ALL PHOTOS DAVID ANDREWS/NPS

SURVIVING STEEL

PITTSBURGH IN THE POST-INDUSTRIAL ERA

WRITTEN AND PHOTOGRAPHED BY DAVID ANDREWS

Pittsburgh is all steep bluffs and long descents, a succession of ravines eroded out of the Allegheny Plateau. The main road into downtown—a slow drop from the heights into the flats of an ancient delta—hugs a slope high above the Monongahela River. Off in the distance, worker housing rises and falls with the rhythm of the hills. It's one of world's finest city sites, a panorama at the confluence of three winding waterways. It's also proof of the dictum "environment is destiny," made to order for the heroic age of manufacturing. ¶ The hills greet the rivers not with steep banks, but with wide plains. It's ideal for a railroad, which arrived in 1852, transforming quiet towns in its wake. Industrialists merely poked chutes into the hillsides, funneling coal to furnaces in the plain, the rest of the nation a quick shipment away by boat or rail. ¶ The emperors of American success left the imprint of colossal ambitions—with palatial rail stations, lordly mansions, and the works of more distinguished architects than any other city in America. But nowhere was the colossal more evident than in the spectacles of fire and cloud that epitomized the place, the steel plants. Eventually, the city itself took on the image of the machine, adopting the architecture of corporate modernism in an effort to remake itself after World War II. Today, the contrast of early ebullient and sheet-metal sleek animates the downtown. ¶ But for how long? "There is a perfect mania here for improvements," one visitor said in the 1850s. "Every day somebody commences to tear down an old house and put up a new one with an iron front." Preservation has always been tough in this practical-minded town.

Left: Downtown Pittsburgh, a study in contrasts.

I'M DESCENDING A STEEP GRADE INTO THE FORMER COMPANY BOROUGH OF Homestead—once the site of the nation's largest steel mill—and onto a bridge that high-jumps the Monongahela. Below, in the days of Big Steel, the Homestead Works stretched as far as the eye could see. Now big-box stores fill the expanse, a city unto itself.

At the end of the bridge I swing onto the main street. A listless air prevails, though promise lingers. Across an empty lot the back of the mall stares vacantly. The developers promised a downtown revival, but there are no walkways from there.

Up ahead is the Bost Building, headquarters of Rivers of Steel National Heritage Area, a Victorian gem amidst the decay. Rivers of Steel is managed by a nonprofit in partnership with the National Park Service and the commonwealth. It looks to revitalize communities through cultural tourism, preservation, and education programs. The long-term objective, says director Augie Carlino, is a national park, which could draw a projected 300,000 visitors annually, create 400 jobs, and pump more than $25 million a year into the local economy.

We're looking at a lithograph in the entrance hall of the Bost Building, done by Edwin Rowe in 1892. An army of Pinkerton agents, hired to protect the Homestead mill, is surrendering to strikers.

In those days, steel hands peaked at 30, their strength starting to go by 35. Most died before 50. They lived in ramshackle shanties and overcrowded tenements. Saloons were many—to slake the thirst as well as cleanse the throat of dust and particles of steel.

The unskilled, many of them immigrants from the Old World, took what they could get. The skilled, who enjoyed the advantage of a common language with the brass, organized.

Andrew Carnegie—owner of Homestead Works, who wanted his plant to go nonunion—was christening libraries in Scotland when the strike threatened in 1892. Company Chairman Henry Clay Frick ringed the place with a three-mile fence, topped with barbed wire, ordering 300 Pinkertons to be delivered with "absolute secrecy." When talks fizzled, the workforce was discharged, and promptly invited to sign individual contracts. No one did. The crux of it, said a union communiqué, was "putting the control of each of our great national industries into the hands of one or a few men."

A few days later, the strikers discovered two barges of Pinkertons being towed up the river. A furious battle ensued. When the agents laid down their arms, the strikers and their wives administered a brutal beating.

The nation turned its eyes to Homestead. Congress held hearings; sympathy strikes broke out at other Carnegie plants. Alexander Berkman, a 25-year-old anarchist, tried to assassinate Frick. The commonwealth called out the militia. The strike finally collapsed, debilitating unionism in steel for years to come.

Above and right: Views of the Carrie Furnace complex, once a key cog in the U.S. Steel empire, now silent. Rivers of Steel National Heritage Area hopes to convert the complex into a museum.

THE BOST BUILDING, A UNION HEADQUARTERS AND LOOKOUT POINT DURING THE STRIKE DEBACLE, HAS BEEN REFURBISHED AS A VISITOR CENTER AND REPOSITORY—WITH EXHIBIT SPACE, 12,000 SLIDES, OVER 200 VIDEOS, A REFERENCE LIBRARY, AND THOUSANDS OF ORAL HISTORIES, MAPS, AND BLUEPRINTS.

Rapid industrialization is sure to inflict pain, writes John Morton Blum in *Pittsburgh: The Story of an American City*. "If the necessary capital is not in hand there are only three ways of obtaining it—by borrowing it, stealing it, or sweating it out of the people."

Today, Big Steel's corporate descendants would like to shed the history, says Carlino—as did, until recently, many of Pittsburgh's residents. "That's why we're here," he says.

Rivers of Steel has a multi-pronged strategy. Staffers sponsor ethnographic surveys, class programs, field trips, hands-on activities for school groups, and public tours. The Bost Building, a union headquarters and lookout point during the strike debacle, has been refurbished as a visitor center and repository—with exhibit space, 12,000 slides, over 200 videos, a reference library, and thousands of oral histories, maps, and blueprints. Rivers of Steel has also produced the region's signature Omnimax film, a DVD series, and *Routes to Roots*, a tour book of all-things ethnic, be it toe tapping to button-box polka or pit-stopping for stuffed cabbage (*holupki* in Slovakian, *sarma* in Serbo-Croatian). A folklife center helps schools with programs, gives guidance to tradition bearers, and advises communities.

But the hope for the national park lies with a rusting hulk across the river, the shuttered Carrie Furnace complex, a potential museum. Tomorrow, ex-workers will guide the first "hard hat tour."

Left: Scene from Pittsburgh's South Side, an early success for the preservation movement and the Pittsburgh History and Landmarks Foundation, which assisted with this recent mural on East Carson Street, anchor of a National Register district. Right: The neon is always lit at Jack's, open 365 days a year, recalling when South Side bars welcomed patrons any time, day or night. Workers often marked the end of a shift with a trip to one of the many watering holes.

"WITH THE EXCEPTION OF A FEW LIMITED STRETCHES, OUR FOUR RIVER VALLEYS are hideous infernos of mills, intermixed with a tangle of warehouses, railroads, and highways," writes Arthur Ziegler in the first edition of *Pittsburgh's Landmark Architecture,* published in 1967. "The intermediate hillsides above the rivers are frequently littered with cheap 19th century workers' housing that has now often become hopelessly decayed. Behind these march the ranks of Edwardian houses, dull and staid, and spreading ruthlessly over the back hills are the new suburbs with all their monotony and indifference to their sites."

Today, from his elegant suite at historic Station Square, Ziegler looks out across the Monongahela at the grandeur of the city skyline. It's a different picture than four decades ago, thanks in good measure to the organization over which he presides, the Pittsburgh History and Landmarks Foundation, one of the country's most innovative preservation groups. Scattered about the room are books and brochures on preserving the world's great cities.

What's the key to success, I ask. "This is a practical town, where work counts, and we've been a very reliable organization," he says. "We're economically minded. When we say to a funding source or governmental entity we will do this or that, we are known to do it, on time and on budget. But we're married to our principles."

Over its first 15 years, the foundation focused on advocating against demolition, saving landmarks, and restoring neighborhoods, launching programs with funds for preservation loans and community reinvestment. "We stopped a great deal of the proposed demolition," Ziegler says. "But we didn't do it alone. We organized neighborhood groups, we joined forces with others in trying to educate people."

In the mid-1970s, the foundation broke new ground with commercial revitalization on a large scale. The redevelopment of Station Square, proof that preservation could be integral to development, offered an antidote to urban renewal. "The one principle we've always had is not to simply say no," says Ziegler. "In those instances where we take a different point of view, we present an alternative—often less disruptive and less costly." By the mid-1960s, the Pittsburgh & Lake Erie Railroad complex—the target of an urban renewal scheme—consumed a large slice of the South Side shoreline. In a region of spectacular river vistas, industry usually usurped water access. The foundation, seeing the chance to show the potential of unused waterfronts, reached an agreement with the railroad for a business, retail, and cultural center on 50 acres. A daring departure from official planning, it was also early evidence of the efficacy of the federal preservation tax credit, still key here, notably in the recent reuse of the Heinz and Armstrong Cork factories and Fulton Building.

"If we've been successful at anything it is that we've infused ourselves throughout the community," Ziegler says. "We're looked upon as a resource, an advocate, a problem solver, a source of knowledge. We try to help others do preservation rather than do it ourselves."

The Renovation Information Network, a program of the Community Design Center of Pittsburgh, helps owners of historic houses undo the modernizing fad of the 1950s and 1960s, described evocatively in the fourth edition of *Pittsburgh's Architecture*: "In a masonry neighborhood like Shadyside, the procedure was to take off the porch, patch up the scars more or less, and paint everything else gray or beige or pale green. Or impart a Californian touch, with pebbles instead of grass." The network promotes preservation with a delightful illustrated guide to the city's architectural styles, and by providing for design consultations with homeowners looking to renovate.

"Today there's a good attitude toward preservation, but it's often erased in the specifics," Ziegler says. "The downtown buildings—everyone says let's save them. Then they say, 'But this one could go.' It comes down to controls. And those controls have to be with us. Politics changes every day. Easements don't." For many years, he says, the city's leadership wanted to erase the steel heritage. "The city was known around the world as a steel center. We should have saved one of the mills as a great museum. Instead, they were obliterated." Education starts at home, Ziegler says, handing me evidence—a book of children's artwork published by the foundation. "A class of kids is given photographs of architectural details in their neighborhood, which they have to go find, sketch, and write a poem about, pretending to be the item. They may have never heard anything good about where they live, then they get to looking in a completely different way. They tell their parents and teachers how wonderful these buildings are. It builds a sense of pride."

TODAY, THOUGH RIDES HAVE BEEN ADDED, THE HISTORIC CORE REMAINS. THAT INCLUDES THREE WOODEN COASTERS BY MASTER DESIGNER JOHN MILLER, A 1926 HAND-CARVED DENTZEL CAROUSEL (ONE OF A HANDFUL STILL INTACT, RESTORED RECENTLY BY IN-HOUSE ARTISTS), AND THE LAYOUT OF THE CAPTIVATINGLY LANDSCAPED GROUNDS, ANCHORED BY A MAN-MADE LAKE.

TWILIGHT CASTS ITS SHADOW OVER KENNYWOOD AMUSEMENT PARK, a national historic landmark perched on a spectacular plateau overlooking the Monongahela. It's the last day of the season, the place chockablock with patrons. Or should I say, lifelong "guests."

I'm standing at the entrance to Kiddieland, with its old-fashioned lamps and cobblestones recovered from Pittsburgh streets of days gone by. The monumental Edgar Thomson Steel Works—one of the few operational—looks on from across the river, through the diminutive Olde Kennywood Railroad and the draping limbs of oaks and maples.

"Little patrons of Kiddieland rides are going through the kindergarten of park patronage," second-generation owner Brady McSwigan said in 1947. "And their loyal support remains as they grow up and 'graduate' to the larger flat rides and coasters." It's a family kind of place, director of public relations Mary Lou Rosemeyer tells me, herself a "graduate."

Kennywood, in family hands for over a century, is one the few surviving parks of its kind. "Had we modernized, Kennywood would have been a small player in a big market," Carl Hughes, a former park chairman, explained. "So, for competitive reasons, we decided to sell the park as an alternative." Today, though rides have been added, the historic core remains. That includes three wooden coasters by master designer John Miller, a 1926 hand-carved Dentzel carousel (one of a handful still intact, restored recently by in-house artists), and the layout of the captivatingly landscaped grounds, anchored by a manmade lake.

The NHL nomination yields the story of the park. Charles Kenny and son Thomas prospered mining coal on the property, which had a stream, surrounded by shade trees, that drew picnickers. In 1898, Kenny's Grove—as it was called—was leased to the Monongahela Street Railway, rechristened Kennywood by part owner Andrew Mellon. Promotions touted the pastoral and thrilling destination at the end of the rail line. The twisty-turny jaunt flirted with a cliff edge along the river, the industrialized valley alight at night with the fire of blast furnaces. In 1917, owner Andrew McSwigan wrote to a colleague: "Cleanliness is our motto and the World knows just what a job we have in our location to fight ore, dust and smoke from the surrounding mills. [But] we're hoping for plenty of smoke this summer. The more dirt we have dumped on us, the more money we take in."

Kennywood was soon a magnet for picnickers from corporations, schools, religious organizations, labor unions, and ethnic groups. The gathering of the Scottish clans was the first large nationality get-together. The Serbians, Russians, Slovaks, Carpathians, Irish, Hungarians, Polish, Croatians, and Italians followed. The year 1919 saw the biggest picnic to date, hosted by Carnegie-Illinois Steel and the Duquesne community. Over 30,000 people feasted on 12,000 pounds of meat, consumed coffee from two 500-gallon tanks heated by a huge fire of railroad ties, and witnessed the roasting of a 1,000-pound ox.

Innovation drove the success of the park, which earned a reputation as a coaster capital. Attendance nearly doubled in the 1920s. Carnival week capped the year 1929 with three circus acts, fireworks, and Mardi Gras dancing to Whitey Kaufman and his famous Victor Recording Orchestra. The Depression saw a fight for survival, with business down over 60% by 1933, the mills ringing the park clean and silent. Roosevelt Day of 1934 was a good omen; business turned up. Noah's Ark—one of the signature rides, its exterior still intact—was christened the same year as the great flood, 1936. A boat and a building, it rocked on a mount hidden underwater, with a rippling floor, a jail whose rubber bars eased escape, and a growling stuffed bear, all to the tune of an ominous fog horn. Screams and shouts were broadcast over the public address system.

During World War II, the defense industries produced lots of smoke, soot, and money. The prosperity continued in the postwar era, attendance boosted by visits from the likes of Lassie and the Lone Ranger (who arrived in an orange Cadillac).

New winds blew in with the coming of Disneyland and its ilk, but the park survives with shrewd management that offers a balance of change and tradition. I witness that equation as evening descends and "guests" jostle for one more ride before season's end.

Kennywood Amusement Park—around the corner and out of this world, a fun and fearsome slice of Americana.

Above and right: Kennywood Amusement Park, perched on a plateau overlooking the Monongahela River just outside Pittsburgh, is one of the few traditional parks to escape destruction or modernizing beyond recognition.

two miles of graded trails, it boasts a picnic grove, cliff-faced ravine, waterfall, two streams, three wooden footbridges, and a water garden. Over 2,000 trees and shrubs supplement the native growth. At first the province of renters, today the village is a residents' co-op. Strict review of renovation plans—plus durable brick facades, slate roofs, and copper gutters and downspouts—ensure that the beauty will survive.

In Ralph Griswold's design for Point State Park, the pinnacle of his career, there was no spatiotemporal mask, but its "ultramodern" exterior was underlaid by rigorous historical research. The park—at the exact point where the rivers convene, this morning shrouded in fog—aimed to convey the natural and cultural history of the site of Fort Pitt, with replica bastions and a fountain symbolizing the cleaned-up city. It was a centerpiece of the urban renewal era. I walk out of the park and into adjacent Gateway Center, another era artifact. The first three skyscrapers built, a matched set, are monuments of industrial primitive, flashing chrome skin with the patina of an aged bumper. As many as 17 of them, all identical, were envisioned. The area is lushly planted, the effect amplified by mirrored windows. Ziegler calls Gateway Center "a disaster," snubbing pedestrians and cutting the city off from the water. The

CHATHAM VILLAGE, A RECENT NATIONAL HISTORIC LANDMARK, IS ANOTHER American classic, carved into a site deemed unbuildable.

In the 1920s, says the NHL nomination, city planning was engrossed in adjusting old street systems to the motorcar. No new town met the challenge until Radburn, New Jersey—brainchild of Clarence Stein and Henry Wright, America's foremost planners of the Garden City movement. They refined their ideas at Chatham Village. Both projects, internationally renowned, helped boost housing standards.

As the middle class sought escape from the city, the real estate market deployed monotonous rows of packed houses on the outskirts. The Chatham Village project—funded by a foundation started with a bequest from department store owner Henry Buhl, Jr.—targeted an even more squeezed group, low-income clerical workers. It was a remarkably innovative era, when engineers and architects, planners and landscape designers worked together. Essential to the project was the art of landscape architect Ralph Griswold—who forged a new interpretation of the role of outdoor space—and architects Charles Ingham and William Boyd. Stein and Wright left their imprint not with forms to be copied, but with a spirit to carry on. Key was an analysis ensuring payback and market fit.

As I stand at the entrance to Chatham Village—erected in phases between 1932 and 1956, a time of intense technological change—I get the sense of stepping into another world. The idea was to evoke the comfort of a colonial village, a return to living in the country. The traditional garb—a "spatiotemporal mask" for the revolutionary ideas—helped sell the tightly packed rowhouses to backers and potential residents.

They are anything but monotonous. The place has the intimacy of a small campus, its alternating hipped and gable roofs playfully stepping down a series of terraces, which accommodate the sloping site, purchased inexpensively. Each cluster of dwellings opens onto an inner courtyard—not a street—which affords a quiet setting for more than 200 families inside a 15-acre core. Cars are kept to the outside. But the architecture remains a stately background to the 10 acres of lawn, 3 miles of hedges, nearly 4,000 shrubs, and almost 500 trees. Six diminutive garden sheds enhance the picturesqueness.

The 46-acre site is almost completely encircled by a steep hillside, woodland uncleared since colonial settlement, a habitat for native plants and animals unique in its proximity to downtown. Laced with Civic Arena, up the hill that rises from where I stand, saw the futuristic dreams morph into mad ambition, deposing an African American community with a flip-top venue for open-air opera.

Mindy Thompson Fullilove surveys the damage in her book *Root Shock*, interviewing Sala Udin, who grew up in the district and later served as its councilman: "I knew everybody on my block, and they knew me. They knew me on sight, and they knew all the children on sight, and my behavior changed when I entered the block . . . The sense of fragmentation is a new experience that we can now sense, that we didn't sense then. We were all in the same location before. Now we are scattered literally to the four corners of the city, and we are not only politically weak, we are not a political entity."

Above: Chatham Village. Some residences are served by outlying garage compounds (left), which planner Clarence Stein said were "found satisfactory in spite of the American habit of keeping a car in the house as some European farmers keep their cattle." There is a consistent vocabulary of double-hung sash windows, French doors, wrought-iron porches, and cast stone coats of arms. Left: Point State Park, a signature product of the urban renewal era, with the South Side shrouded in fog behind the Fort Pitt Bridge.

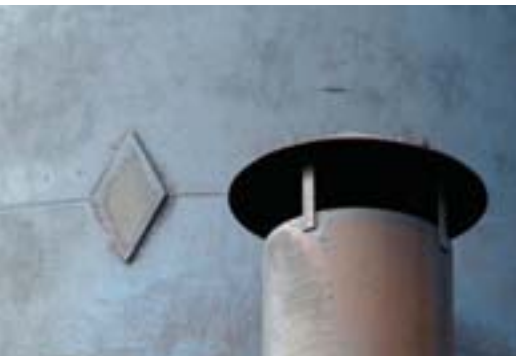
A MANNEQUIN, NEXT TO ONE OF THE TROUGHS, SPORTS WHAT LOOKS LIKE AN EARLY ASTRONAUT OUTFIT. "THE FIRST WORKERS WORE LEATHER APRONS, OR SOAKED BURLAP TO DRAPE THEIR ARMS, DRAPE THEIR FACES," JAN SAYS. "THAT WAS PRE-UNION. THE SUITS DIDN'T APPEAR UNTIL THE 1950S."

"CARRIE FURNACE IS ONE OF THE FINEST EXAMPLES OF THE IRON SMELTING that made this valley the steel making capital of the world," Jan Dofner—River of Steel's communications director—tells the crowd on the tour bus. "It's one of the industries that propelled us into global leadership."

Andrew Carnegie bought the operation to feed his steel plant across the river. There was a constant drive to increase output. In 1907 Carrie produced 500 tons of iron a day, by 1926 700 tons, and by 1978, when it shut, 1,200 tons. Today, 9,000 tons is the norm at the top plants.

Through a field sprinkled with wildflowers, we pass under an armor-bound bridge—"overbuilt," Jan says, in case of accident. Here "torpedo cars," named for their shape, made their way across the Monongahela, filled with molten iron. Mix water and liquid metal, and you get a catastrophic explosion. The bridge has a long, slow grade. If a car stalled, it could drift slowly to shore.

The bus parks in an empty field, once packed with ore, coke, and limestone for the furnaces. A rail trestle hovers overhead. "The guys hated working here because the elements were in your face," Jan says. "If it was cold and wet, you were cold and wet. If it was freezing and the wind was howling and you had to change something on the trestle, there was always the possibility of slipping on the ice." During one shift someone did slip, a former worker tells us, and was cut in half by a train. As soon as someone could get off an ore yard job, they did.



We walk past a shock of weeds, flashing green against rust, into the complex. It's like a deserted city. There is no movement, no sound. Just dark, echoic caverns pierced by occasional shafts of light.

We arrive at a blast furnace, a daunting 90 feet high. It's a pressure cooker, pure and simple, girdled with "bustle pipes." You pour the ingredients in the top, simmer to 1,800 degrees, then poke a hole in the side with a "lancing hose." Sparks fly, and molten iron shoots out into an open trough, a channel to the torpedo cars. You patch the hole with a big caulk gun, loaded with clay, and go again. There was competition among shifts, and among plants, to see how many pours you could do.

"Everyone had to wear flame retardant uniforms," says one of the ex-workers. "The company provided them—at no cost." He flashes a wry smile. A mannequin, next to one of the troughs, sports what looks like an early astronaut outfit. "The first workers wore leather aprons, or soaked burlap to drape their arms, drape their faces," Jan says. "That was pre-union. The suits didn't appear until the 1950s." The ex-worker adds, "It smelled awful, but the money wasn't bad."

Accidents were rife. A former foreman says that one time hot metal got loose, frying the underside of his car. "Ruined a new Vega," he says. We file silently out of the plant.

"PITTSBURGH STARTED BLEEDING POPULATION IN THE 1950S," SAYS EDWARD Muller, noted historian and Rivers of Steel chairman. "The bloodletting ended in the mid-'90s, but there's still a trickle." Although the city has its share of vacant buildings, the downtown-living trend has boosted the rebound. In the 1980s, Muller tells me, the doldrums saved the riverfronts while the city figured out what to do. People wanted to leave the steel heritage behind; now tourism is on the rise, with hip restaurants and galleries popping up all over. "It's a 21st-century place to live and work, no longer a one-horse town," he says. The education, research, medical, and hi-tech industries are leading the way, Muller adds, with the legal and financial communities not far behind. And a recent battle saw preservationists triumphant, blocking the demolition of 68 buildings. The city is "muscle bound with museums," he says, thanks to deep-pocket foundations funded by the wealth of another day. He cites the "tremendous face" of the Heinz Regional History Center, the Carnegie Museums, the Frick Art and Historical Center, and the Westmoreland Museum of American Art.

In a city known for change, sometimes change is for the better.

For more information, Rivers of Steel National Heritage Area is on the web at www.riversofsteel.com, email jdofner@riversofsteel.com. The Pittsburgh History and Landmarks Foundation is at www.phlf.org; the Renovation Information Network, a program of the Community Design Center of Pittsburgh, is at www.cdcp.org, email renovation@cdcp.org. Kennywood Amusement Park is at www.kennywood.com, email PR@kennywood.com.

Above and right: The Carrie Furnace complex.