

Thematic Survey of Modern Movement Non-Residential Architecture, 1945 – 1975, in St. Louis City

Historic Context Statement Modernist Architects in Practice in St. Louis, ca. 1945 - 1975

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Context Statement

Christine Madrid French, June 13, 2013

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Methodology

- **Selection of Architects:** The architects selected for the list below include individuals and firms that headquartered their practices in St. Louis and/or attended, taught, or graduated from the School of Architecture at Washington University of St. Louis during the study period. Each listing is augmented with a biographical paragraph and a select list of buildings. The biography is written to provide critical information and dates to facilitate further research in this area.
- **Geographic Area:** During the mid-twentieth century, the population of St. Louis as a metropolis expanded far outside the formal city borders, to populate a series of suburbs and smaller adjacent towns. Those buildings, and the architects that designed in the cities surrounding St. Louis, are not included in this survey. A number of buildings designed by the architects in this list are located in suburban areas, but are not detailed within the scope of this study.

Context Statement

St. Louis Architects in the Modern Age

In 1944, the Museum of Modern Art in New York City published a follow up to the widely popular book and exhibit *The International Style*, with a second exhibit titled “Built in U.S.A.,” focusing solely on modern architecture. The museum cited three factors accountable in the “great post-war flowering of architecture,” in the U.S., the first of which was “a generation of architects trained in schools that no longer teach the traditional styles” entering the commercial field and beginning their own practices.¹

This “first generation” of American modernists flourished in St. Louis, beginning a tradition of design innovation and encouraging a culture of architectural exploration that changed the face of this Midwestern metropolis. Newly graduated from the Washington University of St. Louis, or arriving from other cities to begin anew, these architects came armed with both knowledge and training in the “new way of building,” based on precedent-setting designs by early twentieth-century modern masters such as Frank Lloyd Wright, Le Corbusier, Walter Gropius, and Ludwig Mies van der Rohe. Yet, rather than follow their architectural ancestors by rote, these designers created modern structures with a distinctly regional flavor, incorporating traditional materials—such as red brick—into buildings that satisfied their client’s needs along with the demands of site and climate particular to the St. Louis area. The new modernists assertively led a movement that eventually penetrated the most conservative areas of design, leading to a total revolution in the character of St. Louis’ regional architecture.

By the 1930s, even the general public was aware of a growing change in architectural design, one that addressed the conditions of the twentieth century, rather than the context of the past. *Popular Mechanics* published a number of articles on the rise of modernism, bringing the topic into the homes of Americans and reminding the populace that the time to move forward in design had arrived:

“The machine age is tackling a long-neglected job—modernizing the exteriors of homes and buildings. With steel, stone, concrete and glass, architects the world over are designing and building structures to remind people that they are living in the day of streamline trains and air transports...Useless ornament, decoration, and adaptations from Greek, Roman and Spanish architectural styles are strictly taboo these days. Architects have decided that a modern man can’t live in an Italian Renaissance house or mid-Victorian flat and feel that he belongs to the twentieth century.”²

The modern city, no less its modern residents, clamored for architecture in the “new” style. Communities competed to demonstrate their mastery of the modern century and their rise in capital in a game of one-upmanship held throughout the country. Modern design quickly gained credibility as a sign of economic prosperity, a visible and prominent symbol of city growth. In St. Louis, architects and clients sought out modern design as a key to civic survival; recovery of the city hinged on the embrace and promotion of this new vision of American life.

A number of local architects took up the challenge of reinvigorating St. Louis, including Harris Armstrong, Charles Eames, William Adair Bernoudy, and Edouard Mutrux among others. Their early works from this period set the design tone for the middle years of the twentieth century. The stylistically bold buildings encompassed a range of modern vocabularies, including the rectilinear character of the International Style, the Frank Lloyd

¹ The Museum of Modern Art, “‘Built in U.S.A.: Post-War Architecture’ to be shown at museum,” press release, January 18, 1953. http://www.moma.org/docs/press_archives/1673/releases/MOMA_1953_0003_3.pdf?2010

² “This Changing World,” *Popular Mechanics Magazine*, vol. 64, no. 14, July 1935, 26.

Wright-inspired incorporation of regional and natural materials, and variations on high style Art Deco, with rounded facades and luxurious finishes. Armstrong's dental clinic design for Dr. Leo Shanley in Clayton (7800 Maryland Ave) in 1935, widely recognized as one of the first examples of modernism in the St. Louis area, features characteristics of modernism in its blending of interior and exterior elements and in its use of poured-concrete walls. The Shanley Clinic brought international attention to St. Louis: Armstrong won a silver medal at the Paris World's Fair of 1937 for this design, named as the "first 'international modern' building in the Midwest."³ Armstrong drew from Wright's work in his regionally-sensitive design for the Dr. Samuel B. Grant clinic (114 N. Taylor St., St. Louis) of 1938, which incorporated red brick and a copper roof, typical materials for buildings in the Midwest but unusual in the high-style modernist cannon of the time.

Two of the earliest modern designs in the city of St. Louis were created by engineers, rather than architects. In downtown, the 1933 Tum's Building designed by Widmer Engineering Company, combined a street-level entry Art Deco treatment with an International Style façade above, featuring the cantilevered corners, ribbon windows, and complete absence of decorative motifs advocated widely by pioneer modern architects such as Richard Neutra. William C.E. Becker, a city engineer, created the beautifully transparent Jewel Box for Forest Park in 1936, drawing on nineteenth century greenhouse precedents but also revealing an enthusiasm for celebrating modern technology and materials, seen later in the precedent-setting vaulted halls of Hellmuth, Yamasaki & Leinweber's 1955 Lambert Field Main Terminal, the geodesic form of the 1960 Climatron by Murphy & Mackey, and, of course, in Eero Saarinen's 630-foot-tall stainless steel Gateway Arch, completed in 1965.

The Jefferson National Expansion Memorial (JNEM), brought worldwide attention to St. Louis. Architects had long fought for the nation's memorials to better express the modernity of the twentieth century, rather than Egyptian or Classical prototypes, and viewed the JNEM competition as their moment to prevail in a national design forum. Noted modernists from all corners submitted entries to the 1948 competition, including Edward Durrell Stone (with Isamu Noguchi), Harris Armstrong, Charles and Ray Eames with John Entenza, Harry Weese, and Louis Kahn, among others.⁴ The jury consisted of S. Herbert Hare, landscape architect; Charles Nagel, Jr., a local architect and museum professional; Fiske Kimball, an pioneer architectural historian and architect; Louis La Beaume, a St. Louis architect; Roland A. Wank, a modern architect from Hungary who worked on Tennessee Valley Authority projects; and designer Richard J. Neutra, under the chairmanship of William W. Wurster, architect and professor. The winning design, a glistening metallic arch submitted by Eero Saarinen, was not immediately embraced and, in fact, not constructed until more funding became available in the 1950s. In a signed statement, the jurors defended Saarinen as the winner and lauded the symbolic significance of the arch form (and stanching critics who disparaged modernist design's European origins), by stating that "the parabolic and the hyperbolic arch, with their structural advantages, have become characteristic forms of functional modern architecture... The form is public domain; it was not invented by the Fascists."⁵ Despite initial skepticism from the public, the structure became a municipal icon. The arch broke one of the last barriers for modernist designers, inspiring both local architects and others nationwide to fully explore the possibilities of modernism in all types of contemporary projects, from the utilitarian to the high style.

³ "The Work of Harris Armstrong, the dean of modern architects in St. Louis, will be highlighted in a lecture and tour," *Webster-Kirkwood Times*, Oct. 16, 1997, 16.

⁴ Helene Lipstadt, "Co-Making the Modern Monument: The Jefferson National Expansion Memorial Competition and Eero Saarinen's Gateway Arch," in *Modern Architecture in St. Louis: Washington University and Postwar American Architecture 1948-1973* (St. Louis: School of Architecture, Washington University in St. Louis, 2004), 13-16.

⁵ "Exhibit 'B', Statement by the Jury of Award on the Winning Design in the Jefferson National Expansion Memorial Competition." n.d.

Changing the face of St. Louis—by changing its architectural image—became a critical endeavor, initiated to address contemporary needs and ensure cultural longevity. The nostalgic glow from the 1904 World’s Fair faded as the community faced a host of new challenges in the mid twentieth century. St. Louis lagged behind its municipal competitors in design, economics, and business, a struggle to keep up that the press eagerly reported to the public, often in national forums. *Life Magazine*, a popular weekly, described St. Louis’s growing pains in a 1954 pictorial report comparing St. Louis to its neighbor Kansas City. St. Louis was described as “a city settled down after its most spectacular surge of success has passed.” The once vibrant community was likened to an “old dowager” overseen by an outdated mayor in an antique building, while its sister city propelled forward with a “young and brash” character.⁶

Architecture expressed the tenor of its own time; by the 1950s pre-World War II buildings appeared outdated and representative of another era, one which needed to be left behind in order to advance. City leaders and citizens vowed to change St. Louis, voting in a \$110,000,000 bond issue in 1955 (the largest in its history) to fund new projects including four new branches of the public library, expansion of the zoo, a planetarium, eight new fire stations, a new hospital, and three community centers, along with “slum clearance,” street lighting, and street resurfacing.⁷ The new projects, designed by different firms and architects, emerged in a variety of modern styles, including New Formalism, the International Style, and Brutalism. Local modernists questioned the design logic for building “revivalist” styles, such as erecting a likeness of the Mausoleum of Halicarnassus (ca. 353 B.C.) for use as a mid-western Civil Courts Building (1930, Klipstein & Rathmann). Instead, contemporary architects sought to create entirely new forms that nodded to regional precedents while exploiting innovative building technologies to their limits.

Public acceptance of the “new” architecture varied considerably. Modern design eliminated the “safe, familiar things” that generations relied upon as cultural touchstones; a number of honored St. Louis architectural traditions, such as decorative cornices, disappeared. Indeed, as a whole, no other architecture movement was “more deeply distrusted by the public,” than modernism.⁸ Nonetheless, the advantages of building in a modernist style in order to attract the public were well known. The new buildings inspired optimism and generated a renewed interest in old institutions. In the 1960s, the Bank Building and Equipment Corporation of America, headquartered in St. Louis and the largest firm in the country to specialize in the design and construction of bank buildings, discovered that new or remodeled buildings brought an associated increase in deposits.⁹ Architect Frederick Dunn, speaking of his 1954 design for a dramatic floor-to-ceiling glass façade building in Jennings, asserted that “We have designed Faith-Salem Church as an evangelical tool, to bring in the people. It will be hard to keep tourists and visitors out.”¹⁰

Collaboration and Community

The School of Architecture at Washington University in St. Louis provided a common thread amongst many of the architects that worked in and visited St. Louis during the mid-twentieth century. The university brought the most important element to the scene: intellectual capital in the form of recently graduated, trained architects that specialized in modern design. Founded in 1910 after a split with the School of Engineering, the School of

⁶ Edward Clark and Howard Sochurek, “Kansas City and St. Louis: Picture Portfolio Shows Some Contrasts Between Striving City and a Settled One,” *Life Magazine*, Mar. 29, 1954, 106-115.

⁷<http://www.umsi.edu/virtualstl/phase2/1950/events/perspectives/documents/votingsheet.html>, League of Women Voters Collection, Western Historic Manuscripts.

⁸ Elizabeth Mock, ed., *Built in USA: Since 1932* (New York: The Museum of Modern Art/Arno Press, 1944, reprint 1968), 13.

⁹ “New Trend is to Lavish Office and Ultra-Modern Buildings,” *St. Louis Globe Democrat*, Feb. 24, 1962.

¹⁰ John T. Stewart, “A Radically New Church Structure,” *St. Louis Post-Dispatch*, Oct. 24, 1951.

Architecture gradually moved away from the traditional Beaux Arts methods offered under dean Lawrence Hill, who retired in 1948 after fourteen years in the position, and towards modernism, with the appointment of Joseph Murphy, who became acting dean and then dean of the School of Architecture at a pivotal moment in the University's history.

The School of Architecture was well poised to take the lead in the regional modern design movement after World War II, training a new generation of architects who had returned from the war eager to enter the workforce. Murphy oversaw a core faculty composed of local modernist designers, including Harris Armstrong, Frederick Dunn, Eric W. Smith, Edouard Mutrux, and Eugene J. Mackey, Jr.¹¹ The school embraced a "strong base of Bauhaus-inspired American modernism," from that time forward, and invited a steady stream of visiting professors to augment the program, including Alfred Roth (Zurich, Switzerland, 1950), Frei Otto (Germany), Jacob Bakema (Holland), and Shadrach Woods (France).¹² Additionally, many of the students attending the school in the late 1940s had traveled through Europe during their tenure in the armed forces during World War II, bringing back an international perspective on community design and urban planning.

Gyo Obata, one of the founders and principals of HOK, recalled that the curriculum at the Washington University of St. Louis was predominantly modernist, led by a coterie of young professors that shunned traditional architecture. Obata sought refuge in St. Louis during World War II, as Japanese-Americans in western states were subject to internment after the bombing of Pearl Harbor. He joined the student body at Washington University the night before his family—including his father, who worked as a professor at the University of California, Berkeley—was sent to a prison camp. More than twenty Japanese-American students arrived at Washington University that year, and at least six of those new residents majored in architecture.¹³

Throughout the years, the school maintained a "sense of shared purpose," and a "collegial spirit" necessary to nurture confidence in design, despite initial public skepticism.¹⁴ The community approach defined many of the professional relationships in St. Louis, with architects creating new firms together, assuming partnerships with former classmates and professors, and maintaining familial relationships in their business practices in a competitive, yet cooperative atmosphere.

For instance, Joseph Murphy, dean of the School of Architecture, formed a partnership with Eugene J. Mackey, Jr., who taught at the school, to form Murphy and Mackey. George E. Kassabaum graduated from the school in 1947, worked in Murphy's office, and later joined the faculty at Washington University. Kassabaum then worked as a designer for Hellmuth, Yamasaki, and Leinweber in St. Louis from 1949 through 1955; George Hellmuth also graduated from the School (B.A. M.A., 1928, 1930), and was the son of noted St. Louis architect George W. Hellmuth. In 1955, Hellmuth and Kassabaum co-founded a firm with fellow graduate Gyo Obata (B.A. 1945) to create HOK, now an internationally-renowned architectural design company. These relationships at times moved beyond the business office: Hellmuth's next-door-neighbor was fellow architect Frederick Dunn.

The university further influenced the regional environment by commissioning a number of campus buildings in the modern style, created by architects that continued to design and build in St. Louis while teaching at the school. The campus reflected the same dramatic changes seen in architecture throughout the city between the

¹¹ Eric Mumford, "Triumph and Eclipse: Modern architecture in St. Louis and the Washington University School of Architecture," in *Modern Architecture in St. Louis: Washington University and Postwar American Architecture 1948-1973* (St. Louis: School of Architecture, Washington University in St. Louis, 2004), 48.

¹² Cynthia Weese, Forward to *Modern Architecture in St. Louis: Washington University and Postwar American Architecture 1948-1973* (St. Louis: School of Architecture, Washington University in St. Louis, 2004), 1, 3.

¹³ Telephone interview with Gyo Obata, 24 May 2013, with Christine Madrid French, Orlando, Florida.

¹⁴ Weese, Forward to *Modern Architecture in St. Louis*, 3.

1930s and 1950s; in one case, the design for a columned neo-classical addition (unbuilt) to Givens Hall morphed into a folded-plate concrete pavilion for the arts and architecture under the hand of Fumihiko Maki. Maki, a professor at the School of Architecture, completed Steinberg Hall, his first commission, in 1959 with Russell, Mullgardt, Schwartz, and Van Hoefen. The concrete roof is set above a series of clerestory windows, with a similarly styled concrete overhang extending from the first story. This architectural zig-zag pattern stood in stark contrast to the traditional solidity of the building's neighbors on campus.

Washington University commissioned a number of new buildings during its "70 x 70" campaign, started in 1963, in which Chancellor Thomas Eliot intended to raise \$70 million by 1970. Joseph Passonneau, dean of the School of Architecture (1956-67), "attempted to introduce a new design vocabulary to the campus," in the exposed-concrete, Brutalist student center near Olin Library.¹⁵ Faculty member Constantine Michaelides (working with Smith-Entzeroth) contributed with a design for Bryan and McMillen Halls, utilizing a combination of Missouri red granite and exposed concrete to both bridge the gap between the old character of the campus and the modern period, but also to better link the campus to the community (with a pedestrian access bridge over Forest Park Parkway).

Form and Style

The modern architects of St. Louis developed new methods of engaging in design and business as the city began its cultural and civic regeneration in the 1950s. Because the St. Louis modernists collaborated so closely during this period, the structures and buildings appear, from today's perspective, to form a collective corpus of work. Yet, each building is a singular finished piece created under specific design criteria and considerations, fusing the user, the technique, and the site in the process. Architectural inspiration drew less from the rigid "building as machine" example of Le Corbusier's era, and into a more balanced period, where architects sought to incorporate the needs of the user within the "heroic ambitions," and "technological bravura," required to compete in this age of innovation.¹⁶

The architectural community also led St. Louis in overall city planning efforts. Arthur F. Schwarz envisioned the Arch as the center of the metropolitan region, as part of a "total community on both sides of the Mississippi."¹⁷ But, changing an older city did not come easily, and progress was elusive. Joseph D. Murphy, former dean of Washington's School of Architecture, resigned from the St. Louis County Planning Commission in 1954, when the members failed "to act on his suggestions for a long-range planning program," and "tabled his resolution for hiring of outside consultants," an action he considered "vitally necessary to the growth of the county."¹⁸ Joseph Passonneau, Dean of the School of Architecture, fought the city's "growing pains" by encouraging the careful selection of developers for new projects and "[basing] architectural decisions on architectural values."¹⁹ In all cases, the buildings and landscapes were marked with the confidence of architects exploring seemingly limitless possibilities.

Minoru Yamasaki, a master of New Formalism, captured the eclecticism of the city's mid-century modernism, and his own work, in a speech delivered in 1959: "Through my memory's blur of the images of hundreds of

¹⁵ Eric Mumford, "Triumph and Eclipse: Modern architecture in St. Louis and the Washington University School of Architecture," in *Modern Architecture in St. Louis: Washington University and Postwar American Architecture 1948-1973* (St. Louis: School of Architecture, Washington University in St. Louis, 2004), 61.

¹⁶ Robert A.M. Stern, *New Directions in American Architecture* (New York: George Braziller, 1977), 117.

¹⁷ James Dutson, "City Planner with a Big Vision," *St. Louis Globe-Democrat*, Feb. 15-16, 1969, 4C.

¹⁸ "Joseph D. Murphy Quits County Planning Board," *St. Louis Globe-Democrat*, July 8, 1954.

¹⁹ George McCue, "Outspoken Foe of St. Louis Dowdiness," *St. Louis Post-Dispatch*, Mar. 27, 1960 (no page number).

designs...I remember the persistent search for new form and texture which prevailed...This attempt at enrichment characterized designs from all regions, their very frequency seemed to presage a national movement. The efforts varied from building to building in intensity. Some were timid, some bold, and some hysterical. There were rows of gables or simple folded slabs, there was a gamut of shells and grills of every description." Yamasaki, and his colleagues, felt compelled to more fully explore the variety of forms, shapes, and expressions available to the modern architect and resist the "limited palette available in the dogma of rectangles," promoted by adherents of the International Style.²⁰

Architects, thus liberated from the strictures of the International Style, felt free to draw from the past and incorporate an eclectic interpretation of traditional forms within their modern designs. For instance, Yamasaki reported that New York's Grand Central Station, opened in 1871, inspired the creation of the 1956 Lambert Field terminal at St. Louis, noted nationwide for its three sets of intersecting barrel vaults that formed a concourse more than 400-feet-long. Despite this admiration, Yamasaki and other modernists harbored no romance with old buildings. During the campaign to save the venerable New York train station from demolition in the mid-1960s, Yamasaki said: "Though it is a marvelously beautiful room, Grand Central is in an archaic style [and] does not particularly express the exciting materials or exciting methods of construction we have today."²¹

Within the St. Louis region overall, the successful completion of a few modern buildings created a record of accomplishment that convinced skeptics of the economic, structural, and aesthetic benefits of new design versus traditional expressions. Architects fought vigorously for modernism; designer Frederick Dunn once arranged a private tour of new St. Louis structures in a successful effort to convince the congregation to accept his flat-roofed, glass-walled design for the Faith-Salem Evangelical and Reformed church. The deciding factor: a visit to the Eric Mendehlson-designed B'nai Amoona Synagogue in University City. "This fine building really bowled our committee over," said Rev. Kurt Schmiechen. The pastor further defended the practicalities of building in a modern style, saying that "the radical new design is the result of down-to-earth thinking by my people about their needs. The next largest factor was economy." Dunn agreed to the abandonment of the Gothic Revival, saying "We can't use the methods of the middle ages, for we don't have their craftsmen or their materials. We must take the crafts and materials of today and adapt them to new forms."²²

The dictates of the "masters" of modern architecture were often adapted in the quest to create an architecture that suited the specific needs of St. Louis. Smith and Entzeroth, founded by 1956 by Eric W. Smith, Jr., and Robert E. Entzeroth, detailed this modified approach to modernism in a trade newspaper of the period. Design work centered on the "interaction between the client, the site, the technology and the architect," with the client's needs serving as the "generating force in any design." The architects dictated that the environment must be incorporated into the design "to have maximum usefulness for the client and the community." The firm did not rely solely on traditional materials and methods, nor did they blindly follow modernism, but instead determined that the best economical and functional course was to use "the most appropriate technology and materials of our era." And, within all this, the firm vowed to address "beauty" in design, which was only achieved "through the architect's ability to compose and articulate these elements in a harmonious manner."²³ Joseph D. Murphy, of Murphy and Mackey, incorporated a similar spirit in his design, saying that "A building should be a joy to look

²⁰ "Yamasaki's Address at P/A Design Awards Banquet," *Progressive Architecture* (March 1959), 154-155.

²¹ Robert A.M. Stern, Thomas Mellins, and David Fishman, *New York 1960* (New York: Monacelli Press, Inc., 1995), 1139.

²² John T. Stewart, "A Radically New Church Structure," *St. Louis Post-Dispatch*, Oct. 24, 1951.

²³ "Architectural Excellence in Masonry," *St. Louis Construction News & Review*, Jan. 14, 1974, 9.

at, a joy to participate in, a joy to build it in such a way that it helps project its purpose.²⁴ Yamasaki also asserted that “I am for delight in architecture,” above other considerations in design.²⁵

The idea of architectural “delight” or beauty, synthesized well with the creation of modernist sacred spaces. St. Louis architects created a profusion of soaring, inspirational buildings for local denominations throughout the area using traditional materials in new ways and pushing the limits of new technologies. Frederick Dunn forged a path of innovation for the religious community in the construction of a number of church buildings that broke radically from conventional forms. His first, the 1939 St. Mark’s Episcopal Church in nearby Jennings, with its white-brick planar walls and almost total absence of religious iconography, evoked a number of critical remarks from the community, ranging from “tongue-in-cheek ridicule to downright resentment,” from “people who admitted they knew nothing about architecture, but knew what they liked in a church.”²⁶

Despite initial public skepticism, churches embraced modernism throughout the St. Louis region. W.A. Sarmiento, an architect with the Bank Building & Equipment Corporation of America now recognized as a prominent contributor to modern built landscapes nationwide, designed the Chancery of the Archdiocese of St. Louis (the Catholic Center) in 1961, just steps away from the 1914 Byzantine Revival Cathedral Basilica of St. Louis on Lindell Boulevard. The buildings initially appear incongruous, dissimilar in form, materials and intent. Yet architect Sarmiento successfully exploited this unique opportunity to add a free-standing structure to a landmark site, incorporating classical elements into an entirely modern structure. The scale and size of the white, circular jewel box he created—a bold statement of its own time—expresses the form of the tholobate (or cylindrical drum) that supports the dome of its older, more traditional neighbor. The smaller building is set on a plinth of natural stone, and is surrounded by space-age columns to create a continuous temple-like façade.

Sarmiento, and the Catholic Church, set the bar for new buildings along Lindell. At mid-century, the city relied on Lindell Boulevard to connect the downtown area with the emerging suburbs and university campuses located past Forest Park. The street transitioned from a residential avenue lined with elegant homes to a busy road with showcase modern works designed by noteworthy architects. The buildings are reflective of the variety of their creators and clients. Although the styles, materials, and forms differed from site to site, the architects universally designed eye-catching façades to captivate the automobile-bound viewer and promote a new vision of St. Louis to city dwellers and suburban commuters.

The interaction of artists and architects played a large factor in the success of the modern buildings of St. Louis, both in religious and secular structures. Emil Frei, Inc., a long-established firm specializing in stained glass works, contributed to a number of notable designs, including Frederick Dunn’s Faith-Salem Evangelical and Reformed church. Isamu Noguchi created a custom-designed amorphic ceiling treatment for the American and the Stove-Magic Chef Headquarters designed by Harris Armstrong in 1946.

Practicing architects at mid-century embraced adaptability and changed their design approach in order to serve clients that demanded the new and spurned tradition. Joseph Senne, for example, designed a number of fairly conservative buildings such as the modified Gothic-Revival First United Presbyterian Church in St. Louis, before he arrived at the artful New Formalist-designed Buder Branch for the St. Louis Public Library, finished in 1961. As styles began to change again in the early 1970s, a few architects refused to abandon the modernist vocabulary. Unlike a number of his colleagues, Isadore Shank maintained an allegiance with the “Masters of Modernism.” He

²⁴ Mary Kimbrough, “He’s ‘Mr. Chips’ To His Fellow Architects,” *The Magazine, St. Louis Globe-Democrat*, April 30-May 1, 1983.

²⁵ “Yamasaki’s Address at P/A Design Awards Banquet,” *Progressive Architecture* (March 1959), 154-155.

²⁶ Walter E. Orthwein, “City’s First Modern Style Church: St. Mark’s Episcopal Started New Trend 25 Years Ago,” *St. Louis Globe-Democrat*, Jan. 12, 1964, 3F.

decried postmodernism as “the name we have given to the age of the ugly,” and promoted the “great works of art,” by Walter Gropius and Eric Mendelsohn as design exemplars. Shank kept a tight rein on both his clients and his designs, saying “I operated the way I felt like operating, and the bulk of my work was done for people who were appreciative.”²⁷

St. Louis entered the era of the “megastructure” with the completion of the Mansion House Center development on the riverside, designed by Schwartz and Van Hoefen, in 1965. Fumihiko Maki coined the typological name of “megastructure” in 1964, the result of research conducted during his appointment as a faculty member at the Washington University of St. Louis School of Architecture (1956-1963). In his groundbreaking publication “Investigations in Collective Form,” printed by the school, Maki credited the “challenging architectural climate,” at Washington University in his work, which included an analysis of—and first printed reference to—the megastructure, or a “large frame containing all the functions of a city.”²⁸

The enormous structure of the Mansion House Center—with an integrated series of three 28-story apartment buildings (finished in aluminum), recreational spaces, shops, restaurants, and a chapel—moved beyond the “collective form” of independent buildings and embodied the comprehensive urban planning and design concepts promoted by Maki in which “many and diverse functions may beneficially be concentrated in one place..[with] utility in combination and concentration of function.”²⁹ Minoru Yamasaki’s work at the housing complex of Pruitt-Igoe, by contrast, is composed of thirty-three individual, free-standing structures (built 1956) intended to support a large residential community.

A number of monumental modern buildings focused on satisfying a long list of functional requirements within one structure, such as the McDonnell Medical Science Building of 1970, designed by Murphy, Downey, Wofford, & Richman, or the Post Office Annex, finished in 1969 by Leo A. Daly. The designs aesthetics differed, however, in terms of exposing interior functions on the outer walls. At McDonnell Medical Science Building, the interior spaces penetrate the exterior façade in the sculptural half-circle projections housing the utility lines, whereas the Post Office Annex presents a classical façade, with regularly-spaced pilasters running along the length and width of the building to present an unbroken, vertical rhythm that disguises any differentiation of interior functions. The same concept of regularity informed the New Formalist design of the now-demolished Busch Memorial Stadium, designed by Sverdrup & Parcel with Edward Durrell Stone in 1966; a massive circular structure featuring a row of ninety-six arches along the crown of the façade.

The University’s own megastructure—Mudd and Eliot Halls, designed by Swiss architect Dolf Schnebli in 1969 and 1971, utilized “repetitive concrete elements” built with the ability to expand the design as the program, and university, grew over the decades. But, the promises of modernism as the future direction of the city began to turn sour by the mid-1970s. Yamasaki’s work at Pruitt Igoe was demolished by the St. Louis Housing Authority, beginning in 1972, and other major designs (such as Mudd Hall) quickly lost favor with the public and became “lightning rods” for growing anti-modernist sentiments.³⁰

Materials and Technology

²⁷ “Isadore Shank, 90, of Ladue; Was Prominent Area Architect,” *St. Louis Post-Dispatch*, Mar. 17, 1992.

²⁸ Reyner Banham, *Megastructure: Urban Futures of the Recent Past* (New York: Harper & Row, 1976), 70. Fumihiko Maki, “Investigations in Collective Form, A Special Publication, Number 2,” Washington University of St. Louis, The School of Architecture, June 1964, v, 8.

²⁹ Maki, “Investigations.”

³⁰ Eric Mumford, “Triumph and Eclipse: Modern architecture in St. Louis and the Washington University School of Architecture,” in *Modern Architecture in St. Louis: Washington University and Postwar American Architecture 1948-1973* (St. Louis: School of Architecture, Washington University in St. Louis, 2004), 64.

Modern materials and innovative technologies formed the base for the pioneering forms erected in St. Louis during the middle years of the twentieth century. A coterie of architects—including Minoru Yamasaki, Gyo Obata, Murphy and Mackey, and Harris Armstrong, and others with ties to the Washington University of St. Louis School of Architecture program—changed the built landscape of the city with a series of groundbreaking designs for sacred spaces, office buildings, airports, and museums.

In St. Louis, perhaps more than in other metropolitan locations, masonry remained a material of choice, even among the modernists. The city had established a national reputation for the quality of its clay-working companies as well as its own collection of brick buildings. Charles Nagel and Frederick Dunn set a local precedent in their use of brick for their 1939 St. Mark's Episcopal Church in St. Louis, a simple building that dispensed with overly conscious decorative motifs in preference for a planar-walled modernism that expressed "cherished cultural values, including thrift, democracy, and community," in a twentieth-century design vocabulary.³¹ Edouard Mutrux created a contemporary home for his family, finished in 1940, which was "built of brick, both inside and out," and inspired by the work of Frank Lloyd Wright.³² F. Ray Leimkuehler (who studied at the Ecole des Beaux Arts in Paris and graduated from the School of Architecture at Washington University with two degrees), designed a number of traditional buildings before he changed direction and moved towards modernism; his continued use of the standard St. Louis masonry remained a constant, however. Harry Weese, best known for his concrete structures in Chicago and Washington, D.C., designed a four-story series of red brick buildings for the St. Louis Community College in 1965. The Brutalist-design buildings are set on concrete and present an image of solidity, with monolithic tower forms and narrow windows.

In 1973, Smith and Entzeroth were awarded the Architectural Excellence in Masonry Award (sponsored by the St. Louis Masonry Development Trust) for their later work at the St. Louis University School of Social Services at 3550 Lindell Boulevard. The award recognized the "fine building showing restraint and consistent use of masonry—an ageless material." Here, the architects used light "orange-red-toned brick" with buff-colored mortar, selected to "give the new facility a strong sense of unity with other campus and neighborhood structures." The deep-set, slant-sill windows were sized according to interior functions and graduated into smaller openings in ascending order.³³

Modern architects, by design necessity, increasingly turned to concrete, steel, and glass, to produce contemporary forms drawn from mathematics rather than the past. Hellmuth, Obata, and Kassabaum (HOK) excelled in this area; their James S. McDonnell Planetarium is a hyperboloid rendered in a thin-shell of concrete. The awe-inspiring upsweep of the roofline—appropriate for a building intended to embody the excitement of space exploration—was created as a series of straight lines passing through the circumference of a circle at an inward angle, otherwise known as a negative Gaussian curvature. Murphy and Mackey adapted Buckminster Fuller's geodesic dome technology for the 1960 Climatron at the Missouri Botanical Garden. Josephy Murphy, designer, was described by his colleague Verner Burks as "the finest architect of his generation in this area; Joe worked on the edge."³⁴ Murphy and Mackey was the first American firm to win the R.S. Reynolds Memorial Award, and the \$25,000 prize, for their aluminum and glass structure. The jury for the award specifically admired the building as "sensitively executed and strikingly appropriate to its purpose." Additionally, the Climatron took

³¹ Kathleen James-Chakraborty, "Modern Modernism: Sacred Architecture in St. Louis & Its Suburbs," in *Modern Architecture in St. Louis: Washington University and Postwar American Architecture 1948-1973* (St. Louis: School of Architecture, Washington University in St. Louis, 2004), 27.

³² Emmet Layton, "Fine Example of Modern Design," *TEMPO*, Dec. 2, 1951.

³³ "Architectural Excellence in Masonry," *St. Louis Construction News & Review*, Jan. 14, 1974, 9.

³⁴ Patricia Rice, "Joseph Murphy Dies," *St. Louis Post-Dispatch*, Jan. 13, 1995, 1, 4.

the international claim as the “first fully climate-controlled display greenhouse;” another first for St. Louis and the world.³⁵

Gyo Obata’s interest in the elements of structure fueled his pursuit of new forms. He credits the lower labor costs of the mid-twentieth century for his ability, as a designer, to utilize the best of modern technology and materials. He believed that the “labor to create the [concrete] form work fit within the budget restraints,” for projects such as the planetarium, an expense that has proportionally grown too large for building projects today. Overall, Obata worked towards a singular result: that the “concept of the building [remain] very simple and very clear. That was my goal, always.” Though he studied with Saarinen at Cranbrook, Obata credits Walter Gropius as a “big impact,” on his groundbreaking work in form and structure.³⁶

Throughout the middle years of the twentieth century, the modern architects of St. Louis actively sought to regenerate the form and style of buildings for their own city and the nation. Their leadership in the field helped to propel St. Louis into modernity and regain its place in the American architectural lexicon. At the wane of the 1970s, however, architects and their clients again sought to re-evaluate their design priorities, leading to dramatic changes within the urban built landscape as the post-modern era emerged.

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³⁵ “Architects Win Prize for Climatron,” *St. Louis Post-Dispatch*, Apr 2, 1961, 4H.

³⁶ Telephone interview with Gyo Obata, 24 May 2013, with Christine Madrid French, Orlando, Florida.

Annotated List of Architects

- Harris Armstrong (6 Apr. 1899-9 Dec. 1973)
 - Armstrong was born in Edwardsville, Illinois, in 1899. He attended the Washington University School of Architecture for one year and Ohio State University for one year, but never graduated from either institution. He worked with La Beume & Klein as well as Hood, Godley & Fouilhoux, before beginning a partnership with Boyer (1930-32). He started his own firm in 1932 in Kirkwood, Missouri. Armstrong won many awards during his career, including three Silver Medals, two Gold Medals and the Honor Award from the AIA. Armstrong later served as a visiting critic at Yale, Texas University, and Washington University in St. Louis. One of his designs was considered during the final judging for the Jefferson National Expansion Memorial competition. He was honored in 1955 as a Fellow in the AIA. He is best known as the “dean” of St. Louis modernists and is credited with designing the first modern buildings in the area, including the dental clinic for Dr. Leo Shanley in Clayton (1935) and the Dr. Samuel B Grant clinic (1938).
- Bernoudy, William Adair (4 Dec. 1912-1988)
 - Bernoudy was born in St. Louis in 1912. He attended the Washington University in St. Louis, but did not graduate. Bernoudy left Missouri to study with Frank Lloyd Wright for five years as one of the initial group of apprentices accepted to the Taliesin Fellowship (begun in 1932). Bernoudy returned to St. Louis in 1936, working briefly with the Historic American Buildings Survey for the U.S. government. He later began a practice in the St. Louis area in 1940 with a house on Sumac Lane on the north edge of Ladue; he was considered a regional pioneer in modern residential construction in this area. Bernoudy partnered with Mutrux on a number of houses, but their partnership was interrupted by World War II. In 1947, Henry H. Bauer joined as a third partner to form Bernoudy-Mutrux-Bauer, until the business dissolved in 1966. Bernoudy is described as St. Louis’s “most prominent Prairie Style architect.”
- Boulicault, Marcel (4 Jul. 1896-xxxx)
 - Boulicault was born in St. Louis, Missouri, and received his education at the School of Fine Arts at Washington University in St. Louis and at the Beaux-Arts Society in New York. Beginning in 1914, Boulicault worked for Roth and Study in St. Louis, eventually becoming a partner before the firm dissolved in 1924 (Roth & Study, Study, Farrar and Boulicault). After that time, he began an individual practice, holding an architectural license in Missouri, Texas, and Illinois. His firm included as many as 35 people at one time, with an average of 12 permanent employees per year. The practice specialized in larger projects, including public works and industrial plants along with commissions with the federal government and the Corps of Engineers. He held memberships in the AIA, the Missouri State Association of Registered Architects, and the Engineers’ Club of St. Louis. During World War I, he worked in the Camouflage Division of the Corps of Engineers, a division known for an unusually high number of architects in its ranks.
- Duncan, William Edward (18 Jun. 1924-xxxx)
 - Duncan was born in Zanesville, Ohio in 1924. He graduated with a bachelor’s degree from the Washington University School of Architecture (1949); after that time he established Duncan & Associates.
- Dunn, Frederick Wallace FAIA (15 Dec. 1905-1984)
 - Dunn was born in St. Paul, Minnesota, in 1905. He received his bachelor’s and master’s degrees in architecture from Yale University (1933) and started his own wallpaper-design business with his wife Tizrah May Perfect. In 1936, he began a partnership with Charles Nagel in St. Louis (one

of his teachers at Yale), until Dunn left in 1943 to serve in the Navy. In 1962, he was elected a Fellow by the AIA. He left St. Louis in 1963 to begin practicing in New York, working as director of design for Charles Luckman, Inc., and Rogers, Butler, & Burgun; Dunn retired a decade later.

- Elkington, Robert (xxxx-17 Jun. 1994)
 - Elkington (who changed his last name from his Japanese surname) grew up in St. Louis and graduated from The Washington University School of Architecture (1937). He began his career with Nagel & Dunn that same year, and practiced in St. Louis until approximately 1990. Elkington started his own firm in 1947, and taught night courses at Washington University. His work was covered in “82 Distinctive Houses from Architectural Record” (1952) and “Quality Budget Houses: A Treasury of 100 Architect-Designed Houses from \$5000 to \$20,000” (1954, Katherine Morrow Ford and Thomas H. Creighton). He served as president of the St. Louis chapter of the AIA in 1954, and was named a Fellow in the AIA in 1965.
- Entzeroth, Robert Ellear, FAIA (74 Jan. 1926-24 Aug. 1991)
 - Entzeroth was born in St. Louis in 1926; he graduated from the Missouri School of Mines & Metallurgy in 1944. His first architectural position was with Bert Luer in 1948. As a student at Washington University’s School of Architecture, Entzeroth worked as a draftsman with Harris Armstrong (1950-51), and graduated in 1951. He was the 1952 recipient of the LeBrun Traveling Fellowship for Study and Travel in Europe, a design competition administered by the New York City Chapter of the AIA. He worked with Murphy & Mackey for four years (1951-54) as a draftsman and designer, and started his own firm Smith and Entzeroth in 1954; that firm merged with Stone, Marraccini & Patterson in 1986. In 1965 the Architectural League of New York named Entzeroth on their “40 under 40” list of rising architects known for their design skill and potential. In 1974, Entzeroth was elected to the College of Fellows of the American Institute of Architects, a life-time honor awarded for his significant contribution to the profession. Entzeroth served as a visiting critic in design at the Washington University School of Architecture.
- Harms, Joe George (23 Nov. 1909-xxxx)
 - Harms was born in Keytesville, Missouri, and received his B.A. from the Carnegie Institute of Technology. His career began at the Missouri State Highway Department. After serving in World War II with the Navy, he joined the firm of Maguolo and Quick. In 1956 he started Kramer & Harms with Gerhardt Theodore Kramer.
- Hellmuth, George Francis (5 Oct. 1907-6 Nov. 1999)
 - Hellmuth was born in St. Louis, and received his education from the Washington University in St. Louis (B.Arch, 1928, M.Arch, 1930). He also won a Steedman traveling fellowship in architecture in 1930, and earned a diploma from the Ecole des Beaux Arts, at Fontainebleau, France, in 1931. Hellmuth lived and worked in Detroit where he co-founded Hellmuth, Yamasaki and Leinweber (1949). In 1955, the firm disbanded and Hellmuth co-founded Hellmuth, Obata and Kassabaum (HOK) in St. Louis. He was named a Fellow in the AIA in 1973 and served as President of the Municipal Art Commission for the City of St. Louis (1950-66) and chairman of the Landmarks & Urban Design Commission of St. Louis (1966-70).
- Henmi, Richard Toshio (Jan. 1924- xxxx)
 - Henmi was born and raised in California. He moved to St. Louis in 1942 to begin his studies in the Washington University School of Architecture, but was called to serve as a lieutenant with the Railway Security Division of the U.S. Army in Europe during World War II (1945-47). He initially worked towards an aeronautical engineering degree, but changed his emphasis to architecture and graduated in 1947. Henmi worked as a draftsman-designer with William B.

Ittner, Inc., and later moved to become chief designer with Charles B. Spencer, architect (1949-51). In 1951, he joined the firm of Schwarz and Van Hoefen as a designer, became associate in charge of design in 1956, and then a partner in the firm in January 1968 (which precipitated a name change to Schwarz and Henmi). He has maintained a corporate membership with the American Institute of Architects since 1956, and joined that group as a student member in 1944. He was also a member of the MARA.

- Hill, Lawrence (14 May 1879-1968)
 - Born in New York City, Hill graduated with a B.S. from Columbia University. He began his career as a draftsman at Andrews, Jacques & Rantoul for a year, followed by two years at Coolidge & Carlsen. He then attended Harvard (1904-05). Hill returned to St. Louis as an architectural historian and professor in the School of Architecture (1911-1948); he later became dean of the school (1934-1948). Hill was awarded the title of Fellow by the AIA in 1952.
- Ittner, William Butts, Jr. (8 Aug. 1899-19 Oct. 1979)
 - The son of a Missouri architect (William B. Ittner, d. 1936), William was born in St. Louis and educated at Cornell University (1919) and Washington University of St. Louis (1923). Ittner served as a partner at William B. Ittner, Inc., with Lester C. Haeckel, H. Curtis Ittner, and Donald Stephen. He also acted as Assistant Chief Architect of the Pentagon in Washington, D.C. (1940-42) and as president of the St. Louis Chapter of the AIA (1941, 1947).
- Kassabaum, George Edward (4 Dec. 1920-15 Aug. 1982)
 - Kassabaum was born in Atchison, Kansas, and received his B.A. from Washington University (1947). He then worked as a draftsman for Joseph D. Murphy (1947-49), and a designer for Hellmuth, Yamasaki, and Leinweber (1949-1955). When that firm dissolved, he co-founded Hellmuth, Obata, and Kassabaum (HOK) in 1955, which continues as an internationally renowned firm today. Kassabaum served in numerous posts for the St. Louis Chapter of the American Institute of Architects, and as vice president (1966-68) and president (1968-69) of the National AIA. He was named a Fellow of the AIA in 1967.
- Kramer, Gerhardt Theodore (26 Oct. 1909-4 Dec. 2001)
 - Kramer was born in New Orleans and received a degree from Tulane University (1930), followed by a M.Arch from Cornell University (1932). His early architectural career began in the French Quarter of New Orleans, where he assisted on historic preservation projects. After serving in the Navy during World War II, Kramer moved to St. Louis and joined the firm of Hugo K. Graf. After Graf's death, Kramer operated the firm as Gerhardt Kramer Associates until partnering with Joe Harms in 1956 to create Kramer & Harms. Kramer was one of the founders and served with the Preservation Landmarks Association of St. Louis (1960-62, 1965-67), and as vice president of the Concordia Historical Institute of St. Louis.
- Leimkuehler, Francis Ray (22 Jan. 1895-1962)
 - Leimkuehler was born in St. Louis, and earned two degrees from Washington University (B.Arch, 1917, M.Arch, 1920). In 1919, he traveled to Paris to study at the Ecole des Beaux Arts. He worked with a number of colleagues, including William B. Ittner, before starting his own practice in 1928. He also assisted in the design of the Pentagon in Washington, D.C., in 1942, and served as the supervising architect of the St. Louis city school system from 1948-1956.
- Mackey, Eugene Joseph, Jr. (1 Dec. 1911-27 Jul. 1968)
 - Born in Lenox, Massachusetts in 1911, Mackey graduated from the Carnegie Institute of Technology in Pittsburgh (1936), and received a master's in architecture from the Massachusetts Institute of Technology in Boston (1939). He began his own firm that same year and later partnered with Joseph D. Murphy to form Murphy & Mackey (1951). Mackey won a

- Born and raised in San Francisco, Obata graduated from Washington University (B.Arch 1945) and Cranbrook Academy in Bloomfield Hills, Michigan, where he studied under the guidance of Eliel Saarinen (M.Arch 1946). Obata arrived at Washington University the night before his California-based family was transferred to a Japanese internment camp during World War II. He worked with Skidmore, Owings and Merrill in their Chicago Office (1947-51) before returning to St. Louis to join Minoru Yamasaki Associates, Inc. He co-founded Hellmuth, Obata, and Kassabaum in 1955, and continues to practice in the St. Louis office. Obata was elected a Fellow in the AIA in 1969, and received the AIA St. Louis Gold Award in 2002.
- Passonneau, Joseph (xxxx-August 2011)
 - Passonneau earned two degrees at the same time under the GI Bill: a graduate degree in architecture from Harvard University and a master's degree in civil engineering from the Massachusetts Institute of Technology. He worked as chief of architectural design for the Tennessee Valley Authority before moving to St. Louis to teach part time. He later worked as dean of the Washington University School of Architecture (1956-1967). In 1967, Passonneau moved to Chicago and then Washington to continue his practice. He was awarded the title of Fellow in the American Institute of Architects in 1964, cited for distinguished service in education. He served as the first president of Landmarks, Inc., and also worked on the City Plan Commission and the Governor's Committee on the Arts. He won awards from Progressive Architecture for his work in Chicago.
- Sarmiento, Wenceslao A. (W.A.) (28 Sep. 1922-xxxx)
 - Sarmiento was born in Trujillo, Peru, and attended the National School of Engineering in Lima (graduated 1946). He worked as a draftsman with Oscar Neimeyer in Brazil for eighteen months between 1949-50, before moving to St. Louis to work as chief designer for the Bank Building and Equipment Corporation of America beginning in 1951. He started his own firm about 1964 and practiced in St. Louis until he moved to California in 1978, where he currently resides.
- Schwarz & Van Hoefen (Schwarz and Henmi)
 - This firm, founded in 1900, changed principals many times during its decades of operation. In 1953, the firm prepared "A Suggested Plan for Downtown St. Louis," which included the preliminary concepts for the Gateway Mall, which was later incorporated into the City Plan Commission's Downtown Plan, released in 1960. The firm changed its name to Schwarz & Henmi in January, 1969, to reflect the participation and rise of Henmi within the design enterprise; he was named a partner a year earlier in January 1968 followed by the resignation of Hari Van Hoefen (after 16 years of service) a few months afterward. By the late 1960s, there were two principals, three associates, and a 25-member staff. The associates included Jack Rausch, W. Evans Campbell, and Heinz E. Zobel. In 1972, the firm changed again, with Schwarz and Henmi adding Zobel as a partner to the nameplate. Richard G. Wiedemann and Norman S. Fott came on as associates the same year. Wiedemann was a graduate of the Washington University School of Architecture and worked with Vincent Kling, HOK, Architectural Design Associates, and Harris Armstrong. He received the AIA Book Award at the Washington University School of Architecture. Fott graduated with a master's degree from the University of Oklahoma and served on the faculty at the school of architecture there. He also worked with HOK before coming to the firm. Zobel received his bachelor of architecture degree from Washington University, graduating in 1956. He was a government certified fallout shelter analyst, and a member of Landmarks Association.
- Schwarz, Arthur "Art" Frederick, Jr. (17 Aug. 1909-13 Oct. 1971)

Stauder studied at the Chicago Art Institute, and later focused his designs on church and institutional work. Adolph reopened and renamed the business in 1920, after a brief closure during World War I. In 1930, the business was renamed again when his son Arthur Stauder (xxxx-23 July 1978), joined the firm after graduation from the Washington University School of Architecture. The firm was dissolved in 1970.

- Stinson, Nolan Lawrence, Jr. (17 Sep. 1922-2 Oct. 1997)
 - Stinson was born in St. Louis in 1922, and graduated from the Washington University School of Architecture (1947). He organized his own firm in 1962, after working as a partner with Frederick Dunn from 1952-62. Stinson also worked as secretary of the St. Louis AIA chapter (1962-63), and president (1968-69).
- Sverdrup, Leif J. (11 Jan. 1898-2 Jan. 1976)
 - Sverdrup was born in Ytre Sula, Norway, and emigrated to the U.S. in 1914. He graduated from the University of Minnesota with a degree in civil engineering (1921), and worked for the Missouri State Highway Department. In 1928, Sverdrup began a firm with his college engineering professor John Ira Parcel, headquartered in St. Louis, MO. Sverdrup & Parcel specialized in engineering projects, including bridge construction. Sverdrup served as a colonel in World War II, as Chief Engineer under General Douglas MacArthur. Designed Busch Memorial Stadium, 1966, demolished in 2005. Worked with Edward Durrell Stone on this project; he designed the 96-arch Crown of Arches above, to express the shape of the Memorial Arch, opened the year before. The firm was one of the largest of its kind in the world in the early 1960s; the American Society of Civil Engineers bestows a management award annually, named after the partners and in recognition of their achievements.
- Van Hoefen, Hari (20 Mar. 1905-xxxx)
 - Van Hoefen was born in St. Louis in 1905 and educated at Washington University (1925-56), the University of Texas (1927-29), the University of Southern California (1928), and the St. Louis School of Fine Arts (1930-31). He worked as principal of his own firm from 1934-52 and as a partner with Schwarz & Van Hoefen from 1952-68. In 1968, he began his own firm again, under the name Hari Van Hoefen, Inc. He served on a number of committees and in an advisory capacity to the General Services Administration (1967-70) and as a Chairman of the Planning Committee to the Board of Trustees of the City Art Museum of St. Louis (1969). Van Hoefen was honored as a Fellow with the AIA in 1964. He served as president of the National AIA Accrediting Board and chairman of the State Licensing Board's architectural division.
- Wischmeyer, Kenneth Edward. (23 Sep. 1908-16 Jan. 1996)
 - Wischmeyer was born in Missouri in 1908. He graduated from the Washington University School of Architecture (1930), and the Massachusetts Institute of Technology (M.Arch 1931). He initially worked as a principal with Murphy & Wischmeyer (1938-43), then Wischmeyer & Lorenz (1949-52), before founding Kenneth E. Wischmeyer & Partners in 1960. Wischmeyer served as vice president (1946) and president (1947 and 1948) of the St. Louis Chapter of the AIA, became director of the Central States Region (1941-43), and then second vice president (1948-49) and first vice president (1950-51) of the national AIA.
- Yamasaki, Minoru (1 Dec. 1912-7 Feb. 1986)
 - Yamasaki was born in Seattle, Washington, in 1912. He earned his undergraduate in architecture from the University of Washington (1934) and completed graduate work at New York University. One of his first positions was with the firm Shreve, Lamb and Harmon, in New York. In 1945, Yamasaki arrived in Detroit, and joined Smith, Hinchman, and Grylls. He later moved to St. Louis, and acted as a principal in Leinweber, Yamasaki & Hellmuth (1949-1955),

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- Yamasaki, Minoru (1 Dec. 1912-7 Feb. 1986)
 - Yamasaki was born in Seattle, Washington, in 1912. He earned his undergraduate in architecture from the University of Washington (1934) and completed graduate work at New York University. One of his first positions was with the firm Shreve, Lamb and Harmon, in New York. In 1945, Yamasaki arrived in Detroit, and joined Smith, Hinchman, and Grylls. He later moved to St. Louis, and acted as a principal in Leinweber, Yamasaki & Hellmuth (1949-1955),

forming Yamasaki, Leinweber & Associates (1955-59), and finally Minoru Yamasaki Associates, Inc., in 1959. Yamasaki was elected as a Fellow in the AIA in 1960.

Appendix I:

Selected List of Architects at the Washington University School of Architecture

Name	Dates attended/graduated/Faculty
Armstrong, Harris	Attended in the 1920s for one year; never graduated. Served as visiting critic.
Bernoudy, William Adair	Attended 1931, did not graduate.
Duncan, William Edward	Graduated 1949.
Dunn, Frederick	Faculty
Eames, Charles	Attended, but did not graduate.
Elkington, Robert	Graduated 1937; taught night courses.
Entzeroth, Robert Elleard, FAIA	Graduated 1951, also served as a visiting critic.
Hellmuth, George Francis	B.Arch 1928, M.Arch 1930.
Henmi, Richard	Graduated 1947.
Hill, Lawrence	Faculty
Ittner, William Butts, Jr.	M.Arch 1923.
Kassabaum, George E	Graduated 1947; Faculty.
Leimkuehler, Francis Ray	B.Arch 1917, M.Arch 1920.
Mackey, Eugene J., Jr.	Faculty
Maki, Fumihiko	Faculty
Maritz, Raymond E.	Student
Murphy, Joseph D.	Faculty 1935-1948; Acting Dean 1948; Dean 1949-1952.
Mutru, Edouard J.	B.Arch 1930, M.Arch 1931; Faculty.
Obata, Gyo	B. Arch 1945.
Pickens, Buford Lindsay (d. Jun 11 1995)	1953-1974 Faculty; 1953-56 Dean of School of Architecture; 1956-1963 Director of Campus Planning
Schwarz, Arthur Frederick, Jr.	1931
Senne, Joseph H.	B.Arch 1914.
Shank, Isadore	M.Arch 1925.
Smith, Chloethiel B. Woodard	1933
Smith, Eric Wilburn, Jr.	Asst. Professor & Critic, 1947-56.
Stauder, Arthur Jr.	Graduate.
Stinson, Nolan Lawrence, Jr.	B.Arch 1947.
Van Hoefen, Hari	1926
Weese, Cynthia	Grad 1965; Dean 1993.
Wiedemann, Richard G.	Graduate.
Wischmeyer, Kenneth E.	B.Arch 1930.
Zobel, Heinz E.	Graduate.

Deans of the School of Architecture, from its founding in 1910 through the study period

1910	John Beverly Robinson
1916-1934	Gabriel Ferrand
1934-1948	Lawrence Hill
1949-1952	Joseph Murphy
1953-1956	Buford Pickens
1956-1967	Joseph Passonneau
1968-1973	George Anselevicius
1973-1993	Constantine Michaelides

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See the bibliographies for each of the three developed Context Statements for this survey project; "St. Louis: The Gateway Years, 1940-1975," "Architectural Trends, Forms, Materials, and Expression Important in the St. Louis School of Modern Movement Architecture, c. 1945-1975," and "Modernist Architects in Practice in St. Louis, c. 1945-1975."

Aside from these sources, other major sources for information used throughout the survey project and the database came from newspaper sources, especially the "clippings files" at the public library in St. Louis. Issues of St. Louis Construction News were also available there.

The Cultural Resources Office had access to information such as permit records, and to library at the Planning and Urban Development Agency. Information on a number of architects and their works was found at the Missouri Historical Society, and at the University of Missouri- St. Louis.

Other historic information was available online, such as Bowker's AIA directories from 1946, 1956, and 1962; various National Register nominations; especially useful websites such as "Defining Downtown" about the work of the BBEC; and various union, club, or commercial websites with historical information.

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APPENDIX RLS SURVEY DATA

RLS Architectural Style by Date

From 1945 to 1949

Architectural Style	Quantity	%
International Style	2	33.33%
Modern Movements	2	33.33%
Modern/ Neo-Expressionist	1	16.67%
Moderne	1	16.67%
Total:	6	

RLS Architectural Style by Date

From 1950 to 1959

Architectural Style	Quantity	%
Brutalist	2	4.55%
International Style	8	18.18%
Mixed	1	2.27%
Modern Movements	25	56.82%
Modern/ Neo-Expressionist	7	15.91%
Modern/ New Formalist	1	2.27%
Total:	44	

RLS Architectural Style by Date

From 1960 to 1969

Architectural Style	Quantity	%
Brutalist	8	6.67%
International Style	21	17.50%
Modern Movements	75	62.50%
Modern/ Neo-Expressionist	14	11.67%
Modern/ New Formalist	2	1.67%
Total:	120	

RLS Architectural Style by Date

From 1970 to 1975

Architectural Style	Quantity	%
Brutalist	9	52.94%
International Style	2	11.76%
Modern Movements	5	29.41%
Modern/ Neo-Expressionist	1	5.88%
Total:	17	

RLS Architectural Style by Use

Architectural Style	Quantity	% of tot.		
Brutalist	19	9.50%	Transportation	1 3.85%
Commerce Trade	6	31.58%	Modern/ New Formalist	4 2.00%
Education	2	10.53%	Government	1 25.00%
Government	1	5.26%	Health Care	1 25.00%
Health Care	5	26.32%	Social	1 25.00%
Religion	2	10.53%	Transportation	1 25.00%
Social	1	5.26%	Moderne	1 0.50%
Transportation	1	5.26%	Commerce Trade	1 100.00%
Unknown	1	5.26%		
International Style	33	16.50%	Total:	200
Commerce Trade	20	60.61%		
Education	2	6.06%		
Government	3	9.09%		
Health Care	3	9.09%		
Recreation Culture	2	6.06%		
Social	2	6.06%		
Unknown	1	3.03%		
Mixed	1	0.50%		
Religion	1	100.00%		
Modern Movements	116	58.00%		
Commerce Trade	60	51.72%		
Defense	1	0.86%		
Education	10	8.62%		
Government	12	10.34%		
Health Care	2	1.72%		
Industry Processing Extraction	4	3.45%		
Other	1	0.86%		
Recreation Culture	2	1.72%		
Religion	10	8.62%		
Social	5	4.31%		
Transportation	4	3.45%		
Unknown	5	4.31%		
Modern/ Neo-Expressionist	26	13.00%		
Commerce Trade	8	30.77%		
Education	3	11.54%		
Government	3	11.54%		
Health Care	1	3.85%		
Other	1	3.85%		
Recreation Culture	1	3.85%		
Religion	5	19.23%		
Social	3	11.54%		

APPENDIX RLS SURVEY DATA

RLS Architectural Materials

Material	Quantity	%
Aluminum	2	1.00%
Brick	126	63.00%
Bronze-tinted aluminum	1	0.50%
Ceramic Tile	2	1.00%
Concrete	48	24.00%
Glass	9	4.50%
Granite	1	0.50%
Limestone	2	1.00%
Other	3	1.50%
Stone	5	2.50%
Terra Cotta	1	0.50%
Total:	200	

RLS Architectural Style

Architectural Style	Quantity	%
Brutalist	19	9.50%
International Style	33	16.50%
Mixed	1	0.50%
Modern Movements	116	58.00%
Modern/ Neo-Expressionist	26	13.00%
Modern/ New Formalist	4	2.00%
Moderne	1	0.50%
Total:	200	

APPENDIX LIST OF MODERN ERA RESOURCES ALREADY LISTED ON THE NRHP

PROPERTIES OF THE MODERN MOVEMENTS STYLE IN ST. LOUIS LISTED ON THE NATIONAL REGISTER (DOES NOT INCLUDE RESIDENTIAL USES OR DISTRICTS)

NAME	ADDRESS	STATUS	DATE BUILT
American Zinc Lead & Smelting Company Building	20 S. Fourth St.	NRHP 1998	1967
Bel Air Motel	4630 Lindell	NRHP 2009	1957
Central institute for the Deaf Clinic and Research Building	909 S. Taylor	NRHP 2004	1951
Council Plaza (includes saucer gas station)	212, 300, 310 S. Grand	NRHP 2007	1964-68
Executive Office Building	515-517 Olive	Pending	1962
Gateway Arch	Riverfront	NHL 1987	1947
Peabody Coal Company National Headquarters	301 N. Memorial Drive	NRHP 2008	1958
Nooter Corp. Building	1400 S. Third	NRHP 2008	1959
Pet Plaza	400 S. Fourth	NRHP 2004	1969
St. Louis Post-Dispatch Printing Building	1111 Olive	NRHP 1984	1941
General American Life Insurance Company National Headquarters	706 Market	NRHP 2006	1974-77
Roberts Chevrolet	5875-91 Delmar	NRHP 2007	Alt. 1947
Seven-Up Company Headquarters	1300 Convention Plaza	NRHP 2004	1950
Wellston J. C. Penney Building	5950 Dr. Martin Luther King	NRHP 2009	1948
Western Electric Southwestern Bell Telephone Distribution House	4250 Duncan	NRHP 2011	1948
Farm & Home Savings and Loan Association	1001 Locust	NRHP 2008	Modernized 1954-55
General American Life Insurance Company Buildings	1501-11 Locust	NRHP 2002	Modernized 1960-61
S. Pfeiffer Manufacturing Co Headquarters	3965 Laclede	NRHP 2010	1946
St Mary's Infirmary	1536-48 Papin St.	NRHP 2007	1945-46 & older bldgs
United Shoe Machinery Building	2200-08 Washington Ave	NRHP 2007	1939