Advancing Healthcare Facilities: Approach and Qualifications

Property and Buildings

WHY WSP

As the world faces urgent challenges, our values are evolving. We need to limit our impact on climate change, protect biodiversity, and forge healthier societies and more resilient economies. As a partner, WSP brings more than just the technical expertise to plan or design a healthcare facility: we translate clients' visions into reality, solve challenges and consider how uncertainty will impact the future. We challenge ourselves to rethink the built environment today to be a part of tomorrow's solutions.

Ranked #1 in ENR Magazine's 2022 list of ***Top 225 International Design Firms***

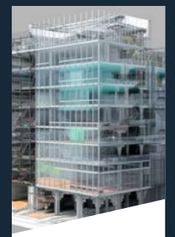
One of 18 ***Brands That Matter 2022*** *honorees by Fast Company*

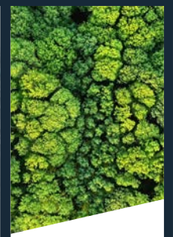
Defining industry trends with Future Ready® innovations and multi-disciplinary thinking

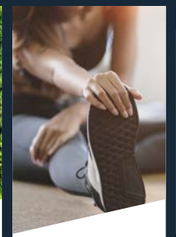
WSP's culture and business approach are rooted in a forward-looking perspective, which we define as *Future Ready*. This approach ensures the designs and deliverables we produce for our clients meet today's codes and standards and are also ready for a future, considering changing climates, societies, technologies and resources.

Our program develops a holistic awareness of conditions that will affect our work over time. We use this approach in our solutions to protect and preserve as well as help clients and communities to thrive in new ways. The healthcare industry is constantly evolving as demands increase and costs continue to rise. Challenges for healthcare providers means effective resource management is more important than ever. Energy is the life force of a hospital, underpinning all functions. We are continuously defining industry trends by bringing innovations across all disciplines. This includes producing facilities that minimize waste while maximizing efficiency. Our ability to reduce hospital operational costs by focusing on energy consumption and use of space is one way we are designing *Future Ready* projects.

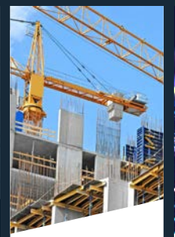
CLICK TO EXPLORE HOW WE DEFINE INDUSTRY TRENDS.

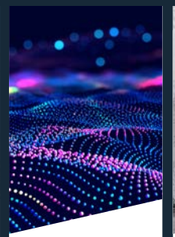

DIGITAL DESIGN AND DELIVERY

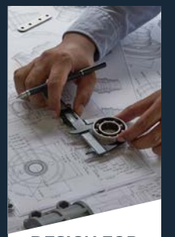

SUSTAINABILITY AND ESG


HEALTH AND WELLNESS


OPERATIONAL DECARBON-IZATION


EMBODIED CARBON


ARTIFICIAL INTELLIGENCE


DESIGN FOR MANUFACTURE AND ASSEMBLY

Delivering proven approaches to solving complex challenges across all services

Our comprehensive approach to healthcare design allows us to create efficient and sustainable buildings that deliver exceptional results. Our expertise in high-performance hospitals enables us to achieve excellence in various measures of performance and clinical disciplines, from energy-efficient building systems to improved clinical outcomes and enhanced patient and staff well-being.

As your engineering partner and specialty consultant, we seamlessly integrate all disciplines, adding value at every stage of your project, aligning with your vision and prioritizing the well-being of building users. With our market innovation team and expertise in integrated design management, we bring industry foresight and technical excellence to solve your most complex challenges. We specialize in designing state-of-the-art hospitals that prioritize user comfort and exceeding energy efficiency standards. Through our commitment to continuous improvement and finding innovative solutions, we strive to make a lasting impact and create a place in healthcare.

CLICK TO EXPLORE HOW WE DEFINE OUR APPROACH.

MARKET INNOVATION

INTEGRATED DESIGN MANAGEMENT

BUILDING SYSTEMS

BUILDING STRUCTURES

HIGH PERFORMANCE DESIGN

CONNECTED BUILDING TECHNOLOGY

BUILDING OPTIMIZATION

Throughout the document, click on this icon ⊕ to read more on the topic.

WHAT MAKES HEALTHCARE FUTURE READY

We deliver outstanding healthcare facilities around the world. Collaborating with clients and partners, we provide solutions for the complexities facing the healthcare sector today and in the future.

wsp.com/healthcare

There's a lot that goes into the creation of a place, but what is it that makes it truly valuable?

Faced with the challenges of climate change and society's evolving needs, we need to rethink our buildings and cities. They must deliver environmental, economic and social benefits: enhancing health and wellbeing, supporting sustainable development, protecting our environments, and adapting to whatever the future brings.

As a worldwide community of built environment experts, we are driven by a passion to change the world for the better. Through powerful partnerships and multidisciplinary collaboration, we design places that perform at the highest level—inside and out—to create long-lasting value for everyone.

WSP. We are what makes a place.

WHAT MAKES HEALTHCARE FUTURE READY

An empowering culture where we hold ourselves accountable

In today's rapidly evolving world, the importance of designing built environments that prioritize people's wellbeing and enhance operational mission has never been more crucial. We pride ourselves on a forward-thinking culture that incorporates some conventional yet non-negotiable qualities—like respect, integrity and trust. We welcome to the table all perspectives, strengths and skills because we know that diverse ideas breed extraordinary results.

We are empowered to turn challenges into opportunities while being held accountable to standards beyond the norm. Our proactive leadership empowers us to be client-focused, agile and responsive, while at the same time being accountable to our clients and our peers.

Our exceptional healthcare leaders, comprised of systems and structural engineers; smart building; and market innovation and advisory experts. Together, they bring a unique blend of expertise, vision and passion for creating spaces that seamlessly integrate human needs with the operational efficiency necessary to create Future Ready healthcare. Together, this team blurs the lines between artistry and functionality. Their purposeful diversity in the teams that they lead creates an alchemy of ideas, resulting in people-centric built environments that not only meet operational goals but also inspire awe and enrich the lives of those who inhabit them.

Giving back to communities

Our employees are committed to giving back to the communities where they live and work. Our efforts are directed in the form of investments, partnerships and pro bono expertise, all guided by the passion of our people.

NOLAN ROME, PE, LEED AP

Market Innovation & Advisory Services, Healthcare Lead

Leveraging his mechanical engineering background and over 22 years of experience, Nolan has the unique perspective of understanding the healthcare market. He not only brings industry best practices, but also leading edge innovations that are translating the industry.

DOUG LACY, PE, PMP

IDM Project Manager, Healthcare

As an Electrical Engineer with over 20 years of experience, Doug brings extensive knowledge of the healthcare market. He understands the interconnectedness of planning, design and construction allowing him to delivery seamlessly.

LOUISE BELAIR, PE, LEED AP, EDAC

Senior Vice President, Healthcare Lead, West

Drawing from nearly three decades of experience, Louise has the ability to quickly and comprehensively understand the functional requirements of clients' facilities allowing her to guide the engineering team in making design decisions that are thoughtful and future ready.

DONALD (DON) S. PROCZ, PE, LEED AP

Senior Vice President, Healthcare Lead, East

With 35 years of experience in project management, design and construction of complex building systems in the healthcare market sector, Don's approach is based on becoming a partner with our clients to provide technically sound, innovative solutions and exceptional client service.

DAVID ODEH, SE, PE, F. SEI, F. ASCE

Senior Vice President, Healthcare Building Structures

With over 30 years of structural engineering experience, David oversees the design and analysis of building structures of all types, including healthcare facilities. He has extensive involvement in the application of digital design technology to our projects as it relates to the structural design.

JACO CRONJE, RSA

Smart Healthcare Architect

Jaco is a business partner that has worked with healthcare networks to develop system architectures that leverage digital transformation to deploy enterprise-level data collection, data-driven insights and analysis, facility control system cybersecurity, and control strategies in converged Building Automation Systems.

WHAT MAKES HEALTHCARE FUTURE READY

> **“We’re experiencing a paradigm shift in the way we design and construct buildings, and innovations in digital technology are going to be at the forefront of this fundamental change.”**
>
> — Dale Sinclair, Head of Digital Innovation at WSP

Seeing the future clearly through digital design and delivery

We have been supporting our clients for decades in achieving their business objectives, through the application and development of digital tools in conjunction with engineering services. Our experience designing our clients’ physical assets enables us to understand the context and meaning of their data. We understand your challenges, know how digital tools and data can be used and apply the information in innovative ways to generate successful outcomes.

We can help you to navigate your digital transformation journey, from solving complex problems and bringing insights from data, to optimizing operations through digitization. Not only do we help you to manage your data, but we support your broader objectives—such as expediting decarbonization, enhancing customer experience and improving operational excellence.

Virtual reality (VR) immersion rooms enhance collaboration

The 30-foot-wide by 10-foot-tall high-resolution display wall is used to view project plans and conduct project review and design coordination meetings. Designers can quickly identify and resolve design clashes, saving costly changes in the field and improving the constructibility of their designs. And owners can experience their building in life-sized scale, enabling them to envision the final design.

Tailoring healthcare for children

Queen Silvia’s Children’s Hospital

Gothenburg, Sweden

Extensive use of BIM has been essential to keeping track of 450 systems—including security, lighting, x-ray equipment, electricity and ventilation—and the complex logistics of the project. BIM was used to keep the user and technical requirement specifications in a database connected to the different CAD-tools. BIM was also essential for good communications with the project stakeholders.

BIM is now being developed for use post-construction throughout a facility’s life-cycle. Queen Silvia’s Children’s hospital will be one of the first projects where healthcare providers will be able to manage, plan and track ongoing maintenance of their facility using BIM, and we are working with the hospital administrators to extend the project information into the operational phase.

WHAT MAKES HEALTHCARE FUTURE READY

"Every day, we help clients align their sustainability goals with core business and organizational goals, and we know how essential it is to go beyond the 'why' to provide practical guidance on how leaders can confront increasingly complex challenges in this space."

— Alastair MacGregor, *Future Ready* co-author and WSP USA Property and Buildings National Director

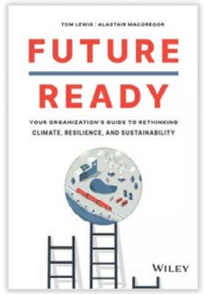
Helping clients have a positive impact by meeting their sustainability and ESG goals

The changing climate is amplifying vulnerabilities in organizations, systems, infrastructure, and communities, prompting leaders to evaluate and adapt practices and assets for long-term sustainability and resilience.

At WSP, we specialize in designing high-performance, energy- and resource-efficient buildings that are tailored to client objectives and prioritize the well-being of occupants, while also minimizing their environmental and ecological impact. With a distinctive blend of technical expertise and strategic management experience, our team of national experts across diverse disciplines offers strategic thinking, industry leadership, and deep technical knowledge to address complex climate challenges and foster a sustainable built environment.

Leading the way in sustainable and equitable project development, WSP offers comprehensive support in embedding environmental and social principles across all aspects of the process. From climate-aligned finance and resilient planning to forward-thinking solutions that anticipate future challenges, we consider the trends related to climate, society, technology, and resources to create impactful and future-ready solutions. Additionally, our Equity Center of Excellence collaborates with clients and local communities to foster just and equitable outcomes in the design and development of places, infrastructure, and experiences.

*Named **top 4** ESG and sustainability service provider in the world by **Verdantix** in 2022*



NEWLY RELEASED
WSP book unlocks key climate strategies for organizations

An essential guide for executives, managers, and other business and infrastructure organization leaders to set and implement a resilience, sustainability and ESG strategy in complex project and operating environments.

Elevating cancer research in a highly efficient facility

University of Hawaii Cancer Center
Honolulu, Hawaii

The laboratory neighborhoods are designed to promote collaboration between researchers, as well as to reduce the number of air changes required, by separating offices from lab space. Due to the hot, humid environment, cooling was a particular challenge, so we introduced innovative chilled beam technology as part of a low-energy HVAC system supplying fresh air at the correct temperature to the clinical and lab facilities. Additional efficient features include an optimized building envelope, high-performance lighting design, and the use of waste heat from the condenser system for temperature control.

WHAT MAKES HEALTHCARE FUTURE READY

“The spaces we create and inhabit are intimately and inextricably connected to human health. Simply put, the buildings where we live, work, study and relax have a profound impact on our physical and mental well-being, for better or for worse.”

— International Well Being Institute (IWBI), *Global Research Agenda: health, well-being and the built environment*, February 2021

Shaping places focused on health and wellbeing

In recent years, the focus on human health, wellness, and experience as integral aspects of green building design and operation has gained significant traction. This shift is driven by mounting evidence linking poor urban design to chronic public health issues and studies highlighting the positive impact of healthier office environments on cognitive function. Leading companies, like Google and Amazon, recognize the value of healthy office design in attracting top talent and improving employee wellbeing and productivity.

At WSP, we believe that sustainable outcomes are achieved at the intersection of people and technology, guiding our clients to make informed choices and enhance the design and operations of the built environment for positive human health and wellness outcomes. This approach aligns with various rating systems, frameworks, and protocols that prioritize health and wellness, such as the WELL Building Standard, the Living Building Challenge, LEED v4, and the Sustainable Sites Initiative. Additionally, we integrate principles like biophilia, circadian lighting, passive design, thermal comfort, active design, integration of food systems, and healthy material selections to create better spaces for work and life.

Fitwel assesses health, wellness and productivity across 60 strategies and benchmarking criteria that are related to one or more of seven health impact categories:

1. Community health
2. Morbidity and absenteeism
3. Social equality for vulnerable populations
4. Physical activity
5. Occupant safety
6. Feelings of well-being
7. Healthy food options

Ranked #9 in ENR Magazine’s 2022 list of
Top 100 Green Buildings Design Firms

Being surrounded by healthy options during the workday

Colorado Health Foundation

Denver, Colorado

One of the distinctive elements of this project was the implementation of tuneable LED lighting systems, allowing for color temperature adjustments in specific areas to replicate natural daylight and support the occupants’ circadian rhythm. Additionally, air quality monitors were installed to ensure a healthy indoor environment. The ground floor features a captivating water feature that utilizes rainwater collected from the building’s roof, contributing to a serene and peaceful atmosphere. The building’s design incorporates outdoor spaces on the 1st and 3rd floors, offering employees an enhanced and enjoyable work environment.

WHAT MAKES HEALTHCARE FUTURE READY

According to Circle Economy, only 7.2% of the virgin materials we extract are recycled back into the economy. This means that 92.8% of everything we make is wasted after use. The World Green Building Council reports that the global built environment is responsible half of the resources extracted globally—heavily contributing to this problem.

— Read more and download the Circular Built Environment Playbook

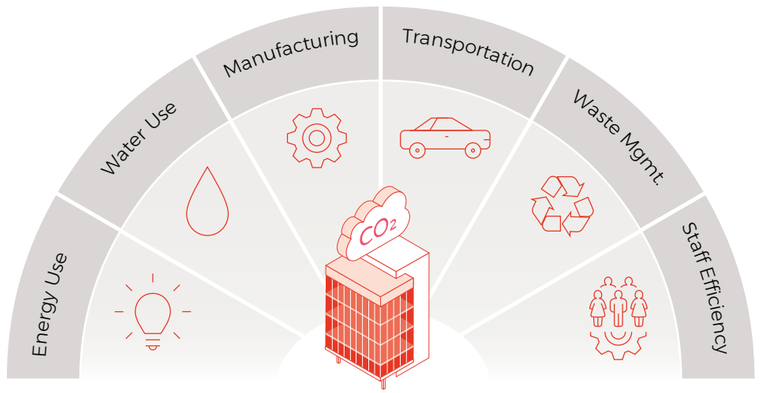
Building operational decarbonization strategies for healthcare networks

Healthcare facilities are some of the top energy consumers in the built environment, but driving down energy consumption is challenging since they are heavily dependent on the building services required both for day to day operation like heating, ventilation and air conditioning, and for specialist systems like clinical gas distribution. Infection control drives the selection of many materials and technologies such as the use of radiant panels above ceilings rather than conventional radiators which can attract dirt, and the supply of fresh air to operating rooms and critical care units.

As experts in sustainable design for healthcare, we have extensive experience helping hospitals reduce their carbon footprint during construction and operation, without compromising patient safety or hygiene. Our portfolio includes the first hospital in the world to achieve a Platinum-level LEED accreditation. By optimizing heat recovery, ventilation and lighting design, and using as much daylight as possible, our designers cut net energy use by 50 percent, compared to a similarly occupied building in the same climatic conditions.

Studies estimate the healthcare sector accounts for approximately 10% of global greenhouse gas emissions.

Operational decarbonization *refers to the process of reducing or eliminating greenhouse gas emissions associated with the ongoing operations and energy consumption of buildings, infrastructure, or industrial facilities.*



Cutting-edge care in the first LEED Platinum hospital

Dell Children's Medical Center of Central Texas

Austin, Texas

As the world's first hospital to achieve Platinum-level LEED accreditation, some of the engineering features include optimizing heat recovery, ventilation and lighting designs and using as much daylight as possible. In doing so, our designers cut net energy use by 40 percent compared with a similarly occupied building in the same climatic conditions. The campus includes an on-site Combined Heat and Power (CHP) plant to help boost efficient energy generation and recycle waste products.

WHAT MAKES HEALTHCARE FUTURE READY

Joining the SE 2050 Commitment aligns with WSP's climate action strategy. The firm has achieved carbon neutrality in the U.S. in its scope 1, scope 2 and scope 3 business travel emissions since 2019. Globally, it has established an ambitious commitment to achieve net zero emissions across its value chain by 2040, supported by Science Based Targets initiative (SBTi)- approved greenhouse gas emissions reductions targets.

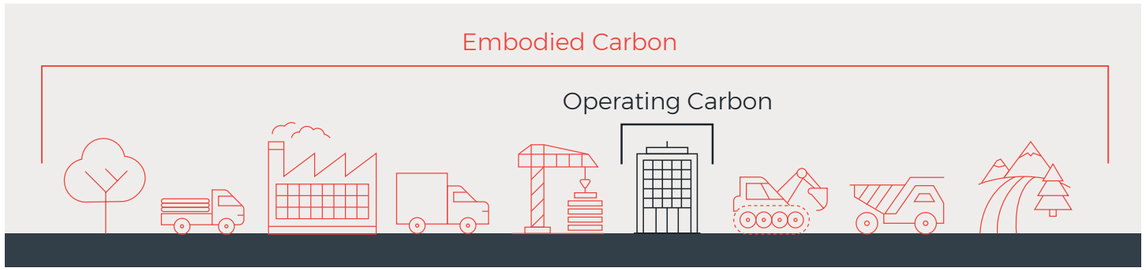
— WSP USA Joins Structural Engineers 2050 Commitment to Net Zero Press Release, October 2021

Designing to reduce embodied carbon

With over two decades of experience, WSP has been at the forefront of helping clients quantify and mitigate the environmental impacts of their projects and buildings. We conduct rigorous lifecycle assessments (LCA) to analyze and quantify embodied carbon and other environmental factors across various sectors.

LCA serves as a powerful tool for understanding product and service environmental impact drivers, enabling us to guide clients in design innovation and sustainability improvements throughout the value chain. By conducting LCAs and carbon footprints following ISO standard 14067, we provide clients with comprehensive insights into greenhouse gas emissions.

At WSP, we assist clients in navigating the LCA and carbon footprint process, enabling them to make strategic decisions based on robust data. These insights not only drive internal actions but also support external communications, substantiating their commitment to sustainability.



Two of the most commonly used structural materials—concrete and steel—represent approximately 21% of global carbon emissions.

***Embodied carbon** refers to the total greenhouse gas emissions associated with the extraction, production, transportation, and assembly of materials used in the construction and lifecycle of a building or infrastructure project.*

Reducing the global warming potential through material selection

San Francisco International Airport (SFO) Train Stations

San Francisco, California

Working with the structural engineers and SFO team, we implemented changes to the concrete design to include 25 percent fly ash. WSP then did a final comparative whole building lifecycle study comparing earlier iterations of the design to the final. In addition to changes to the concrete design, we amended the skylight design and replaced several glass canopies with metal ones. This resulted in a 9.6 percent reduction in global warming potential (GWP), 12.6 percent reduction in acidification and 11 percent reduction in ozone formation.

WHAT MAKES HEALTHCARE FUTURE READY

> “The advent of game-changing digital tools and technologies aligned to the shift towards manufacturing-led construction is transforming the way we design and make our buildings whilst reducing carbon emissions and achieving other sustainability outcomes.”
>
> — Dale Sinclair, Head of Digital Innovation at WSP

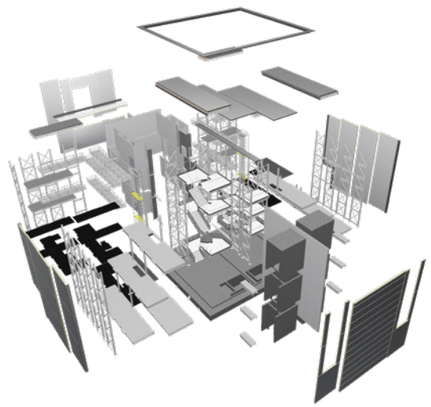
Design for Manufacture and Assembly (DfMA): revolutionizing construction with efficiency and precision

Increasingly, WSP is deploying DfMA approaches at varying scales to seamlessly integrate manufacturability and assembly considerations into the design phase, resulting in unprecedented efficiency, cost savings and quality.

Adopting a production-line approach to construction, where modules and parts of buildings are manufactured off-site, results in streamlined operations and reduced complexity, thereby accelerating construction timelines and lowering costs. In addition, DfMA enhances precision and craftsmanship by eliminating manufacturing challenges and enabling flawless execution.

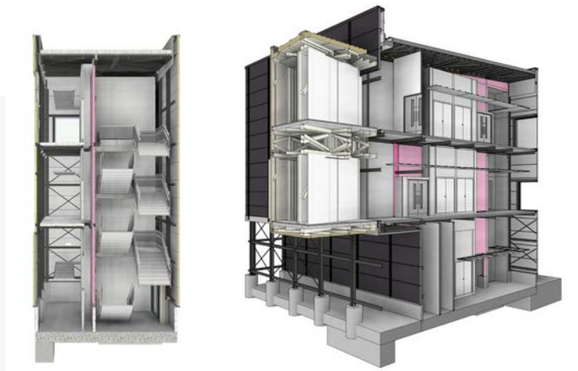
Moreover, DfMA enables us to address sustainability concerns, reducing the environmental footprint of projects by considering material usage and waste reduction.

DfMA is a game-changer in the construction industry—it blurs the boundaries between design and construction—ushering in an era of innovation, efficiency and superior quality. Brace yourself for a construction revolution as DfMA reshapes the industry, paving the way for a future where buildings rise faster, costs drop and sustainability takes center stage.



Kits of parts

We are developing kits of parts for our clients that work at a program level. As the diagram above illustrates, these work around repeatable digital content aligned to new project and platform workflow to speed up the design and construction processes and deliver more predictable outcomes.



Standardization in design to simplify construction

Aviation pier kit of parts for confidential client

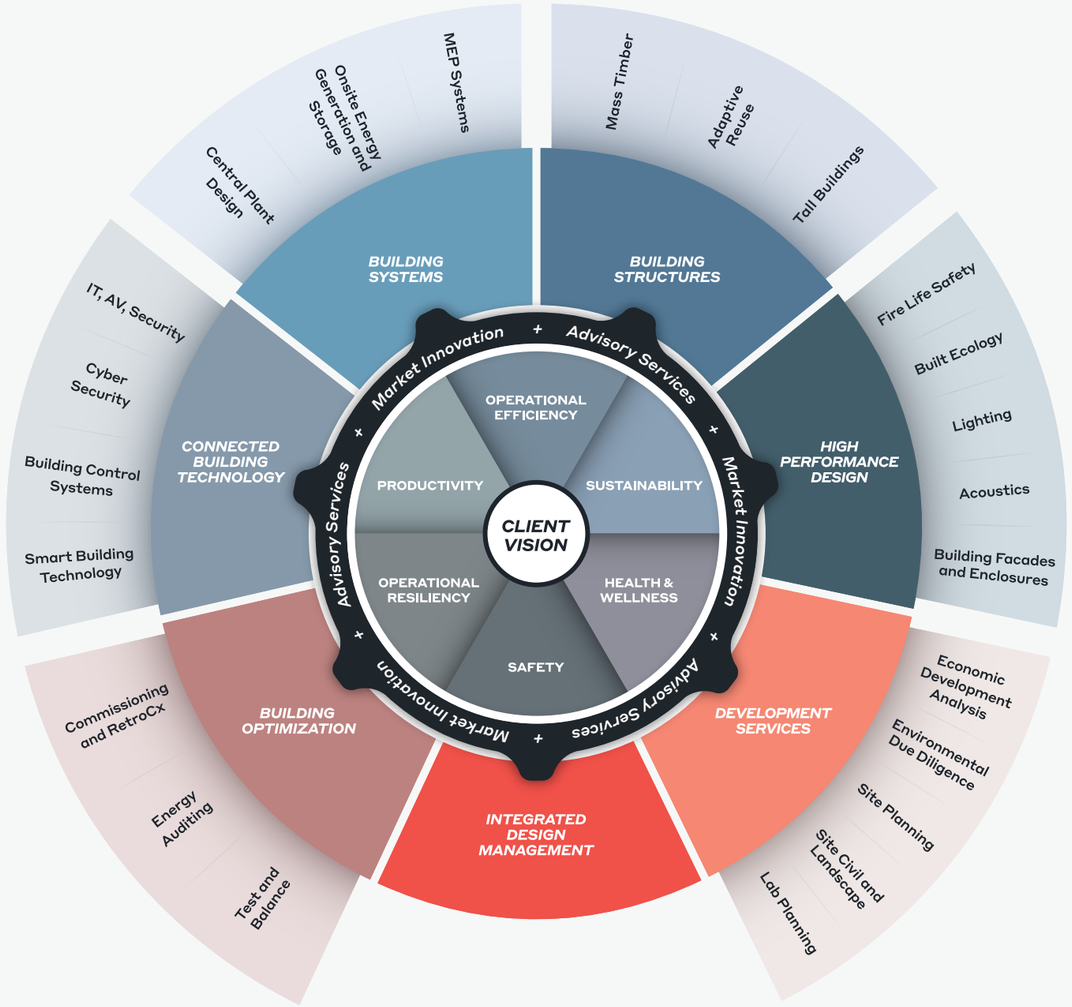
United Kingdom

WSP has developed for a client a kit of parts for an aviation pier. The initial work involved a “proof of concept” (POC) to demonstrate that it was feasible to shift from construction to a greater level of off-site manufacturing. More importantly, the kit of parts also demonstrated on traditional projects repeatable design content and standardization to be created. For example, facade panels, a steel frame as a platform and redesigned core aligned to large scale sub-assemblies (thousands of individual parts on site to dozens of sub-assemblies) that are faster to install. This POC has now been delivered on the first project in the UK for the eight Fixed Links and Nodes (FLANs) for a new pier at Manchester Airport.

Our multi-disciplinary methodology

Connecting our service offerings with the client vision

WSP is committed to realizing our clients' vision of operational efficiency, sustainability, health and wellness, safety, operational resiliency, and productivity. Our unique approach revolves around understanding and addressing our clients' challenges, connecting our comprehensive range of services and engaging our market innovation advisory team to unlock the potential of engineering as the foundation for achieving their goals and vision.



We are proud to leverage the full suite of our technical expertise to deliver exceptional results for our clients. Our team of experts is passionate about realizing our clients' vision, and we are ready to collaborate and tailor our approach to work with your organization, programs and facilities.

MARKET INNOVATION AND ADVISORY SERVICES

Our team of innovators develop a comprehensive framework to understand client needs, identify trends and create effective engineered solutions, enabling clients to achieve their operational, financial and efficiency goals for facilities and systems.

INTEGRATED DESIGN MANAGEMENT

At the heart of our methodology lies Integrated Design Management (IDM), enabling us to efficiently deliver complex, multi-disciplinary solutions. Our approach centers around collaboration, bringing together all design disciplines and stakeholders to form a cohesive and unified team.

DEVELOPMENT SERVICES

Our suite of services—encompassing economic development, urban design and planning, environmental, civil and geotechnical engineering—empowers our clients to make well-informed decisions that align with their development objectives and project requirements.

BUILDING SYSTEMS

Beyond the essential building systems for day-to-day operation, we also specialize in designing specialist systems for healthcare facilities, including gas distribution, humidity control and infection control. Our expertise prioritizes safety and comfort, contributing to the creation of a healing environment.

BUILDING STRUCTURES

Our team of experienced engineers applies their healthcare-focused knowledge to deliver structurally sound and innovative designs tailored to meet the unique demands of healthcare environments from concept through construction.

HIGH PERFORMANCE DESIGN

Through interdisciplinary connections and a comprehensive approach spanning the building lifecycle, we drive projects toward performance metrics, efficiency and sustainability goals while continually integrating new tools, techniques, research and technologies to push the boundaries of what can be achieved.

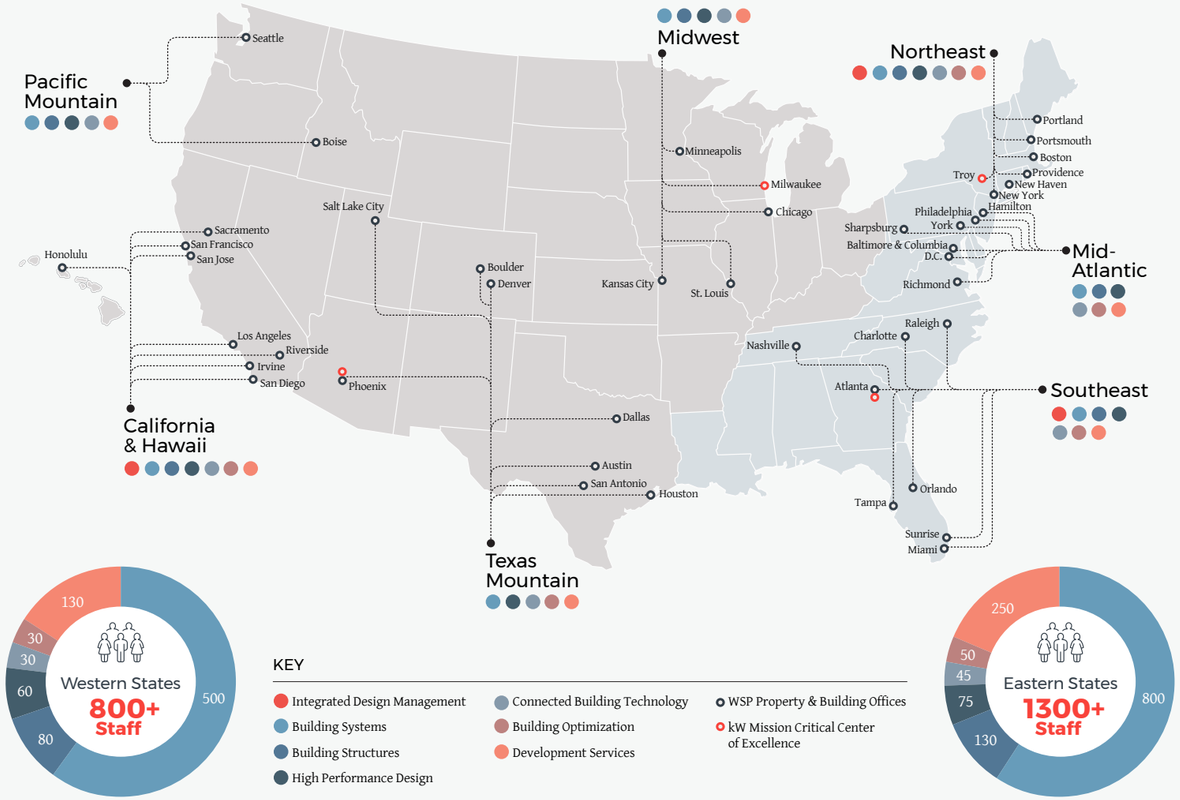
CONNECTED BUILDING TECHNOLOGY

Using a data-driven design approach, we create intelligent systems for advanced and connected buildings, leading the way in developing efficient, sustainable, and resilient smart buildings that optimize performance, reduce energy consumption and enhance occupant comfort.

BUILDING OPTIMIZATION

Our comprehensive services enhance performance, efficiency and functionality by analyzing systems, implementing energy-saving strategies, and providing thorough testing and documentation. This creates safe, reliable and sustainable built environments.

Meeting complex engineering challenges across the U.S.



Property and Buildings by the numbers:

2,200+
Employees

40+
Offices

Growth that matters

Creating a force multiplier in building engineering

Since the turn of the millennium, WSP has been creating a building engineering practice that is founded on excellence in design, a culture of collaboration, and an unwavering commitment to solving the toughest challenges for our clients. What truly sets us apart is the rich history of our Property and Buildings business, with each part contributing its unique strengths to create a unified, force in the industry that delivers unbeatable expertise and outcomes for our clients and communities.

We are a dynamic, forward-thinking team that constantly pushes the boundaries on integrated design and digital delivery, ensuring that we deliver the most innovative and Future Ready® solutions across all markets. **We don't shy away from complexity; we thrive on it.**

Places that support diagnosis, healing and recovery

A healing place is one that actively promotes hygiene, infection control, security, and well-being. To achieve this, healthcare and research settings need to be designed with careful consideration for minimizing the spread of germs, supporting effective cleaning and maintenance, and creating a healthy working environment. Room layouts and staff facilities should be designed to reduce cross-contamination, and ventilation systems should be in place to remove airborne pathogens and harmful chemicals while ensuring fresh air supply. Patients should feel secure and nurtured, giving them total confidence in the care they receive. Healthcare facilities should be designed to promote recovery. Similarly, research facilities should be designed to enable scientists to work effectively and safely, so they can focus on making tomorrow's breakthrough discoveries.

WSP has successfully delivered:

60+ million sq. ft.
of healthcare facilities in the last ***7 years***

20+ million sq. ft.
of children's healthcare facilities in the last ***10 years***

THE FIRST ALL-ELECTRIC HOSPITAL IN THE COUNTRY

Decarbonizing where we heal

Irvine Campus Medical Center

Irvine, California

The Irvine Campus Medical Center is revolutionizing the healthcare industry with its cutting-edge electrification strategy. Spearheaded by engineering and professional services from WSP and architecture firm CO Architects, the facility boasts an array of eco-friendly features, including solar panels, energy-efficient lighting, and a green roof. However, the true centerpiece of its decarbonization strategy is the electrification of its central plant. This solution involves using electricity to power the facility's heating, cooling and other energy needs instead of relying on traditional fossil fuels. By decarbonizing its central plant, the Irvine Campus Medical Center is making a significant impact in reducing its carbon footprint and advancing towards a cleaner, greener future. The new medical center will be a specialized acute care, ambulatory care and cancer treatment and research facility, situated on the University of California, Irvine campus. It will provide 24-hour emergency care, personalized cancer treatments and specialist care in a range of other fields from neuroscience to orthopedics, facilitated by the University in a bid to fulfill its mission to *"Discover. Teach. Heal"*.

"We've incorporated a lot of metering into the design so we have the opportunity to gather critical data about how this hospital operates. This project has the potential to be a case study and provide valuable insights into how an all-electrical hospital actually operates."

— Ray Swartz
Senior Principal, Electrical
Engineer of Record

It was purposefully designed to incorporate nature and the outdoors into the healing process. The site blends the hardscape of the hospital with a natural marsh area and provides views of an aesthetically appealing landscape from all parts of the building.

WSP has played an important role in a highly collaborative progressive design build process to encourage and facilitate innovation. WSP designed a new central utility plant that replaced the existing gas-fired boilers with new high-efficiency electric chillers and boilers. The team also designed a new photovoltaic system with a total capacity of 1.5 MW, which can generate approximately 2.5 million kWh of renewable energy annually. In addition, WSP helped implement a sustainable transportation plan, which included the installation of electric vehicle charging stations and the promotion of public transit and carpooling. The new facility is expected to use approximately 25 percent less energy than a traditional hospital building of the same size and will save the hospital an estimated $15 million in energy costs over the next 25 years.

AREA

690,000 sq. ft.

PATIENT BEDS

144

PHOTOVOLTAIC SYSTEM

1.5 MW

DELIVERY METHOD

Progressive Design-Build

CREATING FLEXIBILITY FOR THE FUTURE

Indiana University Health, New Downtown Hospital

Indianapolis, Indiana

Composed of three towers and over two-million square feet, the hospital will reshape the urban core and occupy nearly two city blocks in the Medical District, providing an anchor to the larger 44-acre health-centered campus. The primary goal of this project is to create flexibility in the design. All rooms will be private with the capability to be transformed into critical care rooms should the need arise.

Safeguarding against infectious diseases

Children's Healthcare of Atlanta, North Druid Hills

Atlanta, Georgia

The facility relies on a cutting-edge design with a six-bed special care unit within the emergency department for the treatment of patients with highly infectious diseases. If an easily transmittable virus is detected, this area can be rapidly converted from a normal emergency department to a sealed-off facility where the flow of people, decontamination procedures and the removal and incineration of objects can be managed.

Embedding clean energy strategies on campus

Duke Health, Cary Campus Hospital and Freestanding Emergency Department

Cary, North Carolina

Combining an emergency department, ambulatory surgery center, patient beds, and medical office space, the campus was designed with passive and active design strategies, including renewable energy systems to achieve targeted pEUI goals. Where eligible by Energy Star guidelines, the project will achieve a performance rating of 75 or higher. In cases where the building type was not eligible for Energy Star, WSP provided similar information on the building's energy consumption.

Modernizing a 145-year-old facility efficiently

ProMedica Toledo Campus

Toledo, Ohio

WSP has aided in developing the master plan, generations tower expansion and a new central energy plant (CEP). Once it was determined that a new CEP was necessary, the design team coordinated closely with mechanical contractors to utilize off-site pre-fabricated MEP corridor rack systems. The use of the rack systems allows for increased quality control and decreased installation time in the field. This innovative approach resulted in the project being completed six months ahead of schedule.

BUILDING A FOUNDATION TO GROW UP

Lifespan, Rhode Island Hospital Bridge Building

Providence, Rhode Island

Originally designed for future vertical expansion, the two-story parking garage and three-story building serve as the facility's foundation, supporting the hospital's later development. The expansion included a new stand-alone concrete elevator tower and three-story 80-foot long connector bridge. In addition to the structural design, WSP also supported major infrastructure upgrades such as the boiler house expansion, a new 250-foot tall exhaust stack and a new chiller plant.

Building space where it's needed most

University of Pennsylvania Health System, Pereleman Center

Philadelphia, Pennsylvania

This multi-phased project included the design of an over 450,000 square foot addition to include the new Pereleman School of Medicine and a new 20-story research and outpatient care facility. The project design allowed for the continuous operation of a critical loading dock beneath the new tower, using a creative structure of steel trusses and transfer beams.

Making a connected campus

Boston Medical Center, Menino and Yawkey Expansion

Boston, Massachusetts

Utilizing an Integrated Project Delivery method, this new five-story expansion included a clinical services building and pedestrian bridge. Additional renovations included a partial renovation of for pediatric inpatient, PICU (Pediatric Intensive Care Unit) and the Antenatal Testing Unit (ATU), as well as, a 3,000 sf expansion of the mezzanine level and installation of a new stairway. We also completed a facade replacement study for the Preston building.

A supporting environment to foster healing

OSF Healthcare, Cancer Care Center and Ambulatory Facility

Peoria, Illinois

The new four-story, 250,000 sf cancer center building includes a single basement level and a partial mechanical penthouse. Other key structural elements include an underground proton therapy vault and a pedestrian bridge spanning over a roadway to an adjacent garage. A hybrid structure of concrete cores and steel floor framing maximizes the available floor area and openness for clinical spaces and an improved patient experience.

Sample of additional relevant project experience

We excel at creating state-of-the-art hospitals that maximize building users' comfort while performing to an exacting criterion of energy efficiency. As well as constructing buildings using methods that minimize energy use and site waste, we continue to stay engaged with the owners, monitoring hospitals after client handover to ensure that energy savings remain on target. Below is a list of exceptional projects that WSP was able to partner with a multitude of stakeholders and design partners to execute the vision of delivering world-class healthcare to patients across the country.

		SERVICES						FACILITY TYPE							PROJECT FEATURES			
CLIENT, PROJECT NAME	LOCATION	Market Innovation and Advisory Services	Building Systems	Building Structures	High Performance Design	Connected Building Technology	Building Optimization	Children's Hospital	General & Acute Hospital	Ambulatory Surgery Center	Emergency Department	Academic/Research	Cancer Center	Rehabilitation Center	Urban Development	Historic Building	Alternative Delivery	Sustainability/WELL Building Certification
Irvine Medical Center at University of California Irvine	*Irvine, California*		●		●	●		●		●	●				●		●	
Indiana University Health Hospital	*Indianapolis, Indiana*		●		●		●		●		●			●	●			
Children's Healthcare of Atlanta, North Druid Hills Campus Expansion	*Atlanta, Georgia*		●		●		●		●		●	●			●			
Duke Health Cary Campus, Hospital and Freestanding Emergency Department	*Cary, North Carolina*		●		●		●				●							
ProMedica, Toledo Campus	*Toledo, Ohio*		●															
University of Pennsylvania Health System, Pereleman Center	*Philadelphia, Pennsylvania*			●														
Boston Medical Center, Menino and Yawkey Expansion	*Boston, Massachusetts*			●														
Lifespan, Rhode Island Hospital Bridge Building	*Providence, Rhode Island*			●					●	●	●							●
OSF Healthcare, Cancer Care Center and Ambulatory Facility	*Peoria, Illinois*			●						●			●					
Brown University, Warren Alpert School of Medicine	*Providence, Rhode Island*			●												●		
Atrium Health, Carolinas Medical Center Rehabilitation Hospital and Expansion	*Charlotte, North Carolina*		●		●				●		●			●	●			
Northern Arizona Health, Fort Tuthill Campus	*Flagstaff, Arizona*	●			●	●	●		●	●	●							
MultiCare, Mary Bridge Children's Hospital	*Tacoma, Washington*	●			●	●	●	●			●						●	
HCA Healthcare, Sarah Cannon Cancer Center at Medical City Plano	*Plano, Texas*				●	●	●						●					●
Banner Health, University Medical Center Patient Tower and Emergency Department Expansion	*Phoenix, Arizona*				●							●						
University of Maryland, Capital Region Medical Center	*Largo, Maryland*				●			●					●				●	
Penn State Health, Lancaster Community Hospital	*Lancaster, Pennsylvania*								●		●				●			
Sheppard Pratt Health System, Elkridge Behavioral Health Facility	*Elkridge, Maryland*																	

Working with WSP means rethinking business as usual.

OUR APPROACH TO

Market Innovation

Our experts are always preparing for the future. We combine proactive consultancy and strategic advisory services with world class engineering to create social, environmental and financial value for clients globally.

Our Market Innovation and Advisory Services team can:

- **TRANSLATE** corporate goals, create clear business needs and define technical problems to be solved in the built environment;
- **OPERATIONALIZE** your corporate vision, applying it to the built environment, sharing sector specific experience to guide an informed approach based on industry trends and past performance;
- **ACT** as the connective tissue between the project vision and the engineering solutions from our technical experts;
- **INTEGRATE** technology within the built environment to enhance human and business performance; and
- **COLLABORATE** with clients and partners to solve challenges through research and development.

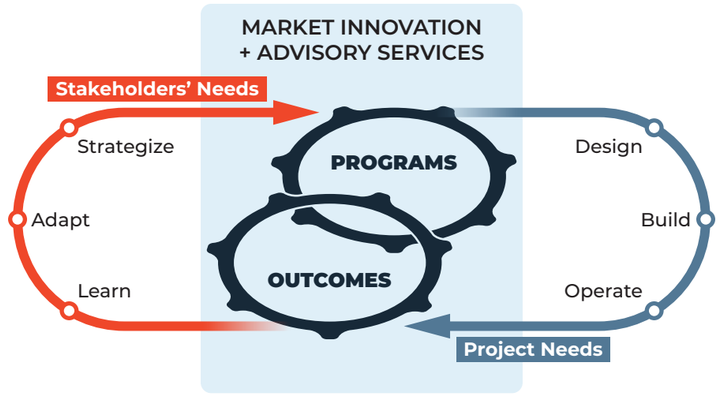
Our Market Innovation and Advisory Services team is ready to help you define **what makes your place**.

Our process includes:

- **ASSESSING** the current state and engaging stakeholders to identify improvement opportunities
- **DEFINING** the vision for where we are going and what it will be like when we get there
- **DEVELOPING** technical requirements and a timeline, underpinned by a business case
- **IMPLEMENTING** a program of engineering solutions and change management

Understand your goals

We will apply a framework to understand your stakeholders' needs, identify present and future trends to make facilities and systems more effective, and develop solutions through a roadmap that will help clients achieve their operational, financial and efficiency goals.



Developing a digital strategy to inform new hospital designs

Northern Arizona Health, Flagstaff Health and Wellness Village

Flagstaff, Arizona

As WSP embarked on the design of this new $800-million hospital and ambulatory care center, the client realized they wanted both a new physical footprint and a new digital footprint. Our team developed a digital transformation strategy that focused on a smart hospital room experience, embedding digital infrastructure to optimize operations and rethink data as a strategic asset.

Moving a global data center in three months without downtime

Confidential Global Cosmetics Company

Our team developed the strategy and oversaw the implementation of an extremely accelerated timeline in moving a key client's global disaster recovery data center to a new data center. This included data driven approaches to risk mitigation such as weather, traffic and transport route analysis.

OUR APPROACH TO

Integrated Design Management

Our integrated design management (IDM) approach enables us to turn our multi-disciplinary practice into a force multiplier for client outcomes. In partnership with our Market Innovation and Advisory Services team, we capture your vision and formulate the requirements for engineering solutions leveraging our many practices.

1 **OUR PROCESS STARTS WITH YOUR VISION.** Our Market Innovation and Advisory Services team will help define that vision and develop the technical requirements to implement it.

2 **MAP EFFICIENCIES AND DRIVE COLLABORATION.** Our IDM team knows how engineering design evolves and is there to manage the interactions between trades—identifying efficiencies, promoting collaboration, and ensuring all stakeholders are working toward a common goal.

3 **SCOPE ASSURANCE IN EACH PROCESS.** During design, our IDM team enables a direct feedback loop between the client, our Market Innovation and Advisory Services team, and the multidisciplinary design team. This allows the client vision to evolve over time and supports the complex decision-making process across the client's program.

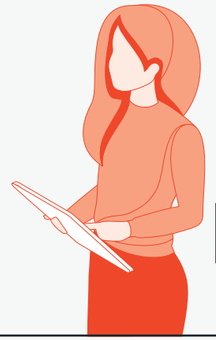
CLIENT

CLIENT VISION

ARCHITECTURAL PARTNER

WSP ENGAGES **MARKET INNOVATION AND ADVISORY SERVICES**, COLLABORATING WITH THE ARCHITECT TO DEFINE AND TRANSLATE INTO ENGINEERING SOLUTION NEEDS

1



2

INTEGRATED DESIGN MANAGEMENT COORDINATES WITH PROJECT PARTNER(S) QUARTERBACK FOR SMEs AS DESIGN MATURES

FEEDBACK LOOP FOR ONGOING CLIENT ENGAGEMENT AND CONTINUITY DURING PROJECT AND ACROSS FUTURE PROJECTS

3

CLIENT PROGRAM

MARKET INNOVATION AND ADVISORY SERVICES

- INTEGRATED DESIGN MANAGEMENT
- DEVELOPMENT SERVICES
- BUILDING SYSTEMS
- BUILDING STRUCTURES
- HIGH PERFORMANCE DESIGN
- CONNECTED BUILDING TECHNOLOGY
- BUILDING OPTIMIZATION

Phoenix Children's Hospital
Phoenix, Arizona

"WSP consistently works towards improvement and pays attention to operations over a history of working together. They deliver the project and maintain the relationship for ongoing facility performance."

— *Dave Cottle, Vice President Planning, Design & Construction, PCH*

OUR APPROACH TO

Building Systems

Building services are crucial to the optimum performance of healthcare facilities and typically amount to greater than 40% of the construction cost. In addition to the building systems required for day-to-day operation, such as ventilation, temperature control, water and drainage, and lighting. Complex healthcare facilities also require specialist systems in area like medical gases, emergency generation for power, and integration of systems to support clinical staff and facility managers. We are passionate about supporting our clients in developing the most efficient and sustainable facilities in the world.

ONSITE ENERGY GENERATION AND STORAGE: The uninterrupted flow of energy, which can cope with surges in demand, is fundamental to a high-performance hospital. And an energy-efficient hospital means that more resources are available for front-line, clinical services. WSP works with facilities to leverage on-site generation and storage of power, heating and cooling to not only meet required redundancies but support carbon neutrality and resiliency goals. Our engineers work with operations and facility staff to provide complex systems that can be maintained and supplied with sensitivity to their climate and geography. We enhance the energy efficiency of existing hospitals by installing systems that use the latest technologies to create significant cost savings.

CENTRAL PLANT DESIGN: We can tailor the design of a Combined Heat and Power (CHP) plant to the exact requirements of a healthcare provider to boost efficient generation, recover energy and reduce domestic water consumption typically wasted during processing. The use of CHP strategies like heat pump chillers and central vacuum waste systems help owners cut the net energy use by one third compared with similarly occupied buildings and can supply other buildings. Buildings such as the Birmingham Children's Hospital, where the CHP developed for the hospital, also feeds the University of Alabama as a specialized district provider.

RESILIENCE: On every project we aim to future-proof each aspect of the building. This means creating flexible facilities that can adapt to increasing demands as well as withstanding the effects of climate change and operate efficiently. We work with healthcare owners and operators to determine the correct level of resilience required depending on the building's individual conditions. Early conversations can avoid unnecessary expenditure on over-specification of resilience systems. For example, a hospital in the warm, inland climate of Phoenix does not need the same level of resilience as a hospital in New York City, where there is a higher demand on the power grid and the risk of serious climatic events.

Saving water in an arid environment

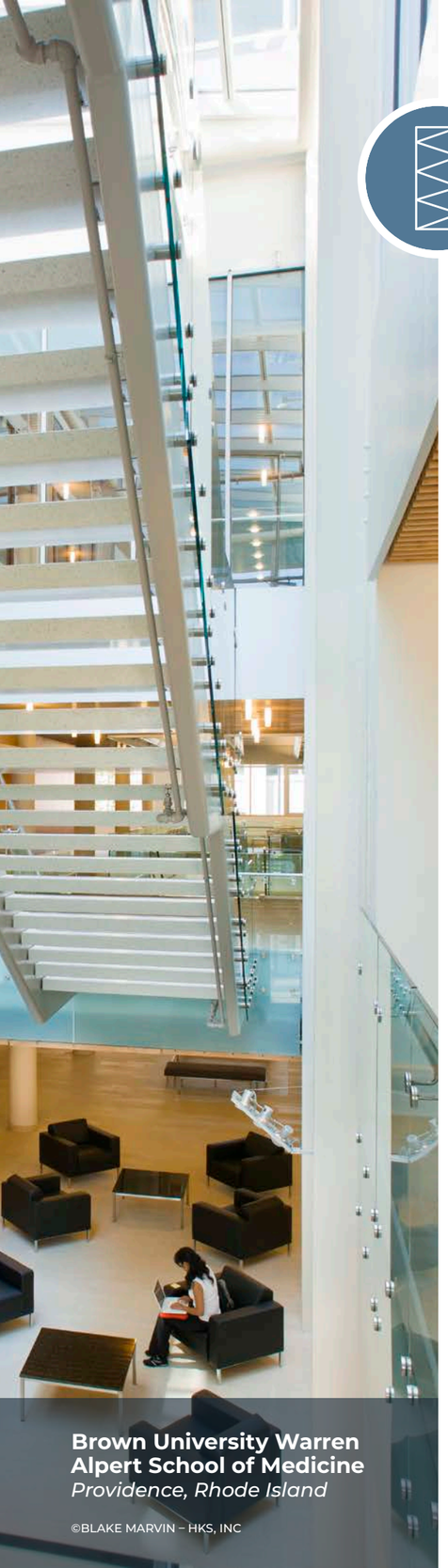
Phoenix Children's Hospital
Phoenix, Arizona

WSP helped design a new Central Utility Plant (CUP) and tunnel distribution system that includes a unique 800-ton heat pump chiller. This allows heat from the building cooling cycle to be injected into the water-heating system and reuse the heat, saving around 5.5 million gallons of potable water per year. All systems are backed-up by generators ensuring continuous running of the hospital in case of power outages.

Jumping care to new heights

Scottish Rite for Children Orthopedic and Sports Medicine Center
Frisco, Texas

The large indoor-outdoor sports therapy area includes the Movement Science Lab with cameras to capture images of patients performing activities such as running, jumping, throwing and kicking. These isolate specific movements, and therefore play a crucial role in determining individualized care. To enable this, the cameras had to be closely coordinated with in-floor sensing and measuring devices, medical equipment and mechanical, electrical, plumbing and technology services.



Brown University Warren Alpert School of Medicine
Providence, Rhode Island

OUR APPROACH TO

Building Structures

Healthcare facilities face unique structural challenges because they must consider patient care, healthcare provision, and operational requirements in their design. Whether at a private clinic, general hospital, cancer center or medical research facility, WSP's expertise lies in delivering sophisticated, cost-effective, and sustainable structural solutions tailored to our clients' needs. We adapt our approach to each project, considering the facility's demands, client priorities, and operational requirements.

We address the clinical imperatives of each project, whether it's meeting strict vibration criteria for operating theaters, specifying materials for easy maintenance, providing adequate floor loadings for diagnostic equipment or integrating dense walls for radiotherapy bunkers.

We understand the importance of cost-effectiveness and considering the entire lifecycle of the building. Our designs prioritize robust and durable materials that withstand the healthcare environment's wear and tear, minimizing future structural maintenance needs.

Considering the ever-changing nature of healthcare, we design for flexibility to accommodate future technological advancements or the need to reconfigure clinical areas for other purposes. This includes ensuring the structure supports immediate and future requirements for essential hospital services such as power, air flow, gases, critical data and backup supplies.

We also account for the practicalities of moving large technical equipment within the facility. For example, our design for a cancer care center in Gothenburg, Sweden, featured removable parts in exterior walls to facilitate the installation of replacement scanners and other medical equipment in the future.

Our ultimate goal is to deliver optimal structures that provide efficient workspaces for clinicians and a comfortable environment for patients. As a global leader in structural design, with extensive experience in healthcare facilities, we recognize that close collaboration with clients, medical professionals and patients is crucial to understanding their current and future needs in this demanding and rapidly evolving industry.

Retrofitting the structure in order to modernize

Brown University Warren Alpert School of Medicine
Providence, Rhode Island

Converting the historic 1940s building into a contemporary academic medical facility presented many structural challenges. The original structure was a cast-in-place concrete building from the 1940s, featuring closely spaced round concrete columns. To convert the building extensive modifications were made by removing several columns and floor areas while preserving the historic building envelope. These alterations allowed for the creation of large auditoriums, spacious anatomy labs and classrooms for medical students.

Connecting logic and creativity in physical space

Cleveland Clinic Lou Ruvo Center for Brain Health
Las Vegas, Nevada

Dedicated to providing care for patients with cognitive brain disorders, supporting their families and advancing research, the complex is divided into two sections—logic and creativity—symbolizing different aspects of brain function. The medical wing utilizes a steel frame and composite concrete and metal deck floors, with a curved steel trellis marking the transition between the two halves of the complex. The events center is constructed with a prefabricated structural steel shell, laser-cut to include 199 windows that allow natural light to flood the space.

Amazon Spheres
Seattle, Washington

WSP's role in creating Amazon's pioneering work hub has included mechanical, plumbing, lighting and high performance sustainable design services. For example, our engineers devised an innovative heating solution for the Spheres that would meet Seattle's stringent energy code requirements. This involved piping waste heat from a nearby, third-party owned, data-center directly to the neighborhood's central utility plant that was designed by WSP to serve the entire development.

©BRUCE DAMONTE

OUR APPROACH TO

High Performance Design

We foster interdisciplinary connections to drive projects towards performance metrics, enhancing efficiency, and achieving sustainability objectives. Our comprehensive approach spans the entire building lifecycle, encompassing diverse scales such as community and campus planning, design, construction, existing buildings, and portfolio operations.

FIRE LIFE SAFETY: Our experienced team collaborates with code officials, incorporating client preferences and vision to deliver cost-effective, regulatory-compliant fire life safety solutions. From project inception to occupancy, we provide comprehensive expertise and service, recognizing that fire safety must be integrated with other disciplines to streamline project delivery.

BUILT ECOLOGY: WSP is motivated by a broad and holistic definition of sustainability that embodies human health and wellbeing as we strive towards connected, equitable, and resilient communities. Our national sustainability practice leads the way in driving cross-sector initiatives that infuse sustainability into every facet of our work. Serving as strategic advisors, we foster interdisciplinary connections and guide projects towards sustainable outcomes across diverse scales and the entire building lifecycle.

LIGHTING: The creative and technically skilled lighting studio supports client aspirations and project goals, delivering innovative yet practical lighting solutions that foster collaboration, embrace natural light, and reinforce architecture. Our solutions go beyond mere illumination, enriching spaces and enhancing the user experience.

BUILDING FACADES AND ENCLOSURES: With expertise in complex facade systems, our team offers invaluable advice on this high-risk element in building delivery. Facades, accounting for approximately 25 percent of construction costs, play a critical role in overall building performance and success.

ACOUSTICS: With over 150 acousticians, our specialized team is one of the leading acoustic consultancies worldwide. Starting with current environmental quality standards, we go beyond by researching material sciences and employ innovative design tools to stay at the forefront of acoustic advancements. Our acoustic solutions integrate smart buildings technology to give users direct access to the physical parameters of the space they occupy—whether to promote clear communication when working together or to create privacy when focus is needed.

©HKS

Leading patient care and reducing costs

Dell Seton Medical Center at the University of Texas
Austin, Texas

Ranking in the top one percent of US trauma centers for best patient outcomes, the project achieved LEED Gold certification through features such as 100% outside air, heat recovery chillers, LED lighting, verdantly-planted internal courtyards, and pedestrian and bike paths. Combined with an efficient thermal building envelope, the energy efficient building systems created an annual energy savings of 23 percent (equating to $240,000 annual savings), compared with traditional systems.

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Raising the standards for green building design

Watershed
Seattle, Washington

This project met two of the most challenging green building standards in the world, the International Living Future Institute's Living Building Challenge and the City of Seattle's Living Building Pilot program. It addressed complex environmental challenges, such using exterior bioretention planters to treat stormwater and runoff on-site from the adjacent Aurora Bridge.

Children's Healthcare of Atlanta, North Hills
Atlanta, Georgia

"Children's Healthcare of Atlanta wants to solidify its reputation for the future, and a modern facility designed to serve Georgia's children and families is key to that effort. They need a space where everything from mechanical systems to telecommunications is integrated and creates efficiency for all of its clinical team."

— *Douglas Lacy, Senior Vice President for Buildings, WSP USA*

OUR APPROACH TO

Connected Building Technology

As buildings become more advanced and connected, WSP has developed an innovative approach to connected building technology, leveraging expertise in building systems engineering to create intelligent systems that optimize building performance, reduce energy consumption, and enhance occupant comfort. With a focus on data-driven design and a deep understanding of emerging technologies, WSP is leading the way in creating smart buildings that are efficient, sustainable, and resilient.

CYBER SECURITY: We tackle cybersecurity in healthcare facilities head-on with an innovative day-zero approach. By analyzing, evaluating, and designing buildings with cybersecurity measures from the outset, clients can minimize the risk of breaches to facility control systems and ensure readiness for day-zero. This comprehensive approach protects building data, maintains system integrity and ensures compliance with federal and industry guidelines while increasing cybersecurity awareness.

IT, AV AND SECURITY: Our technology system design professionals, in collaboration with architects, client IT staff, and client facilities managers, ensures the smooth integration of industry-standard IT cabling and IT spaces, advanced audiovisual systems, robust security solutions, cutting-edge wireless technologies, state-of-the-art healthcare technologies, and modern educational technologies into both new construction and renovation projects. We possess an in-depth understanding of the rapidly evolving landscape of building technology systems and strive to incorporate the latest innovations while ensuring future flexibility to accommodate changes.

BUILDING CONTROL SYSTEMS: WSP optimizes building control systems for enhanced performance, energy efficiency, and user comfort. Our integrated solutions incorporate automation, energy management, cybersecurity, and renewable energy integration to create smarter, more resilient buildings. By combining these systems, we reduce costs, carbon emissions and improve responsiveness to users' needs.

SMART BUILDING TECHNOLOGY: By utilizing integrated intelligent building systems, communications, and controls, we create flexible, secure, and comfortable environments for building owners and occupants. Our smart building approach leverages predictive and automated decisions to enhance functionality and user experience. Fully integrated technology design enables project design and construction staff to coordinate, validate and understand intelligent building systems throughout the project lifecycle.

Connecting world-class pediatric care to the world

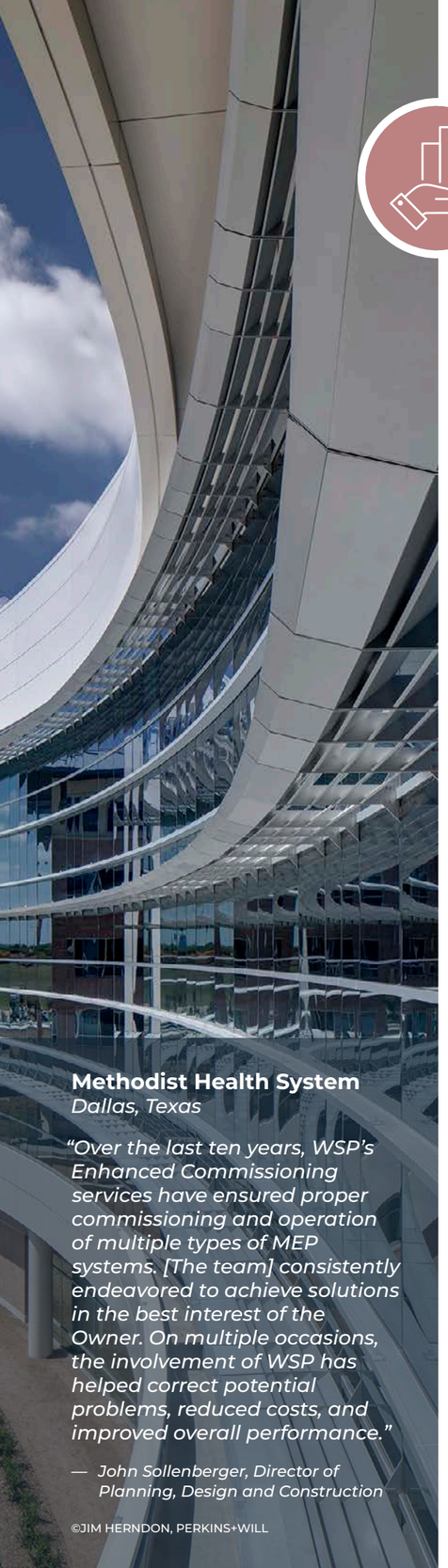
Children's National Telehealth Command Center
Washington, D.C.

In order to telemetrically monitor 100+ patients around the globe from a variety of systems spanning several technology generations, WSP was hired to design a Diagnostic Telemetric Command and Control System (DTCC). The DTCC leverages cutting-edge artificial intelligence for predictive patient diagnosis and treatment within a highly collaborative environment where telemetric clinicians directly interact with caregivers and patients globally.

Planning a connected transit hub under a park

Salesforce Transit Center, Smart Intermodal Terminal
San Francisco, California

WSP integrating the digital platform of this complex transit center. The platform convened 11 systems under the green roof, enhancing the passenger experience. The technology solutions also increase revenue potential through advertising and sponsorships and serves as an operational efficiency and public safety tool for the facility operator by utilizing location aware technology. WSP was specifically challenged to create a memorable and safe venue.



Methodist Health System
Dallas, Texas

"Over the last ten years, WSP's Enhanced Commissioning services have ensured proper commissioning and operation of multiple types of MEP systems. [The team] consistently endeavored to achieve solutions in the best interest of the Owner. On multiple occasions, the involvement of WSP has helped correct potential problems, reduced costs, and improved overall performance."

— *John Sollenberger, Director of Planning, Design and Construction*

OUR APPROACH TO

Building Optimization

With a multifaceted approach, we drive building optimization to maximize performance, efficiency, and functionality. Through comprehensive analysis of various systems, we identify improvement areas and implement strategies that enhance energy efficiency, occupant comfort, and overall building performance. By delivering thorough testing, verification, and documentation, our services contribute to the creation of safe, reliable, and high-performing healthcare environments, reducing operational costs, minimizing environmental impact, and fostering a healthier and more sustainable built environment.

COMMISSIONING: Our commissioning team provides guidance and benchmarking on behalf of the owner's requirements to measure and verify a building's operational performance over time. With facilities becoming more technically advanced than ever before, the pressure put on a building's systems to perform at high levels has increased demand for advanced commissioning approaches and services.

RETROCX: According to the International Energy Association (IEA), two-thirds of global building stock in 2040 will be buildings that exist today. This puts a greater emphasis on the value to RetroCx which provides cost-effective solutions that prioritize deferred maintenance, lifecycle cost analysis and improvement of occupant comfort and indoor air quality. RetroCx uncovers issues that may have developed throughout a building's life and provides follow up remedial work needed for the deficiencies noted.

ENERGY AUDITING: WSP devises strategic solutions to help clients across all sectors—including energy intensive industries like healthcare—to identify opportunities for energy efficiency improvements, cost savings, and sustainable practices. Our team analyzes energy consumption patterns, evaluates building systems and operations, and recommends tailored solutions to optimize energy usage, reduce costs, and ensure compliance with complex carbon driven and energy-related legislation.

TEST AND BALANCE: As the final quality assurance phase for construction of new HVAC systems, the verification of ASHRAE-certified ventilation and air quality requirements, and the verification and demonstration of automatic temperature control systems, our teams work to fix any air and water flow issues that appear prior to and immediately after building occupancy.

CRITICAL SPACE TESTING: We provide this service for new HVAC systems, as well as routine services, to ensure the facility meets all regulatory requirements for the proper operation of the systems serving critical healthcare spaces to provide a safe environment for patients and staff.

Peace of mind when you are vulnerable

Parkview Regional Medical Center Hospital and Central Utility Plant
Fort Wayne, Indiana

WSP provided full ASHRAE Guideline 0 commissioning services for the new 800,000 sq. ft. hospital. As the commissioning authority, our scope included systems documentation and testing during construction. All documentation is with our electronic web based System (QuiCx) using field tablet computers for on-site testing documentation.

24/7 operations during a natural disaster

University Medical Center
New Orleans, Louisiana

This 2.1M sq. ft. project incorporated storm-proofing technology, including robust emergency electrical backup power that allows the medical center to withstand Category Three hurricanes as well as tornadoes, nuclear or biological accidents, physical attacks, fires, chemical, biological and radiation hazards. The facility can remain in operation for up to a week with virtually no outside support or backup supplies.

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