

**HESNI 2010 “Sustaining by Maintaining”  
SmithGroup Presentation Abstract**

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**PRESENTATION TITLE** “Strategic Value Planning: a Case Study Centered Upon Integrated Financial, Clinical Programs and Facilities Planning”

**PRESENTATION TIME** 60 Minutes (can be expanded to accommodate a longer session)

**PRESENTERS**

Andy Vazzano, FAIA, LEED AP  
Sr. Vice President, National Practice Leader Academic Medical Centers  
*SmithGroup*

Jens Mammen  
Principal, Senior Healthcare Planner  
*SmithGroup*

William Spaar  
Director, Clinical Engineering & Facilities Management  
*University of Illinois Medical Center at Chicago (UIMCC)*

Paul Petska, PE  
Principal  
*Affiliated Engineers, Inc. (AEI)*

Jeffrey L. Loyall  
Vice President, Director of Healthcare  
*Turner Construction*

## PRESENTER BIOGRAPHIES



**Andy Vazzano, FAIA, LEED AP**

Senior Vice President, National Practice Leader Academic Medical Centers  
*SmithGroup*

Andy joined SmithGroup in 1971 and has functioned as a project principal, facilities programmer, project manager, senior architect and designer on numerous hospitals, research and clinical laboratories and higher education facilities. Andy has been recognized as a national leader in healthcare and research lab planning and design, and the inspiration for the SmithGroup research project, Lab 2030. He is the recipient of the Henry Adams Award of Excellence in Architecture and has received over 25 national and regional architectural awards. A frequent past presenter at Tradelines, Andy shares his knowledge of architectural design by lecturing at industry symposia, conferences, and seminars, and has actively published articles on health and lab planning in national AEP publications.



**Jens Mammen**

Principal, Senior Healthcare Planner  
*SmithGroup*

With over 20 years of experience in the strategic planning and architectural design for a wide range of projects in the healthcare sector, Jens is directly responsible for the successful implementation of the client's planning and design vision. Jens is a leader in the development of environments that improve life's experiences. He recognizes that the built environment is a memorable reflection of your corporate vision and mission; facilities are a strategic resource. A frequent lecturer, author, and juror at the national level, Jens offers experiences in developing new care delivery models, operational concepts, clinical care models and the facilities to support them. Jens serves as the founding editorial board member of *Healthcare Design*, the journal sponsored by the Center for Health Design.

**William Spaar**

Director, Clinical Engineering & Facilities Management  
*University of Illinois Medical Center at Chicago*

William Spaar has been directly involved in the design, engineering and construction of complex projects since 1971. At the University of Illinois Medical Center at Chicago, Bill provides oversight for capital design and construction projects across the hospital campus. Prior to this, Bill spent nearly 25 years with the Department of Veterans Affairs VISN 12 in a variety of roles including Capital Asset Manager for the region and Chief Engineer at Jesse Brown Hospital. As the Capital Asset Manager, Bill was responsible for the development of capital asset expenditures (construction, renovations, property leases, enhanced use leases, medical equipment purchases, etc.) for seven VA medical centers spanning three states. Bill began his career with the General Services Administration as senior construction manager for new construction and major renovation projects in Illinois, Michigan and Ohio.



**Paul Petska, PE**

Principal  
*Affiliated Engineers, Inc.*

Paul Petska is a 30-year veteran of the architecture/engineering industry whose career has been built upon a unique blend of architectural education and engineering professional experience. A combination of electrical engineering, project

management and practice leadership has resulted in the successful execution of planning and design projects throughout the country for a variety of client types. Paul is a Principal of the firm and leads the Chicago, Illinois office. Healthcare clients include Ascension Health/Columbia St. Mary's, University of Kentucky Chandler Medical Center, Affinity Health, Winona Health, University of Michigan Health System, University of Illinois Medical Center and The University of Chicago Medical Center.



**Jeffrey L. Loyall**  
Vice President, Director of Healthcare  
*Turner Construction*

Jeff Loyall brings to bear nearly 25 years of construction experience with a strong background in preconstruction and construction of health related facilities. His leadership skills and unique ability to develop strong team relationships have proven extremely successful. Jeff's proven level of commitment to his clients is shown with his "hands-on" involvement and ability to provide solutions during all project phases while leveraging the resources and experience he brings to ensure a successful project experience. Representative healthcare clients include: Methodist Medical Center of Illinois, Northwestern Memorial Hospital, Provena St. Joseph, SwedishAmerican, University of Illinois Medical Center at Chicago, and The University of Chicago Medical Center.

#### **PRESENTATION ABSTRACT**

This value-driven master planning process represents the development of a strategic decision support tool for maximizing facility investments in a time of economic uncertainty and divergent organizational perspectives. Multiple options for site, program, facility type and planning configuration were explored using a scenario-based planning methodology. Comprehensive value metrics within the decision model helped to evaluate alternative systems strategies, renovation scenarios and replacement options. Recommended decisions were guided through an evaluation process similar to "choosing-by-advantages."

The VALUE EQUATION is defined as Quality (or Performance) divided by Cost times GSF. Quality and cost models were applied in the planning process including: specific financial and operational data, quantifiable planning data, comprehensive assessment of existing infrastructure deficiencies, and new technique for scoring performance. Cost models included first project costs as well as life cycle costs, compared in terms of net present value.

The resulting "Executable Road Map" was developed with the agility to implement facility recommendations in variable sequences depending on changing operational needs or variable funding sources. These included a variety of short-term enablers: philanthropic opportunities, energy grants to address infrastructure, and a range of financing priorities to address service expansion and deferred maintenance strategies to mitigate risk.

Evaluation of existing facilities included:

- Critical MEP infrastructure approaching end of useful life
- Need to increase systems reliability
- Continued investment required in existing building infrastructure
- Guard against over-investing at expense of strategic clinical programs
- Analysis, by system, for extending systems 10-20-30 year life span
- Quantity cost of upgrades
- Ability to achieve desired level of adaptability and flexibility
- Need for an immediate term "survival plan" and long-term recapitalization plan adaptable to changing healthcare market and unknown funding sources

Using an interdisciplinary team, the new facility master plan sought to optimize each of the organizational aspirations, facility opportunities and system deficiencies as SCENARIOS. These scenarios were individually evaluated against cost and performance criteria and then coupled into a variety of ALTERNATIVES. The alternatives were further evaluated to identify the HIGHEST PERFORMING OPTION. 7 alternative campus sites, 13 new-construction program configurations and 6 renovation scenarios were considered at the block planning level, each with detailed cost and quality models.

Quality / Performance Criteria were defined by the client and included: Operational Effectiveness, Flexibility / Adaptability, Patient / Staff Safety & Comfort, Image, Constructability / Phasing, Site & Environment, Schedule & Timing, Regulatory Approval Requirements and Risk Mitigation. The selected option resulted in the highest value performance. Upon completion of an eight-month planning process, a multi-phase redevelopment master plan that comprehensively addressed systems, renovation, and replacement strategies, was approved. The plan, which exceeded the full initial program, was value-driven and maximized the client's investment.

### **KEY TAKEAWAYS**

- Recognize the value of a multi-disciplinary team working collaboratively from the first day of a project.
- Discover a process by which a major medical center developed a successful and manageable participatory planning process to build consensus amongst disparate organizational stakeholders.
- Describe a process that demonstrates how to measure and choose the highest value option in a planning process.
- Learn how to explore multiple, dissimilar facility options for site, program and planning configuration in a short time span through a *Scenario-Based Planning* methodology.
- Understand how *Value Metrics* can serve as a decision model to evaluate alternative strategies and recommend decisions through *Choosing-By-Advantages*.