WASHINGTON UNIVERSITY IN ST. LOUIS

St. Louis, Missouri

Founded at the end of the 19th century, Washington University in St. Louis benefited from the concurrent infrastructure required for hosting the 1904 World's Fair (Louisiana Purchase Exposition) and the Olympic Games. After the completion of the events, housing, meeting, and athletic structures were adapted to campus needs, becoming the university's Danforth Campus.

Before

David R. Francis Field was constructed in 1902. Its first uses were hosting the third Olympic Games and the 1904 World's Fair (off photo).

The original buildings were leased to the company organizing the 1904 World's Fair in nearby Forest Park.

The Danforth Campus originated with five buildings designed with inspiration from Oxford and Cambridge, resulting in the American Gothic style of architecture.



The Danforth Campus was an expansion and relocation strategy for Washington University in St. Louis's original downtown location.

The edges of the original buildings form a central I space for gathering.

Brookings Hall and the building courtyards create a "front door" connecting the university and . Forest Park.

After

Brookings Hall continues to be a prominent icon for the university and serves as the primary administrative building.

David R. Francis Field is now used for university athletics.



What was once a surface

a park with an underground

parking lot has become

I parking garage.

CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

Prior to becoming a university, the site was used for the treatment of people living with mental

illness. In the late 20th century, attitudes towards those living with mental illnesses evolved and

care practices improved, leaving facilities like the Camarillo State Hospital available for new uses.

The hospital's strong architectural character, unique landscape, and robust sense of place was

The hospital campus was

views of the mountains.

originally designed to frame

naturally attractive and befitting of a university campus.

in the center of campus. More buildings have been added as part of the East End Transformation.

Forsyth Boulevard and Forest

Park Parkway, leaving open space

1904: World's Fair and Olympic Games

1905-Present: University Campus

Camarillo, California

The original bell tower is where

patients were first housed.

Before

Campus Information

169 Number of acres as of 2023

1904: ~5 **2023**: ~110 **BUILDINGS**

Before and after reuse

Total number of people on campus

The facility was conceived as an

self-sustaining community

designed to isolate patients.

agriculturally-based and largely

The East End Transformation

new LEED Platinum buildings,

sustainable landscape strategies,

and improved access for all users.

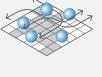
of the Danforth Campus includes

HOW TO EVALUATE FOR ADAPTIVE REUSE

The architectural characteristics of existing structures impact their ability to successfully careful planning and execution, adaptive reuse projects can provide celebrated environments



PROGRAM



Does the site under consideration for reuse have proximity to existing campus assets? What transportation infrastructure may be required to support access and community connectivity?

PLACE



CAPACITY How current is an institution's understanding of its space needs? Is space needs data aligned with institutional culture, policy, and practices? Will the proposed space(s) fit within the total usable area of the site and/or building(s) to be reused?



PLACEMAKING Does the site and/or building(s) considered for reuse have any unique characteristics or framing of outdoor spaces that should be

SIGNIFICANCE Does the site and/or building(s) considered for reuse have cultural, historical, or architectural value that should be conserved?

After

Height limitations in the campus core preserve mountain views from the quads, while respecting the low-scale, intimate spaces of the Mission-style buildings which are part of the campus's appeal.

The hospital wings were designed

walled courtyards that contained

to maximize natural ventilation

and daylight, which formed

the patients.

The iconic Bell Tower (now home to classrooms and student-centric spaces) was the first renovation project on campus and is now recognized as the school's most

prominent icon.

Two formal quadrangles

and women (North and

l South Quads).

were segregated for men

The new entry road provides a distinct campus arrival, while a 3.7 megawatt solar array demonstrates the campus's commitment to sustainability by providing nearly 70% of CSUCI's energy needs.

The hospital was almost

exclusively made up

I style buildings.

of Mission Revival and

Spanish Colonial Revival-



Some original hospital wards have yet to be renovated and provide the opportunity for future renovation and/or infill with new construction.

The South Quad, at more than six acres, is used for a variety of passive recreational activities and commencement ceremonies.

John Spoor Broome Library, built in 2008, is the only campus building designed apart from the traditional Mission and Spanish Colonial ${
m I}$ architecture of the campus.

Campus Information

1917-1932: Ranch House 1936-1997: Mental Institution **2002–Present:** University Campus

1,187 Number of acres as of 2023

1997: ~64 **2023**: ~49* **BUILDINGS** Before and after reuse *buildings in use

6,700 **POPULATION** Total number of people on campus

2023

COMPARING CAMPUSES

Adaptive Reuse

Our 2023 poster showcases the resilience of higher education by exploring adaptive reuse. Universities have been repurposing buildings and sites throughout their history to serve different uses than they were originally designed to support. Looking back at the four distinctive adaptive reuse stories featured on this year's poster puts today's campus planning

With pressures from changing demographics, shifting real estate needs, and increased importance of resource stewardship, institutions must adapt in creative ways. Many buildings constructed during the post-World War II boom have reached the end of their useful life, and most colleges and universities are finding that they need different types of space to support today's learners. Many institutions are finding that they need different space but not more space.

Adaptive reuse strategies can help institutions reduce their carbon impact and minimize the cost of meeting space needs while maintaining vibrant campus environments and celebrated places. Reuse strategies can include reinvention of an entire campus, brownfield redevelopment, and renovation and renewal of existing assets. In some cases, institutions pursue adaptive reuse opportunities independently while in others, adaptive reuse partnership projects in their host communities result in vibrant locations for university programs that are embedded in the community.

Concept—Jim Wheeler | Copyright 2023 Ayers Saint Gross Graphic Design—Charlie Francis, Anna Tiburzi; Content—Cassie Bair, Sally Chinnis, Kevin King, Dana Perzynski, Matt Renninger, Allison Wilson Photography—Washington University, Courtesy of Washington University Photographic Services Collection / Arizona State University, Courtesy of Arizona State University / California State University Channel Islands, Courtesy of Mike Urbanek / Providence Innovation District, Courtesy of Rhode Island College Digital Commons and CBR ayerssaintgross.com | 410.347.8500 | comparingcampuses@ayerssaintgross.com

CONTEXT

WHAT HAS LED TO ADAPTIVE REUSE OPPORTUNITIES

Macro-economic conditions, social change, and cultural shifts have created adaptive reuse opportunities. Buildings that were once in high demand can sit vacant or underutilized as space needs change. Our research shows that colleges and universities have leveraged these shifts to repurpose existing structures and environments into higher and better land uses to meet current campus space needs at both the campus and building scales.

GI Bill led to an increase in T Change in retail culture from brick T T Shift in corporate offices knowledge workers and shifts and mortar to online resulted in from suburbs to cities in workspace environments shopping mall closures, making opened up office spaces them candidates for reuse | for new uses from primarily manufacturing space to primarily office space Rise in gig economy coupled with COVID-19 pandemic shifted how and Decline of manufacturing in the US (steel, cigarettes, where we work, automobiles, etc.) opened Decline in religious observance T raising questions has led to religious facilities | about the future of production and warehouse office space facilities for reuse available for reuse 1900 1950 2000 Initiation of Base Realignment and Closure (BRAC) left some Shift in attitudes toward and military bases available for practices for people living other uses (e.g., Arizona State The World's Fairs of the with mental illness resulted I University Polytechnic) early 1900s created in the closure of mental temporary environments institutions and made these Shift in philosophy about how highways engage cities opened primed for long-term campuses available for adaptation (e.g., Washington reuse (e.g., California State real estate for development

University in St. Louis) University Channel Islands) I (e.g., Providence Innovation District) 4 Providence Innovation 3 California State University 1 Washington University 2 Arizona State University in St. Louis Polytechnic Channel Islands District

FORM

meet future uses. The decision to strategically reuse existing real estate assets must be aligned with institutional goals and will look different on a case-by-case basis—what succeeds in one context may not be right for all contexts. Certain characteristics, such as those listed below, provide high-level considerations for the viability of building reuse. With that preserve history while addressing the changing needs of anchor institutions.



To what extent is there alignment or misalignment between existing and proposed uses? From what location(s) can an institution best serve its community?

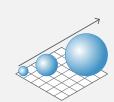


Are there any physical limitations of the existing building(s) that may affect their potential for reuse such

as floor-to-floor height, column

layout, load-bearing walls, or

structural bay size?



IMPACT

WHY ADAPTIVE REUSE MATTERS

preserved?

Adaptive reuse provides a high-impact strategy institutions can leverage in their built environments to meet pedagogical, fiscal, and environmental goals. In some cases, these strategies can also benefit their surrounding communities by elevating land uses. Institutions can better understand the impact of their potential adaptive reuse projects by cataloging the quality, quantity, and performance of existing assets to inform a phasing strategy to acquire, divest, or renovate with pedagogical and functional considerations in mind. Comprehensive renovations can support a better human experience, reduce operational costs, and minimize embodied and operational carbon emissions.



How might reusing an existing site and/or building(s) align with institutional climate, carbon neutrality. and other sustainability goals?

COMMUNITY



Will the renovation of an existing site and/or building(s) support pedagogical and/or research goals?

Will the renovation of an existing site and/or building(s) provide spaces that support student success and occupant health and well-being? Will the renovation of an existing site and/or building(s) increase social cohesion and community resilience?

Will renovation of an existing site and/or building(s) elevate its land use and asset value?

BUILDING LIFE CYCLE URBISHMENT USE

When existing campuses and/or buildings are reused T

for new purposes, the embodied carbon emissions of

these phases of a building's life cycle are minimized.

Reusing existing campuses and/or buildings extends their useful life by reinvesting in their maintenance and refurbishment.

ARIZONA STATE UNIVERSITY POLYTECHNIC

Mesa, Arizona

The Arizona State University Polytechnic (ASU Poly) Campus was once part of the U.S. Williams Air Force Base. A portion of the base was converted into a college campus under the Base Realignment and Closure effort. The programmatic alignments between the base and the college granted an efficient conversion as both institution types require similar facilities, including housing, dining, and meeting spaces. ASU Poly remains today as one of Arizona State University's five campuses.

Before

The base location was specifically chosen to be isolated from populated areas, creating a selfcontained community.

The purely functional layout of the base worked as a military installation but lacked identity and a sense of place.

The area of the future ASU Poly campus contained about 14 acres of asphalt and concrete to support



The base was used to train WWII pilots and mechanics which required ground support and heavy maintenance equipment for aircraft.

Activities on the base caused soil and groundwater contamination which needed to be solved prior to the land's reuse.

After

Williams Community School is an ASU Poly partnership, providing space and faculty for the community's middle school

T ASU Poly was required to utilize all of the existing base buildings before adding new facilities, thus giving its academic, office, housing, and support buildings a unique identity that builds community

In addition to ASU Poly, the base has been converted to accommodate a commercial airport, a Flight Academy, community colleges, high schools, a USAF research lab, and an Army Reserve Center.



The campus is home to a desert arboretum, promoting preservation, sustainability, l and contemplation.

The design of academic buildings takes into consideration the natural desert environment

New buildings are positioned on campus to create shaded courtyards and address seasonal storms.

Campus Information

USES 1941-1993: Military Base **1996–Present:** University Campus Number of acres as of 2023

2023: ~88 **BUILDINGS** Before and after reuse

1993: ~7

POPULATION Total number of people on campus

PROVIDENCE INNOVATION DISTRICT

Providence, Rhode Island

Providence was a city divided by a major vehicular artery, but the realignment of I-195 allowed neighborhoods to be connected and urban life to be rejuvenated. Providence's historic Jewelry District, home of Brown University's medical school, could then be reconnected to the city center. What was once a brownfield was reclaimed as a million-square-foot mixed-use community, including housing, a new hotel, retail, labs, research space, and a variety of tech start-up spaces.

Before

Since the 1950s the site was used as a viaduct for I-195.

Tight turns at exits created high volumes of traffic congestion.

T Edge of the Providence River was used as a hurricane barrier in the late 1930s



The original layout of I-195 was deteriorating, becoming hazardous and causing increases in vehicular accidents.

Construction of the overwater highway led to the demolition of 35 buildings including businesses and residences.

Relocating the overwater highway to the other side of the hurricane barrier was intended to free up 45 I acres of the Old Harbor in 1991.

After

The new highway layout allows for connections between adjacent neighborhoods and extends connections across the city.

spaces that facilitate collaboration and interaction between community members, business owners, students, and institutional leaders.

The district acts as a catalyst, creating

The district's proposed 700+ housing units, offices, and collaboration spaces will generate a significant economic impact.



The relocation of the highway opened 26 acres for future development.

The new pedestrian bridge allows circulation across the Providence River.

The former hurricane barrier has transformed into a seven- ${
m I}$ acre waterfront park.

Campus Information

Pre-1950: Wharf/downtown **1950–2007:** Highway 2015-Present: Mixed Use

26 SIZE Number of acres as of 2023

2007: Highway **2023**: ~14 **BUILDINGS** Before and after reuse

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