to the lungs, liver, and kidneys.⁵⁴ The bulletin also referenced a

from recent EPA air sampling around the Denka neoprene facility show spikes at hundreds of times above the EPA’s “upper limit of acceptability” for cancer risk).

47. Jamiles Lartey & Oliver Laughland, *Cancer Town: “Almost Every Household Has Someone that has Died from Cancer,”* THE GUARDIAN (May 6, 2019), <https://www.theguardian.com/us-news/ng-interactive/2019/may/06/cancertown-louisiana-reserve-special-report> [<https://perma.cc/NY6Y-5EHC?type=image>] (data compiled from the EPA’s Nat’l Air Toxics Assessment 2014).

48. Jamiles Lartey & Oliver Laughland, *First Slavery, Then a Chemical Plant & Cancer Deaths: One Town’s Brutal History,* THE GUARDIAN (May 6, 2019), <https://www.theguardian.com/us-news/2019/may/06/cancertown-louisiana-reserve-history-slavery> [<https://perma.cc/G79A-HNXC?type=image>].

49. *Id.*

50. *Id.*

51. Lartey & Laughland, *Cancer Town*, *supra* note 47.

52. *Id.*

53. *Id.*

54. Sharon Lerner, *The Plant Next Door: A Louisiana Town Plagued by Pollution Shows Why Cuts to the EPA Will Be Measured in Illnesses & Deaths,* THE INTERCEPT (Mar. 24, 2017),

study showing that chloroprene exposure can result in a compromised immune system.⁵⁵ Yet it wasn't until publication of 2015 Air Toxicity Report that the EPA informed Reserve's citizens of the connection between the plant's emissions and their health.⁵⁶ The national average for the expected number of cancers due to airborne industrial emissions is .968 per million people; in Reserve, it is 777 per million people.⁵⁷ Similar health impacts likely plague towns like LaPlace, which is also situated near a neoprene facility that emits high levels of chloroprene.⁵⁸

B. Mossville, La. (Calcasieu Parish)

Health data from Mossville, Louisiana, in the Lake Charles area, highlights the correlation between vinyl chloride and severe health impacts caused by dioxins and dioxin compounds, problems that also plagued the now-displaced towns of Morrisonville and Reveilletown (see *infra* Section IV.A). Blood toxicology screening in the town of Mossville established a direct link between negative health consequences and nearby industry.⁵⁹

Mossville was founded by formerly-enslaved people in the 1790s as one of the region's earliest communities of free Black people.⁶⁰ Mossville is an unincorporated residential community near the cities of Westlake and Sulphur, situated near several chemical refineries.⁶¹ In the 1920s, petroleum and gas reserves were discovered in the area and industrial development commenced.⁶² State tax breaks further drove industrial expansion in the 1940s.⁶³ By the mid-twentieth century, Mossville and the neighboring town of Westlake were home to several big petrochemical

<https://theintercept.com/2017/03/24/a-louisiana-town-plagued-by-pollution-shows-why-cuts-to-the-epa-will-be-measured-in-illnesses-and-deaths/> [<https://perma.cc/N26F-AXH3?type=image>].

55. *Id.*

56. *Id.*

57. *Id.*

58. Blackwell, *supra* note 46.

59. Heather Rogers, *Erasing Mossville: How Pollution Killed a Louisiana Town*, THE INTERCEPT (Nov. 4, 2015), <https://theintercept.com/2015/11/04/erasing-mossville-how-pollution-killed-a-louisiana-town> [<https://perma.cc/4NJC-HFH6?type=image>].

60. *Id.*

61. EPA, SUMMARY OF ACTIONS: MOSSVILLE COMMUNITY, CALCASIEU PARISH, LOUISIANA (Oct. 2010).

62. EPA (REGION SIX), LAN000607014, SITE INSPECTION: MOSSVILLE, NORTH OF HIGHWAY 90, SULPHUR AND WESTLAKE, CALCASIEU PARISH, LOUISIANA 4 (May 2011), <https://www.epa.gov/sites/production/files/2015-11/documents/mossvillefinal051311.pdf> [<https://perma.cc/AB7S-GXQK?type=image>].

63. Sayre, *supra* note 44.

plants.⁶⁴ The unincorporated, majority-Black town is now bordered by several petrochemical plants, refineries, and vinyl chloride manufacturers.⁶⁵

In 1998, the Mossville Environmental Action Now (MEAN) citizen organization worked with Greenpeace to petition the Agency for Toxic Substances and Disease Registry (ATSDR, a federal agency within the Centers for Disease Control and Prevention) to screen local residents' blood for toxins.⁶⁶ ATSDR drew blood from twenty-eight Mossville residents and screened samples for dioxins and dioxin-like compounds formed when chlorine is exposed to high temperatures, as during, for example, the production of vinyl chloride.⁶⁷

The 1998 toxicology results were alarming: Mossville residents had average dioxin levels triple that of the general U.S. population and exceeding the ninety-fifth percentile of a comparison population.⁶⁸

Dioxins are a byproduct of manufacturing processes that use chlorinated organic chemicals.⁶⁹ Exposure to high levels of dioxins can, in the short term, cause chloracne (a severe skin disease), rashes, skin discoloration, and excessive body hair.⁷⁰ Dioxins like those found in the blood of Mossville residents can also have long-term effects, including increasing the risk of cancer, damaging the reproductive system, impairing the immune system, and disrupting normal hormone functioning in ways that can contribute to diseases such as diabetes.⁷¹ Dioxins are particularly dangerous to human health because they resist metabolization and thus build up in the body, thereby threatening long-term health consequences.⁷² University of Texas biochemist Marvin Legator conducted a health survey in 1998 to establish that Mossville residents were indeed experiencing

64. Rogers, *supra* note 59.

65. *Id.*

66. *Id.*; *About Mossville (Calcasieu Parish), Louisiana*, AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, <https://www.atsdr.cdc.gov/sites/mossville/overview.html> [<https://perma.cc/NAB4-AAFJ?type=image>] (page last updated Aug. 11, 2015).

67. *Id.*

68. Rogers, *supra* note 59; EPA, *supra* note 62, at 7.

69. LA. DEP'T OF HEALTH AND HOSPS., PUBLIC HEALTH ASSESSMENT: REVIEW OF DATA FROM THE 2010 EPA MOSSVILLE SITE INVESTIGATION, INITIAL / PUBLIC COMMENT RELEASE 8 (prepared under a cooperative agreement with the U.S. Department of Health and Human Services and the Agency for Toxic Substances and Disease Registry) (July 9, 2013).

70. *Id.*

71. Rogers, *supra* note 59; *see also* LA. DEP'T OF HEALTH AND HOSPS., *supra* note 69.

72. Rogers, *supra* note 59; *Dioxins*, NAT'L INST. OF ENV'T HEALTH SCI. (last updated Aug. 28, 2017), <https://www.niehs.nih.gov/health/topics/agents/dioxins/index.cfm> [<https://perma.cc/MRR6-VBRP?type=image>].

negative health impacts.⁷³ The study confirmed that locals were two or three times more likely to suffer health problems than a nationwide comparison group.⁷⁴

ATSDR recruited environmental medicine specialist Dr. Peter Orris to help with the agency's toxicological investigation into Mossville.⁷⁵ Orris wrote a memo in 1999 characterizing the residents' blood contaminants as "locally generated" and calling for "real-time regular monitoring of the chemical releases from the plants" to help identify the source pathway.⁷⁶

This assessment was confirmed in 2007 by chemist Wilma Subra,⁷⁷ who compared the dioxins in residents' blood with those found in the air emissions of neighboring plants.⁷⁸ Subra found that seventy-seven percent of the dioxin compounds in Mossville residents' blood matched those found in local chemical releases.⁷⁹ Subra characterized the seventy-seven percent match as "a big deal," noting that even a twenty-five percent match would be worthy of attention.⁸⁰ Subra's analysis confirmed that releases from local chemical plants were a direct cause of the dioxins in residents' blood.⁸¹

However, the ATSDR came to a different conclusion after conducting further studies to investigate the pathway through which residents were being contaminated.⁸² As part of this follow-up investigation, ATSDR screened twenty-two Mossville residents, seventeen of whom were tested during the initial 1998 exposure

73. Rogers, *supra* note 59.

74. *Id.*

75. *Id.*

76. *Id.*

77. Subra is a chemist and environmentalist who serves as the technical advisor to the Louisiana Environmental Action Network. Subra is also the president and founder of Subra Co., Inc., which is a chemistry lab and environmental consulting firm based out of New Iberia, Louisiana. She has also served on several EPA advisory panels representing community perspectives. *EPA's IRIS Program: Reviewing its Progress and Roadblocks Ahead: Hearing Before the H. Comm. on Sci., Space & Tech.*, 116th Cong. 1 (2019) (testimony of Wilma Subra), <https://science.house.gov/imo/media/doc/Wilma%20Subra%20Testamony%20Subcommittee%20on%20Investigation%20and%20Oversight.pdf> [<https://perma.cc/YWD3-TTU9?type=image>].

78. WILMA SUBRA, MOSSVILLE ENVIRONMENTAL ACTION NOW, INC. & ADVOCATES FOR ENVIRONMENTAL HUMAN RIGHTS, INDUSTRIAL SOURCES OF DIOXIN POISONING IN MOSSVILLE, LA: A REPORT BASED ON THE GOVERNMENT'S OWN DATA 6 (2007), <https://www.loe.org/images/content/100423/mossville.pdf> [<https://perma.cc/H4WCPAFD?type=image>].

79. *Id.* at 7.

80. Rogers, *supra* note 59.

81. SUBRA, *supra* note 78, at 7.

82. *Mossville (Calcasieu Parish)*, *supra* note 66.

investigation.⁸³ The ATSDR team also screened locally raised food, yard soil, and indoor dust, but took no air samples.⁸⁴ The ATSDR ultimately identified fish as the pathway of contamination and suggested the EPA dredge the sediment in local waters and that residents follow local fish advisories.⁸⁵ It also observed that while many of the residents more than forty-five years in age had elevated blood dioxin levels, those younger than forty-five years in age had relatively normal blood dioxin levels.⁸⁶ Further, the ATSDR noted that most of the retested residents saw a decrease in their blood dioxin levels compared to the initial 1998 testing.⁸⁷ Next, in 2002, the ATSDR conducted large-scale screening of another 250 Calcasieu Parish residents (arguably to establish a more stable contamination average).⁸⁸ The larger sample size effectively “neutralized” Mossville’s alarming dioxin rates by lumping it in with parish-wide data.⁸⁹

MEAN criticized ATSDR’s investigation for effectively covering up the alarming effects of vinyl chloride production on Mossville residents.⁹⁰ Critics suggest the ATSDR avoided collecting air samples because such samples would have confirmed dangerous levels of air pollution in and around Mossville.⁹¹ Though much of Mossville’s health data is still embroiled in controversy, various studies have all highlighted one thing: the health risks of petrochemical pollution are far above standards of acceptability.

IV. ZOOM IN: THE DESTRUCTION OF HISTORIC BLACK COMMUNITIES

Four settlements founded by formerly enslaved people along the Mississippi River and in the Lake Charles region have been bought out by industry, and a fifth community is today headed toward the same fate, due in large part to the dire health consequences of industrialization.⁹² These

83. AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, MOSSVILLE, LA, FOLLOW-UP EXPOSURE INVESTIGATION I (Mar. 2006), <https://www.atsdr.cdc.gov/sites/mossville/docs/MossvilleFactSheet.pdf> [<https://perma.cc/T3YN-86HA?type=image>].

84. Rogers, *supra* note 59; AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, *supra* note 83, at 2; *see also* LA. DEP’T OF HEALTH & HOSPS., *supra* note 69, at 9 (noting that when conducting its own testing in 2010, the EPA determined that “any contamination within the Mossville [Area of Interest] is likely to be due to deposition from industrial air emissions to local soils,” and so it collected soil samples but no air samples).

85. Rogers, *supra* note 59; *Mossville (Calcasieu Parish)*, *supra* note 66.

86. AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, *supra* note 83, at 2.

87. *Id.*; *see also* *Mossville (Calcasieu Parish)*, *supra* note 66.

88. Rogers, *supra* note 59; *see also* *Mossville (Calcasieu Parish)*, *supra* note 66.

89. Rogers, *supra* note 59.

90. SUBRA, *supra* note 78, at 5-6.

91. Rogers, *supra* note 59.

92. Sayre, *supra* note 44.

historically Black towns have been polluted so heavily that residents cannot physically bear to stay and are thus being wiped off the map. Morrisonville, Reveilletown, Sunrise, and Diamond have all been displaced; Mossville is in the finishing stages of that process right now.

A. *Town Buyouts in the Past Half-Century*

In the early 1900s, the petroleum industry's standard safety principle was "to avoid building adjacent to populated areas or to acquire open space as a safety buffer."⁹³ However, as industry expanded rapidly after World War II, these safety buffers began to disappear.⁹⁴ Buffer zones were popularized again in the 1980s and 1990s, when Dow Chemical, Exxon, and Georgia Pacific all bought out homes adjacent to their facilities in order to re-establish safety zones.⁹⁵ Company buyouts are often pitched as a "win-win" for residents and for companies because they protect residents from pollution and declining property values while protecting companies from potential liability.⁹⁶ However, many residents feel forced into buyouts because of the pollution resulting from neighboring industry, and the buyout feels more like the only option than a "win-win" arrangement.⁹⁷

Petrochemical expansion drives real estate prices down in nearby neighborhoods, which makes it difficult for residents to escape pollution once it begins.⁹⁸ Companies that offer buyouts provide residents with an escape, while using the bought-up property to create a "buffer zone" around the plant that saves them millions in property and insurance premiums.⁹⁹

The town of Morrisonville, for example, was founded in Iberville Parish by formerly enslaved people after the end of the Civil War.¹⁰⁰ In

93. Colten, *supra* note 3, at 93.

94. *Id.*

95. *Id.* at 95.

96. Sayre, *supra* note 44; see also Anne Rolfes, *Black Communities in St. James on the Losing End of Louisiana's 'Big Win,'* THE LENS (Sept. 17, 2018), <https://thelensnola.org/2018/09/17/black-communities-in-st-james-on-the-losing-end-of-louisianas-big-win/> [<https://perma.cc/HPK2-E9QP?type=image>] ("Plants continue to pollute, residential property values plummet and industry slithers in as the buyer of last resort for African-American families desperate to sell and escape from the cancers, auto immune problems and respiratory ills that come with petrochemical contamination. . . . This dynamic has played out all over our state, especially in towns up and down the Mississippi River.")

97. See, e.g., notes 43-44 *supra*.

98. Sayre, *supra* note 44.

99. *Id.*

100. Keith Schneider, *Chemical Plants Buy Up Neighbors for Safety Zone*, N.Y. TIMES (Nov. 28, 1990), <https://www.nytimes.com/1990/11/28/us/chemical-plants-buy-up-neighbors-for-safety-zone.html> [<https://perma.cc/2GA3-H6T7?type=image>].

1959, Dow Chemical moved into the majority-Black town and began making vinyl chloride (the same product produced in Mossville) to be used in plastics production.¹⁰¹ At the time, there was an established green belt separating the factory from the town, but Dow eventually bought out the land and expanded to fill this buffer zone.¹⁰² Twenty years later, in the 1980s, vinyl chloride—the substance that caused elevated dioxin levels and increased cancer risks in Mossville—was found in Morrisonville wells near the Dow plant.¹⁰³ In 1989, right before the publication of a federal report that would expose details of the Dow facility's toxic emissions, Dow Chemical began buying out landowners and homeowners in the town to create a safety zone around the 1,800-acre plant.¹⁰⁴ Most residents accepted Dow's offers.¹⁰⁵ Dow Chemical offered landowners \$11,000 per acre for their property and issued checks for relocation expenses.¹⁰⁶ By 1991, Dow Chemical managed to buy out the town for somewhere between \$7 and \$10 million.¹⁰⁷ Today, the only thing left in Morrisonville is the cemetery, though it is now officially on company property.¹⁰⁸

Similarly, Reveilletown was a Black community founded by formerly enslaved people after the Civil War that was bought out by

101. Luna Reyna, *Environmental Racism is Killing Black Communities in Louisiana*, TALK POVERTY (Jan. 9, 2020), <https://talkpoverty.org/2020/01/09/environmental-racism-black-communities-louisiana/> [<https://perma.cc/33PL-BTYE?type=image>]; see also ROBERTS & TOFFOLON-WEISS, *supra* note 2, at 48.

102. CAROLYN MERCHANT, AMERICAN ENVIRONMENTAL HISTORY: AN INTRODUCTION 203-04 (2007).

103. Gerald Markowitz & David Rosner, *Building a Toxic Environment: Historical Controversies over the Past and Future of Public Health*, in HISTORY AND HEALTH POLICY IN THE UNITED STATES: PUTTING THE PAST BACK IN 144 (Rosemary A. Stevens, Charles E. Rosenberg & Lawton R. Burns, eds., 2006).

104. Schneider, *supra* note 100; see also *id.*, at 144-45.

105. Schneider, *supra* note 100.

106. Terry Jones, *Proposed Shintech Louisiana Expansion Leaves Some Iberville Parish Residents on Edge*, THE ADVOCATE (Dec. 1, 2017), https://www.theadvocate.com/baton_rouge/news/communities/westside/article_06ec8ba2-cbe3-11e7-a0b3-abf774bd3130.html [<https://perma.cc/88CJ-VKDM?type=image>].

107. Joe Mathews, *Paying Neighbors to Move Mossville: Residents of this Louisiana Town, Like Those in Wagner's Point Here, Faced a Showdown with Condea Vista. Their Experience Is Instructive*, BALT. SUN, (Dec. 6, 1998), <https://www.baltimoresun.com/news/bs-xpm-1998-12-06-1998340009-story.html> [<https://perma.cc/84YF-VU86?type=image>]; see also Terry Jones, *Proposed Shintech Louisiana Expansion Leaves Some Iberville Parish Residents on Edge*, THE ADVOCATE (Dec. 1, 2017), https://www.theadvocate.com/baton_rouge/news/communities/westside/article_06ec8ba2-cbe3-11e7-a0b3-abf774bd3130.html [<https://perma.cc/7XE3-XUB4?type=image>].

108. Reyna, *supra* note 101; ROBERTS & TOFFOLON-WEISS, *supra* note 2, at 48.

Georgia Gulf.¹⁰⁹ In 1971, Georgia Gulf built a vinyl chloride plant next to the Plaquemines Parish community and began buying up land to serve as a buffer zone.¹¹⁰ Vinyl chloride emissions, as discussed previously, *infra* Section III.B, soon plagued Reveilletown residents. In 1987, thirteen Reveilletown property owners sued Georgia Gulf after finding vinyl chloride in their children's blood, and settled a year later for relocation.¹¹¹ Twenty other families then agreed to sell.¹¹² Georgia Gulf managed to buy the whole town in 1989 (about fifty families' homes) for approximately \$3 million.¹¹³ The six-acre parcel formerly home to the Reveilletown community is now a grove of oak and pecan trees.¹¹⁴

The historically Black town of Sunrise, also located in Plaquemines Parish, met a similar fate. Alexander Banes, a formerly enslaved person, first purchased the community of Sunrise, Louisiana from a white plantation owner in 1874.¹¹⁵ One hundred years later, Sunrise was a racially diverse community.¹¹⁶ However, when the Placid Refining Company decided to build a plant in Sunrise in the 1970s, it secured land by buying out most of Sunrise's white residents.¹¹⁷ In 1990, 241 remaining (mostly African American) residents sued the company for a buyout as well.¹¹⁸ The town of Sunrise had effectively disappeared by the mid-1990s, and now only a historical marker remains.¹¹⁹

The Diamond community was an all-Black neighborhood in Norco, Louisiana in St. Charles Parish.¹²⁰ Many town members' ancestors were

109. Schneider, *supra* note 100.

110. *Id.*; see also ROBERTS & TOFFOLON-WEISS, *supra* note 2, at 47 (identifying the company as Georgia-Pacific, which spun off its chemical operations in 1984 to form Georgia Gulf).

111. *Id.*; STEVE LERNER, DIAMOND: A STRUGGLE FOR ENVIRONMENTAL JUSTICE IN LOUISIANA'S CHEMICAL CORRIDOR 78 (2006); ROBERTS & TOFFOLON-WEISS, *supra* note 2, at 47.

112. Schneider, *supra* note 100.

113. Mathews, *supra* note 107; see also LERNER, *supra* note 111, at 78-79.

114. Schneider, *supra* note 100.

115. LERNER, *supra* note 111, at 79; Robert Bullard, DUMPING IN DIXIE: RACE, CLASS, AND ENVIRONMENTAL QUALITY (3d ed., 2018); see also Sunrise, Louisiana, RIVERGATOR: LOWER MISSISSIPPI RIVER WATER TRAIL (last updated 2015), <https://www.rivergator.org/river-log/vicksburg-to-baton-rouge/stfrancisville-to-baton-rouge.cfm/pg/11/> [<https://perma.cc/6Z8Q-HUVB?type=image>].

116. LERNER, *supra* note 111, at 79; see also Sunrise, Louisiana, *supra* note 115.

117. LERNER, *supra* note 111, at 79.

118. *Id.*

119. Sunrise, Louisiana, *supra* note 115.

120. Reid Frazier, *How One Woman Took on Shell to Save Her Louisiana Town*, THE ALLEGHENY FRONT (Apr. 7, 2017), <https://www.allegHENYfront.org/how-one-woman-took-on-shell-to-save-her-louisiana-town/> [<https://perma.cc/7WDF-AW8Q?type=image>].

formerly enslaved at the Trepagnier Plantation.¹²¹ After emancipation, the sugarcane plantation developed into a neighborhood, which was then bought out by the New Orleans Refining Co. (Norco) and transformed into a marine petroleum supply terminal.¹²² Shell Chemicals bought Norco in 1929, and began forcing Black residents off its land in the 1950s so the company could expand its plant.¹²³ In 1973 and then again in 1988, explosions at this Shell Plant killed workers and destroyed homes in the Diamond community.¹²⁴ After the second explosion, a group of Diamond residents sued Shell for relocation.¹²⁵ When the jury ultimately ruled against the residents in 1997, citizens engaged a chemist to sample air pollution.¹²⁶ Results suggested that Diamond residents were breathing in hundreds of times more pollutants than other rural Louisianans.¹²⁷ Publicity motivated Shell to offer appealing buyouts prices to residents near the plants, though about forty families declined and instead decided to remain in Diamond.¹²⁸

The city of Norco, however, is still home to about 3,500 people and the Shell Chemical plant, which continues to emit more than one million pounds of toxic air pollution each year.¹²⁹ In 2018, the EPA filed suit accusing Shell of violating pollution laws since 1997.¹³⁰ The EPA reached a settlement agreement with Shell that required Shell to install new pollution controls designed to eliminate more than 150 tons of pollutant

121. Julie Sze, *Diamond Chronicles How a Small Southern Town Made Environmental History*, GRIST (July 14, 2005), <https://grist.org/article/sze-diamond/> [<https://perma.cc/E586-2HED?type=image>].

122. *Id.*; Della Hasselle, *Shell Plant at Norco Stirred Controversy Decades Before Clean Air Act Allegations*, THE ADVOCATE (Feb. 19, 2018), https://www.nola.com/news/environment/article_247dfae1-b34e-51b5-9a9a-f9b695816525.html.

123. Sze, *supra* note 121.

124. The 1973 explosion began when a lawnmower sparked, igniting a gas plume that had escaped from a leaky pipeline. A sixteen-year-old boy, who was using the lawnmower to cut his elderly neighbor's grass, was killed by the explosion. The 1988 explosion occurred at the Shell refinery itself, toppling a sixteen-story tower and cracking the walls and ceilings of neighboring homes. This second explosion released 159 million pounds of chemical waste and killed seven workers. *Id.*; see also Frazier, *supra* note 120; Hasselle, *supra* note 122.

125. Frazier, *supra* note 120.

126. *Id.*

127. *Id.*

128. *Id.* (the minimum offer in the Shell buyout was \$80,000).

129. Sue Sturgis, *Life and Death on Big Oil's Fenceline*, FACING S. (Mar. 4, 2011), <https://www.facingsouth.org/2011/03/life-and-death-on-big-oils-fence-line.html> [<https://perma.cc/WUY6-KYCY?type=image>].

130. Consent Decree, *United States & LDEQ v. Shell Chemical LP*, No. 2:18-cv-1404-EEF-JVM (E.D. La. 2018), https://www.epa.gov/sites/production/files/2018-02/documents/shell_chemicalp021218-cd.pdf [<https://perma.cc/D68A-RB4V?type=image>].

emissions per year and bring the plant back into compliance.¹³¹ It has also mandated a new fence-line monitoring program by which EPA can hold Shell accountable.¹³²

B. A Buyout in Progress

Mossville, the town that showed alarming dioxin levels in 1998, discussed *infra* Section III.B, is currently in the process of going through a buyout for the *second* time in the town's history.

Chemical company Condea Vista first bought out the eastern neighborhood of Mossville as part of a settlement agreement in the 1990s, after the company's polyvinyl chloride facility contaminated the town's groundwater.¹³³ The lawsuit alleged that Condea Vista's transport of toxic chemicals through leaky pipes had allowed carcinogens to seep into the town's soil.¹³⁴ More than 200 Mossville homeowners in the town of 600 sold in the Condea Vista settlement, while the rest remained.¹³⁵

When South African chemical company Sasol bought out Condea Vista, it offered to complete the Mossville buyout.¹³⁶ In 2013, Sasol proposed a "Voluntary Property Purchase Program" for Mossville residents—basically, an optional buyout program that offers above-market value to homeowners.¹³⁷ Offers are typically the appraised value of the property, plus forty to sixty percent.¹³⁸ However, if owner-occupied homes are appraised at less than \$100,000, a sixty percent markup is added to a minimum value of \$100,000 (i.e., the minimum offer for an owner-occupied home would be \$160,000).¹³⁹

Sasol has offered to buy the town of Mossville in order to create a buffer zone for its industrial complex outside Lake Charles.¹⁴⁰ Sasol's new gas-to-liquids polyethylene facility cost approximately \$12.8 billion to build, and joins Sasol's six other chemical plants.¹⁴¹ Louisiana is giving

131. *Id.* at 29-68.

132. *Id.* at 28-29.

133. Sayre, *supra* note 44.

134. Valtin, *supra* note 44.

135. *Id.*; Mathews, *supra* note 107.

136. Sayre, *supra* note 44.

137. *Sasol and Mossville*, SASOL N. AM., <http://sasolnorthamerica.com/Sasol-and-Mossville> [<https://perma.cc/7KXA-96LH?type=image>].

138. *Id.*

139. *Id.*

140. Sayre, *supra* note 44.

141. *Id.*; Alexander H. Tullo, *Sasol Finishes Last Louisiana Plant*, CHEM. & ENG'G NEWS (Nov. 21, 2020), <https://cen.acs.org/business/investment/Sasol-finishes-last-Louisiana-plant/98/>

\$257 million in incentives to Sasol, in addition to the benefits of ITEP, which may enable Sasol to avoid as much as \$3 billion in local property taxes.¹⁴² Residential properties that stood in the way of the project were rezoned for heavy industrial use, which gives Sasol an advantage—the zoning change has made residents even more desperate to sell.¹⁴³

Sasol's seven-facility petrochemical complex consists of an ethane cracker and six chemical derivatives plants. Sasol predicts its new complex will produce 1.5 million tons of ethylene per year, which will then be used to enable downstream chemical applications and in the manufacture of detergents, cleaners, packaging, paints, and adhesives.¹⁴⁴ The ethane cracker complex is supposed to create 500 permanent new manufacturing jobs with an average salary of \$88,000 per year, as well as 2,395 permanent indirect jobs in the region.¹⁴⁵ In addition, the proposed complex has generated thousands of construction jobs.¹⁴⁶

These clear economic benefits to this project are accompanied by currently unquantified environmental and health risks. There are no LDEQ air monitors in Mossville, so it is impossible to accurately assess emissions in the area.¹⁴⁷ And yet, in 2020, Sasol proposed to increase emissions of volatile organic compounds (VOCs) by eighteen percent and carbon monoxide by six percent.¹⁴⁸ While some residents still do not want to move, they are left with no good option—if they stay, Mossville residents will be subject to such increasing emissions as the Sasol complex kicks into full gear.

i45 [<https://perma.cc/4YUP-YQJF?type=image>] (also noting that the Sasol industrial complex includes another polyethylene plant and an ethylene cracker).

142. Sayre, *supra* note 44

143. Valtin, *supra* note 44.

144. *Louisiana Process Industries: Strong History. Vibrant Future.*, 2 LA. ECON. Q. (2016), <https://www.opportunitylouisiana.com/eq/q2-2016/louisiana-process-industries> [<https://perma.cc/72G4-PFRB?type=image>].

145. *Id.*

146. *Id.*

147. LA. DEP'T OF ENV'T QUALITY, LOUISIANA AMBIENT AIR MONITORING SITES (May 2017), <https://www.deq.louisiana.gov/assets/docs/Air/LouisianaAmbientAirMonitoringSites.pdf> [<https://perma.cc/X6C2-FQ6Z?type=image>].

148. Public Comment by Concerned Citizens of Mossville & University Network for Human Rights, re: Proposed Part 70 Air Operating Permit Renewal and Modification for Sasol Chemicals (USA) LCC/Ethylene Unit—Lake Charles Chemical Complex; AI No. 3271, Permit No. 2743-V10, Activity No. PER20180011, <https://www.humanrightsnetwork.org/press/2020/2/18/concerned-citizens-of-mossville-and-university-network-for-human-rights-urge-louisiana-deq-to-reject-sasols-request-for-increase-in-toxic-emissions-from-lake-charles-facility> [<https://perma.cc/ZVZ7-NLHG?type=image>].

V. ZOOM BACK OUT: WHY INDUSTRY CAME TO UNINCORPORATED BLACK COMMUNITIES

Industry did not come to unincorporated Black communities by pure bad luck. The 1926 Standard State Zoning Enabling Act (SZE), which Louisiana's legislature adopted immediately, empowered local governments to manage land use through zoning.¹⁴⁹ In 1944, these zoning powers were extended to parish governments.¹⁵⁰ Public input was not required.¹⁵¹ Because small Black towns established on the edges of former plantations were often unincorporated when parishes obtained zoning powers,¹⁵² any zoning decisions were made at the parish-level without input from these communities. The parish decision-making process has left historic unincorporated Black towns along the Mississippi River especially vulnerable to the negligence, and, at times, greed, of decision makers. Two examples can be found in Wallace, Louisiana, and in the Fifth District of St. James Parish.

A. Industry's Influence

One formerly residential community that was forever changed by a parish zoning decision was the small, unincorporated Black community of Wallace, Louisiana.¹⁵³ St. John Parish officials rezoned Wallace from residential to industrial so that a Formosa Plastics plant could be built there.¹⁵⁴ Ninety-five percent of Wallace residents were African American, and the community was reliant on the parish council to protect its interests.¹⁵⁵ However, in 1990, the parish council voted to rezone 1,800 acres of residential land, including Wallace, to industrial use at the request

149. ADVISORY COMM. ON ZONING, DEP'T OF COM., A STANDARD STATE ZONING ENABLING ACT UNDER WHICH MUNICIPALITIES MAY ADOPT ZONING REGULATIONS (1926), https://planning-org-uploaded-media.s3.amazonaws.com/legacy_resources/growingsmart/pdf/SZENablingAct1926.pdf [<https://perma.cc/DQF7-CMQX?type=image>]; see also Lauren Land, *Brief History of Planning & Zoning in La.*, LA. SEA GRANT (2013); <http://www.laseagrant.org/wp-content/uploads/Lafourch-Brief-History-Planning-Zoning-La.pdf> [<https://perma.cc/D9JH-CQCF?type=image>].

150. LA. CONST., art. XIV, § 29 (1921), as amended by LA. ACT 321 (1944).

151. Land, *supra* note 149.

152. NAT'L ACAD. OF PUB. ADMIN., *supra* note 2, at 192.

153. Robert Bullard, *Unequal Environmental Protection: Incorporation Environmental Justice in Decision-making*, in *WORST THINGS FIRST? THE DEBATE OVER RISK-BASED NATIONAL ENVIRONMENTAL PRIORITIES* 237, 255 (Adam Finkel & Dominic Golding, eds., 1994).

154. *Id.*

155. ROBERT BULLARD, *DUMPING IN DIXIE: RACE, CLASS, AND ENVIRONMENTAL QUALITY* 106 (3d ed., 2018).

of Formosa Plastics Corp.¹⁵⁶ Wallace is by no means the only unincorporated Black town in the Industrial Corridor to find itself at the mercy of parish councils.

B. The Power of Parish Councils: A Look at What's Happening in the Fifth District of St. James Parish

The St. James Parish Government Comprehensive Plan, published in 2014, provides a clear and timely example of the impact that industrial zoning decisions can have on unincorporated Black communities.¹⁵⁷

St. James Parish is home to two incorporated towns, Lucher and Gramercy, and several unincorporated towns.¹⁵⁸ About half of the parish population is white, the other half Black.¹⁵⁹ The Parish's major industry is manufacturing, and St. James is home to fourteen major petrochemical plants as well as several large-scale agricultural operations.¹⁶⁰ The prevalence of chemical plants has resulted in substantial air pollutant emissions. In the year 2000, St. James Parish ranked among the highest 100 counties in the nation for toxic releases, emitting more than 4.5 million pounds of air toxics.¹⁶¹ These air toxics can cause cancer, respiratory irritation, nervous system problems, and birth defects.¹⁶²

In the early 2000s, St. James Parish did not have a comprehensive zoning plan for its unincorporated areas.¹⁶³ However, in 2014, the parish rolled out a new, twenty-year comprehensive zoning plan that redesignated many historic Black residential neighborhoods as "industrial" or "residential/future industrial."¹⁶⁴ The 2014 plan begins with an overview of St. James Parish history that nostalgically recalls the era of

156. *Id.* at 106-08 (Formosa only withdrew its proposal to build in Wallace after the Sierra Club filed a lawsuit against the company.).

157. See S. CENT. PLAN. & DEV. COMM'N (SCPDC), ST. JAMES PARISH GOVERNMENT COMPREHENSIVE PLAN 2031 (Mar. 5, 2014), <https://www.stjamesla.com/DocumentCenter/View/283/St-James-Parish-Comprehensive-Plan-PDF?bidId=> [<https://perma.cc/QL3P-YMB8?type=image>].

158. NAT'L ACAD. OF PUB. ADMIN., *supra* note 2, at 202 (Zoning decisions and plans for the physical development of unincorporated towns are made by parish planning commissions with no requirement of local input. Meanwhile, incorporated towns have autonomy around zoning through their municipal planning commissions.) (citing La. R.S. 33:106).

159. *Id.* at 191.

160. *Id.* at 192.

161. *Id.*

162. *Id.* at 193.

163. *Id.* at 205.

164. SCPDC, *supra* note 157, at 38.

slavery, and then continues by destroying the residential nature of historic Black communities by zoning them for future industrial use.¹⁶⁵

The plan notes that in the period between 2004 and 2014, available chemical industry employment declined and the parish had a historically high unemployment rate.¹⁶⁶ The parish plan acknowledged that Black residents were particularly hard hit by the local unemployment rate, but blamed inadequate education.¹⁶⁷ These factors influenced the contours of the parish's new comprehensive plan, which redesignated Welcome and St. James, as well as other unincorporated communities in the Fifth District, as "industrial" and "residential/future industrial."¹⁶⁸ The plan claimed that these 2014 zoning changes "involved extensive public participation with parish residents;" however, predominantly Black Fifth District residents¹⁶⁹ said they were left out of the decision-making process.¹⁷⁰ Eighty-six percent of the 2,800 residents living in the Fifth District's unincorporated communities are Black.¹⁷¹

Since the plan's publication in 2014 and the redesignation of unincorporated towns in the Fifth District as "industrial" and "future industrial," the petrochemical industry has continued to expand throughout the majority-Black Fifth District.¹⁷² By 2019, there was one petrochemical plant for every 235 residents in the parish's Fifth District.¹⁷³ This expansion has been accompanied by a rise in chemical accidents—in 2017 and 2018 alone, thirty-seven chemical accidents were reported in the parish.¹⁷⁴

165. *Id.* at 3 ("The early 1800s was the era of fabulous plantation life in St. James. Acreage was counted by thousands and slaves by hundreds. It was the day of luxurious living, of sumptuous entertainment, of delightful ease.")

166. *Id.* at 25; Wright, *supra* note 9, at 92 (noting that in 2005, polluting manufacturers in the state provided only ten percent of jobs).

167. SCPDC, *supra* note 157, at 25.

168. *Id.* at 38.

169. Eighty-six percent of the 2,800 residents living in the Fifth District's unincorporated communities are black. Mike Ludwig, *Petrochemical Giants are Slowly Killing Black Louisiana Communities*, PORTSIDE (Mar. 10, 2019), <https://portside.org/2019-03-10/petrochemical-giants-are-slowly-killing-black-louisiana-communities> [<https://perma.cc/345W-DKG3?type=image>]; Sabrina Canfield, *Cancer Alley Residents Decry 'Environmental Racism' in Louisiana*, COURTHOUSE NEWS SERV. (Jan. 15, 2019), <https://www.courthousenews.com/cancer-alley-residents-decry-environmental-racism-in-louisiana/> [<https://perma.cc/RW3L-R8E9?type=image>].

170. SCPDC *supra* note 157, at 6; Ludwig, *supra* note 169; Canfield, *supra* note 169.

171. Ludwig, *supra* note 169.

172. *See, e.g., id.*

173. Mara Kardas-Nelson, *The Petrochemical Industry is Killing Another Black Community in 'Cancer Alley'*, THE NATION (Aug. 26, 2019), <https://www.thenation.com/article/archive/st-james-louisiana-plastic-petrochemicals-buy-out/>; *see* Appendix I for maps.

174. Ludwig, *supra* note 169.

The parish uses ITEP to draw in industry and, in 2019, St. James Parish exempted nearly the same value of industrial property as did the entire state of Texas: \$2.1 billion.¹⁷⁵ The proposed Formosa Plastics plant, for example, has been offered an estimated \$1.5 billion in subsidies and tax breaks by state and local governments.¹⁷⁶ Residential property values, meanwhile, have collapsed.¹⁷⁷ Some residents hope for a buyout, while others worry that even fair-market value for their Fifth District homes will not give them enough capital to buy a house elsewhere.¹⁷⁸ In the meantime, industry continues to expand.¹⁷⁹

Yet there is likely very little that Fifth District residents can do to contest the Parish Council's decision to designate their neighborhoods as "industrial" and "residential/future industrial" zones. Zoning decisions are presumed valid under the law and will only be overturned when the party challenging the zoning decision can show that "a real or substantial relationship to the general welfare is lacking."¹⁸⁰ Toward this end, the court need only find that "the municipal council *could reasonably have had* such considerations [of public health, safety, comfort, or the general welfare] in mind."¹⁸¹ Where these considerations could possibly have justified the challenged zoning decision, the court will assume that they did.¹⁸² "It is only when an action of a zoning commission is found on judicial review to be palpably unreasonable, arbitrary, an abuse of discretion, or an unreasonable exercise of police power that such action will be disturbed."¹⁸³

Thus, regardless of why the St. James Parish Council decided to rezone previously agricultural and residential swaths of the Fifth District to industrial or future industrial uses, its decision would likely survive a legal challenge because considerations of the general welfare (e.g., economic well-being) *could* have justified the challenged zoning decision.

175. Kardas-Nelson, *supra* note 173.

176. Emilie Karrick Surrusco, *Cancer Alley Rises Up*, EARTH JUST. (Feb. 14, 2020) <https://earthjustice.org/features/cancer-alley-rises-up> [<https://perma.cc/33UR-RBAJ?type=image>].

177. Kardas-Nelson, *supra* note 173.

178. *Id.*

179. Tegan Wendland, *Louisiana's Chemical Corridor is Expanding. So Are Efforts to Stop It*, NPR (Mar. 20, 2020), <https://www.npr.org/2020/03/20/814882296/louisianas-chemical-corridor-is-expanding-so-are-efforts-to-stop-it> [<https://perma.cc/2ZJ6-7TMJ?type=image>].

180. *Palermo Land Co., Inc. v. Planning Comm'n of Calcasieu Parish*, 561 So.2d 482, 490 (La. 1990) (internal citations omitted).

181. *King v. Caddo Par. Comm'n*, 97-1873, p. 10 (La. 10/20/98); 719 So.2d 410, 416 (quoting *State ex rel. Civello*, 154 La. 271, 282 (1923)).

182. *Id.*

183. *City of Baton Rouge / Par. of East Baton Rouge v. Myers*, 2013-2011, p. 6 (La. 5/7/14); 145 So.3d 320, 327-28.

Because zoning decisions will be upheld so long as their propriety is at least debatable, the St. James Parish Council's choice to rezone much of the Fifth District for industrial uses is likely safe from judicial repeal.

VI. CURRENT LEGAL REMEDIES FAIL TO ADEQUATELY ADDRESS THE ENVIRONMENTAL JUSTICE CONCERNS RAISED IN LOUISIANA

Because legal challenges to these zoning decisions are unlikely to succeed, residents of communities faced with disparate impacts from industry may seek to explore other means of recovery or recompense. Title VI of the Civil Rights Act of 1964, Executive Order 12898, and future proposed legislation each offer possibilities.

A. *Title VI of the Civil Rights Act of 1964*

Title VI of the Civil Rights Act prohibits discrimination by agencies that receive federal funding.¹⁸⁴ In the environmental context, claims of environmental injustice are brought under Title VI against state and local agencies that receive federal funding and permit hazardous facilities.¹⁸⁵ However, Title VI does not establish a private right of action, and so it is up to the EPA to adjudicate claims of environmental injustice.¹⁸⁶

Section 601 of Title VI of the Civil Rights Act of 1964 prohibits any program or activity receiving federal funding from discriminating on the basis of race, color, and national origin.¹⁸⁷ Section 602 then directs agencies like the EPA to issue regulations implementing § 601 and to establish a process for handling racial discrimination complaints.¹⁸⁸ Title VI complaints can be brought either in court or through an administrative complaint process; however, to succeed on a § 601 complaint in court, the plaintiff must be able to show discriminatory intent.¹⁸⁹ Meanwhile, per the U.S. Supreme Court's decision in *Alexander v. Sandoval*, § 602 regulations do not create a private right of action for disparate impact under Title VI—such complaints must be brought via the appropriate

184. Title VI of the 1964 Civil Rights Act, 42 U.S.C. § 2000d (2018).

185. Machara McCall, *Environmental Racism: The U.S. EPA's Ineffective Enforcement of Title VI of the Civil Rights Act of 1964*, S.J. POL'Y INST. 49, 61 (Fall 2019).

186. *Alexander v. Choate*, 469 U.S. 287, 293 (1985) (“[A]ctions having an unjustifiable disparate impact on minorities [can] be redressed through *agency regulations* designed to implement the purposes of Title VI.”) (emphasis added).

187. Title VI, § 2000d (2018).

188. Title VI, § 2000d-1 (2018).

189. *Guardians Ass'n v. Civil Service Comm'n*, 463 U.S. 582 (1983) (concluding that “a private plaintiff should recover only injunctive, noncompensatory relief for a defendant's unintentional violations of Title VI”).

administrative procedures.¹⁹⁰ Thus, Title VI disparate impact claims are brought as administrative complaints lodged with federal agencies instead of with the courts.¹⁹¹

The administrative complaint process limits Title VI relief in three key ways.¹⁹² First, complaints may only be brought if the discriminator has received federal funds.¹⁹³ Second, the EPA's Office of Civil Rights (OCR) has a severe backlog.¹⁹⁴ Third, the EPA's use of the "effects test" to determine disparate impact excuses discriminatory actions deemed reasonably necessary to meet a goal that is "legitimate, important, and integral to the [federal funds] recipient's institutional mission," or that deliver economic benefits to the adversely affected community.¹⁹⁵ Since its establishment in mid-1990s, the OCR has never made a formal finding of a Title VI violation, and has only made two preliminary findings of discrimination.¹⁹⁶

OCR records have shown that it rejected without investigation or dismissed with investigation ninety percent of the complaints it received between 1996 and 2013.¹⁹⁷ Of the remaining complaints, the OCR referred one-third to other agencies, resolved one-third with voluntary or informal

190. *Alexander v. Sandoval*, 532 U.S. 275, 293 (2001) (leaving adversely affected communities reliant on federal agencies to enforce Title VI provisions).

191. U.S. COMM'N ON C.R., ENVIRONMENTAL JUSTICE: EXAMINING THE ENVIRONMENTAL PROTECTION AGENCY'S COMPLIANCE AND ENFORCEMENT OF TITLE VI AND EXECUTIVE ORDER 12898, 10 (2016), https://www.usccr.gov/pubs/2016/Statutory_Enforcement_Report2016.pdf [<https://perma.cc/Q2QK-NKQ4?type=image>]; see *Sandoval*, 532 U.S. at 281 (1983) ("[R]egulations promulgated under § 602 of Title VI may validly proscribe activities that have a disparate impact on racial groups, even though such activities are permissible under § 601.").

192. See generally U.S. COMM'N ON C.R., *supra* note 191.

193. Title VI of the 1964 Civil Rights Act, 42 U.S.C. § 2000d (2018).

194. U.S. COMM'N ON C.R., *supra* note 191, at 97.

195. Draft Title VI Guidance for EPA Assistance Recipients Administering Environmental Permitting Programs and Draft Revised Guidance for Investigating Title VI Administrative Complaints Challenging Permits, 65 FED. REG. 39,683 (June 27, 2000); see also *New York City Env't Justice Alliance v. Giuliani*, 214 F.3d 65, 67 (2d Cir. 2000) (illustrating how difficult it is for plaintiffs to overcome the balancing test at the core of the effects test used in Title VI litigation).

196. THE CENTER FOR PUBLIC INTEGRITY, ENVIRONMENTAL RACISM PERSISTS, AND THE EPA IS ONE REASON WHY (Aug. 3, 2015), <https://publicintegrity.org/environment/environmental-racism-persists-and-the-epa-is-one-reason-why> [<https://perma.cc/5QRK-LL84?type=image>]; see also (1) *Angelita C.* (see *Garcia v. McCarthy*, 3:13-cv-03939 (complaint, N.D. Cal., filed Aug. 23, 2013), but see *Garcia v. McCarthy*, No. 13-cv-03939-WHO, 2014 WL 187386, at *1 (N.D. Cal. 2014) (dismissing case); *aff'd* 649 F. App'x 589 (9th Cir. 2016) (unpublished opinion)); and (2) *Genesee Power* (U.S. EPA OFFICE OF CIVIL RIGHTS, Closure Letter re: Title VI Complaint 01R-94-R5 (Jan 19, 2017), <https://www.epa.gov/sites/production/files/2017-01/documents/final-genesee-complaint-letter-to-director-grether-1-19-2017.pdf> [<https://perma.cc/54TR-SJJJ?type=image>]).

197. THE CENTER FOR PUBLIC INTEGRITY, *supra* note 196 (noting also that the agency often found allegations moot because of its own failure to address them in a timely manner).

agreements, and has kept one-third open for investigation.¹⁹⁸ Many of these investigations languish for decades.¹⁹⁹ Only two, thus far, have resulted in even preliminary findings of discrimination before settling.²⁰⁰ Yet only the OCR can resolve such complaints—the Environmental Appeals Board lacks jurisdiction to review the EPA’s compliance with Title VI.²⁰¹

The EPA issued its first-ever preliminary finding of discrimination nearly twelve years after receiving the complaint in *Angelita C. v. California Department of Pesticide Regulation*, EPA File No. 16R-99-R9.²⁰² This complaint, however, resulted in a settlement—upheld by the federal courts—that failed to effectively redress the harms alleged by the complainants.²⁰³

In making its preliminary finding of discrimination in the *Angelita C.* complaint, the EPA found that the complainants established a prima facie Title VI violation by presenting evidence of the disparate, adverse impact that the use of a particularly harmful pesticide had on Latino school children in California.²⁰⁴ However, the EPA settled the case without input from the complainants, who then contended that the settlement did not provide actual relief to the individuals exposed to the harmful pesticides.²⁰⁵

The complainants then sued in district court in *Garcia v. McCarthy*, where the Northern District Court of California considered if they had legal recourse against the EPA to force the agency to change the allegedly inadequate settlement agreement.²⁰⁶ While the court recognized that the

198. *Id.*

199. *Id.*

200. (1) *Angelita C.* (see *Garcia v. McCarthy*, 3:13-cv-03939 (complaint, N.D. Cal., filed Aug. 23, 2013), but see *Garcia v. McCarthy*, No. 13-cv-03939-WHO, 2014 WL 187386, at *1 (N.D. Cal. 2014) (dismissing case); *aff’d* 649 F. App’x 589 (9th Cir. 2016) (unpublished opinion)); and (2) *Genesee Power* (U.S. EPA OFF. OF C.R., Closure Letter re: Title VI Complaint 01R-94-R5 (Jan 19, 2017), <https://www.epa.gov/sites/production/files/2017-01/documents/final-genesee-complaint-letter-to-director-grether-1-19-2017.pdf> [<https://perma.cc/54TR-SJJJ?type=image>]).

201. Order Denying Review, *In re: Select Steel Corp. of America, Permit No. 579-97*, Docket No. PSD 98-21, at 13 (EPA Env’t Appeals Bd., Sept. 11, 1998), [https://yosemite.epa.gov/oa/eab_web_docket.nsf/Unpublished-Final-Orders/1890AA3427C194748525706C0053DB75/\\$File/select.pdf](https://yosemite.epa.gov/oa/eab_web_docket.nsf/Unpublished-Final-Orders/1890AA3427C194748525706C0053DB75/$File/select.pdf) [<https://perma.cc/EQ6U-Z43Q?type=image>].

202. U.S. EPA OFF. OF C.R., Preliminary Finding re: Title VI Complaint 16R-99-R9, *Angelita C v. Cal. Dept. of Pesticide Regulations* (Apr. 11, 2011), <https://www.epa.gov/sites/production/files/2016-04/documents/title6-c42211-preliminary-finding.pdf> [<https://perma.cc/V42S-F5U8?type=image>].

203. *Garcia v. McCarthy*, 2014 WL 187386, at *11.

204. *Id.* at *2.

205. *Id.*

206. *Id.* at *5.

EPA “could have addressed more meaningfully” the serious harms alleged, it concluded that the law did not allow the courts to interfere.²⁰⁷ The court noted that the EPA’s decision to settle the complaint was within the agency’s discretion and thus was entitled to the *Chaney* presumption, which establishes a rebuttable presumption that “an agency’s decision not to prosecute or enforce . . . is . . . generally committed to an agency’s absolute discretion.”²⁰⁸ The *Chaney* presumption can only be rebutted when the agency has failed to follow statutory guidelines for the exercise of its enforcement powers.²⁰⁹ In the *Angelita C.* settlement dispute, the plaintiffs could not point to any instances in which the EPA violated its procedures for investigating complaints, and so the court concluded that the EPA’s decision to settle the complaint was within the agency’s discretion.²¹⁰

The plaintiffs also complained that they were excluded from the negotiations and settlement agreement relating to their original *Angelita C.* complaint.²¹¹ However, the court clarified that the law does not require the EPA to include complainants in the settlement process.²¹² Regarding the plaintiffs’ complaint that the settlement inadequately addressed the harms they alleged, the court noted that the “terms of a settlement are within EPA’s discretion and therefore are unreviewable.”²¹³

The court’s decision in *Garcia* recognized the EPA’s discretion to settle citizen complaints without input from the complainant and without remedying the complained-of problems, so long as statutory guidelines are met.²¹⁴ For this reason, Title VI complaints are unlikely to be successful except in cases where the EPA has committed procedural violations.

B. *Executive Order 12898*

In 1994, President Bill Clinton issued Executive Order 12898, which instructed federal agencies to avoid adverse environmental impacts on low-income and of-color communities.²¹⁵ The order requires that federal agencies collect data on their own impacts on the health and

207. *Id.*

208. *Id.* at *7 (quoting *Heckler v. Chaney*, 470 U.S. 821, 831 (1985)).

209. *Id.*

210. *Id.* at *8.

211. *Id.*

212. *Id.*

213. *Id.* at *9.

214. *Id.* at *11.

215. Exec. Order No. 12898, 3 C.F.R. § 859, *reprinted as amended* in 42 U.S.C. § 4321.

environment of low-income and minority populations.²¹⁶ It also requires that environmental justice be considered in siting and permitting decisions.²¹⁷ However, because Executive Order 12898 does not create legally-enforceable substantive or procedural rights, it has been a relatively ineffective measure.²¹⁸ Executive Order 12898 was also undercut in 2004 when the Bush Administration redefined environmental justice to be “color blind,” thereby further limiting the order’s effectiveness as a tool to protect predominantly Black, unincorporated communities from the disparate impacts of petrochemical expansion.²¹⁹

C. *A Possible Solution: The Proposed Environmental Justice for All Act*

While the current tools appear inadequate to effectively help impacted communities fight industry expansion in south Louisiana, legislative proposals offer some promise. The Environmental Justice for All Act, for example, would, among other things, reinstate a private right of action that would allow individual citizens to bring civil rights suits against entities engaging in practices with a discriminatory impact (currently, citizens rely on the EPA to bring such suits on their behalf).²²⁰ The Act that would overrule *Alexander v. Sandoval* by allowing private parties to bring disparate impact actions against recipients of federal

216. *Id.*

217. *Id.*

218. U.S. COMM’N ON C.R., *supra* note 191, at 105; Morongo Band of Mission Indians v. Fed. Aviation Admin., 161 F.3d 569 (9th Cir. 1998) (noting that Executive Order 12898 specifically states that it does not create any right to judicial review for alleged noncompliance); *see also* Sharon Lerner, *A Legacy of Environmental Racism*, THE INTERCEPT (Aug. 13, 2017), <https://theintercept.com/2017/08/13/exxon-mobil-is-still-pumping-toxins-into-black-community-in-texas-17-years-after-civil-rights-complaint/> [<https://perma.cc/KFQ3-9RED?type=image>] (discussing a year-long period in which the EPA stopped checking the email inbox for civil rights, and failed to timely open a message labeled “handicapped complainant re drinking H₂O in Flint” that was sent several months prior to public awareness of the Flint water crisis).

219. EPA, TOOLKIT FOR ASSESSING ALLEGATIONS OF ENVIRONMENTAL INJUSTICE 7 (2004), (“[W]hile the Executive Order focused on minority and low-income populations, EPA’s mission statement demonstrates that the environmental justice concepts should be applied to all communities regardless of race, ethnicity, or income status.”).

220. *Harris, Booker, Duckworth Introduce Comprehensive Legislation to Help Achieve Environmental Justice for All*, KAMALA D. HARRIS, U.S. SENATOR FOR CAL. (July 30, 2020), <https://www.harris.senate.gov/news/press-releases/harris-booker-duckworth-introduce-comprehensive-legislation-to-help-achieve-environmental-justice-for-all> [<https://perma.cc/Y5SL-5GC2?type=image>]; *see also* Environmental Justice for All Act H.R. 5986, 116th Cong. (2020), <https://www.congress.gov/bill/116th-congress/house-bill/5986/text> [<https://perma.cc/8EHC-E27Q?type=image>].

funds.²²¹ In addition, the Act would require federal agencies “to address the disproportionate impact of environmental and human health hazards on communities of color, indigenous communities, and low-income communities.”²²² It would also amend both the Clean Water Act and the Clean Air Act to require EPA to address potential *cumulative* impacts when issuing and renewing permits.²²³ This would be a game-changer in south Louisiana, as Cancer Alley currently represents perhaps the single-most drastic cumulative impact case at a regional level in the entire country. The current cumulative impacts of pollution are so high that adding another plant doesn’t seem to matter much, unless cumulative impact review is required.²²⁴

This Act would give Title VI some teeth. Complainants would be able to sue state and local permitting agencies directly for making industry siting decisions that have a disparate impact, instead of having to wait on the EPA.²²⁵ Further, the Act would force permitting authorities to consider cumulative impacts before issuing and renewing permits, which could change the way decisions are made in areas that are already inundated with industry, like St. James Parish’s Fifth District.²²⁶

VII. CONCLUSION: A FRESH IDEA (THAT MIGHT ACTUALLY WORK IN LOUISIANA)

A. *Incorporate the Unincorporated*

Because industry is essential to so many towns along the Mississippi River corridor, blanket regulations restricting petrochemical expansion are unlikely, considering Louisiana’s historic support of industry at the state level. However, Louisianans can negotiate a balance between industry and health through local governance, especially since Edwards’ 2016 Executive Order granted localized authority over ITEP exemptions.

221. *Compare* Environmental Justice for All Act, *supra* note 220 with *Alexander v. Sandoval*, 532 U.S. 275, 293 (2001).

222. Environmental Justice for All Act, H.R. 4114, 115th Cong. § Summary (2017).

223. *Id.*

224. There is case law to support this discussion of cumulative impacts, and the importance of halting a long-standing degradation of the human environment. For example, in *State of Louisiana v. Lee*, the U.S. Fifth Circuit Court of Appeals recognized that proposed dredging activity would “continue a course of environmental disruption begun years ago,” and thus found that continued dredging was not “insignificant” simply because environmental damage had already been wrought by previous dredging. 758 F.2d 1081, 1086 (5th Cir. 1985). Such reasoning, if employed in Clean Air Act suits, would give Cancer Alley residents a stronger legal argument against the continued introduction of polluting plants in their region.

225. Environmental Justice for All Act, *supra* note 220.

226. *Id.*

However, the unincorporated status of many rural Black Louisiana towns leaves them without any means of self-determination. The ideal solution, then, is to incorporate the unincorporated. If Black communities along the lower Mississippi incorporate,²²⁷ they can then design solutions that meet their unique needs. This could mean negotiating with chemical companies for a buyout, or it could mean strategically conditioning ITEP exemptions to better regulate industry, or it could mean zoning out industrial uses entirely. Incorporation would give communities choice and provide the means of self-determination.

As discussed below, the town of St. Gabriel incorporated as a means of fighting off encroaching industry; since incorporation, it has not permitted any new major facilities. Other towns could follow St. Gabriel's lead and incorporate as well. They would not necessarily have to take the same "no new industry" approach as St. Gabriel to still rein in environmental impacts.

B. Lessons Learned in St. Gabriel, La. (Iberville Parish)

The previously unincorporated, majority-Black community of St. Gabriel officially incorporated into a city in 1993 as a means to protect itself from invading industry.²²⁸ The Iberville Parish community had become inundated by petrochemical plants, and residents were blaming emissions for miscarriages and cancer diagnoses.²²⁹

Many of the St. Gabriel's 7,300 residents are the progeny of formerly-enslaved people who stayed on plantation land as sharecroppers after the Civil War.²³⁰ Since then, St. Gabriel has at times been home to the country's largest leper colony, two state prisons, a boot camp for at-risk teens, and a morgue for Katrina victims.²³¹ Chemical plants began moving into the area in the 1950s, and residents hoped new industry would provide jobs.²³² However, a 1995 survey showed that fewer than nine percent of

227. Residents of any unincorporated town in Louisiana with a population in excess of 200 inhabitants may propose incorporation by submitting a petition describing the proposed area for incorporation, stating the area's population, sharing the assessed value of property in the area, listing the public services the municipality proposes to offer, stating the proposed name of the new municipality, and attaching the signatures of twenty-five percent of the electors residing in the proposed municipality. Ultimate approval occurs through special election. La. R.S. 33:1; *see also* Petition for Incorporation, LA. SEC'Y OF STATE, <https://www.sos.la.gov/ElectionsAndVoting/PublishedDocuments/IncorporationPetition.pdf> [<https://perma.cc/2J6V-B9J6?type=image>].

228. Baurick, *supra* note 5.

229. *Id.*

230. *Id.*

231. *Id.*

232. *Id.*

the towns full-time industry jobs were held by St. Gabriel residents.²³³ The town's mayor, Lionel Johnson, noted that plants may not have wanted local workers, because then the town's residents would have become "aware of what's happening at the facilities" and how it directly impacted themselves and their families.²³⁴

Before St. Gabriel incorporated, more than 300 pounds of air pollution and other hazardous materials were emitted into the community per person, per year.²³⁵ The town was generating forty percent of the Iberville Parish budget through taxes on its industrial activity, but only received six percent of budget allocations.²³⁶

After incorporation, however, no new large plants have been approved for construction.²³⁷ The city used zoning policies to protect residential neighborhoods from encroaching industry, and because city leadership reflects the demographics of its population, they have worked to protect residents from air pollution.²³⁸ The city cannot affect industrial expansion outside of its limits, though, and petrochemical plants have continued to crop up outside of St. Gabriel's borders.²³⁹

C. Strategies to "Rein In" Industry

A move toward incorporation might help communities like Welcome and Burton Lane in the Fifth District of St. James Parish.²⁴⁰ Even if these communities wanted to continue permitting some industry, once incorporated, they could use JBE Executive Order 2016-26 to condition ITEP approval on emissions monitoring requirements, public health measures, and/or permit compliance.²⁴¹ Newly incorporated communities

233. *Id.*

234. *Id.*

235. *Id.*

236. *Id.*

237. *Id.*

238. *Id.*

239. Thirty large petrochemical plants sit within ten miles of St. Gabriel; thirteen of those are within a three-mile radius. *Id.*

240. Rolfes, *supra* note 96.

241. See Timothy M. Mulvaney, *On Bargaining for Development*, 67 FLA. L. REV. 66 (2015), <https://scholarship.law.tamu.edu/cgi/viewcontent.cgi?article=2082&context=facscholar> [<https://perma.cc/W4RV-EL3F?type=image>] (discussing exactions, which are "often bargained-for conditions . . . state entities attach to land-use permits. In theory, these conditional permits aim to counter proposed development projects' external harms in lieu of denying those proposals outright."); see also *Nollan v. Cal. Coastal Comm'n*, 483 U.S. 825 (1987) and *Dolan v. City of Tigard*, 512 U.S. 374 (1994), together holding that the state bears the burden of proving that the class of permit conditions at issue bear an "essential nexus" to and are in "rough proportionality" with the proposed development's impacts. When the permit conditions do not

could also establish buffer zones to better protect residents, or even take a more drastic approach and zone out existing uses.²⁴² They could use public health codes to better protect residents from contaminants,²⁴³ or they could require incoming industry to provide proactive medical monitoring as a condition of ITEP approval.²⁴⁴

The St. James Parish Planning Commission has authority to adopt a master plan and make zoning decisions for unincorporated parts of the parish, while a municipal planning commission makes such decisions for its municipalities.²⁴⁵ Where a parish planning commission or council is not protecting the interests of an unincorporated community, incorporation might provide a means for self-determination, because locally elected municipal planning commissions would then be able to take the reins in determining local zoning.²⁴⁶

meet this standard, the state will be liable for takings compensation; *but see Mulvaney*, at 74 (noting that land-use restrictions can be fashioned not as exactions but rather as land-use limitations to better avoid takings claims).

242. Nicole Javorsky, *Which Cities Have Concrete Strategies for Environmental Justice?*, CITY LAB (May 7, 2019), <https://www.citylab.com/equity/2019/05/environmental-justice-racism-zoning-land-use-baltimore-nyc/588793/>. For example, National City, California has been home to an excess of polluting industries for several years. A new authorization ordinance is now helping National City phase out industries near particularly sensitive areas, and also provides a process for relocating business so as not to commit a taking. *Id.*

243. San Francisco, for example, has strengthened ventilation requirements in buildings located within air pollution exposure zones. *Id.*

244. See Catherine Millas Kaiman, *Environmental Justice and Community-Based Reparations*, 39 SEATTLE U. L. REV. 1328, 1350-51 (“Medical monitoring is a remedy whereby a program pays for medical examinations to provide for early detection of diseases and conditions associated with exposure to particular contaminants the defendant allegedly exposed to the community. . . . Proponents of medical monitoring argue that, rather than forcing plaintiffs to wait until sickness develops, the basic notions of fairness and social justice require the defendant to provide for early detection methods. This remedy is most often sought in the ‘toxic tort’ arena of environmental justice cases. Six states view medical monitoring as a tort remedy of law similar to traditional tort claims, while two states recognize the claim in equity.”).

245. La. R.S. § 33:106.

246. *Id.*

Appendix I. Industry in St. James Parish

