

Over a half-century, Hazel Schexnayder saw her riverside hamlet of St. Gabriel transformed from a collection of old plantations, tin-roofed shacks and verdant cornfields into an industrial juggernaut.

By the early 1990s, she'd had enough of the towering chemical plants and their mysterious white plumes, the roadside ditches oozing with blue fluid, the air that smelled of rotten eggs and nail-polish remover, the neighbors suffering miscarriages and dying of cancer.

"We were inundated with plants," Schexnayder, now 87, said. "We didn't need any more around here."

She and others began pushing back in 1993, and the following year, residents voted to turn their corner of unincorporated Iberville Parish into the city of St. Gabriel. They wanted sidewalks and other amenities, but more than that, they wanted some say over the chemical plants popping up in their backyards.

While the newly created city was able to keep new plants out, the petrochemical pileup continued unabated beyond St. Gabriel's borders.

"I bet you money there are 20 plants right now just around St. Gabriel," Schexnayder said, nearly twice as many as there were when the incorporation drive began.

She's not even close. There are now 30 large petrochemical plants within 10 miles of her house, most of them outside the city limits. Thirteen are within a 3-mile radius of her home. The nearest facility, only a mile away, is the world's largest manufacturer of polystyrene, commonly known as Styrofoam.

Stories of fed-up Louisianans like Schexnayder fighting back against corporate polluters have gotten worldwide media attention over the last year, as a raft of enormous new petrochemical facilities takes shape along the Mississippi River corridor. Much of the focus has been on the potential hazards posed by specific plants, including the \$9.4 billion plastics factory that Formosa plans to build in St. James Parish and the long-standing Denka neoprene facility in St. John Parish, whose dangerous emissions were highlighted in an Environmental Protection Agency model that estimates cancer risk around chemical plants. Indeed, the stretch of the Mississippi River between New Orleans and Baton Rouge is nicknamed "Cancer Alley" because of its concentration of petrochemical facilities.

Though the air quality here has improved significantly since the 1980s, as it has in the rest of the nation, the recent history is less encouraging. Not only is toxic air pollution in Louisiana's industrial belt rising in absolute terms, the estimated air quality relative to its peers is getting worse, an analysis by ProPublica, The Times-Picayune and The Advocate found.

And the burden is not being shared evenly. Many of the new plants planned in Louisiana's petrochemical heart are being built in or near communities that EPA models estimate already have some of the most dangerous air in America. Our analysis shows the problems are especially acute in predominantly black and poor communities, like St. Gabriel, but whiter and more affluent sections - like neighboring Ascension Parish - are hardly immune.

All told, seven large new petrochemical facilities and expansions have been approved for places in the river corridor since 2015, according to air-permit files from the Louisiana Department of Environmental Quality. Five more major projects - including the Formosa megacomplex in St. James - are awaiting approval.

Some of the heaviest polluters will be just outside St. Gabriel, which already has some of Louisiana's most toxic air. Just across the river in Plaquemine, for instance, the Shintech ethylene plant recently got the green light for a \$1.5 billion, 300-acre expansion, which will intensify pollution in an area where an EPA model estimates the toxic levels of cancer-causing chemicals to be double the already high Iberville Parish average. The new plant is expected to increase those levels by up to 16% in nearby areas, our analysis estimates.

Shintech officials said the company has a long history of safe operations at its existing plant. And they said they do not believe the expansion will have "significant adverse impacts" on the environment - while alternative sites the company considered would make less economic sense. As a result, "it is believed that the social and economic benefits of the facility outweigh environmental impacts."

Formosa officials made similar arguments, saying they picked the site on St. James' rural West Bank in part because of its remoteness. Spokespeople for both companies emphasized that their new facilities will comply with all state and federal requirements with regard to air pollution.

The Mississippi River corridor offers built-in advantages for manufacturers - easy access to some of the continent's busiest shipping lanes; plenty of cheap land for large facilities; and government officials that equate industrial investment with progress. A lax regulatory regime helps ease the path. Louisiana prides itself on having standards for toxic chemical concentrations in the air around plants, but it does not regularly monitor air near major polluters like other states, including neighboring Texas, does. While the EPA considers the effect of a variety of chemicals, taken together, Louisiana only looks at one chemical at a time, potentially undercounting the true effect on air quality.

Folks in St. Gabriel and elsewhere along the river say they don't need a weatherman - or a computer model - to know which way the wind blows. They see cancer everywhere, and they blame the plants, even if the state Department of Health and other researchers have yet to prove such a link exists.

"Out of every 10 houses, there's a prospect of one or two people that have died of cancer," said Terry Frazier, a hospital receptionist from St. Gabriel. Her grandfather and stepmother died of cancer, and she has respiratory problems she believes are tied to the 600-acre petrochemical complex across a fallow field from her house.

Eugene Willis, 78, says air pollution killed his wife, Joyce. She convinced him to move to St. Gabriel from New Orleans, where he worked as a longshoreman. The city was no place to raise a family, she told him.

"She said, 'We've got to get out in the country, where there's clean water, clean air,?'" he said. "Little did I know we jumped from the frying pan into the fire."

Joyce was 42 when she died from kidney problems and cancer, three decades ago.

### From cornfields to Cancer Alley

St. Gabriel occupies a series of hairpin bends in the Mississippi River as it zigzags southeast from Baton Rouge to the Gulf of Mexico. With the river on three sides and the Spanish Lake swamp to the east, the town is almost an island. Suburban sprawl from the capital isn't far away, but St. Gabriel feels a world apart.

St. Gabriel has long been a place to tuck away undesirables. A leper colony, once the largest on the continent, operated here for more than a century. The state stuck a prison in St. Gabriel in 1961, a second one in 1979, and added a military-style boot camp for at-risk teens in 1999. In 2005, the bodies of hundreds of Hurricane Katrina victims were trucked to a hastily built morgue here.

St. Gabriel has no downtown, no commercial center. Within its city limits is a discordant patchwork of large steel petrochemical complexes, farm fields and small neighborhoods - Sunshine, Carville and Old St. Gabriel.

About two-thirds of St. Gabriel's 7,300 residents are black. Many families have been rooted here for centuries, brought as slaves and forced to cut and process sugar cane on the vast plantations that once dominated the river parishes. After the Civil War, many stayed on as sharecroppers, free but still beholden to white landlords.

"The town was black, but white-owned," said Reginald Grace, a career counselor who grew up in Sunshine. His mother was the only teacher at the only school for black children in St. Gabriel before 1955, a one-room schoolhouse now being re-envisioned as a museum.

Schexnayder grew up in New Orleans but was sent to live with her grandparents in St. Gabriel at 17. The city girl had no trouble falling in love with country life.

"Some people still lived in those plantation houses, and there was nothing but cornfields around them," she said. "I remember that coming in on the train. It was so pretty to see the cornfields blowing in the wind. We didn't have cameras to take pictures, but that stays in my head."

Her grandparents' tin roof was rusty, and the outhouse never ceased to terrify her.

Still, "we didn't think we were poor," she recalled. "We ate every day, and didn't eat just anything. We had good meals."

Schexnayder misses the gravel roads, which kept traffic slow. She misses the quiet nights, unmarred by the blight of industry.

"No fumes to be smelled back then," she said. "It was just night air. It was clean."

Louisiana in the 20th century underwent a slow economic transformation. Politicians eagerly embraced the change from farming to industry, offering generous tax incentives in hopes that manufacturing would raise the state out of poverty.

During the first wave of development, in the 1940s, the chemical plants were clustered around Baton Rouge and New Orleans. Over the decades, they began to spread further, occupying the stretch of river between them.

During the 1950s, chemical manufacturers looking to set up shop avoided heavily populated places. The hulking plants they built tended to be near majority-black communities like St. Gabriel.

"Given prevailing racial attitudes, those communities were, in effect, invisible," said Craig Colten, a professor of geography and anthropology at Louisiana State University who has published research about the state's chemical industry.

Plants with emissions above certain thresholds are required to report them. According to EPA data, the number of industrial plants in Louisiana that reported their toxic releases grew from 255 to 320 in the last three decades, an increase of 25%. Nationally, however, the number of plants that reported dropped by 16% over that period.

Folks in St. Gabriel and similar riverfront communities once hoped industry would at least bring employment - better paying and less backbreaking - than the work they had grown up with.

"We thought we'd get better jobs, but they brought their own people here," said Willis, the former longshoreman, who worked as a dirt and gravel hauler most of his life. "They'd say we can't pass their tests; that we're on drugs."

A 1995 employment survey conducted by the city of St. Gabriel just after incorporation found less than 9% of the full-time industry jobs in St. Gabriel were held by local residents.

Yet jobs were always promised when each new plant was proposed. Over time, residents have come to view such promises with skepticism.

St. Gabriel Mayor Lionel Johnson believes there's a reason companies don't want to hire workers who live too close to their plants: They might care too much about pollution.

"If they live locally, the workers would be much more cautious and aware of what's happening at the facilities," he said. "They'd know it has a direct impact on themselves and their families."

If plants aren't hiring locals, it's likely because the candidates aren't qualified, said Greg Bowser, president of the Louisiana Chemical Association.

"Working at a chemical facility is a big undertaking," he said. "To receive a job offer, it is necessary to have the proper training at a reputable center of learning."

Whether or not plant managers are hiring people from the surrounding community, it's clear that the profusion of plants has never translated into prosperity for St. Gabriel. Today, the town's annual per-capita income is \$15,000 - nearly a third below the state average, and about half the national average. The poverty rate, 29%, far exceeds the state rate of 20%.

The lack of vitality is impossible to miss. The few wood-frame houses left in town are mostly boarded up and covered in vines.

"All over, it was houses here," Grace said, motioning at a dilapidated section of Carville. "Real houses - not these trailers. When houses fall apart [now], nobody has money to do repairs, and they put in a trailer."

He points at empty concrete slabs and foundations where bars, restaurants and schools once stood. Today, the town's de facto gathering spot is Fred's, a truck stop with small diner and a windowless casino.

'Like raindrops but yellow'

The old custom of sitting outside on summer evenings fell out of favor long ago, residents said, thanks to nighttime chemical releases - sometimes so thick they'd fall as a golden mist.

"It'd look like raindrops but yellow," Grace said. "We'd have to hose our yards clean."

In the lawns, people would often find dead birds.

The move toward activism started in the late 1980s, when a St. Gabriel pharmacist began keeping a tally and found that as many as one in three local pregnancies ended in miscarriage.

Her findings were hotly debated, and industry representatives said they were being scapegoated. A subsequent Tulane study challenged the pharmacist's findings; that study, in turn, came under fire.

In what would become a recurring theme, the competing findings provided little clarity to residents of Cancer Alley. No scientific study has ever proved a link to miscarriages - or cancer - but many residents remain convinced one exists.

Like many states, Louisiana attempts to track every reported case of cancer. The resulting "tumor registry" doesn't show any clear cluster in the river region, which state officials tout as evidence that the plants pose no health risk.

But the tumor registry doesn't rule out such clusters, either. The data is aggregated by census tract, irregularly sized areas across which emissions can vary widely. In order to protect residents' privacy, some data for less populated areas, including St. Gabriel, isn't published. The specific locations of cases are not revealed.

EPA modeling that estimates the danger posed by industry, however, shows ample reason for concern. Near the Denka neoprene plant in St. John Parish, which emits chloroprene, EPA estimated the concentrations of cancer-causing chemicals and concluded they are among the highest in the country. The same is true for the section of St. Charles Parish near the Union Carbide plant, a major emitter of ethylene oxide.

The risk of cancer and respiratory disease will only go up with the crush of new plants slated for Louisiana's river corridor.

State and corporate officials, meanwhile, downplay the risks outlined by EPA. Bowser, of the chemical association, said a 2018 EPA report "dramatically overstated" the danger posed by ethylene oxide in the river corridor, and Denka officials have consistently challenged the "acceptable threshold" for chloroprene set by EPA - a standard that lacks the force of law.

Comparison to the nation

By the 1960s, the American public was growing apprehensive about the dense smog created by

petrochemical production. As a national environmental movement took root, Congress passed the Clean Air Act. A 1990 amendment required major polluters to reduce their toxic emissions.

In Louisiana, the new controls allowed the state to reach a goal in 1997 of cutting emissions by more than half. Still, the state has made less progress than most, our analysis reveals.

Using the EPA model, we calculated the estimated spread of toxic chemicals in Louisiana's air in the last three decades. Over that time, the state's 50 most polluted census block groups had improved by an estimated 75%. (A block group is an area of varying size that typically has fewer than 3,000 people.) But in the nation's most polluted block groups, the median improvement rate was 94%, putting Louisiana among the 10 least-improved states.

The analysis also found that Louisiana's share of the most heavily polluted block groups in the country increased from 3% to 7% over that period.

The backsliding may be a direct result of how Louisiana regulates industry. Following the passage of the Clean Air Act, many states developed their own rules to increase oversight of major polluters. And while the Louisiana DEQ calls its set of guidelines one of the nation's most stringent, many other states have far stiffer standards.

"Louisiana's program lacks the specificity and actual monitoring that is found in other state programs," wrote Victor Flatt, an environmental law professor at the University of Houston, in a 2007 paper comparing air toxics programs in different states.

The paper stresses the importance of regular air monitoring of toxic pollutants, as Texas and Massachusetts do, to ensure emissions data provided by chemical companies is accurate. Flatt also pointed out that some states like Connecticut and New York regulate all sources of toxic pollution, not just major plants. Louisiana, instead, opts to monitor only major polluters, and in most cases it takes companies at their word on emissions.

Bryan Johnston, an air permits administrator at the DEQ, defended Louisiana's methods.

"There's a perception that these [permits] are rubber-stamped, represented as a formality. That is not the case," Johnston said. "Sometimes it's not easy to secure an air permit in Louisiana."

Johnston explained that getting permits in some areas of the state is difficult because - owing to existing emissions - companies cannot demonstrate that nearby air quality will meet national standards. Even so, more than a dozen chemical plants are being built and expanded in the already-busy river corridor. Johnston said he does not recall the DEQ ever denying a permit, although he says companies do not always get permission to release exactly what they request.

Johnston's boss, DEQ Secretary Chuck Carr Brown, said in an interview this week that during his four years in office, he has turned away some industry proposals to build in certain locations because those communities had already "borne their burden."

He declined to name the communities or the companies in question, saying, "I don't want to pick one over the other."

"I just kind of want to let you know that there are some that we looked at," he said. "And there have been, in four years, no new permits issued there, because these communities have borne their share."

Johnston also pointed out that Louisiana is one of the only states that has its own set of air quality standards that dictate, for each monitored toxic chemical, a maximum allowable concentration.

But Flatt's paper indicates that Louisiana's air safeguards are based on a relatively lenient risk standard - that is, the level of toxic exposure and cancer risk that remains after chemical companies install emission controls. While the EPA has dictated a range of risk levels it deems "acceptable," it is up to states to set their own standards. Louisiana's standards are at the loosest end of that spectrum.

"Just by changing that standard changes what you would call risky and not risky," Flatt said. "If the standard is loosened, you can have the best modeling, you can have great analysis and great enforcement, but you have just placed more people in danger."

Comparing maximum allowable chemical exposures in different states confirms Flatt's claim. Louisiana's benzene standard is more than twice as lenient as the Texas standard, which is over 30 times looser than that of Massachusetts. (States enforce their standards in different ways.)

'We'd had enough'

By the early 1990s, with the required publication of toxic emissions data, something that had been obvious to river communities became apparent to everyone else: The burden of industry wasn't being shared.

In 1993, about 105 pounds of air pollution and other hazardous materials were being released in Louisiana for every person in the state. But in St. Gabriel, the rate was three times as high, according to EPA data.

The rest of Iberville Parish had managed to avoid the pile-on of industry. The parish seat, where decisions about land use in St. Gabriel were made, was in Plaquemine, nearly an hour's drive away. Many St. Gabriel residents felt parish officials from the more prosperous West Bank gave the petrochemical industry free rein on the mostly black and poor East Bank.

Meanwhile, St. Gabriel's sidewalks, roads and other amenities provided by the parish deteriorated - even though St. Gabriel, thanks to the industrial activity, was generating a large share of the parish's taxes. A 1994 parish analysis found St. Gabriel was supporting 40% of the Iberville Parish budget but getting only 6% of the spending.

Community leaders began stumping for incorporation in the early 1990s. They promised a government run by St. Gabriel residents would finally build long-promised sidewalks and streetlights, patch up the roads and install a sewerage system to replace leaky septic tanks.

A 1993 proposal by Supplemental Fuels Inc. for a hazardous waste facility in St. Gabriel was the catalyst the movement needed. It pushed Schexnayder, then a member of the Iberville Parish School Board, into environmental activism.

"It wasn't that SFI was particularly bad; it was that we'd had enough," Schexnayder said. "That got us together. We had to show them we mean business."

Anti-SFI yard signs cropped up alongside pro-incorporation signs. In August 1994, the vote for incorporation passed by a 3-1 margin. Parties broke out, and about 300 people paraded through town.

The new city's footprint was unusually expansive. At 30 square miles, it's the state's sixth-largest city by area but 52nd by population. The result is that St. Gabriel has control over an area well beyond its neighborhoods.

No large plants have been approved within St. Gabriel's border since incorporation, but at least one facility that had already applied for a permit was built after 1994.

"When companies come in here with a new plant, all we have to do is go to meetings and say, 'We don't want that here,?'" Schexnayder said. "If we fill a room, they know we can vote them out. They have to listen to us."

Zoning is the most powerful weapon in the city's arsenal. St. Gabriel's leaders can determine whether a property is zoned industrial, commercial or residential, and thus what can be built.

The city's elected leaders reflect its population. All of the top officials - the mayor, five-member City Council and police chief - are black, and most have lived in the community for decades. If a new plant moves in, these officials are just as likely to be in the path of air pollution as their constituents.

Not surprisingly, perhaps, the chemical industry has opposed subsequent incorporation drives. Shortly after St. Gabriel became a town, its neighbor, Geismar, just downriver in Ascension Parish, tried to do the same. The industry, neutral on St. Gabriel's incorporation effort, fought hard against Geismar's.

Meanwhile, at the state Capitol, lobbyists persuaded lawmakers to bar new municipalities from taking in industrial areas. Geismar's effort ended when Shell, Borden Chemicals and nine other large petrochemical companies obtained a court injunction preventing residents from taking further steps to incorporate. Few other communities have taken the initiative since.

Small wins, bigger losses

Twenty-five years after incorporation, St. Gabriel is seeing mixed results.

There are better roads, new sewer and water infrastructure, and sidewalks and parks. More ambitious projects have included a new police station and civic center.

There have been scandals, too - such as when Mayor George Grace, the town's first mayor, was convicted in 2012 on bribery, racketeering and fraud charges. And St. Gabriel still struggles with crime, poverty and other problems.

But as envisioned, city leaders have flexed their muscles to block unwanted projects. In 2015, St. Gabriel rejected a request from Chinese chemical giant Wanhua to rezone 3,000 acres for a vast industrial complex. Wanhua got a much friendlier reception when it took the plan downriver to Convent, an unincorporated community in St. James Parish, though the project is currently stalled.

In 2017, St. Gabriel thwarted Apex Oil Co.'s plans for a 500-acre expansion. That same year, residents rallied against an expansion proposed by a hazardous waste incinerator, Adsorbent Solutions, that had numerous air quality violations. City leaders halted the proposal, and a few months later, the incinerator shut down.

Air pollution, of course, does not respect political boundaries.

Just outside St. Gabriel's city limits, in Ascension Parish, the Occidental Chemical plant has been slated for a \$147 million dollar expansion, and Praxair and Kinder Morgan have won approval for new facilities.

There's little the town's political leaders can do about that. According to Cynthia Gould, who has contracted with the EPA for over 20 years to model toxic emissions, a plant's highest stacks can carry pollutants 30 miles from their source.

In other words, pollution is not something that only affects fenceline communities. It is - or should be - a regional concern.

"The highest concentrations normally happen fairly close in to the facility, but under certain conditions high stacks can increase concentrations further out," Gould said. "When an area is affected by releases from different facilities, the combined exposure may be concerning."

What's happening outside St. Gabriel's boundaries underscores the town's limited power to control its own destiny.

"The growth of the chemical industry has been aggressive outside of our city," said Johnson, the mayor. "It's growing in Ascension Parish right alongside us, but it's not as though Ascension pollution will stop at the Ascension border."

Still, overall, incorporation has been "a blessing," Johnson said, adding: "It's given locals control over their lives, and we've used that for the betterment of our lives."

Nonetheless, if Schexnayder were young today, she wouldn't dream of buying a house in St. Gabriel.

"If I was one of these young people, nothing in the world would get me to move here," she said. "We're still surrounded by plants."

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Do you live in one of these affected parishes? Share your story with us. ProPublica and The Times-Picayune and The Advocate are investigating the massive chemical plants in the industrial stretch between New Orleans and Baton Rouge, and hearing from you will help us tell more stories.

Talk to us if:

There's a new plant in your neighborhood, and you can tell us how your community has been responding to it.

You've been in contact with the DEQ and/or your parish government about a plant and can share with us what the responses from those entities has been.

You can talk to us about the impact of these plants in your community, including sharing evidence like signage, emails, residue or other anecdotes with us.

Here's how to talk to us:

Email us: [pollution@propublica.org](mailto:pollution@propublica.org)

Call or text us: 347-244-2134

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