"Ribbon of Steel and Concrete": A Cultural Biography of the Buffalo Skyway (1955)

William Graebner

The opening of the Buffalo Skyway in October 1955 was an occasion for celebration and rejoicing. Rising out of the city's downtown, the massive structure crossed the Buffalo River at a height of 110 feet and spilled onto the city's outer harbor on the shore of Lake Erie more than a mile to the southwest. The span promised to be the beginning of the end of the traffic congestion and delays at busy lift-bridges that for three decades had made commuting irritating and frustrating for some 40,000 workers at the Bethlehem Steel Plant in the first-ring suburb of Lackawanna and the Ford stamping plant, just beyond. Speaking at the elaborate opening ceremonies, Dexter P. Rumsey, chairman of the Citizens' Committee for Better Roads in Buffalo and Erie County, spoke for most Western New Yorkers when he characterized the Skyway as "the finest public improvement the community had received in decades," and "the start of a new era—a period of civic progress in mass transportation."[1]

The Skyway's two twenty-four-foot lanes, separated by a five-foot mall, beckoned to motorists eager to experience a highway unlike any they had ever driven. They joined the official opening-day cavalcade, taking the big curves slowly, "their attention caught by the panoramic vistas of docks, lake steamers, the Coast Guard base, grain elevators and buildings far below." "I just crossed it to see what it was like," said a city-bound motorist, referring to the Skyway as if it were a great river to ford. "The view is terrific." A driver from the suburb of Hamburg described his virgin voyage over the Skyway as "a thrill I'll never

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forget. The waterfront area certainly has no claim to beauty at close range, but seen from the Skyway it compares favorably with famous views around New York City. There is breath-taking beauty in every direction—all this and time-saving, too." (With many of the first round of motorists tooling along at twenty or twenty-five miles per hour and hugging the pedestrian sidewalks to get the best view, the first commuters actually didn't save much time).[2]

On the Sunday after the Wednesday opening, the bridge was bumper-to-bumper from "noon to bedtime" with curious and enthralled motorists, some, incredibly, defying common sense to stop at the top and get out for a better look or to take photographs of Lake Erie, its waters seemingly suspended in mid-air over the open metal railing. Within a week, the span had produced its first speeders, caught at fifty-five miles per hour, or fifteen miles over the limit. One of them was a suburban man so moved by the pleasures of the Skyway that he seemed blissfully unconcerned with the $35 fine that came with his transgression. "It's just such a wonderful highway," he told the judge. "I'm afraid I wasn't conscious that the speed was creeping up on me." "It's not only the best free joyride in town," editorialized the *Buffalo News* in a statement that captured the Skyway's aesthetic qualities and acknowledged the emotional charge that the bridge had for area residents, "and a special pleasure to anyone who ever got tangled up in any of the traffic jams down below—but it also gives a completely new and breathtakingly sweeping panoramic view of what somehow seems a much greater city from "'way up there.'"[3] An advertisement for Hengerer's, a department store eager to bring suburban shoppers downtown, presented the structure as exciting and playful, exaggerating its curves and height and changes in elevation, and adding the words, "The Buffalo Skyway . . . A Great New Highway."[4] Some years later—the exact date is unknown—the Skyway was memorialized in a painting by Buffalo artist Ross (Rosario) Joseph Drago. As a young man, Rosario had worked at the Andrle Stained Glass Studio in Lackawanna, participating in the creation of the stained glass windows that graced the nearby basilica. "My father was an inventor as well as a painter," his son recalls. "He loved new ideas. When the Buffalo Skyway was built, I believe he was the first to see it as a thing of great beauty. They say no one ever saw a sunset until Constable painted it." [5]

If the Dragos' unabashed fondness for the Skyway appears a bit overdone, Dexter Rumsey's optimism, typical of postwar boosterism in Great Lakes cities like Cleveland, Detroit, Toledo, Chicago, and Milwaukee, seemed more than justified. Although Western New York had lost its airplane industry with the end of the Second World War, a 1946 New York State report bristled with economic good cheer, citing the area as a "great railroad center" with "diversified industries" and unparalleled access to Canada. This report noted that Westinghouse and the Twin Coach Company had recently acquired two of the larger aviation facilities and mentioned that wiper-blade manufacturer Trico Products had announced a major expansion of plant and facilities. In July 1951, the nation's fifteenth largest city and its third largest steel producer was featured on the cover of *Fortune* magazine; inside, a dozen pages of photographs on the theme

Figure 1: Looking south from downtown Buffalo, October 19, 1955, one hour after the official opening ceremonies. Courtesy, Buffalo and Erie County Historical Society.

of "Made in Buffalo" confirmed the city's role as a center of industry. Although fears that lack of effective leadership would consign the region to second-class status as a transportation hub had surfaced in the local press by the mid-1950s, the city's population was at an all-time high, the region was participating in the national economic boom, and the St. Lawrence Seaway, due to open in 1958, was generally viewed as a positive development. A prominent business leader predicted that, within a decade, employment in the Buffalo area would increase by about 50%.[6]

A half century later, and in a very different economic climate that had generated the term "rustbelt," the latest generation of politicians, journalists, activists, and ordinary citizens appear eager to tear down the Skyway, hoping that its demolition will jumpstart development on a stretch of Lake Erie waterfront where nothing much has happened for decades. In their urgency to get the bridge torn down and out of the way of "progress," the advocates of demolition present a variety of complaints, some of them worthy of consideration, others offered in an effort to cast the structure as a demon thwarting the city's best efforts to remake the vast outer harbor, an area that edges Lake Erie at its eastern end and touches downtown Buffalo, near the buried terminus of the Erie Canal. The Skyway, the

critics argue, is costly to maintain, dangerous to drive on, prone to weather-related closings, and out of date, the product of a bygone era, when the Buffalo River carried commercial ships and when steel and the workers who made it were central to the region's economy.[7] Decades removed from the aesthetic considerations of the age of Eisenhower, the Skyway's critics labeled a bridge once described as a "ribbon of steel and concrete" and offering a "breathtakingly sweeping panoramic view" as an "ugly dinosaur" that "nobody particularly likes." *Business First*, the area's business weekly, lauded Democratic Congressman Brian Higgins's calls for demolition, labeling the bridge a "monstrosity." And the area's most prominent advocate of regionalism, a Harvard-educated liberal, when asked what he would most like to tear down if he were "king," responded: "There is one thing that has to be removed: the Skyway. I dream this stuff."[8] In March 2006, the campaign was joined by two national organizations, The Congress of New Urbanism and the Center for Neighborhood Technology, which had agreed to include the Skyway, along with similar structures in Louisville and Seattle, in a study dealing with the removal of infrastructure barriers. Announcing the inclusion of the Buffalo roadway, Congress of New Urbanism president and former Milwaukee mayor John O. Norquist described the Skyway as "brutally ugly" and "unnecessary."[9]

Some of the arguments for demolishing the Skyway have reason and substance, and the decision to do so could be the right one. Yet the alacrity with which civic leaders have joined the raze-the-Skyway bandwagon suggests that the current enthusiasm may be driven less by a thoughtful consideration of aesthetics and more by the desire to do *anything* that might produce economic activity in a stagnant city and region. A proper assessment of the Skyway's *future* requires that citizens and planners come to terms with the span's *past*; that is, it requires an assessment of the Skyway's complex historical, cultural, and aesthetic relationship to the Western New York community and to mid-century American values—what I have labeled a "cultural biography."

The term "cultural biography" has been used to describe objects at least since 1986, when anthropologist Igor Kopytoff referred to the "cultural biography of things" as a way of examining an object as a "culturally constructed entity, endowed with culturally specific meanings, and classified and reclassified into culturally constituted categories." Linda Merrill uses the term to explain her approach to the Freer Gallery's Peacock Room, a splendid Victorian interior decorated by James McNeill Whistler for the London home of a Liverpool ship owner. "The larger intention," she writes, "is to restore the fuller dimensions of the Peacock Room's history: to clarify the work's ancestry and assess its influence, to retrieve the reputations of some of its participants, and to consider it in correct historical perspective, securely in the context of its time." Most recently, archaeologist Richard Fletcher applies the concept to a piece of pottery found in a Sardinia tomb. Literary historians David S. Reynolds and Peter Conn use the term to describe their treatments of people—Reynolds's Walt Whitman, Conn's Pearl S. Buck. Both employ "cultural biography" to emphasize the importance of placing their subjects in historical context. I use the term to suggest that the

Skyway was a "thing" with a history, and that it should be understood in historical context, and as subject to changing conditions and perspectives, although my own emphasis is on recuperating the meaning of the Skyway in the 1950s.[10]

The Skyway had its origins in practical concerns, reflected in the prosaic name "high level bridge" by which the structure was known in the planning and construction stages. Chief among these were concerns over traffic congestion and a related problem, the conflict between automobiles (and trucks) and the requirements of water and rail transport—problems common to other Great Lakes cities, among them Cleveland, Detroit, Toledo, Chicago, and Gary.[11] The high-level bridge was first proposed in 1922 in a report prepared by the Buffalo Common Council's City Planning Committee,[12] just a decade after Henry Ford's moving assembly line had revolutionized the production of automobiles and made it possible for millions of ordinary Americans to think about acquiring an inexpensive Model T. By the late 1920s, traffic congestion and traffic safety had become virtual obsessions in city government. In 1929, the city's ratio of traffic deaths to population was the fourth highest in the nation, behind only Chicago, Cleveland, and Milwaukee—like Buffalo, all cities in which the circulation of vehicles was restricted by water.[13] A 1939 study by the federal Works Progress Administration blamed Buffalo's traffic density on the city's failure to expand its geographical boundaries, as well as on the city's belt line railroads, whose tracks formed a "ring of iron" and forced traffic through five "funnels."[14] A 1946 report of the New York State Department of Public Works, a product of recent state laws that authorized new thruway construction and made it possible for state government to pay for urban connecting roads such as the high-level bridge, conceptualized Buffalo in anthropomorphic terms: a healthy organism, but one whose vitality was in imminent danger, threatened by a "creeping paralysis of congestion" that if unabated promised to "strangle city property and tax values."[15]

Motorists using lakeshore routes to the southwest, to and from the mills and factories of Lackawanna and Blasdell, were as rigidly funneled as those in other sections of the city. Their options were limited to Fuhrmann Boulevard and Michigan Avenue, and on these routes motorists could find themselves waiting for the New York Central or for ships at the bridges over the Union Ship Canal, the City Ship Canal, or the Buffalo River. At mid-century, with the city's population approaching a postwar peak, the *Buffalo News* reported "almost daily, serious jams" at Michigan Avenue near the Buffalo River, and a *News* photographer captured the long delays on Fuhrmann Boulevard at the Union Ship Canal, where at 4 p.m. on a working day it could take thirty minutes to go from Ridge Road to Tifft Street, a distance of less than a mile.[16] Like the Niagara Branch of the New York State Thruway and the Kensington Expressway, the Skyway was one solution to the problem of traffic congestion between Buffalo and its suburbs. The Interstate Highway Act of 1956 did the same for dozens of American cities.

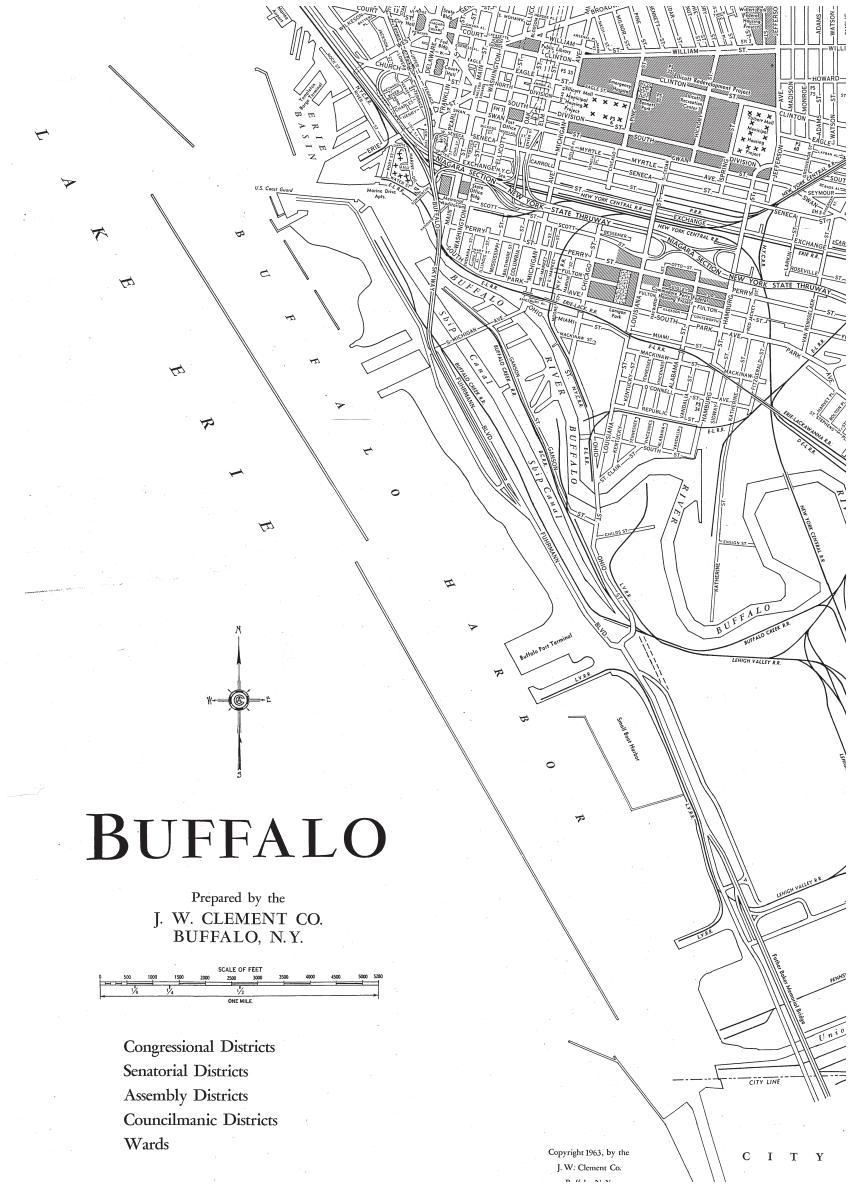

Figure 2: This 1963 map shows the main features of the landscape traversed by the Skyway, including the Buffalo River, the City Ship Canal, and Ohio Street, where a lift bridge over the Buffalo River had restricted the flow of automobiles. Courtesy, Buffalo and Erie County Historical Society.

Soon after the bridge opened, a letter to the *Courier-Express* described the Skyway as "a real achievement in the traffic world. If ever a route like that was needed, it was needed in this city."[17] The technical sub-head on the front page of the *Buffalo Evening News* told the same story: "Lift Bridges, Switching Tracks, Narrow Streets/By-passed at Last By Mile-Long Cut-Off."[18] It was widely and accurately predicted that the Skyway would be the first of many area highway projects, including the first section of the Kensington Expressway, the Scajaquada Creek Expressway, and the mate to the Skyway, an elevated bridge over the Union Ship Canal at the Buffalo-Lackawanna line, designed to eliminate the last of the major lake shore bottlenecks. All would come to fruition within a decade.[19]

The relationship of the high-level bridge to the city's Lake Erie waterfront and harbor was more ambivalent. In most discussions of the proposed bridge, the water-based commerce of the Buffalo River, the Union Ship Canal, and the City Ship Canal was understood to be an obstacle to the development of the area's *industrial* economy and to the movement of people and vehicles between city and suburbs. In the late 1940s, after state legislation had authorized the Niagara Frontier Authority to construct a bridge or tunnel to deal with the obstacle of the Buffalo River, the Buffalo Chamber of Commerce weighed in in favor of a high-level bridge, emphasizing that the failure to build it would put at risk the 9,800,000 tons of goods that passed on the Buffalo River as well as the 50,000 freight cars that came through the area each year.[20] Still, the idea of a high-level bridge does not appear to have played any significant role in the interminable discussions, beginning in the mid-1920s, about what to do about the relative decline of the Port of Buffalo—relative, that is, to Cleveland, Duluth, and other cities, which had somehow managed to obtain federal funds for harbor improvements.[21] There was even some opposition to the proposed span on the grounds that a "hideous viaduct" would make waterfront improvements impossible, although the author of those remarks, real estate developer Joseph Boehm, appears to have been motivated by the desire to prevent interference with Fairhaven Village, a development he proposed to build in the area.[22] The warning of a 1944 engineering report, that a tunnel "would permit more extensive reclamation of the area than a bridge," went unheeded.[23]

Instead, the Skyway's location induced a curious rethinking of the city's relationship to water-borne commerce and to the small businesses and warehouses in the area. On the day after the ribbon-cutting opening, the *Courier-Express* offered editorial comment on the span's significance, setting the Skyway within what it described as the "grand dream of a progressive, utilitarian and lovely community here at the foot of the Great Lakes."[24] The *Buffalo News* described the Skyway as a "dream come true" and emphasized the bridge's relationship to the city's history as a "harbor town." "Today, though long since spread into the metropolitan hinterland, it looks waterward again, to greet the new concrete span lifting its traffic 100 feet over the busy river, man-made ship canal and rail and street networks that compose its great harbor."[25] For Buffalonian John

Figure 3: This 1962 winter view of the Skyway reveals the structure's four curves and its setting, between banks of grain elevators. Courtesy, Buffalo and Erie County Historical Society.

Johnson, Superintendent of the State Department of Public Works and a speaker at the opening ceremonies, the Skyway was one of several improvements that would allow the city to "once again resume that appropriate title, 'Queen City of the Lakes.'"[26] A 1950 ground-level sketch by Edward P. Lupfer's engineering firm captured this perspective, showing the high-level bridge as a structure of modest size, linking a variety of existing commercial and industrial waterfront buildings.[27] Most of the early comments on the experience of driving over the Skyway emphasized the spectacular view it offered of Lake Erie.

Yet in the midst of this celebration of the city's waterfront heritage and of the Skyway's contribution to it, one could hear other voices that were clearly uncomfortable with the working waterfront of the 1940s and 1950s, and for whom the Skyway was a means of transcendence. The idea was not new. In the nineteenth century, Americans ill at ease with the class, ethnic, and cultural contrasts and disparities that were immediately obvious at ground level in larger American cities had found comfort in removed, "birds' eye" views, offered by the artists and illustrators of the day, which imaginatively reconstructed the urban milieu as a coherent, unified, harmonious entity.[28] Examining the work of nineteenth-century American landscape painters, Albert Boime argues that these landscapes provided the "magisterial gaze," an optimistic, elite perspective embodying a "fantasy of domain and empire," in which the viewer was positioned on the "heights" [for

Figure 4: Two weeks before the opening of the Skyway, city and state officials walked a portion of the span during an "official inspection trip." From left are John Leone, Charles T. Love, John K. Vane, Elmer G. H. Youngmann, Mayor Steven Pankow, and Walter Mayday. Courtesy, Buffalo and Erie County Historical Society.

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our purposes, the Skyway], looking on "a scenic panorama below"[29] [that is, the waterfront and Lake Erie]. In the twentieth century, the "magisterial gaze" was available from the "spectacular perch" of the skyscraper, offering owners, tenants, and tourists what historian David E. Nye has described as a "sense of mastery" and "fantasies of domain." From this perspective, which anticipated the urban renewal attitude of the late 1950s—one is reminded of the eighty acres of St. Louis waterfront, torn down in the 1940s to make way for a massive park that would eventually house the Gateway Arch—the Buffalo waterfront was a "cluttered" and "unsightly" area of "tortuous," "narrow, congested streets," "dilapidated docks and rock pilings," and conflicting modes of transportation that frustrated the movement of people and goods into and out of the city's southern gateway and prevented economic development.[30] A self-serving resolution of the International Brotherhood of Electrical Workers, calling for a tunnel because it promised to produce more work for its members than a bridge, described the area in 1941 as "terribly blighted" and "considered dead."[31]

This view was related to the anti-traffic jam perspective that had activated high-level bridge advocates from the beginning. But it went further than that, suggesting that the Skyway could be the mechanism for getting rid of a certain kind of industrial-era ugliness by bypassing, even converting, a functioning waterfront and harbor into a grand entrance of the sort that would appeal to tourists and other visitors.[32] For two Common Council members thinking about a bridge in 1941, the structure was understood to furnish a point of observation where one could feast one's eyes on the area's "fine natural surroundings"; "such vistas," they emphasized, "are tourists' attractions."[33] A somewhat different reading, based on the frequent references to the lakeward "panorama" that the span offered, would emphasize the Skyway as a high perch from which Buffalo's historic relationship to water-borne commerce could be recapitulated, if only in the imagination—a kind of nostalgia perhaps, or wishful thinking.

Buffalo's Lake Erie outer harbor was hardly a hubbub of economic activity at the time of construction—acres of land, adjacent to the structure, were being used for automobile storage—and preparations for the Skyway would not require demolition of single-family homes or apartment buildings, a phenomenon that accompanied other inner-city highway projects in Buffalo and across the nation.[34] Nonetheless, the "renewal" mentality of the era meant that planners and others would see the project as a way of taming what was understood to be an unruly waterfront. An early engineering study twice referred to "old type buildings" that stood in the path of the proposed bridge at its northerly end and suggested that "the removal of some of the old buildings from this area will tend to improve the neighborhood."[35] The enthusiasm for a cleansing renewal was vividly revealed in 1963, eight years after the bridge opened, when the *Buffalo Courier-Express* published a photograph of the outer harbor, taken from the base of the Skyway, looking southwest along the water. The harbor was empty—no warehouses, no factories, no vessels, no swimmers, no people—just "gently sloping grasslands reaching to the edge of the water," in the words of the accompanying text. The story presented the Skyway—indeed, the larger system of thruways of which it was a part—as an agent of reclamation. "Until a few years ago," it said, "much of the property along Fuhrmann Blvd. [which paralleled the Skyway and its ground-level extension] from the mouth of the Buffalo River to Tifft St. was a rat-infested dump which also served as the home of numerous squatters who were down on their luck." The Skyway had initiated the cleanup. "Today, the picture is much different. The dumps, rats and squatters are gone. The road [Fuhrmann Blvd.] is becoming a modern expressway."[36]

For most of the 300 public officials, engineers, clergy, and interested citizens gathered at the foot of the Skyway in downtown Buffalo to celebrate the completion and opening of the high-level bridge on a chilly mid-October morning in 1955, the mile-long structure before them was more than a solution to traffic congestion, more than a ray of hope for waterfront development, and more, certainly, than the flawed idea of trading a working waterfront for tourists and a splash of

public relations. Although a response to specific local transportation problems, the Skyway was also a representative structure, typical of the age. Buffalo's bottlenecks and traffic jams were local versions of dramas played out in most eastern and mid-western cities; the sense of crisis these conditions engendered is delightfully captured in the 1939 Ralph Steiner/Willard Van Dyke documentary, *The City* (filmed mostly in Pittsburgh), with its honking horns, frustrated motorists, and threatened pedestrians. For social planners and engineers, the obvious solution was to take some of the vehicles off surface streets and put some of them below ground level and others above it. But tunnels were expensive, and bridges had greater appeal to the human spirit; elevated vehicle-moving systems were at the center of Le Corbusier's 1922 sketches for his Ville Contemporaine and of the futuristic designs of both the 1939 and 1964 world fairs. A number of the high-level bridges of the traffic-congestion era shared the Skyway name. New Jersey's Pulaski Skyway took vehicles 135 feet above the Hackensack River and the Meadowlands, between Jersey City and Newark; it opened in 1932. The 7.8 mile Chicago (or Calumet) Skyway opened in 1958, crossing the Calumet River above the city's east side industrial area. Other Great Lakes structures included the Burlington Bay Skyway Bridge (1958) and St. Catharines's Garden City Skyway (1963), both within sixty miles of Buffalo in Ontario, Canada, on the highway to Toronto. The first incarnation of the now-famous Sunshine Skyway, built between St. Petersburg and Bradenton, Florida, was completed in 1954. Elevated highways not designated "Skyways" were ubiquitous; Boston's $14.8 billion downtown "Big Dig" tunnel was designed to replace one of them, a "rickety eyesore built in 1959," in the words of a *Los Angeles Times* writer.[37] At 336 meters, higher than the Eiffel Tower, a French bridge most deserving of the Skyway name is known instead as the Millau Viaduct (2004).

Among those critical of the postwar boom in elevated structures was urbanologist Lewis Mumford. In "The Skyway's the Limit," a 1959 *New Yorker* essay, Mumford lamented a planned suspension bridge over the narrows between Brooklyn and Staten Island. Like the Buffalo Skyway, the narrows bridge had to be high to accommodate ships passing beneath, and its height inevitably meant an elevated roadbed and the displacement of thousands of Brooklyn residents as the structure reached land. For Mumford, the narrows bridge (opened in 1964 as the Verrazzano-Narrows Bridge) was just another "skyway"—a tall bridge with adverse social consequences—and skyways were an unfortunate throwback to the elevated railways that were proven failures. "At the very moment," he concluded, "that we have torn down our elevated railways, because of their spoilage of urban space, our highway engineers are using vast sums of public money to restore the same nuisance in an even noisier and more insistent form."[38]

Mumford's discouraging words found little support in Buffalo, where the Skyway was imagined as big and tall, sleek and exciting—a modernist dream come true. Although Buffalonians understood that the Skyway was a practical necessity for their crowded city, they also admired, appreciated, and celebrated

Figure 5: The Skyway under construction, April 14, 1955. Courtesy, Buffalo and Erie County Historical Society.

the structure in ways—ways embedded within mid-1950s American culture—that could not have been anticipated by the traffic engineers who had first imagined a high-level bridge and, at the turn of the next century, had been forgotten. Indeed, despite its utilitarian origins, the Skyway, like other "products" of what historian Thomas Hine has labeled the Populuxe era (1954–1963), was understood psychologically and celebrated emotionally. In January 1951, when work had begun with the driving of sixty-five steel test piles into the frozen ground off Fuhrmann Boulevard, the *Courier-Express* had called it a "day of rejoicing" and asked readers who "can't picture a bridge that high" to understand and appreciate its stature by thinking of it as equivalent to the five-story building that housed the newspaper's staff. Reporters could not resist the startling statistics that revealed the extraordinary mass of the structure: 5,904 feet long, 22,000 tons of steel deck, 10,000 cubic yards of concrete, 10,000 gallons of paint.[39]

A half century after motorists first experienced the pleasures of Buffalo's high-level bridge, it is still a thrill to ascend the Skyway, still a thrill to round the big curve with the lake filling the windshield, still a thrill to see the city in lights on the northbound run; still a thrill to see the Skyway at night from City Hall, "ablaze with light," as a *Courier-Express* photographer's time exposure, taken the evening of the opening, had revealed.[40] "The skyway," wrote a man

who today commutes over the Skyway, "is one of my favorite stretches of highway anywhere in the US. Since I was a small boy riding with my dad, a stint as a ten-wheel dump truck driver, and now a commuter, a drive on the Skyway has and still thrills me."[41] But the pleasures of the Skyway were also historical pleasures, the pleasures of 1955, pleasures heightened and made important by a generation of Americans who loved their cars and loved their roads, for whom the automobile was emerging as a symbol of speed, flight, power, mobility, progress, and sheer bigness—all miraculously captured and represented in that ribbon of steel and concrete over the Buffalo harbor.

Generations of scholars, working in an exceptionalist vein, have identified migration, movement, and mobility as key ingredients of the American experience. Writing in the 1950s and early 1960s, when "American character" studies were in vogue, historian George W. Pierson labeled that trilogy the "M-Factor," which for Pierson encompassed the nation's frontier heritage, its experience with immigration, its ideology of social mobility, and, in the twentieth century, its passion for the automobile. "Driving has become the country's favorite outdoor recreation," he wrote. "Movement means life. To the American it is not 'I think therefore I am,' but 'I move, so I'm alive.'" Examining prose narratives about roads and cars, Ronald Primeau argues that for Americans the highway has been "sacred space" where one might experience "exhilarating motion, speed and solitude." In *Freedom as Motion* (2001), Leslie Dale Feldman locates the link between freedom and motion in Thomas Hobbes's *Leviathan* (1651); for Hobbes, freedom was movement, which he defined as the absence of "impediments to motion," a definition that marks the Skyway's role in eliminating traffic "congestion" as productive of freedom of motion—that is, of liberal freedom itself. "The car," Feldman concludes, "is an encapsulation of Hobbesian psychology."[42]

The advertisements of the day provide a local window on the historical moment of the 1950s that built and embraced the Skyway. In an age when young boys were enthralled with the F-86 Sabre jets that had filled the skies over Korea, Detroit embellished its automobile ads with jet planes and wings, helping their customers to identify the grounded automobile with images of flight.[43] Dodge identified its 1955 Royal Lancer with driving adventure, and adventure with flight: "the sweep of the rear deck, the rakish slant of the full wrap-around New Horizon windshield that encircles you in a glass cockpit."[44] The tailfins that now seem so outrageously overdone were just beginning to emerge, with the 1956 Chrysler featuring its "Forward Look"—"one clean sweep from headlights to up-swept tail"—and Dodge claiming its share of a seemingly limitless, visionary future with gear shift buttons it billed as "the magic touch of tomorrow."[45] The name "Skyway," chosen from over 3,800 entries in a contest run by one of Buffalo's daily newspapers, directly linked the automobile to flight and signified the optimism of the age.[46]

The Skyway represented what Americans wanted from their cars, and—ironically, given the structure's prosaic origins—what they wanted was more than safety and convenience. The word "go," a regular

feature of auto ads in the 1950s, was at the center of this desire. The "Forward Look," read copy for Chrysler, "wraps up the whole idea of GO!"; Pontiac's Catalina was "the greatest 'go' on wheels!" But no one understood or said it better than Jack Kerouac, whose *On the Road*, written in 1951, finally reached print in 1957. Kerouac's protagonist was Dean Moriarty, a talented maniac of a driver who would have taken the Skyway as he did every other road—as fast as possible—and understood it as an appropriate measure of his substantial abilities. "'Whooee!' Yelled Dean. 'Here we go!' And he hunched over the wheel and gunned her; he was back in his element, everybody could see that. We were all delighted, we all realized we were leaving confusion and nonsense behind and performing our one and noble function of the time, *move*. And we moved!"[47] Built for commuters, the Skyway appealed to those like Moriarty, who wanted to *move*. Built by the establishment, the Skyway also could be used in acts of resistance, by those engaged in what W. T. Lhamon Jr. has described as a culture of "deliberate speed," seeking to overcome postwar "anomie" and "impotence."[48]

Everything had to be big, and not just cars. "For 1956," announced one advertisement, "the big move is to THE BIG MERCURY," and another Mercury ad described a vehicle that "Looks BIG—FEELS BIG—ACTS BIG—IS BIG!" The pitch applied even to last year's leftovers, with the 1955 Pontiac sold with "No Car SO BIG/At a Price SO LOW."[49] During the same week that the Skyway opened, area residents had their choice of movies about big men. *The Last Command* starred Sterling Hayden as Jim Bowie, whose size was assumed to have prepared him for his Alamo heroics: "What a Man was Six-Foot-Six Jim Bowie! A towering motion picture adventure!" At Buffalo's Century Theater, Clark Gable and Robert Ryan appeared in *The Tall Men*, which seemed to have no other subject than being tall: "The Tall Men Stood Tall . . . Fought Tall . . . Loved Tall . . . And One Man Towered Above Them All!"[50] Before the year was out Buffalo audiences would experience the cinematic equivalent of a first ride over the Skyway, the rollercoaster of the concentrated essence of "big" cinema: *Cinerama*.[51]

In that moment, the Skyway was a structure of beauty and power. It was not then the "ugly dinosaur that mars our waterfront," not a "glaring eyesore," not "one of those things that nobody particularly likes"—all judgments that would appear in print after the turn of the next century, rhetorical preparations for the act of demolition, as if to acknowledge the structure's aesthetic qualities would jeopardize the effort to get rid of it. The Skyway was the product of engineer Edward P. Lupfer, whose firm was located in the elegant, beaux arts Ellicott Square Building, and whose modest Buffalo home offered views of three of Frederick Law Olmsted's intersecting parkways. Lupfer's work reflected his training in the humanities at the University of Kansas and a trip to Italy, where he had studied the arches of ancient Rome. Lupfer's earlier efforts included the Peace Bridge (1927), whose five arches were derived from classical Greece and Rome, and the nearby Rainbow Bridge, in 1941 named by the American Institute of Steel

Construction as the "most beautiful bridge built that year." Lupfer insisted that he had been most concerned with what he described as the "spiritual side" of the Peace Bridge, his most famous work. "It has meant more than a sheer technique to me or more than a mere transport for vehicles; it has meant a structure that would weave two nations in close and finer friendship than before existed. . . ." He made no such claim for the Skyway—at least none that I have found—but his interest in the humanities remained undiminished. Just a year before the Skyway opened to traffic, Lupfer lamented the design and aesthetic shortcomings of many of his fellow engineers. "Not in the techniques and sciences," he insisted. "The average engineer is supremely capable there. It is in the humanities—literature, philosophy, the classics,—it is there he is not sufficiently versed. All of these would be most helpful to him in dealing with his many publics in diplomatic and public affairs."[52] It was an age when engineers did the work of designers, and Lupfer did both well.[53]

The Skyway was designed and constructed at a time when most bridges were understood to be primarily load-carrying, traffic-moving structures, rather than works of art, examples of fine architecture, or public symbols. Developments in bridge-building material had something to do with that utilitarian attitude; between 1889 and 1950, reinforced concrete—the material used in the Skyway—gradually replaced iron and steel as the material of choice. Even so, reinforced concrete was compatible with aesthetic ambitions. The plain, even stark facades of early twentieth-century factories made of reinforced concrete were conscious products of a modern, functionalist aesthetic; these buildings were understood to be pleasing and even beautiful as well as sensible and efficient.[54]

Although some dramatic effects could be achieved in concrete—particularly the pre-stressed variety, introduced in 1930 and first used in a Philadelphia span in 1950—most concrete bridges, including the Buffalo Skyway, were seen as engineering structures that did not require the services of an architect—or, put somewhat differently, structures for which the engineer was responsible for aesthetics as well as functionality.[55] Nonetheless, there was growing attention to the problem of how artistry might be brought to the concrete bridge, and to what might constitute a handsome bridge as opposed to one that was merely functional. Contributing to this new awareness was a burgeoning, utopian movement in commercial and industrial design, launched in the 1920s and inspired by the enthusiasm for trains and airplanes. During the 1930s, industrial design ideas spilled over from consumer products to affect urban planning, highways, and structures of all kinds, from world fairs to elevated highways. Public response to the construction and opening of San Francisco's remarkable Golden Gate Bridge (1933–37) also encouraged engineers to consider aesthetics as an essential element of bridge design, regardless of the material.[56] Consistent with this design history, Buffalo historian Mark Goldman has described the Skyway as a "high, arching 'City of Tomorrow'–like elevated highway right out of the 1939 World's Fair."[57]

One of the first to explore the artistic potential of reinforced concrete was Swiss engineer Robert Maillart (1872–1940), who in 1947 was the subject of a Museum of Modern Art exhibition celebrating his designs for a variety of European bridges in concrete, some of them of the simple "beam" variety that Lupfer would use in the Skyway. Maillart used the strength of reinforced concrete to make his bridges lighter, less massive in appearance, and more expressive—early examples of what would become known as "structural art," a design mode combining "efficiency, economy, and elegance" and emerging from the "imagination of the engineer," according to one bridge historian. Most American engineers, caught up in the frenzy of bridge construction that inevitably followed the democratization of the automobile, seemed not to care much about structural art. One exception was Conde B. McCullough, the engineer/designer responsible for many of Oregon's concrete bridges in the quarter century after 1920, including the steel-arched Yaquima Bay Bridge (1936).[58] Lupfer was another.

In some sense, the Skyway was its own designer. Because the central span had to cross the Buffalo River and the City Ship Canal without ground support, its roadbed had to be at least 110 feet high, and its "four great curves" were a function of its required course out of the city, over the river and ship canal, and down to Fuhrmann Boulevard and the Lake Erie waterfront. Lupfer's contribution was arguably one of restraint. Avoiding the historical references and ornamentation that marked his Peace Bridge as an early-modern structure with links to art nouveau and classicism, Lupfer's Skyway was simple and unadorned, a slashing, soaring "ribbon of steel and concrete," as *Buffalo News* reporter Ralph Wallenhorst described it on opening day, that expressed and reflected one aspect of the monumental high modernism of the mid-1950s.[59]

Two forms of modernism dominated architectural design in the postwar United States. One was the rectilinear modernism of the International Style, descended from the prewar Bauhaus School, deeply influenced by the stark, vertical, monumentalism of the concrete grain elevators that graced Buffalo's waterfront not far from the Skyway, and represented by Mies Van der Rohe's 1958 Seagram Building in New York City. The other was the curvilinear modernism of what historians have described as "vital forms," a postwar development with links to 1930s *moderne* and streamlining.[60] "Vital forms" can be found in postwar popular culture in kidney-shaped coffee tables, the boomerang pattern in Formica, the Charles Eames molded plywood chair (1948), the Al Capp cartoon figure of the Shmoo (1948), and in architecture in buildings as diverse as Frank Lloyd Wright's Guggenheim Museum (1959), Eero Saarinen's Dulles International Airport (1958–62), Morris Lapidus's Miami Beach hotels, and the curvilinear layout of Levittown (1947) and other new suburban communities. Scholars disagree on the meaning of "vital forms" design. Some argue that the movement depicts the breakdown of confident rectilinear modernism and represents a culture of anxiety rooted in the insecurities of the Cold War and the atomic age. Others believe that the soft, fluid, organic, and biomorphic qualities

Figure 6: The renovated Skyway opens, 1976. Buffalo Courier Express Library Collection, Courtesy, E. H. Butler Library Archives, Buffalo State College.

of "vital forms" design reflect an optimistic, expansive, and regenerative postwar outlook. [61]

Whether by intent or default, Lupfer's contoured Skyway represents the optimistic side of vital forms modernism. Indeed, the requirement that the structure follow a course laid out by the terrain gave the span a relationship to the land, investing the steel and concrete bridge with a measure of natural, organic vitality. The same has been claimed for portions of the interstate highway system

Figure 7: A "noir" image of the Skyway, May 13, 1958. Courtesy, Buffalo and Erie County Historical Society.

(1956–), including the system's signature cloverleaf interchanges, identified by one historian as "the most vivid symbol of the biomorphic awareness. . . ." The sense of flight that motorists experienced while traversing the Skyway, and that one could sense from beneath the structure, links the bridge to more famous structures identified with the vital forms phenomenon, including the Gateway Arch (designed 1948) and the Dulles International Airport, both Saarinen designs, and the New Haven, Connecticut hockey rink (1956–58) and the Trans World Airlines Terminal (JFK, 1956–62), both designs by David S. Ingalls. In words that

might be used to describe the Buffalo Skyway, historian Martin Filler suggests that Ingalls's TWA building "recalls the avian aspect of a bird in flight, a return to an *architecture parlante* in which a building's form 'speaks' quite directly about its function."[62] As speculative as these connections might seem, they are consistent with what we know of Lupfer's values, especially his idealism and his lifelong commitment to a humanistic approach to architecture.

The Buffalo Skyway represents the postwar moment as surely as the city's Olmsted parks and parkways speak to the Gilded Age, or Louis Sullivan's Guaranty Building represents the Victorian precision of the 1890s, or Buffalo's art deco City Hall trumpets the high optimism of the 1920s. That moment found Buffalo poised between its glorious past and a "rustbelt" future it could not yet see or feel, still making steel and building cars, and, in 1955, opening a bridge that would provide driving freedom for workers in two industries on the cusp of decline and make life easier for those commuting from suburbs that would soon suck the middle class out of the city and help bring on its economic woes. Although the Skyway would join the grain elevators as the harbor's outstanding icons, it was constructed by a community committed to manufacturing rather than commerce, and ambivalent, at best, about what remained of its Lake Erie/Erie Canal waterfront heritage.

The Skyway also can be understood as an example of what David Nye has called the "technological sublime." Nye applies the term to nationally known structures, including the Brooklyn Bridge, the Eads Bridge in St. Louis, the Statue of Liberty, the Empire State Building, Hoover Dam, and Buffalo's 1901 Pan-American Exposition, that were so big or vast, so spectacular or extraordinary, that they produced in the public a "powerful surge of emotions" consisting of "experiences of awe and wonder, often tinged," he notes, "with an element of terror." Bridges and skyscrapers, an example of the sub-category of the "geometrical sublime," achieved the status of the sublime by "appear[ing] to dominate nature through elegant design and sheer bulk" and by offering the eye new panoramas and new visual perspectives that allowed and encouraged observers to reconceptualize humanity's relationship with urban space and the natural world.[63] Similarly, the "magisterial gaze" that the Skyway made possible allowed area residents to reinvest themselves imaginatively in Buffalo's waterfront, looking backward, on the one hand, to the city's golden age of lake-based commerce, and forward, on the other hand, to the remote possibility of waterfront tourism.

To be sure, the Skyway was not on the scale of the Hoover Dam or the Brooklyn Bridge, but at a mile long and 110 feet high, it was big, bold, and dominant. And when it opened in 1955, and for some time thereafter, it produced an emotional response, and new ways of viewing and conceptualizing the waterfront below, that were consistent with the sublime. It came "tinged" with that "element of terror" that Nye noted; several religious figures, speaking on opening day, "sought God's intercession for the continued safety of travelers over the Skyway." As Nye recognizes, however, the experience of the sublime is neither

universal nor necessarily permanent. An object's power can decay over time, and reasonable people will differ in their response to it. "One person's sublime," he writes, "may be another's abomination." [64] The confidence with which today's politicians and developers attack the Skyway and call for its demolition would suggest that the structure has lost some of its affective power; for a community desperate for economic transformation, and looking to the waterfront for it, the Skyway's pleasures may seem trivial or unaffordable. Perhaps its scope and grandeur, qualities that in 1955 signified a future of growth and prosperity for Buffalo, now serve as reminders of the city's unfulfilled dreams and expectations. In this climate, in which the Skyway appears to be—and may actually be—an obstacle to "progress," to Buffalo's economic development, it may be time to tear it down, if only to see what, if anything, will replace it.

But before that happens, it is important to retrieve and savor those elements of the Skyway's biography that may be obscured by the current enthusiasm for demolition: its practical origins as a carrier of vehicles above Buffalo's waterways, a function it retains; its appeal as a means of re-imagining the city and its harbor, from above; its form, an example of the optimistic, future-oriented, monumental, vital forms modernism of the 1950s; its status as a sublime object, its height and length and shape yielding experiences of awe and wonder, especially for drivers, and especially for drivers in the golden age of the automobile, when the driving experience so directly represented the essential American values of movement and mobility.

Above all, to understand the Skyway one must recapture and re-experience the pleasures and thrills of driving it. For those who did so, whether for the first time or the one-hundredth, it was at once more than a time-saver and less than a symbol of the nation's imperial hubris, a metaphor for Buffalo's goals and illusions, or a representative piece of postwar architecture. It was about the exhilaration of driving, on a special road that magnified that exhilaration. It was about speed and flight and motion in the "sacred space" of the highway, at a moment when those pleasures had yet to be questioned or sullied. Cresting the Skyway, the sensation of the road falling away, projected over the glimmering surface of Lake Erie, one imagines Kerouac's Moriarty, hunched over the wheel of a '53 Mercury, radio blasting, beating on the dashboard. "'Whooee!' Yelled Dean. 'Here we go!'"

Notes

1. Ralph Wallenhorst, "Traffic Streaming Over Skyway Heralds New Era for City," *Buffalo News*, October 19, 1955, 10 (Rumsey).

2. Wallenhorst, "Traffic Streaming Over Skyway," 1 ("panoramic vistas"); "Skyway Comment: A Beautiful View and a Time-Saver," *Buffalo News*, October 19, 1955, section 5, 71 ("view is terrific"); letter to editor from "Hamburger," *Courier-Express*, October 28, 1955, section 3, 32 ("thrill," "breath-taking beauty"); "Skyway 'Delivers' Workbound Traffic Without a Hitch," *Buffalo News*, October 20, 1955, section 3, 45.

3. "Skyway Attracts Sunday Visitors," *Buffalo News*, October 24, 1955, 20; "Partyka Imposes $35 Fine on First Skyway Speeders," *Buffalo News*, October 27, 1955, 1; editorial, "Ride that Skyway," *Buffalo News*, October 20, 1955, section 3, 46 ("free joyride"). In terms relevant to the Skyway experience described here, Phil Patton labels the 1984 Linn Cove Viaduct, in the Blue

Ridge Parkway system, as "cinematic architecture" that creates "the modernism of the transported eye, of flowing sight as well as flowing space." Patton, *Open Road: A Celebration of the American Highway* (New York: Simon and Schuster, 1986), 126, 129.

4. Hengerer's advertisement, *Buffalo News*, October 21, 1955, section 1, 7.

5. Drago's painting of the Skyway and his son's remarks were at *www.eastbayartists.com/images/Alchemists-006.jpg*, accessed August 9, 2002.

6. New York State, Department of Public Works, *Report on New York State Thruways and Arterial Routes: The Buffalo Urban Area/Erie County, New York* (n.p., [1946]), 13-14, 116; Editorial, *Buffalo Courier-Express*, October 30, 1955, 30-A (leadership); Melvin Levin and Norman A. Abend, *Bureaucrats in Collision: Case Studies in Area Transportation Planning* (Cambridge, MA: The MIT Press, 1971), 147 (population); "Buffalo Area Jobs at Highest Level in Nearly 2 Years," *Buffalo News*, October 20, 1955, section 4, 75; editorial, "Niagara Frontier Gets Inkling of Future," *Buffalo Courier-Express*, October 21, 1955, 18; "Buffalo Area Jobs to Rise 44% by 1965, Baker Predicts," *Buffalo News*, October 18, 1955, section 4, 57. On the city's wartime prosperity, see Mark Goldman, *High Hopes: The Rise and Decline of Buffalo, New York* (Albany: SUNY Press, 1983), 232-41. The *Fortune* story is described in Mark Goldman, *City on the Lake: The Challenge of Change in Buffalo, New York* (Buffalo: Prometheus Books, 1990), 167.

7. "Work on High Level Span to Begin in Spring," *Buffalo Courier-Express*, March 12, 1950, section 5, 1; Robert J. Penders (Buffalo Police Department), letter to editor, "Skyway is Unsafe: Must be Replaced," *Buffalo News*, December 1, 2002, F-3.

8. Wallenhorst, "Traffic Streaming Over Skyway," 1; editorial, *Buffalo News*, October 20, 1955, section 3, 46; editorial, *Buffalo News*, November 15, 2002, C-10; editorial, "Real Support for Dumping Skyway," *Business First*, August 26–September 1, 2005, 62; "People Talk," interview with Kevin P. Gaughan, "First Sunday" section, *Buffalo News*, August 4, 2002, 4.

9. Sharon Linstedt, "Effort to Raze Skyway Gets National Push," *Buffalo News*, March 24, 2006, D1-2.

10. Igor Kopytoff, "The Cultural Biography of Things: Commoditization as Process," in *The Social Life of Things: Commodities in Cultural Perspective*, ed. Arjun Appadurai (Cambridge: Cambridge University Press, 1986), 66-68 [quotation 68]; Linda Merrill, *The Peacock Room: A Cultural Biography* (Washington, DC: Smithsonian Institution, 1998), 19; Richard Fletcher, "The Cultural Biography of a Phoenician Mushroom-Lipped Jug," *Oxford Journal of Archaeology* 25 (May 2006): 173; David S. Reynolds, *Walt Whitman's America: A Cultural Biography* (New York: Alfred A. Knopf, 1995), xi-xii; Peter Conn, *Pearl S. Buck: A Cultural Biography* (Cambridge: Cambridge University Press, 1996), xviii. This essay might also have been subtitled "Fact and Symbol," following Alan Trachtenberg's example in *Brooklyn Bridge*. Alan Trachtenberg, *Brooklyn Bridge: Fact and Symbol* (New York: Oxford University Press, 1965).

11. "C of C Tour Spurs Drive for New Span," *Courier-Express*, September 9, 1947, 13.

12. Wallenhorst, "Traffic Streaming over Skyway," 10.

13. "Higgins Acts to Invoke Safety Measures Here," *Courier*, September 23, 1926; and "Need for Science Seen For Aiding Traffic in City," *Courier*, February 12, 1929 (Buffalo traffic deaths), both in *Traffic Control in the Buffalo Area*, vol. 1, Buffalo and Erie County Public Library, Local History Collection.

14. Nat Gorham, "Ring of Iron Makes City Traffic Dense," *Buffalo News*, March 22, 1939 (no page number), in *Traffic Control*, vol. 1. The funnel outlets were at Delaware Avenue, Genesee Street, Colvin Avenue, Broadway, and Abbott Road.

15. New York State, Department of Public Works, *Report on New York State Thruways and Arterial Routes*, 1, 71.

16. "Lift Bridges," *Buffalo News*, January 6, 1951, and July 9, 1951 (photo), both in *Traffic Control*, vol. 1.

17. Letter T. M. (Buffalo), *Courier-Express* October 23, 1955, 28A.

18. Sub-head to Wallenhorst, "Traffic Streaming Over Skyway."

19. "Skyway Called First of Big Projects," *Courier-Express*, October 20, 1955, 18; editorial, *Courier-Express*, October 20, 1955, 26.

20. City of Buffalo, *Proceedings of the Common Council*, *1947* (n.p., n.d.), 1711, September 2, 1947.

21. The discussion over Buffalo's lake commerce can be followed in the newspaper articles collected in *Buffalo Harbor*, vol. 4, Buffalo and Erie County Public Library, Local History Collection.

22. "Boehm Protesting High-Level Span," *Courier-Express*, March 26, 1948, 17.

23. Niagara Frontier Authority, *Proposed Buffalo River Vehicular Crossing at Buffalo, New York*, Ralph Smillie and J. C. Evans, engineers, October 6, 1944 (n.p., n.d.), 13.

24. *Courier-Express*, October 20, 1955, 26, editorial.

25. *Buffalo Evening News*, October 19, 1955, Section 5, 68, editorial.

26. Quoted in Wallenhorst, "Traffic Streaming Over Skyway," 1. See also the advertisement for commercial banking, *Buffalo Evening News*, October 18, 1955, 3, 44.

27. Sketch, *Courier-Express*, April 8, 1950, 15.

28. John F. Kasson, *Rudeness & Civility: Manners in Nineteenth-Century Urban America* (New York: Hill and Wang, 1990), 73-74.

29. Albert Boime, *The Magisterial Gaze: Manifest Destiny and American Landscape Painting c. 1830–1865* (Washington, DC: Smithsonian Institution Press, 1991), 5 ("scenic panorama"), 20-21 ("magisterial gaze," "heights"), 38, 56, 75 ("fantasy of domain and empire").

30. *Courier-Express*, October 20, 1955, 26, editorial ("tortuous"); "C of C Tour Spurs Drive for New Span," *Courier-Express*, September 9, 1947, 13 ("dilapidated docks"); "Viaduct Seen Essential to City's Growth," *Courier-Express*, January 14, 1940, in *Traffic Control in the Buffalo Area*, vol. 1 ("unsightly"); "Work Started on Long-Anticipated $8,000,000 High-Level Bridge," *Courier-Express*, January 13, 1951, 15 ("narrow, congested"); David E. Nye, *American Technological Sublime* (Cambridge, MA: The MIT Press, 1994), 106-107.

31. City of Buffalo, *Proceedings of the Common Council*, *1941* (n.p., n.d.), 2805-06, November 25, 1941.

32. "Council Okays Bridge Over Buffalo River," *Courier-Express*, December 27, 1947, 9 (City Councilman-at-Large George J. Young: "It will beautify our waterfront which has long been criticized by visitors to the city."); "High-Bridge Link to Fuhrmann Drive Urged for Defense," *Buffalo News*, July 19, 1941, in *Traffic Control in the Buffalo Area*, vol. 1; and John Johnson, quoted in "Traffic Streaming," 10. Phil Patton writes that the modern superhighways were "the roads of the future; their construction turned all other roads into byways of the past, objects of nostalgia." The Skyway had this impact on the waterfront beneath it. Patton, *Open Road*, 14.

33. City of Buffalo, *Proceedings of the Common Council 1941*, 2127, July 22, 1941.

34. On waterfront auto storage, see untitled article in *Buffalo Business*, March 1954, in *Buffalo Harbor* clippings, vol. 1, no. 4, Buffalo and Erie County Public Library, Local History Collection.

Many scholars have remarked on the removal and dislocation of urban residents by "urban renewal" housing and highway projects. See, for example, Martin Anderson, *The Federal Bulldozer: A Critical Analysis of Urban Renewal, 1949–1962* (Cambridge, MA: The MIT Press, 1964), 6-7, 52-70; Thomas H. O'Connor, *Building a New Boston: Politics and Urban Renewal, 1950–1970* (Boston: Northeastern University Press, 1993), 126, 131, 134, 138-139; E. Michael Jones, *The Slaughter of Cities: Urban Renewal as Ethnic Cleansing* (South Bend, IN: St. Augustine's Press, 2004), 206, 216; and Raymond A. Mohl, "Planned Destruction: The Interstates and Central City Housing," in *From Tenements to The Taylor Homes: In Search of an Urban Housing Policy in Twentieth-Century America*, eds. John F. Bauman, Roger Biles, and Kristin Szylvian (University Park: Pennsylvania State University Press, 2000), 226-245. On the impact of the Ellicott Urban Renewal Project and the Kensington Expressway on white ethnics and African Americans in Buffalo, see Goldman, *City on the Lake*, 18-25.

35. Niagara Frontier Authority, *Proposed Buffalo River Vehicular Crossing*, 10, 13.

36. "Property Along Waterfront Given Face Lifting," *Buffalo Courier-Express*, May 26, 1963, in scrapbook, *Buffalo Harbor*, vol. 3, in Buffalo and Erie County Public Library, Local History Collection; "Rapp Calls for Waterfront Cleanup," *Buffalo News*, October 21, 1955, section 2, 26.

37. On *The City* see Erik Barnouw, *Documentary: A History of the Non-Fiction Film* (1974; rev. ed. New York: Oxford University Press, 1983), 122-124. Le Corbusier's sketches are noted in Patton, *Open Road*, 97. For Norman Bel Geddes's "Futurama" design for the 1939 fair, see *Dawn of a New Day: The New York World's Fair, 1939/40*, The Queens Museum, Helen A. Harrison, Guest Curator (New York: New York University Press, 1980), 100-101. The 1964 fair is described and analyzed in Michael L. Smith, "Making Time: Representations of Technology at the 1964 World's Fair," in Richard Wightman Fox and T. J. Jackson Lears, *The Power of Culture: Critical Essays in American History* (Chicago: The University of Chicago Press, 1993), 223-244. On Skyways other than Buffalo's see http://en.structurae.de/structures/data/index.cfm?id=s0001284, accessed October 18, 2007 (Pulaski Skyway) and http://www.welland.library.on.ca/digital/SOURCE/Bridges/bridge34.htm, accessed October 18, 2007 (Garden City Skyway). On Boston's tunnel, see Elizabeth Mehren, "After years of construction, light at end of Boston tunnel," *Buffalo News*, December 22, 2002, H-1 ("eyesore").

38. Lewis Mumford, "The Skyway's the Limit," in Lewis Mumford, *The Highway and the City* (New York: Harcourt Brace Jovanovich, 1963), 219-220 (quotation on 220).

39. Thomas Hine, *Populuxe* (New York: Alfred A. Knopf, 1986), 65, 159; "Work Started on Long-Anticipated . . . Bridge," 15 ("rejoicing," comparison to building); Wallenhorst, "Traffic Streaming Over Skyway," 10 (statistics), 1 ("four great curves"). On the automobile as an object of desire, see also Karal Ann Marling, *As Seen on TV: The Visual Culture of Everyday Life in the 1950s* (Cambridge, MA: Harvard University Press, 1994), 129-162.

40. *Courier-Express*, October 20, 1955, 1 (Clifford Preisigke photo).

41. Mitch Cummings, email to author, February 3, 2003.

42. George W. Pierson, *The Moving American* (New York: Alfred A. Knopf, 1973) [an edited collection], 234 ("M-Factor"), 13 ("outdoor recreation"), 83 ("movement means life"); Ronald Primeau, *Romance of the Road: The Literature of the American Highway* (Bowling Green, OH: Bowling Green State University Popular Press, 1996), 1; Leslie Dale Feldman, *Freedom as Motion* (New York: University Press of America, 2001), xiii ("impediments"), 60 ("Hobbesian psychol-

ogy"). See also Oscar Handlin, *The Uprooted: The Epic Story of the Great Migrations that Made the American People* (Boston: Little, Brown, 1951), 37, and James J. Flink, "Three Stages of Automobile Consciousness," *American Quarterly* 24 (October 1972): 455 and *passim*. Pierson's formulation of the "M-Factor" was first published in "The M-Factor in American History," *American Quarterly* 14 (Summer 1962): 275-289. Hine describes the Populuxe era as valuing "forward motion at ever-increasing speed" (*Populuxe*, 6-7). True to form, the cantankerous Mumford found the same phenomenon—labeled the "religion of the motorcar"—deserving of condemnation. "The American," he wrote in 1958, "has sacrificed his life as a whole to the motorcar, like someone who, demented with passion, wrecks his home in order to lavish his income on a capricious mistress who promises delights he can only occasionally enjoy." Mumford, *The Highway and the City*, 234-235.

43. *Buffalo News*, October 18, 1955, section 2, 19 (ad for 1956 Pontiac); *Buffalo News*, October 20, 1955, section 3, 66 (ad for "aerodynamic" 1956 Plymouth). On the impact of aircraft design on automobiles, see Hine, *Populuxe*, 85-87, 89-91.

44. *Courier-Express*, January 18, 1955, 5 (Dodge ad).

45. *Buffalo News*, October 18, 1955, section 2, 3 ("Forward Look"); *Buffalo News*, October 18, 1955, section 3, 46 ("touch of tomorrow"). Indeed, automobiles were so thoroughly identified with progress and the future that the industry's habit of introducing annual model changes had made inroads into home appliances, where consumers could purchase not just the latest Norge washing machine, but "the '56 Norge Washer." *Buffalo News*, October 19, 1955, section 6, 100 (Norge). The fascination with automobiles and super-highways is wonderfully captured in the concluding scenes of the 1962 film, *How the West Was Won*.

46. "Traffic Streaming," 10 (naming). The Western New York Civic Progress Association had suggested the name "Skyway" in 1951 for a proposed elevated highway to be built between the high-level bridge and Tifft St. The structure was to be known as the "gateway to the West." City of Buffalo, *Proceedings of the Common Council*, *1951* (n.p., n.d.), pt. 2, 1913, July 24, 1951.

47. *Buffalo News*, October 18, 1955, section 2, 3 (Chrysler); *Buffalo News*, October 28, 1955, section 3, 36 (Catalina); Jack Kerouac, *On the Road* (New York: Signet Books, 1957), 111.

48. W. T. Lhamon Jr., *Deliberate Speed: The Origins of a Cultural Style in the American 1950s* (Washington, DC: Smithsonian Institution Press, 1990), 28-29. The television program *Highway Patrol*, starring Broderick Crawford, premiered on October 25, 1955, the Tuesday after the Skyway opened. *Buffalo News*, October 25, 1955, section 3, 30, ad for *Highway Patrol*.

49. *Buffalo News*, October 18, 1955, section 2, 28 (BIG MERCURY); *Courier-Express*, October 16, 1955, "American Weekly" magazine section (Looks BIG); *Courier-Express*, January 21, 1955, 24 (No Car SO BIG).

50. *Courier-Express*, October 26, 1955, 10 (*The Last Command*); *Courier-Express*, October 19, 1955, 12 (*The Tall Men*).

51. On *Cinerama* and its "illusion of movement," see J. Ronald Oakley, *God's Country: America in the Fifties* (New York: Dembner Books, 1986), 261.

52. Edward P. Lupfer, "The Peace Bridge," *B.A.C. Backer* 5 (December 1, 1926): 46; E. P. Lupfer, "Builder of Bridge Says Aim was to Cement Peace," *Buffalo Courier*, August 7, 1927, in *Local Biographies*, v. 21 (Lep-Ly), Buffalo and Erie County Public Library, Local History Collection; Edward P. Lupfer, "Humanities Vital to Engineers," *Buffalo News*, October 13, 1954, in *Local Biographies*, Buffalo and Erie County Public Library, Local History Collection; "Edward P. Lupfer," *Buffalo Business*, January 1950, in *Local Biographies* A-Z, Ser. 18, 96 (Rainbow Bridge). See also "Edward P. Lupfer, Builder of the Peace Bridge, Dies," *Buffalo Evening News*, December 14, 1962, in *Local Biographies* Ser. 31 (1962), 120-121.

53. Leonidas T. Delyannis, "Past and Future in the Design and Construction of Concrete Bridges," in *Concrete Bridge Design*, First International Symposium (1966 and 1967), ACI Publication SP-23 (Detroit: American Concrete Institute, 1969), 5

54. Amy E. Slayton, *Reinforced Concrete and the Modernization of American Building, 1900–1930* (Baltimore: The Johns Hopkins University Press, 2001), 168-188.

55. Delyannis, "Past and Future in Design and Construction of Concrete Bridges," 2-3; author's telephone interview with Joe Freeman, Buffalo, New York, July 13, 2005.

56. Matthew Wells, "Bridge Design: A Brief History," in Wells, *30 Bridges* (New York: Watson-Guptill, 2002), 32; Jeffrey L. Meikle, *Twentieth-Century Limited: Industrial Design in America, 1925–1939* (Philadelphia: Temple University Press, 1979), 4, 19, 38-67, 146-147, 203, and *passim*.

57. Goldman, *City on the Lake*, 57.

58. David P. Billington, *Robert Maillart and the Art of Reinforced Concrete* (New York: MIT Press, 1990), xii, 86, 90, 116 ("imagination"); David Plowden, *Bridges: The Spans of North America* (New York: W. W. Norton, 1984), 319 (McCullough); David Plowden, *The Hand of Man on America* (Riverside, CT: The Chatham Press, 1971), no page number (photo of Yaquima Bay Bridge); Lupfer, "The Peace Bridge," 46. On designing in concrete, see also Julius G. Potyondy, "Aesthetic Problems in Contemporary Bridge Design," in American Concrete Institute, *Concrete Bridge Design* (Detroit: American Concrete Institute, 1969), 7-18.

59. Wallenhorst, "Traffic Streaming," 1.

60. Craig Whitaker, *Architecture and the American Dream* (New York: Three Rivers Press, 1996), 58 (Seagram); Martin Grief, *Depression Modern: The Thirties Style in America* (New York: Universe Books, 1975), 72-73, 96; Patton, *Open Road*, 130. On the impact of grain elevators on modernism, see Rayner Banham, "Buffalo Industrial," *Little Journal* 3 (February 1979), 5-19.

61. Kevin L. Stayton, "Introduction," in Brooke Kamin Rapaport and Kevin L. Stayton, *Vital Forms: American Art and Design in the Atomic Age, 1940–1960* (New York: Brooklyn Museum of Art, in association with Harry N. Abrams, 2001), 26 (boomerang, coffee tables), 27 (Eames chair); Paul Boyer, "The United States, 1941–1963: A Historical Overview," in *Vital Forms*, 72 (Shmoo), 69 (Guggenheim); Martin Filler, "Building Organic Form: Architecture, Ceramics, Glass and Metal in the 1940s and 1950s," in *Vital Forms*, 128 (Saarinen), 139 (Lapidus), 134-135 (Levittown). On the meaning of vital forms design, see Boyer, *Vital Forms*, 39, 74, and *passim*.

62. Stayton, "Introduction," *Vital Forms*, 26-27 (relationship to the land); Filler, "Building Organic Form," *Vital Forms*, 146 ("biomorphic awareness"); Boyer, "United States," *Vital Forms*, 69; William Graebner, *The Age of Doubt: American Thought and Culture in the 1940s* (Boston: Twayne, 1991), 60, 124; Filler, "Building Organic Form," *Vital Forms*, 129 (hockey rink), 130-131 (TWA terminal), 181 (Dulles terminal), 129 (*architecture parlante*).

63. Nye, *American Technological Sublime*, 85 ("surge of emotions"), 23 ("awe and wonder," "terror"), xvi, 77 ("bulk"), 87, 96, 104-105 (visual perspectives).

64. Wallenhorst, "Traffic Streaming," 10 ("God's Intercession"); Nye, *American Technological Sublime*, xiv (decay), xvii ("abomination").