Enabling Data For Automating Capital Facility Decisions Through Scenario Based Planning

OPS Support Tools & Processes

Dianne Davis
BIM Process Manager
AEC Infosystems, Inc
Chair Scoping Committee National BIM Standards
IDM Technical Chair
We are evolving .......... 
*from* paper-centric *to* an info-centric process
*from* conversation *to* communication
*from* outputs *to* outcomes
*from* ad-hoc *to* standardized

- CAD to BIM
- Text to Database
- E-Mail to Portal Workflows
- Unstructured to Structured Data
- Knowledgable Workers to Knowledge Management
- Stovepiped Disciplines to Collaborative Teams

*Information systems are developed around the available forms of communication*
Lag Time in Decisions

• It is estimated that 30% of time on design is spent waiting on information or designing without complete information.
• By focusing on enabling data we reduce the lag time from design option to project decision.
• These tools allow the maximum number of decision makers to view the same data.
• See ramifications of decisions against the project criteria.
One-Way Data
Limited Integration and Re-Use Capability

New Studies Re-Create or Re-Process the Data

Formats Don’t Support Automated Analysis
Analysis = Simulation

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Streamline Data Sharing and Analytical Capability in Process

Aggregate existing POR Data Types (excel, CAD, 3D laser scans, BIMS)
Integrate into OnPS for Space, Building Profiles, and Site data for analysis overlays (Operational), reporting, and charette support.
Benefit: Reduction of time to insight.
Data re-use supports project decision making and on-going change management

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A Process of change for the 21st Century

Paper and Current Ad-Hoc Based Design

BIM Technologies & Process Based Design
Supports Lean Value-Add Activities and Streamlines Communication

Knowledge & Value Into Repeatable Process & Outcomes
Focus on Enabling Data not Designing
Design comes from the data
Creative interrelationship of criteria and constraints
Products for Outcomes

Core Requirements Understanding and Aggregate Data Sets

- Facility Mission
- Facility Operational Concept

Operational Information For Function & Need

- Facility Functional Concept

Building Information Management System

- Staffing Program
- Area/Space Tool & Program
- Equipment

Design Criteria (new facility)
Design Criteria (existing facility)

Facilities Response

Client Requirements For Green
Requirements for Security

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Information Exchanges
Information Aggregation
Built Around Workflows
and Decision Needs
ONUMA Planning System-OPS

- **Web-enabled Mission or Operational Based Requirements Planning for Facilities**
  - Supports Mission to Facility Linkage
  - Real Property Inventory
  - Facility Metrics
  - Functional Spaces
  - Equipment
  - Organization to Space Linkage
  - Occupants and Space
  - Costing
  - Multiple Scenario Comparisons
  - Downloads to major CAD/BIM software
Backbone of Process Change

- The enabling environments of WEB, Databases, and Visualization of Data are core components of Scenario Planning
- Move from Application and desktop (singular) to Web and collaboration
- Requires a process approach to design automation
- Built on Open Data and Standards to Allow Maximum Participation
Views of Critical Project Data

- High Level Programming from client
- Space and Functional Inventory
- Facility Metrics
- Project Principles
- Spaces & Components
- Equipment
- Functional Space Linkage
- Occupants
- Costing
- Multiple Scenario Comparisons
- Downloads to major CAD/BIM software

Output

Staff/Area Program
Functional Concepts
Space Typologies
US Coast Guard Operations Planning
St Elizabeths Campus