

# PORT ARTHUR, TEXAS: The End of the Line for an Economic Myth



## ACKNOWLEDGEMENTS

This report was researched and written by Mary Greene and Keene Kelderman of the Environmental Integrity Project.

## THE ENVIRONMENTAL INTEGRITY PROJECT

The Environmental Integrity Project (<http://www.environmentalintegrity.org>) is a nonpartisan, nonprofit organization established in March of 2002 by former EPA enforcement attorneys to advocate for effective enforcement of environmental laws. EIP has three goals: 1) to provide objective analyses of how the failure to enforce or implement environmental laws increases pollution and affects public health; 2) to hold federal and state agencies, as well as individual corporations, accountable for failing to enforce or comply with environmental laws; and 3) to help local communities obtain the protection of environmental laws.

For questions about this report, please contact EIP Director of Communications Tom Pelton at (202) 888-2703 or [tpelton@environmentalintegrity.org](mailto:tpelton@environmentalintegrity.org).

## PHOTO CREDITS

Cover photo by Garth Lenz of Port Arthur.

## Executive Summary

The Trump Administration's approval of the Keystone XL Pipeline will lead to a surge in demand for oil refining at the southern end of the line, in Port Arthur, Texas – and a real test for claims that the administration's promotion of fossil fuel industries will create jobs. The industrial port of 55,000 people on the Gulf of Mexico has been the home of America's largest concentration of oil refineries for decades, and business has been booming. But history has shown little connection between the profitability of the petrochemical industries that dominate Port Arthur and the employment or health of the local people who live in this city of increasingly abandoned buildings and empty lots. Local residents, although tenacious and determined, feel left behind – and sometimes sickened – by the empty promises of economic development as the refineries that surround them release streams of pollution over their playgrounds, churches and homes. The industries here are increasingly mechanized and computerized – requiring fewer and fewer workers – as they expand their capacity, including for the Keystone XL Pipeline.

Residents here have sacrificed much over the years for the growth of the oil and gas industry, including through tax abatements that their local government have granted to refineries and through loose environmental controls. What the people of Port Arthur have received in return is an unemployment rate more than twice the national and state averages, and higher risks of cancer. The cancer mortality rate for African Americans in Jefferson County, including the predominantly black community of Port Arthur, is consistently about 40 percent higher than Texas' overall cancer mortality rate. Although there are many



*Teens play basketball at a public park across the street from Motiva. Copyright Karen Kasmauski.*

possible reasons for such disproportionate health impacts, including a lack of access to health care and healthy food, the contribution of pollution cannot be ignored. From 2012-2016, there were 230 illegal air pollution “upset” events from industries in Port Arthur, and many of these incidents released toxic chemicals including benzene, a carcinogen, according to state records. The American Lung Association gives the local county a grade of F for air quality. Asthma rates for children here are more than twice the national average.

To understand the future of an America with an administration that greenlights more fossil fuel projects like the Keystone XL Pipeline, we need to study the past of communities like this one, which have lived with the oil and gas industry’s booms and busts, and promises of prosperity, for decades.

Port Arthur is the end of the line not only for a pipeline, but also an economic myth.

# Introduction

One of the recurring motifs in the new Administration’s evolving narrative to the American public is the notion that environmental regulations stifle progress and kill jobs. The problem is, when it comes to environmental regulation, the rhetoric just isn’t true.

As the Environmental Integrity Project showed in its January 16, 2017 report, *Don’t Believe the “Job Killer” Hype*, environmental regulation is good for jobs, good for the economy in general, and good for human health and the environment. In fact, decades of data from the U.S. Department of Labor Statistics, the U.S. Office of Management and Budget, and the Organization for Economic Cooperation and Development clearly indicate that environmental regulations create jobs, improve productivity, spur innovation, and provide economic benefits that exceed costs at a ratio of more than 10:1.<sup>1</sup>

In 2011, EPA issued a report, *The Benefits and Costs of the Clean Air Act 1990-2020*. According to EPA’s findings, the central benefits of the 1990 Clean Air Act Amendments,<sup>2</sup> which include lives saved, illnesses avoided, jobs created, and innovations in industry, exceed costs by a factor of more than 30 to one.<sup>3</sup>

**Table I: Risks Avoided Due to 1990 Clean Air Act Amendments**

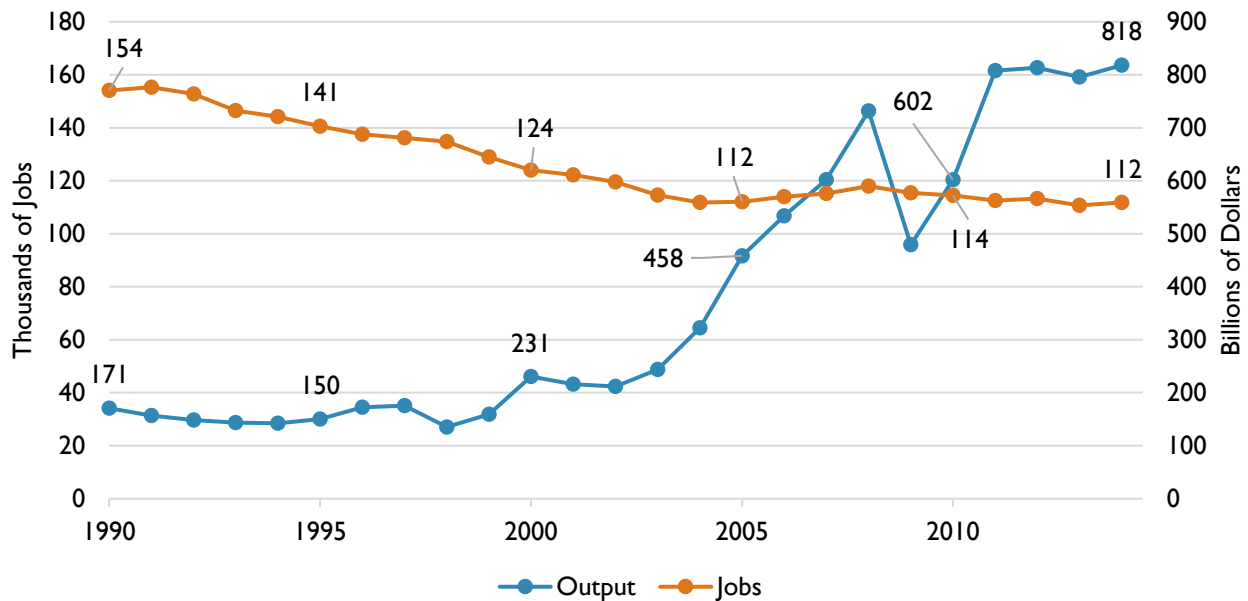
Health Effect Reductions (PM2.5 & Ozone Only)	Pollutant(s)	Year 2010	Year 2020
PM2.5 Adult Mortality	PM	160,000	230,000
PM2.5 Infant Mortality	PM	230	280
Ozone Mortality	Ozone	4,300	7,100
Chronic Bronchitis	PM	54,000	75,000
Acute Bronchitis	PM	130,000	180,000
Acute Myocardial Infarction	PM	130,000	200,000
Asthma Exacerbation	PM	1,700,000	2,400,000
Hospital Admissions	PM, Ozone	86,000	135,000
Emergency Room Visits	PM, Ozone	86,000	120,000
Restricted Activity Days	PM, Ozone	84,000,000	110,000,000
School Loss Days	Ozone	3,200,000	5,400,000
Lost Work Days	PM	13,000,000	17,000,000

Despite substantial economic and health data to the contrary, the myth endures. And these days, myths matter. Fossil fuel industries are enjoying exaggerated claims and engaging public hopes for restoring growth of the sector and good-paying jobs. Proponents of this argument claim increasing environmental regulation over the last decade or two is the culprit in terms of why these promises have not become reality.

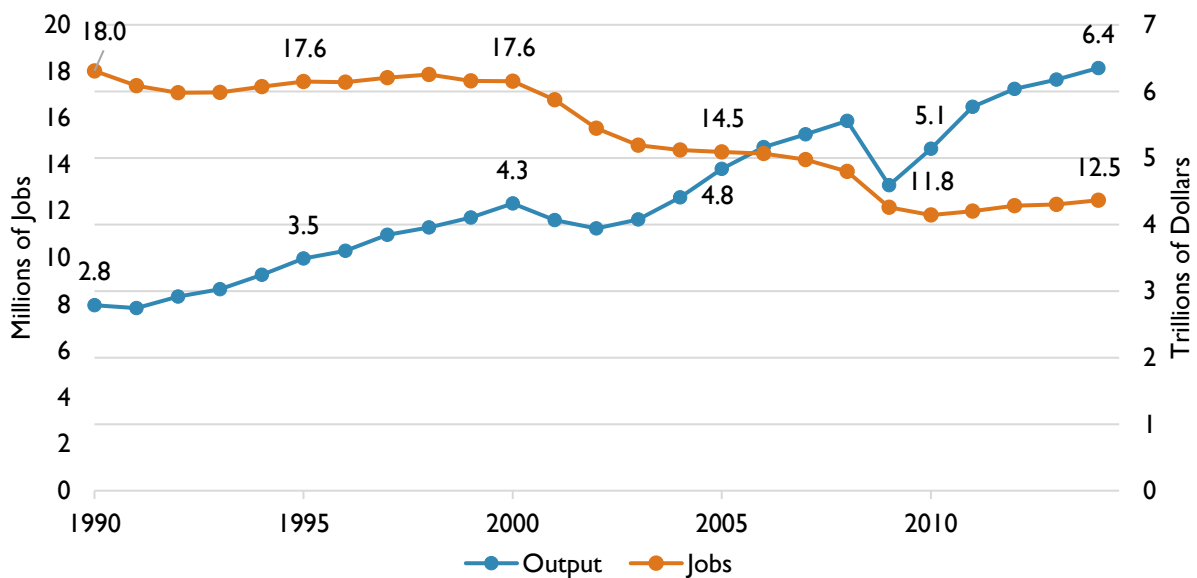
Like many myths, this one comes with a kernel of truth. What’s true is that in the last 20 years, the total value of the goods and services (output) from the fossil fuel industry has

dramatically increased, from approximately 120 billion in 1998 to 818 billion in 2014. This growth continues, unfettered by the pollution controls required by the Clean Air Act Amendments of 1990 that reduce harmful emissions, including mercury, sulfur dioxide, and other hazardous air pollutants such as benzene. The notion that environmental regulation stunts industry growth just isn't true.

**Figure 1: Petroleum and Coal Products Manufacturing Jobs vs. Output, 1990-2014<sup>4</sup>**



**Figure 2: Manufacturing Jobs vs. Output, 1990-2014<sup>5</sup>**



The myth also falls apart with regard to jobs. While output and corresponding profits have increased, manufacturing jobs within the fossil fuel industry have steadily declined – by nearly 30 percent – since 1990. This is true despite the advent of fracking and the exponential growth in extraction and processing of natural gas and oil that occurred as a result.

In short, the fossil fuel industry continues to grow, yet new job opportunities continue to shrink. This dichotomy – loss of manufacturing jobs despite increased output and profitability – is a trend across all manufacturing sectors nationwide.

The bottom line? There are fewer and fewer manufacturing jobs across the country, and this trend has nothing to do with environmental regulation. Manufacturing output and profitability, whether fossil fuel related or otherwise, continue to grow in ways that shrink the workforce or at least do not increase it.

In terms of real live myth-busters, communities like Port Arthur, Texas are where the rubber meets the road. A largely African-American community in southeast Texas, Port Arthur residents live next to the largest refinery complex in the country. In addition, they live within knocking distance of dozens of chemical manufacturing plants, many of which are petrochemical facilities. As a so-called “fence line” community, they are plagued by soaring unemployment and poverty rates, they endure some of the largest pollution loads in the country, and they suffer higher than average cancer and asthma rates (as well as mortality rates related to both).

For Port Arthur residents, the growth of the fossil fuel industry has done nothing to stabilize their local economy or otherwise improve residents’ lives. In fact, it’s done the opposite. As local elected officials continue to lure industry to the area with lucrative tax abatements and other incentives, in exchange for largely empty promises to hire locally, residents continue to see little to no improvement in their individual circumstances. Poverty is a complex problem that requires complex, multi-layered solutions that are beyond the scope and capability of this report. What does seem evident, though, is that the industry that surrounds this city has never been and may never be its salvation.

What follows is an exploration of Port Arthur – its history, its people, and the pollution that has shaped its past and likely will continue to inform its future. The report, illustrated with the help of photographers from the International League of Conservation Photographers, examines pollution, economic, and health trends, and considers how that information impacts, informs, and shapes the lives and futures of real people, with real stories to tell.

Looking at data and trends alone, it’s a straightforward exercise to draw conclusions about the “health” of this community. It’s another thing altogether to spend time in Port Arthur, to meet residents from all walks of life, strangers who are nonetheless willing to share their hopes and dreams, as well as some of their most intimate struggles. It’s impossible to leave without feeling some sense of hope for the community, a kind of communal optimism stubbornly poised to unfurl against what seem like staggering odds.

Port Arthur once was a vibrant, lively town steeped in African-American history. Today, it is considered a sacrifice zone and has become synonymous with environmental racism.

What happened between these two points - and how thoughtful reflection of this community's challenges negates the war-cry against environmental regulation - is the subject of this report.

## Background

Port Arthur is a small city in southeast Texas whose eastern-most boundary straddles Sabine Lake, half of which is located in Louisiana. A 90,000-acre saltwater estuary formed by the confluence of the Sabine and Neches rivers, Lake Sabine is remarkable for its split personality. The Texas side is riddled with belching oil and gas facilities and regular tug and ship traffic, the result of a dredged industrial channel known as the Sabine-Neches Canal that connects the waterway to the Gulf of Mexico. But on the Louisiana side, the contrast is stark: the shoreline is unspoiled, the water attractive to anglers, and the area mostly protected as part of the Sabine National Wildlife Refuge.

**Figure 3: Map of Sabine Lake and Port Arthur**

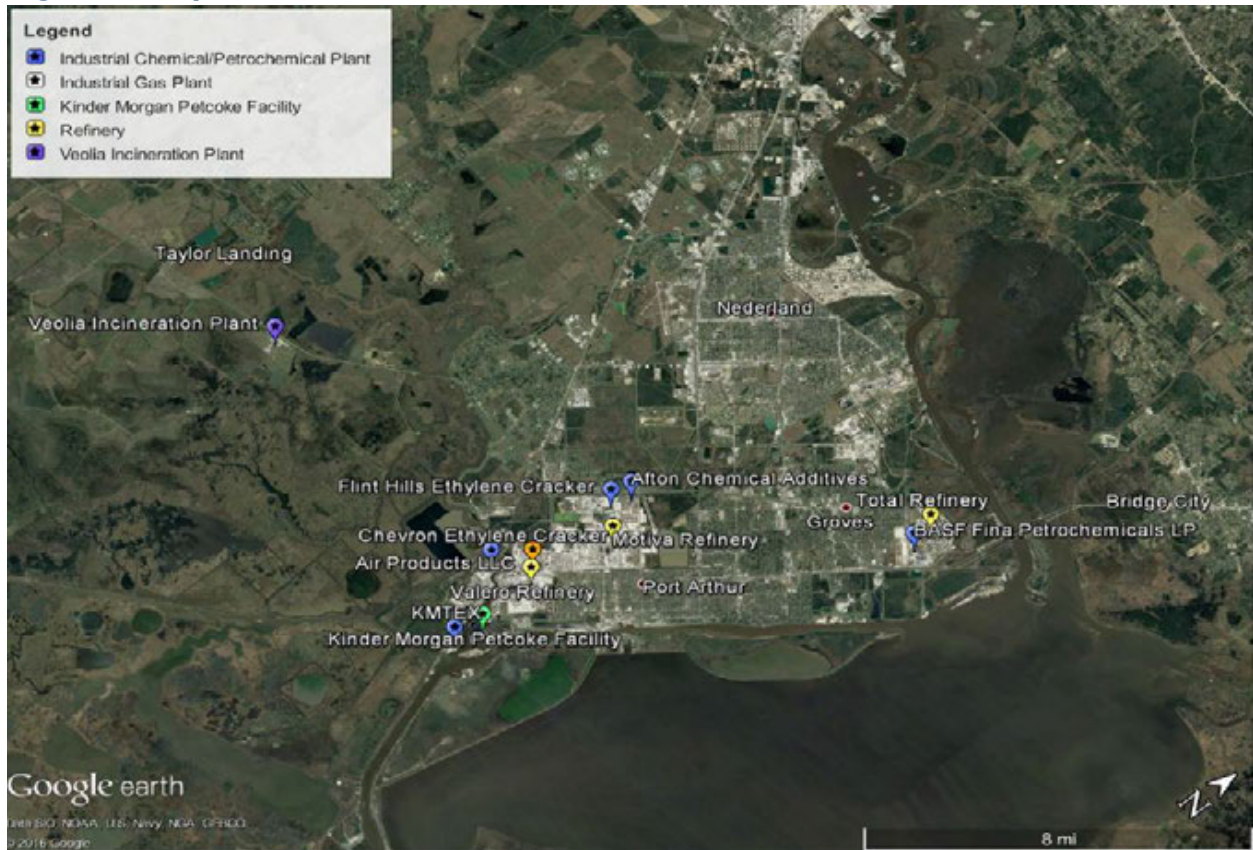


Much has been written about Port Arthur's predominantly African-American community, located 91 miles east of Houston in Jefferson County, Texas. Most of the city's narrative, at least for the past several decades, has been one of despair and decline: pollution, poverty, unemployment, crime, falling home prices, and disproportionate health impacts. Lake Sabine's waters on the Texas side may be too murky to offer a clear reflection, but Port Arthur and the lake that forms its eastern border are, nonetheless, in many ways mirror images of each other. They both have been snatched up, overrun, and left withering by the oil and gas and petrochemical industry.

Port Arthur, especially the historically segregated west side of town, is at the center of a large network of oil and gas related facilities, including the Motiva Port Arthur Refinery (100 percent Saudi-held as of May 1, 2017), the Texas-based Valero Port Arthur Refinery, and the French-owned Total Port Arthur Refinery. With roots dating back to 1902, Motiva is the largest oil refinery in the United States and also one of the oldest. Together, these three refineries currently have the capacity to produce 1.2 million barrels of crude per day.



**Figure 4: Map of facilities in Port Arthur**



Founded in 1895 by Arthur Stilwell, a New York railroad pioneer, Port Arthur originally was envisioned as a center for trade and tourism, and attracted hundreds of Dutch settlers in those first few years. In 1901, however, the Lucas Gusher in nearby Spindletop abruptly and forever changed the city's face – and fate. Within a year or two, pipelines tied the fledgling city to the oilfields, which allowed Gulf Oil and Texas Company (which became Texaco and is now the site of Motiva) to begin refining operations. Thanks to the port, made possible by the dredging and then deepening of the Sabine-Neches Canal in 1908, the rest of the infrastructure needed to move the oil quickly fell into place. In less than ten years, Port Arthur became the second largest oil-refining point in the nation. Thanks to lucrative tax abatements, loose environmental controls, and cheap land,



*Port Arthur's Motiva Refinery. Copyright Garth Lenz.*

Port Arthur today is home to three massive refineries, the largest concentration of refineries in the nation,<sup>6</sup> and eight other major oil- and gas-related processing and waste disposal facilities.

For well over a hundred years now, and with the Dutch settlers long gone, Port Arthur remains a coveted location to site or expand heavy industrial pursuits: wildly profitable operations primarily devoted to feeding America's insatiable hunger for fossil fuels. Though oil and gas companies are some of the richest in the world, the benefits have not spilled into the pockets of Port Arthur residents. The myth that expansion of these kinds of facilities fosters job creation is just that: a myth. Despite offering tax abatements to lure even more industry and expansion to the area, the unemployment rate in Port Arthur is more than twice the national and state averages.

## A Visit to Port Arthur

As dusk approaches, Port Arthur's landscape transforms into an ensnarled web of grotesquely beautiful, preternatural radiance, complements of both the vast infrastructure of lights that blankets the stacks and coker units and the towering flares that touch the sky as they billow and belch. The nightly festival of lights bespeaks the all-encompassing grip this powerful industry has on a 143.8 square mile patch of southeast Texas and those who call it home.

Two of the city's refineries, Motiva and Valero, straddle Terminal Road, a historically pivotal east-west dividing line within city limits. The east side of town is where Janis Joplin grew up, perhaps Port Arthur's most famous resident. At the time however, segregation forced African-American residents to live in West Port Arthur, downwind from the refineries and separated from the whites and the city center by rail yards and tracks.



*Port Arthur's Valero refinery at night. Copyright Garth Lenz.*

Generations of west side residents have become accustomed to breathing air laced with sulfur dioxide, hydrogen sulfide, and benzene, either acrid or sweet, depending on the day, shrugging off the respiratory ailments, heart troubles, and significantly elevated cancer (and even higher cancer mortality rates) as part of daily life.

**Table 2: TCEQ Emissions Data for Port Arthur’s Three Refineries in Tons/Year<sup>7</sup>**

Year	Motiva		Valero		Total SA		Total Permitted	Total Upset	Total Permit and Upset
	Permit	Upset	Permit	Upset	Permit	Upset			
2009	4,855	205	5,824	231	2,977	344	13,656	780	14,436
2010	4,232	204	3,589	129	3,084	92	10,905	425	11,330
2011	3,952	65	3,723	2,914	2,049	250	9,724	3,229	12,953
2012	3,931	180	3,279	394	2,126	90	9,336	664	10,000
2013	4,503	277	3,214	312	2,161	169	9,878	758	10,636
2014	4,395	208	2,854	110	2,092	132	9,341	450	9,792
2015	4,333	441	3,830	472	2,049	146	10,212	1,058	11,270

Residential neighborhoods on the west side of Port Arthur took root in the years following World War II, a time when African-Americans poured into south Texas. Improbable though it seems, against the backdrop of the refineries and petrochemical plants, and families squeezed into homes too small and nearly on top of one another, a community rich in tradition emerged. West Port Arthur found its identity during these years: shops and businesses opened, streets were bustling, and at night and on the weekends, barbecue pits blazed, jazz ensembles blared, and crawfish boils were the norm. In short, despite segregation, cramped living conditions, and persistent financial struggles, post-war optimism prevailed.



*1913 photograph of Port Arthur. A few west side, shot-gun style homes on tightly cramped lots are visible in the lower left corner, with the rail yards and tracks providing a barrier between whites and African-Americans. Photo: Port Arthur Public Library.*

The Supreme Court's 1954 decision in *Brown v. Education*, however, forced the integration of schools, and in turn, this prompted a slow but unrelenting stream of white flight from cities and towns all across the South, including Port Arthur. The waning of the oil boom in the late 60's followed by the OPEC oil embargo in the early 70's were the nails in the coffin from which the town has yet to emerge. Residents who drove trucks, performed maintenance, and filled countless other mostly temporary, bottom rung of the ladder jobs (almost always, one way or another, related to oil and gas operations), could no longer find work. In turn, this led to the eventual closing of businesses, restaurants, banks, and hotels. Coupled with the pollution and increasingly sweeping industrial footprint, the only people left were those who couldn't afford to leave.

The more affluent residents of Port Arthur now live north of the old city center, toward Nederland, where the appearance of popular chain restaurants and strip malls with well-known anchor stores acts as a buffer between industrial and suburban life. In this part of Port Arthur, the business of refining has given residents the jobs and income they need to live in pleasant, if not lavish, homes, to shop at stores like Target and Lowes, and to take their brightly-uniformed kids to pee-wee soccer on Saturdays. The historic business district of Port Arthur, on the other hand, looks like a ghost town. Buildings are boarded up, windows blown out, sidewalks are crumbling, and only one or two convenience stores and churches are open for business. There is no grocery store. Gone are the YMCA, the Knights of Columbus, the Hotel Sabine, and the movie theatre, among others.



*An African-American store on the west side of Port Arthur in the 1950s. Photo by Beaumont Enterprise.*

As a residential area, West Port Arthur no longer really even exists. Many of the shotgun-style houses have been razed, the refineries slowly acquiring properties and entire blocks, both for expansion and greenspace buffer. Over time, most West Port Arthur residents moved across the tracks to what is now referred to more generally as Port Arthur's west side.

Today, Port Arthur's approximately 3,500 west side residents, especially those living closest to the fence lines between the city and industry, absorb the brunt of some of the highest levels of pollution in the nation. They endure staggering unemployment rates and bear the unenviable label of having their hometown - the place where they raise their families, worship, and celebrate - referred to as a "sacrifice zone." With very few exceptions, they are not the people being offered the coveted refinery or petrochemical jobs.

## Port Arthur's Future

The obstacles may be great, but there is also hope in Port Arthur. Hope for cleaner air and water, healthier lungs, and cancer-free bodies. Hope for improved schools and a return to kids playing on playgrounds. Hope for job creation and business revitalization. Hope for a better future, no matter how problematic the odds.

If hope resides in the heart, then surely it has found a home in Hilton Kelley, along with the cadre of friends, old and new, who stand with him, shoulder to shoulder, as he forges tenaciously toward a better future. Larger than life, and known as "Pop" to family and



*View of Port Arthur's deserted and desolate west side. Copyright Garth Lenz.*

friends, Hilton is a fierce but affable local celebrity. An actor, stunt man, business owner, writer, father, husband, and tireless environmental activist, the 56-year-old remains motivated to improve the lives and health of people in his community, after 20 years of advocacy. And he's not going at it alone. His wife Marie of 12 years is by his side, and he leans on lifelong friends like Eddie Brown, though currently fighting cancer, to shore him up when he feels depleted. He also has a young woman, Michelle Smith, working with him. Raised by her single mother in the Netherlands, and armed with a master's degree in business administration, she made the bold decision in 2013 to move to Port Arthur to be closer to her paternal grandmother. She feels drawn to this town where her father was born, where half of her family history resides, and is keenly aware of the environmental justice issues her adopted community faces. As she journeys down the path of self-discovery, she also intends to make a difference by improving the lives and health of her neighbors through environmental advocacy and outreach.

Whether civic warriors like Hilton Kelley or Michelle Smith can effectuate real change in their community is an unanswered question. But what is clear is that despite an entangled past, Port Arthur's future cannot rely on bootstrap help from the refining and petrochemical industry. For Port Arthur residents, and the west side community in particular, the path toward a more hopeful future lies elsewhere.

## Enter Stage Left: Hilton Kelley

"There's no leaving this thing now," Hilton exclaims as he fiddles with the lock on Kelley's Kitchen, a family-style restaurant that he's been working to renovate and reopen. "It's my calling," he continues, "I've been back home now for 17 years." Walking carefully amid the construction, he disappears quickly behind the bar. "There's no leaving," he repeats, reemerging with several bottles of ice cold water.

Hilton is a big man, tall and fit, with fiercely intelligent eyes and an easy smile. He takes pride in his impeccably starched clothes, crisp Panama hat, and ample shock of white, well-trimmed beard. "Folks here like to dress," he concedes. But his clothes aren't what set him apart. It's the way he fills a room with grit and energy.

Eager to talk about his business plan, Hilton explains that Kelley's Kitchen has a bar, dining tables, sofas and club chairs, a dance floor, veranda, and an outside stage and film set. It's a little bit of everything for an area that has next to nothing in terms of amenities. It's also the only building with any sign of life as far as the eye can see on Austin Avenue, just a few blocks from the old town center. Originally opened in 2010, he had to close the doors a few years later but is optimistic about the chances for success this second time around. The restaurant is emblematic of his never-give-up attitude.

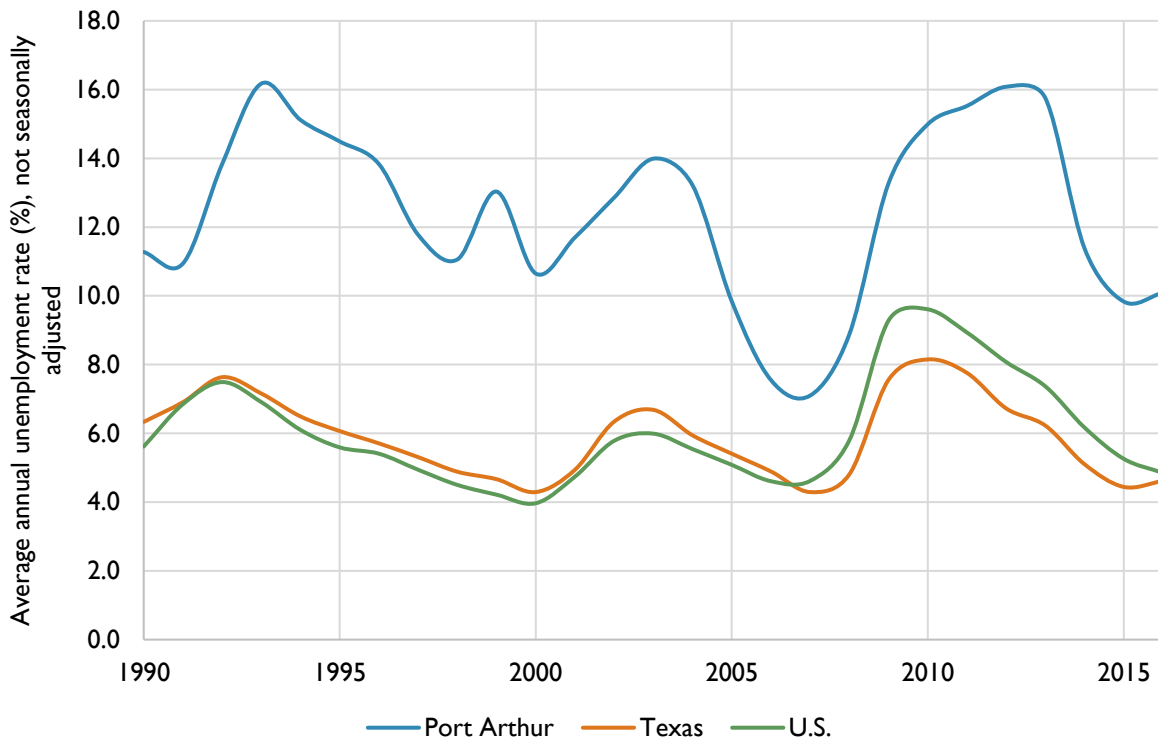


*Hilton Kelly conducts community outreach at Prince Hall Village, one of Port Arthur's remaining low income housing projects. Copyright Karen Kasmauski.*

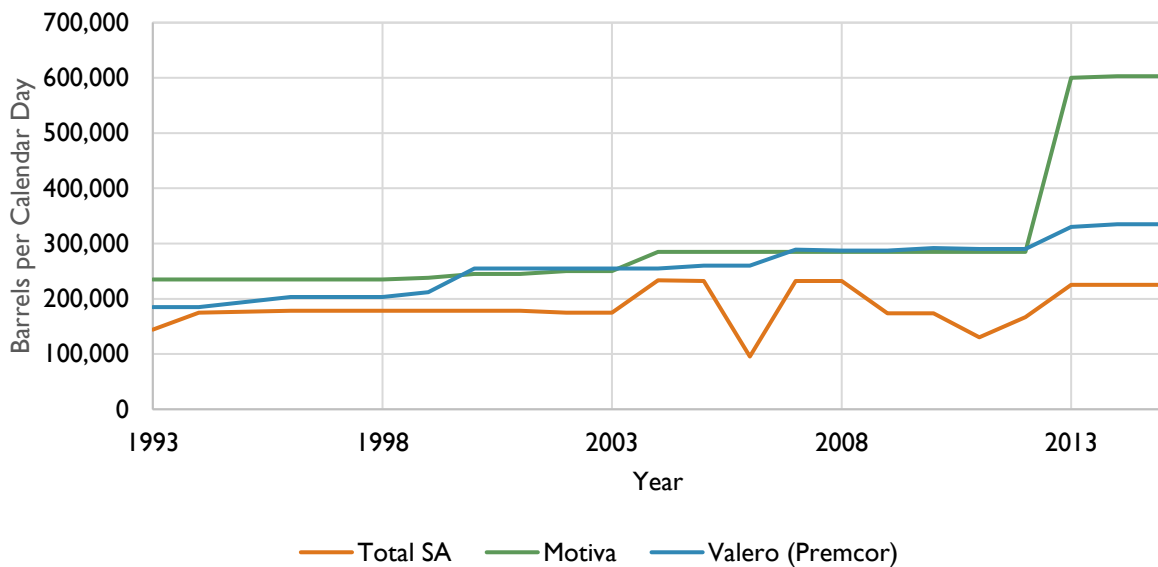
It's an attitude that has served him well over the years. Delivered by a mid-wife in the back room of a public housing apartment in 1959, barely a stone's throw from the Valero and Motiva refineries, Hilton gained the nickname "Pop" because his teenage mother liked to eat popsicles. Feeling restless and uncertain about the future after domestic violence took his mother's life, he joined the Navy at age 19 and left town. It would take him 20 years, a good part of which he spent as an actor and stunt man (he was inducted into the Screen Actors Guild in 1991), to return home. And when he did, in 2000, he didn't like what he saw. Unemployment in Port Arthur was almost twice the national and state average. According to the U.S. Bureau of Labor Statistics (BLS), Port Arthur's unemployment rate for December 2016 was 12.3 percent, a troubling upward trend.<sup>8</sup> The City's unemployment rate is currently only slightly lower than when Hilton moved home more than 16 years ago.

Moreover, although capacity at the refineries has increased approximately 85 percent from 1990-2015, job growth in the sector that includes industrial refining and petrochemical jobs during the same period for the broader Beaumont-Port Arthur Metropolitan Area (the only labor data available from the BLS) was only approximately 17 percent. But again, this isn't surprising. Due to automation and improvements in efficiency, increased capacity and output does not necessarily lead to new or better jobs. Given the high rate of unemployment in Port Arthur, and the relatively healthy unemployment rate in the City of Beaumont (6.1 percent as of December 2016),<sup>9</sup> it is reasonable to conclude that only a relative handful of jobs created by the refinery expansions have gone to Port Arthur residents and that most of the job growth for this two-city area benefited Beaumont residents.

**Figure 4: Unemployment Rates for Port Arthur, 1990-2016<sup>10</sup>**



**Figure 5: Total Operable Capacity at the Three Port Arthur Refineries, 1993-2014<sup>11</sup>**

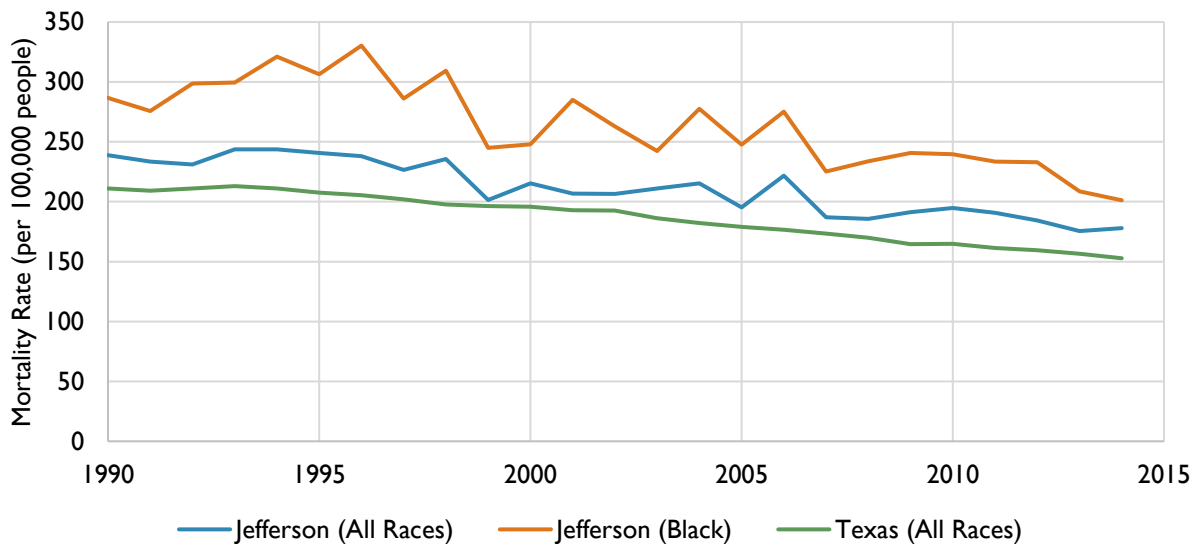


In addition to the sobering employment snapshot relative to industry growth, Port Arthur is also plagued by higher than average health impacts. For instance, although data specific to Port Arthur doesn't exist, cancer rates for blacks in Jefferson County, including the predominantly African American neighborhoods within Port Arthur, were and continue to



be significantly higher than the overall cancer rate in Texas. Equally troubling is the fact that the cancer mortality rate for blacks in Jefferson County has consistently hovered around 40 percent higher than Texas' overall cancer mortality rate. As stated earlier, although there are many possible reasons for such disproportionate health impacts, including access to health care, lack of local practitioners, and lack of healthy, fresh food, the increased local health risks from air pollution cannot be ignored.

**Figures 6 & 7: Cancer Incident and Mortality Rates from the Texas Cancer Registry, 1990-2014<sup>12</sup>**



Though impossible to correlate exposure to toxic pollution and cancer definitively, and recognizing that there are myriad potential causes of cancer, the trends are troubling nonetheless. At the very least, exposure to multiple tons per year of toxic pollution, including carcinogens such as benzene, is contributing to the risk. The more promising news is that cancer rates and mortality rates are generally on the decline, thanks to tougher, more protective regulations. New rules, released in 2015 in response to a lawsuit filed by the Environmental Integrity Project and Earthjustice on behalf of numerous community and environmental groups, should result in falling levels of pollutants like benzene that have been linked to higher risks of cancer.

But the health impacts, even if improving, remain unacceptable. There is no one more aware of these and other sobering statistics than Hilton. “Crime is out of control, too,” he explains from his office inside the restaurant. “People feel hopeless – they’re out of work and they’re sick - literally sick.” Brow furrowed, he scours his computer for recent articles about health impacts. “People are dropping like flies,” he adds. Like many in Port Arthur, he’s lost too many friends and relatives to cancer. Some of his closest friends are battling for their lives, including local barber Eddie Brown, who recently was diagnosed with Stage 4 prostate cancer. “And it’s not just cancer. One of five households [in Port Arthur] have kids with asthma,” he continues. “All four of my sister-in-law’s kids have asthma. No one here lets their kids play outside,” he emphasizes, his voice growing more pitched as he waves his arms with disgust. “It’s just *not* safe.”

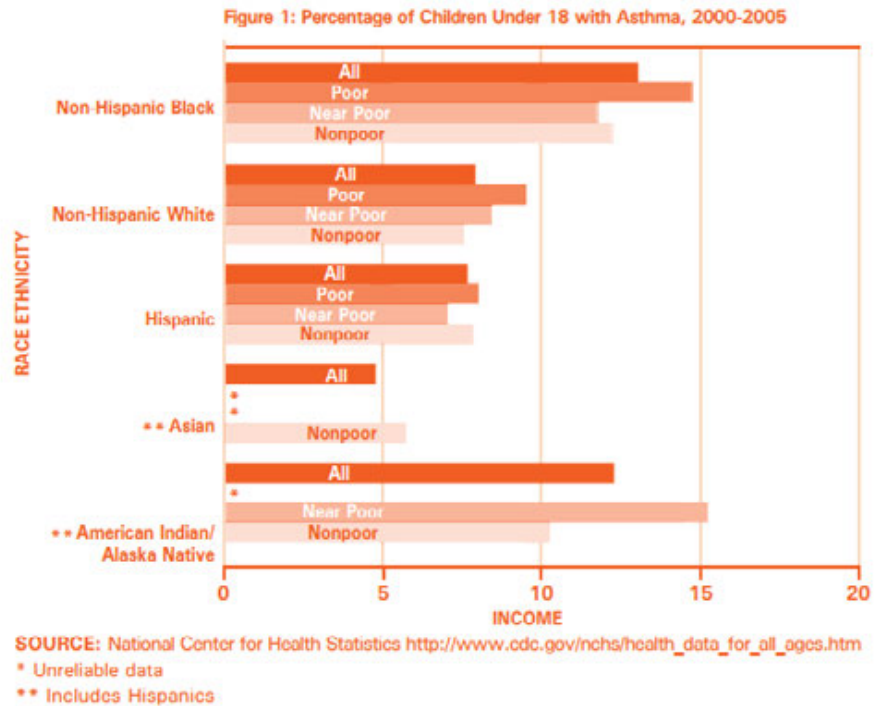
The American Lung Association gives Jefferson County, which includes Port Arthur, a grade F for air quality. According to their website, 9.1 percent of children under age 18 in Jefferson County suffer from asthma, which is higher than the national average of 8.4 percent.<sup>13</sup> Although data for Jefferson County as a whole exists, there is no data that tracks rates of asthma for children in Port Arthur, much less the predominantly African-American sections of Port Arthur that live closest to the refineries and other oil and gas related industrial plants. But on average, according to both the Environmental Protection Agency (EPA) and the National Institutes of Health, African-American children suffer from asthma at much higher rates than white children (up to 1.6 times more) and also die from asthma three times more frequently than their white counterparts.<sup>14</sup> It's a fair bet that kids in Port Arthur, especially those living on the west side, closest to the fence line, suffer from asthma at rates that far exceed even the rates of other black children in Jefferson County. And these are not just statistics to Hilton, or to his friends and family. Having grown up in the Carver Terrace public housing project on the segregated west side of town, he lived no more than 300 yards from the Motiva Refinery. Considered housing of last resort for those without other options, the apartments were small, cramped, and improperly ventilated. "You could definitely smell it back then," Hilton admits of the pollution. "Even more than today – and believe me, you can smell it today. Folks didn't bring it up, though. As kids, we used to play 'horsey' on the pipelines – straddle them like toys. Didn't think a thing of it."



*A resident of the Prince Hall Village in Port Arthur walks toward the Motiva Refinery fence line. Copyright Karen Kasmauski.*

But like all who accept abnormal conditions of childhood as normal, Hilton returned to Port Arthur as an adult, with eyes wide open. He realized immediately that the health, economic, and social impacts of living in the shadows of the largest refinery complex in the nation were intolerable, and unjust. “We’re living in the belly of the beast,” he admits. “And we always were – from the beginning.” Hilton’s return was the start of his awakening to what is broadly known as the Environmental Justice movement, an effort to address and remedy the inequities created when socially and economically disadvantaged communities, most of which are also comprised largely of people of color, bear a disproportionate amount of pollution.

**Figure 8: Disparities in Asthma Rates by Race (2000-2005)**



And once awakened, he didn’t waste time. After creating a nonprofit organization,



*A mother residing in Prince Hall Village, a privatized low income housing project in Port Arthur’s west side, gives her asthmatic children nebulizer treatments. Copyright Karen Kasmauski.*

Community In-power and Development Association (CIDA), Hilton immediately began training local residents to monitor air quality. He also learned everything he could about toxic chemical pollution. “I knew nothing good could happen here until the pollution stopped,” he explains. Then he started knocking on doors. “Do you know what your kids are breathing?” he’d ask.

In 2006, Motiva announced an expansion, to 325,000



*Hilton Kelley sets up air monitoring equipment with assistant Michelle Smith. Copyright Karen Kasmauski.*

barrels per day with a maximum processing capacity of 600,000 barrels daily, which would make it the largest refinery in the country. Kelley responded by rolling up his sleeves. In the end, and as a result of his untiring community outreach and advocacy campaign, Motiva agreed to install and implement state of the art emissions recovery systems, and as part of a larger settlement with EPA, the refinery agreed to establish a \$3.5 million dollar fund to encourage the creation of new businesses in the community, provide three years of health care for west side residents, and establish an affordable medical clinic. In recognition of his substantial contribution to the improvement of health and environmental conditions within his community, Hilton was awarded the prestigious Goldman Prize for North America in 2011.

After a major “shelter in place” emissions release from the Valero refinery in 2007, he called on community members, already trained to conduct air monitoring, to create an environmental monitoring team that would patrol the perimeter to detect emissions. “They [Valero] did a lot better after that,” he chuckles.

Although Hilton’s contributions and accomplishments are many, one of his proudest is knowing he played a role in getting the residents of Carver Terrace, the public housing project where he grew up, relocated to a new complex on the northern side of town, much further away from the refineries and the toxic pollution they spew. Mounting pressure from community activists like Hilton, coupled with hurricane damage, finally prompted the U.S. Department of Housing and Urban Affairs in March 2014 to announce its plans to relocate residents and demolish the housing complex. Two years later, a substantial swath of bare



*Hilton Kelley stands along the chain link fence surrounding the now vacant site of the Carver Terrace housing project.  
Copyright Karen Kasmauski.*

land now stands where Hilton and countless others endured some of the worst exposure to toxic pollution in the country.

## Community Activism

One of the best ways to understand Port Arthur, its rich history and uncertain future, is to walk the streets with someone like Hilton Kelley. Along with many others, he works to bring the community together, to apply the glue needed to bind and unite friends and families whose problems at time seem overwhelming and isolating. Together, they work tirelessly to gather health and air quality data, and any other type of information they can use as ammunition and leverage against the refineries and petrochemical facilities.

This is the view of Port Arthur that gives rise to hope, despite daunting odds and hostile geography. On one such spring day, unusually cool and breezy, Hilton visits one of the low-income housing projects on the west side, Prince Hall Village. The breeze, at least for today, has kept the noxious smells at bay, but the complex is uninviting; the grass is not mowed and the brick buildings resemble barracks more than homes. It feels very much like a place where people have been forgotten. But this would never deter a person like Hilton. He's intent on gathering additional information for his health impact study, particularly childhood asthma. With assistant Michelle Smith by his side, he visits two women who are home caring for young children. Despite schools being closed for spring break, the housing



*Port Arthur resident Aaron Prevost, 80, cuts his grass while refinery operations loom in the background. Copyright Karen Kasmauski.*

complex, like much of Port Arthur, is virtually deserted. The decades-old playground is empty, not a single child in sight. Nonetheless, Hilton finds a way to connect.

One young woman, 27-year old Noel Scott, is in her apartment where she works as a nanny, caring for a one month-old infant whose mother was forced to return to work just three weeks after giving birth. “She’s lucky,” says Noel, who is heavy set with short-cropped hair and an unapologetic gaze. Raised in Port Arthur, she has only been back for a few years after having left for an extended period. “She has a job at the prison.”

Noel has definite opinions about the refineries and petrochemical plants, about what they’re doing to her health and how they’re impacting her future. “As a kid,” she explains, “I just took the refineries as a fact. I mean, they were just there.” She knows better now. She goes on to explain that a few years ago, refinery representatives came knocking on doors following what she describes as a “major spill of air pollution.” They asked residents to sign papers, presumably a release of liability in exchange for some kind of compensation. “I wouldn’t sign,” she states defiantly. “Nothing’s going to change here until these refineries start following through on the rules that are supposed to apply to them. And that’s not going to happen,” she adds, “until this community gets organized!” Music to Hilton’s ears, he slaps his hand on the table in agreement.

When asked if she would ever work at the refinery, Noel doesn’t hesitate to respond. “I won’t,” she exclaims. “People who work there get cancer. And I already have asthma. I

didn't have it as a kid – but when I came back here 3 years ago, I got it.” According to Noel, plumes of thick, black smoke, that make her throat close and eyes water, are regular events for her and the other residents but there's never an explanation offered and only rarely does a siren sound. “Even when the siren does go off, and the smell makes us outright sick, I don't have any way of knowing what I'm supposed to do. No one does. So we just keep on doing what we're doing. Sometimes my asthma gets so bad I have to go to the hospital.”

Hilton interjects to explain that EPA sponsored a project to alert residents of unexpected emission events and other industry-related emergencies through a robocall system known as the Southeast Texas Alerting Network, or STAN. “The problem,” Hilton continues, “is that even when it works – and it doesn't always work - many folks on the west side don't have cell phones and even if they do get a call, they still don't know what to do.”

“And the smoke just keeps coming,” Noel adds. She feels her housing complex is too close to the refineries (Valero and Motiva). “I babysit lots of kids all year long, and they all have breathing problems from the first day they're born. Runny noses, thick mucus, bronchitis – even in the summertime,” she says, shaking her head with disgust. “And the worst part is the doctors always tell people they have no idea why they're sick – or their babies are sick - with all these symptoms. Can they not smell and see the smoke?”



*Noel Scott in her apartment in Prince Hall Village. with the infant she babysits. Copyright Karen Kasmauski.*



*Photo by Mary Greene, EIP.*

After visiting with another young woman at Prince Hall whose two toddlers both have asthma, Hilton stops in to check on his best friend, Eddie Brown, who owns Kutz 4 Kings, the local barbershop and a cherished gathering point for west side residents.

Like Hilton, Eddie shaves his head and keeps a trim, though longer, white beard. He's giving his cousin a haircut as several others wait their turn in chairs along the back wall. His gentle, quiet countenance lights up when he sees Hilton, only a few years his junior, enter the tired-looking but spirited shop. What had been a steady buzz of friendly chatter quickly turns to a roar as everyone stands to say hello and exchange hugs. There is a camaraderie here that can't be ignored, and save one or two of the teenage boys waiting in the wings for haircuts, no one is embarrassed or too shy to embrace it. As with much of Port Arthur's west side, it would be a mistake to assume that the always modest - sometimes unkempt -

appearance of homes and businesses like Eddie's reflects the spirit of the people who live and work within them. In fact, it's quite the opposite. Although Port Arthur is a town used to batten down the hatches to impossible circumstances, people are warm, inviting, and generally optimistic.

Perhaps on this day people are a little more demonstrative than usual because they are rallying around their friend Eddie, who opened Kutz 4 Kings in 1994. He recently was diagnosed with Stage 4 prostate cancer that has metastasized to his bladder and lymph nodes. Not used to being thrust



*Endless white buses, their windows blacked out, carry out of town workers to and from the refineries in Port Arthur. Copyright Karen Kasmauski.*



into the limelight, Eddie admits that he sometimes feels emotionally overwhelmed by the outpouring of love and support shown to him in the few short weeks following his frightening news.

Born in Waco, Texas, Eddie moved to Port Arthur with his family when he was two years old. Like many of his friends, there was a stretch of time during his younger years when he worked for different plants within the industry. “Definitely more jobs back then,” Eddie recalls, shaking his head. But they weren’t the good jobs, you know?” He chuckles lightly when asked whether those jobs came with benefits, like health insurance. “Definitely not,” he smiles, adding the finishing touches to his cousin’s cut. “There was mostly just day work. Temporary jobs. There one day, gone the next.”

Despite having lifelong concerns over the amount of pollution he’s been exposed to, Eddie has never seriously thought about moving away. “I’ve got three grown kids and four grown step-kids and nine grandkids. I couldn’t leave them,” he admits. “And I just love being a grandpa - after all, you can always send them home!”

He then explains that Port Arthur means more to the older generation, like him. He remembers when the African-American community was crammed together “on just a little spit of land” west of the railroad tracks. “The area has expanded – people moved east and there’s more land now - but the population has decreased. We might’ve been squeezed together like sardines, but there was a lot going on back then – businesses, stores, better jobs. It was a lively place.” Looking around the shop, his words find confirmation in the many faces of those nodding their agreement.



*Eddie Brown at work in his barbershop, Kutz 4 Kings. Copyright Karen Kasmauski.*

He grows a little shy again when asked about the cancer. He's not sure what caused it but he thinks living by the refineries for more than 50 years had to have taken a toll on his immune system. "There's a lot of cancer in my family – my niece works at Motiva and she's got it, and so did my mom, and so did his little brother who passed," he explains, offering his cousin a quick squeeze. "I keep asking my doctor if it's from the refinery, but he just changes the subject and asks if I ever smoked. I didn't," Eddie assures, a hint of frustration in his voice. "I don't think doctors even want to consider the pollution – it's just too much for them to tackle."

It's a resounding theme repeated over and over in Port Arthur – whether with regard to health, jobs, or pollution – the feeling that the problem is just too big, the disparity in power between industry and residents simply too large, to effectuate any real or lasting change. As if sensing the need to contain the broader sentiment that hangs heavy in the air, Hilton jumps back into the conversation. "But you're feeling good right now, aren't you, Eddie?"

"That's right," he smiles. "Now that I quit that chemo." Eddie stopped treatment after only a week because he says he felt "like the Walking Dead on Sunday nights." It's a comment that fills the shop with laughter. "I'm going to let the chips fall where they fall – but I'm focusing on good nutrition, too. I'm getting ready to plant a vegetable garden with the grandkids – teach them about good food so they can stay healthy." He's quick to add that to safeguard against contact with contaminated soil, the garden will be built on a concrete slab filled with clean, safe potting soil. "We're going to grow tomatoes, cucumbers, bell peppers, okra, sage, and watermelon."

Pausing to wipe his brow, he continues. "It's not going to be easy," he explains, his voice growing soft, "but I'm not giving up." By the solemn look on his face as well as those around him, it's clear he's no longer discussing the garden.

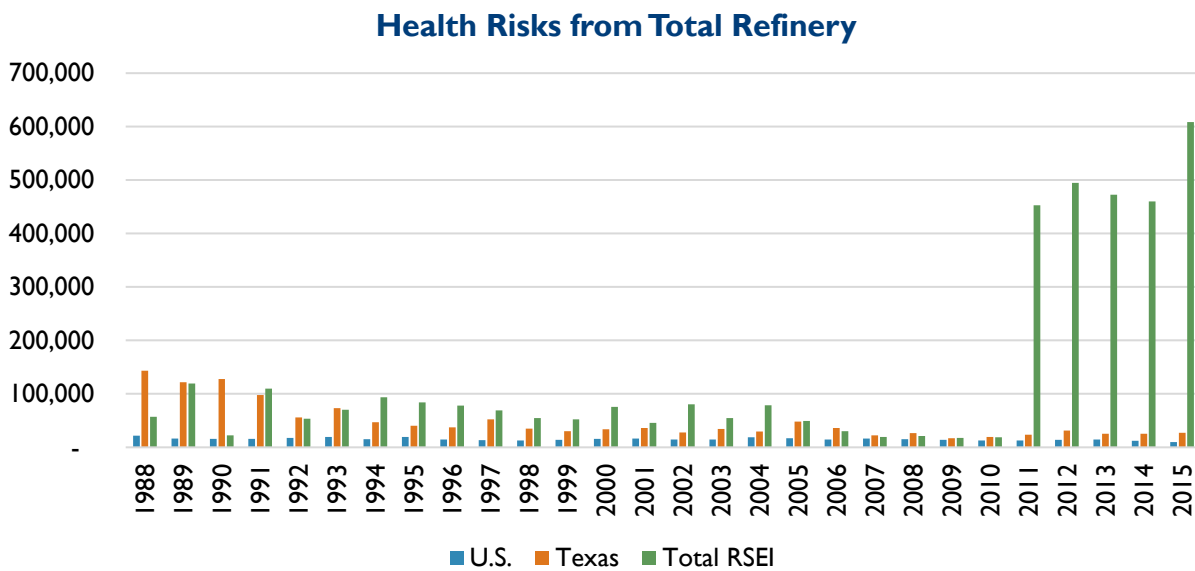
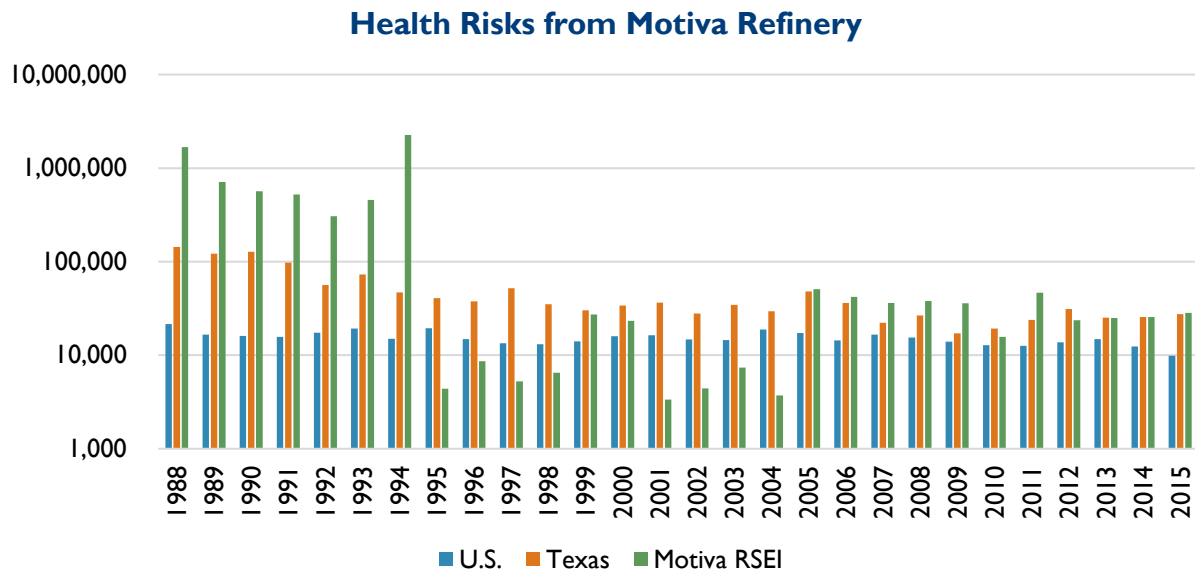
Later, Hilton explains that the community is trying to raise funds to send Eddie into Houston to be evaluated and possibly treated by a specialist they feel is on the cutting edge of cancer treatment. "This one is tough," he admits of his friend's diagnosis. "Eddie's my best friend. You could never have a better friend."

The looming concern that air pollution is at the root – or at least is a major contributing cause – of cancer among Port Arthur's residents, is impossible to escape. "I'd have to think hard to come up with a family who hasn't lost a loved – and I mean *recently* lost a loved one – to cancer here," he adds mournfully.

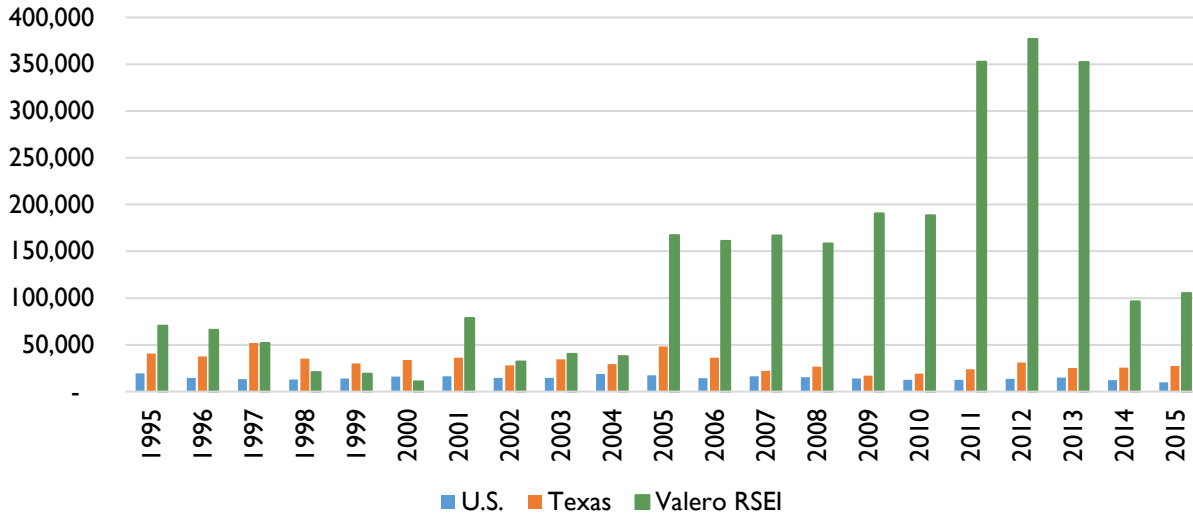
And though definitive evidence may be missing, there are countless clues that the community's worries are not unfounded. In addition to experiencing elevated cancer and cancer mortality rates, Port Arthur residents are at substantially elevated risk for health impacts due to toxic chemicals even when compared to other communities situated near industrial facilities. Using EPA's Risk Screening Environmental Indicators Model (RSEI), a tool that utilizes emissions data reported to the Toxic Release Inventory and considers multiple variables such as release size, toxicity weight of the chemical released, and size of the population affected to calculate a risk score that can be compared to risk scores in other communities, Port Arthur does not fare well.<sup>15</sup> The results of running the RSEI tool for the Port Arthur refineries are summarized in the Figures 9-11, below.

The following charts compare the RSEI scores for Port Arthur’s three refineries to other refineries, both nationwide and within Texas.

**Figures 9-1 I: Environmental Health Risk Scores From Port Arthur Refineries**



### Health Risks from Valero Refinery

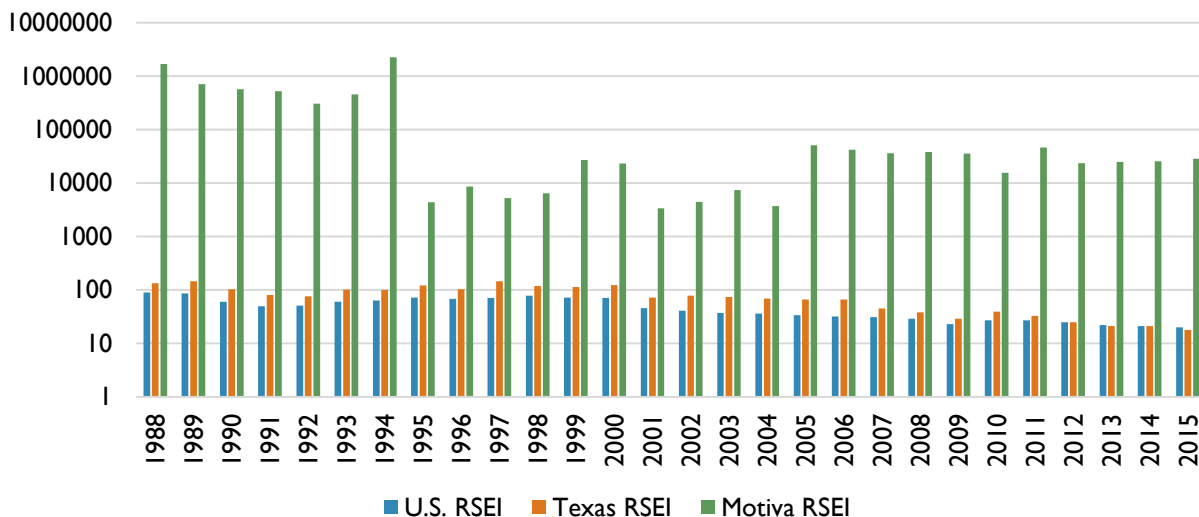


Although the RSEI scores for Motiva have dropped dramatically since the extremely high levels experienced in the late 80s and early 90s, they are still higher in many instances than the statewide median and they have been consistently higher than the national median score across all refineries for the last 10 years. Valero and Total’s scores are substantially worse. Valero’s RSEI score is almost 30 times higher than the national median score and Total’s scores have never been below the national median score. Moreover, since 2011, Valero and Total have soared to approximately 60 times over the national median score.<sup>16</sup>

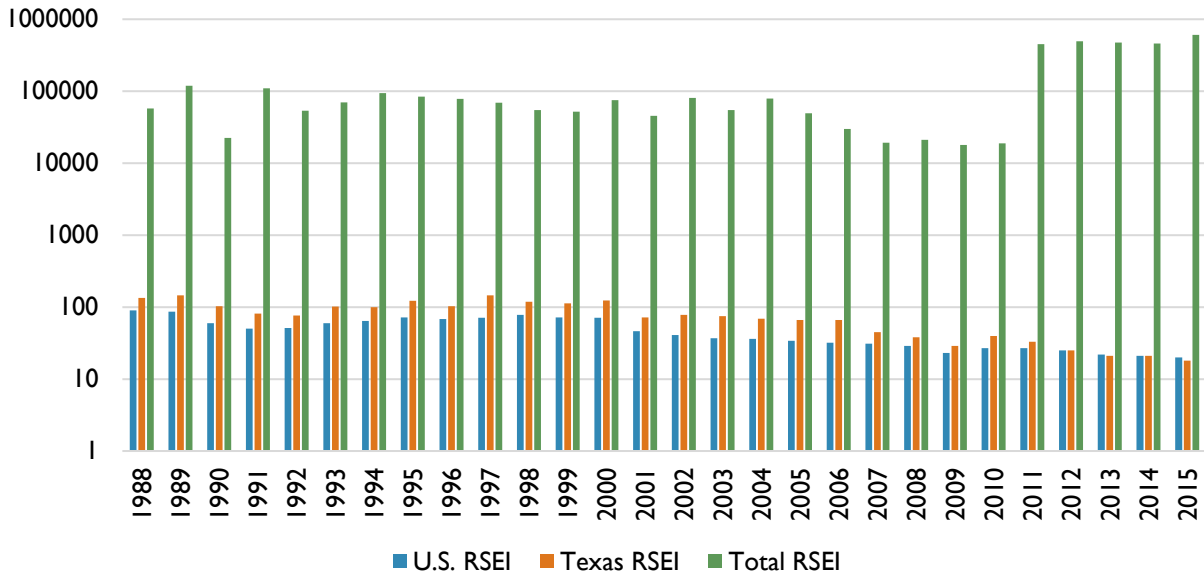
The next three graphs compare the RSEI scores for Port Arthur’s three refineries against the RSEI scores for all industries that report toxic emissions to the Toxics Release Inventory.

**Figures 12-14: EPA Health Risk Scores: Comparing Port Arthur’s Refineries to all Industry Sectors**

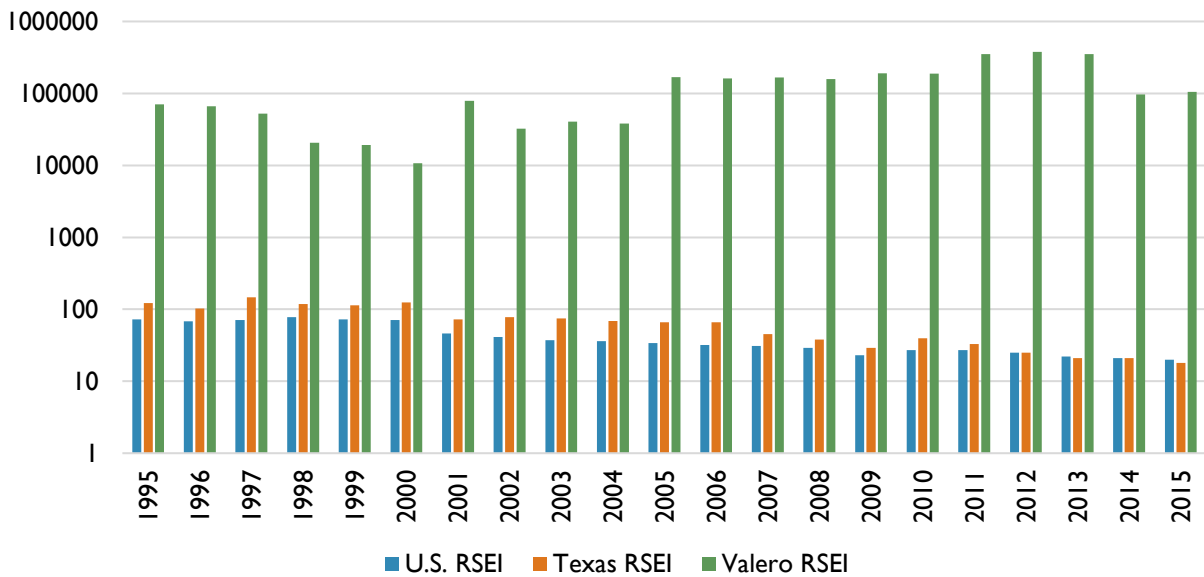
### Motiva Refinery Health Risk Scores



### Total Refinery Health Risk Scores



### Valero Refinery Health Risk Scores



The trends are clearly evident: the potential risk to the community from Port Arthur’s three refineries is exponentially higher than the risk posed by any other industry, whether within Texas or across the United States as a whole.

Hilton and most other residents in Port Arthur already know this – the data simply provides confirmation. They are living enactments of these facts and figures. As he continues his work in the days that follow, Hilton meets other Port Arthur residents with stories to tell

and concerns to share. One such person is Ruben Infante, a Mexican-American who lives in a slightly more affluent area of town. A gentle, elderly, soft-spoken man, he spends a good part of his days gardening outside and tending to his many animals, all of who are former strays. His home butts against oil tanks built after he and his wife, who worked at one of the refineries, moved in. “I do it for her,” he explains as he tackles the crawfish mounds that



*Port Arthur native Ruben Infante works in his garden where oil tanks loom behind.  
Copyright Karen Kasmauski.*

render the dirt in the rose garden nearly immovable with his hoe. She died of lung cancer seven years ago. The expression on his face when he speaks of his loss indicates how fresh the wound remains. “She loved to garden,” he smiles, pointing to various bushes and plants. “Peppers, mustards, figs, peaches – I’m doing this all for her.”

“I was born here,” Ruben continues. “My parents were migrant workers.” When asked about his wife’s illness, Ruben grows quiet before speaking. “She had this horrible cough. I took her to the clinic but it was too late – there wasn’t anything anybody could do. It still seems like yesterday,” he whispers. “I can’t seem to stop missing her. That’s why I do all this work out here. It’s where I feel her most.”

Before Hilton says goodbye and allows this kind old gentleman to get back to his gardening, he spends a few minutes discussing whether Ruben might be interested in having an air monitor installed at his property. “It benefits you and it benefits the community,” Hilton explains. “Data is what we need to bring about change.” Hilton makes a strong case but Ruben is uncertain, though he promises to think about it.

“It’s hard, sometimes,” Hilton later adds, “when people or other family members have worked for industry. They can be torn. I get that,” he shrugs. “But it doesn’t have to be all or nothing – that’s what folks around here need to understand. You can want the job – *appreciate* the job – but still want clean air to breathe. People shouldn’t have to be breathing benzene and sulfur dioxide.”

But of course they do, and with some regularity. From 2012-2016, Texas records indicate there were 230 unpermitted emission events from the three refineries. According to the state’s database on emission events, many if not all of those releases contained toxic air pollutants, including what are known as Hazardous Air Pollutants, or HAPs.

All of the pollutants listed in Table 3 are known to cause cancer or have other serious health impacts, such as cardiovascular, respiratory, or neurological.<sup>17</sup>

In addition to health, the issue of jobs remains a sore one for Hilton, as it is for many Port Arthur residents. In what seems an almost desperate attempt to lure more polluting industries to the area, with the hope that new projects will stimulate local economies, both Jefferson County and the City of Port Arthur have offered enormous, multi-million dollar tax abatements over the years, the most recent being to lock in the 325,000-barrel capacity Motiva expansion. There is a sense among local officials that the refineries are what keep the county and city afloat financially. Taxes paid by the refineries and other chemical plants contribute well over half of the City of Port Arthur’s budget, for example. But without the more than 24 tax abatements from the city, tens of millions more dollars would be received by the city.<sup>18</sup> In exchange for tax breaks, industry negotiators invariably promise that local workers will be offered any new jobs first, as long as they’re sufficiently “qualified.” But as Port Arthur’s unemployment rate illustrates, that simply isn’t happening.

**Table 3: Top 10 Toxics Released from the Three Refineries During Unpermitted Emission Events**

Emissions Events (2012-2016)	
Chemical Released	Amount Released (tons)
1-methyl-2-pyrrolidone	30.30
Propylene	19.51
Hexane	13.80
Ethylene	1.86
Cyclohexane	1.39
Toluene	1.25
Benzene	0.97
Ethyl benzene	0.86
p-Xylene	0.44
Sulfuric acid	0.17

“What they do,” Hilton explains, “is they come up with reasons why a certain job requires training they know folks in Port Arthur don’t have. That’s how they get around it,” he groans. “Let me tell you how it works,” he starts again, his gaze growing sharp. “It’s real simple. Let’s say there’s a job mowing the grass at one of the plants. Who needs training to mow a lawn? But the refineries will say the position requires a 2-year college degree. Really? Who in their right mind,” he asks, cocking his head angrily, “needs to get a college degree to mow a lawn? And here they are, making money hand over foot.”

That evening, Hilton stops at Tiffany’s, a local restaurant that serves a mouth-watering crawfish boil most Wednesday nights that includes corn, potatoes, and Zummo sausage. His wife, Marie, joins him and together they check in with another friend struggling with cancer, Donald Brown. It’s crowded, and although the music and conversation grow louder with each passing hour, and the disco lights spin more frantically, Donald and Hilton make



*Port Arthur resident Donald Brown, who spent most of his adult life working for refineries, copes with cancer. Copyright Karen Kasmauski.*

time to catch up. They've known each other for 10 years and Donald often helps out during the crawfish boils.

Currently self-employed as a lawn service provider, Donald started out in the "labor gangs" at Valero, though it was Gulf Oil Refinery at the time. "We did whatever was needed doing," he explains. Over the years he worked his way up into shift work, which had benefits. But it wouldn't last. Later he joined on with Mobil Oil as part of the labor gangs, and again eventually worked his way up to operations. "Basically, I did this work all my life," he sighs. "And I never once went to the doctor – not in 50 years. I'm 60 years old, you understand. Even when I was a child – I think my mother took me once, maybe twice."

The lack of health care – and access to health care – is a recurring theme in Port Arthur. Although the cancer mortality rates are significantly higher in this community compared to elsewhere, it is unclear how many lives could be saved by better preventative health care and more prompt diagnosis and treatment. In Donald's case, he woke up last April with stomach pain so terrible that an ambulance was called. After 6 days in the hospital, he was discharged with an appointment to see a primary care doctor, who sent him for a biopsy. "We didn't have insurance at the time but my wife quickly ran out and got some. At first, I just gave up," he admits. "They put a port in me for chemo and said I had to do radiation too. It seemed too much to cope with. But then I remembered my kids – my youngest boy is still only 15 years old. I just couldn't give up."

It's a heart-wrenching story but one that seems to be heading toward a happy ending. "I'm doing well, now," Donald smiles. "Cancer crept up on me like a thief in the night, but I'm





*Donald Brown reveals his chemotherapy port. Copyright Karen Kasmauski.*

feeling great. So well my doctor wants me to be in a commercial!” His optimism toward the future, however, doesn’t translate into good will toward the refining industry. As he adjusts his baseball cap, his jaw sets and he becomes dead serious again. “I know the refineries had something to do with this. I worked there, breathing in all those horrible smelling chemicals, all my life.”

A few days later, Hilton steps away from his environmental activism work to get down to more personal business. With help from others within the community, he’s doing everything in his power to raise money to help pay for Eddie Brown’s medical expenses. “We’ve raised about \$2,500 so far and it doesn’t stop there. We’re seeing this through – all the way.” That afternoon, a fundraiser is planned and all of Eddie’s family, friends, and customers are invited. Hilton designed and is selling t-shirts to raise money and he wants everyone to wear one for a group photograph to mark the occasion. People arrive early to help set up, including Eddie, who understandably is still trying to process the diagnosis and what this means for himself and his family.

## Conclusion

It's undeniable that the future of Port Arthur remains uncertain, especially if the controversial Keystone XL Pipeline, construction of which was halted by the Obama administration but which is now poised to resume, receives all the necessary approvals and is completed. Should this occur, Port Arthur will be the pipeline's final terminus, with the three refineries poised to begin processing more than 800,000 barrels per day of diluted, chemically treated bitumen into heavy diesel and petroleum coke, a fuel even dirtier than coal.

Regardless of what happens with Keystone XL, it is clear from Port Arthur's history that the fossil fuel industry is not going to rescue the community. The city must be protected from the pollution from the industry through enforcement of regulations and proper permitting, including more rigorous monitoring, at the state level. In addition, real job creation and access to health care will be essential components if the community is to recover and thrive.

The roadmap for Port Arthur's revitalization is hard to envision. The Trump Administration has vowed to continue to develop oil and gas deposits, move more extracted reserves to expanded systems of pipelines and processing facilities, and eventually increase shipments overseas and to manufacturing facilities that rely on petrochemicals as ingredients for their products. Although President Trump may continue to falsely tout environmental regulation as the number one enemy of industrial job creation, expanded



*Eddie Brown stands surrounded by friends and family to mark a community event organized to raise funds to help with his medical expenses. Copyright Karen Kasmauski.*



*Chevron Phillips petrochemical plant near the Valero Refinery. Copyright Garth Lenz.*

capacity and output in the last decade from Port Arthur's three refineries have done nothing to improve the economic circumstances of their closest residential neighbors.

Even so, this is not a community that has thrown in the towel – quite the contrary. Port Arthur's real strength lies in the bonds and fellowship shared by some of its most vulnerable residents. They are organizing, they are helping one another, and they are celebrating their successes and leaning on each other for support when circumstances turn somber. Like Lake Sabine, both polluted and protected, this community has two faces. Some call Port Arthur a sacrifice zone. Others see a community on the threshold of change. Like with most things in life, the truth is probably somewhere in-between.

## NOTES

- <sup>1</sup> The Environmental Integrity Project's *Don't Believe the "Job-Killer" Hype*, January 16, 2017, available at: <https://www.environmentalintegrity.org/wp-content/uploads/2017/01/Jobs-and-environment-report.pdf>.
- <sup>2</sup> Broadly speaking, Congress enacted the 1990 Clean Air Act Amendments to curb three major threats to human health and the environment: acid rain, urban air pollution, and toxic air emissions. Although Clean Air Act programs address a wide variety of air pollutants beyond the two pollutants that were the subject of EPA's 2011 study, fine particle (particulate matter) and ozone, EPA researchers focused on these two pollutants due to data and modeling constraints. See, <https://www.epa.gov/sites/production/files/2015-07/documents/summaryreport.pdf>.
- <sup>3</sup> <https://www.epa.gov/clean-air-act-overview/benefits-and-costs-clean-air-act-1990-2020-report-documents-and-graphics>.
- <sup>4</sup> U.S. Bureau of Labor Statistics: Industry Output and Employment Projections, available at [https://www.bls.gov/emp/ep\\_data\\_industry\\_out\\_and\\_emp.htm](https://www.bls.gov/emp/ep_data_industry_out_and_emp.htm).
- <sup>5</sup> *Id.*
- <sup>6</sup> Texas Low Income Housing Information Service / Texas Appleseed, *Furthering Fair Housing in Port Arthur, Texas in the Hurricane Ike Disaster Recovery Program* (February 2013), p. 4; available at <http://www.galvestonogp.org/GHA/Lawsuit/Exhibit%2030.pdf>.
- <sup>7</sup> Data obtained from the Texas Commission on Environmental Quality's Point Source Emissions Inventory database, available at <https://www.tceq.texas.gov/airquality/point-source-ei/psei.html>. Note that "unpermitted emissions" refers to releases of pollutants not allowed under the Clean Air Act or a facility's pollution control permit. Because of some potential discrepancies with the state's data with respect to carbon dioxide emissions, the table omits data for that pollutant.
- <sup>8</sup> BLS data for Port Arthur, Texas is available at [https://www.bls.gov/eag/eag.tx\\_beaumont\\_msa.htm](https://www.bls.gov/eag/eag.tx_beaumont_msa.htm).
- <sup>9</sup> BLS data for the City of Beaumont is available at [https://www.bls.gov/eag/eag.tx\\_beaumont\\_msa.htm](https://www.bls.gov/eag/eag.tx_beaumont_msa.htm).
- <sup>10</sup> U.S. Bureau of Labor Statistics.
- <sup>11</sup> Data obtained from the U.S. Energy Information Administration, available at <https://www.eia.gov>. A large portion of the expanded capacity seen in the last decade is due to Motiva's 325,000 barrel per day, 10 billion dollar expansion, completed in May 2016. See, <http://www.reuters.com/article/us-refinery-motiva-expansion-idUSBRE84U18U20120531>.
- <sup>12</sup> The Texas Department of State Health Services partners with the National Program of Cancer Registries, Centers for Disease Control and Prevention, and the Cancer Prevention and Research Institute of Texas to generate the Texas Cancer Registry. See, <https://www.dshs.texas.gov/tcr/>.
- <sup>13</sup> See the American Lung Association's State of the Air 2015 data at <http://www.stateoftheair.org/2015/states/texas/jefferson.html> and the CDC's National Center for Health Statistics at <https://www.cdc.gov/nchs/fastats/asthma.htm> for national asthma rates.
- <sup>14</sup> EPA's Children's Environmental Health Disparities: Black and African American Children and Asthma, available at [https://www.epa.gov/sites/production/files/2014-05/documents/hd\\_aa\\_asthma.pdf](https://www.epa.gov/sites/production/files/2014-05/documents/hd_aa_asthma.pdf). See also, NIH's Reducing Asthma Disparities, <https://www.nhlbi.nih.gov/health-pro/resources/lung/naci/discover/disparities.htm>.
- <sup>15</sup> See <https://www.epa.gov/rsei> for information regarding RSEI scores and the methodology underlying their calculations.
- <sup>16</sup> According to EPA's RSEI website, an increase in a RSEI score can be attributable to a number of factors, such as an increase in population, a highly toxic release, the ease at which a particular chemical travels through the environment, or the overall amounts emitted.
- <sup>17</sup> See, <https://www.epa.gov/haps>.
- <sup>18</sup> See AP story by Rohr, M., Texas Town has been Defined by Oil Refineries, October 23, 2007, published by NBCnews.com; available at: [http://www.nbcnews.com/id/21420793/ns/us\\_news-environment/t/texas-town-has-been-defined-oil-refineries/#.WR4YKU3D-po](http://www.nbcnews.com/id/21420793/ns/us_news-environment/t/texas-town-has-been-defined-oil-refineries/#.WR4YKU3D-po).