BIM for existing buildings: Processes, priorities, and ROI performance

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Why CAD to BIM?

Prioritization for Max ROI

OSU’s Project and Lessons Learned
BIM as Communication Tool
Why CAD to BIM?

Communication Tool

Foundation

Database
Methods for Conversion

- Trace over CAD
- Build from point measurements
- Build from 3D laser scan
- Outsource model development
Prioritization for Maximum ROI

Use

Effort

Customer
Customers

- Maintenance Technicians and Managers
- Space Planners
- Interior Designers
- Construction and Project Managers
- Financial
- Engineering
- Senior Leaders
- Advancement
- Sustainability
- Federal and State Reporting Agencies
- Safety/Security/Law Enforcement
- Patients and Visitors
- Prospective Staff/Faculty/Researchers
- IT
- Asset Managers
Uses

- Renovation Planning
- Furniture Layouts
- Funding Support
- Donor Support
- Preventative Maintenance
- Constructability analysis and planning
- Cost Estimating
- Facilities Management
- Asset management

- Space Management
- Strategic Planning/Space Planning
- Sustainability
- Wayfinding/Evacuation Plans
- Recruitment
- Disaster Planning
- Congestion/Workflow Analysis
- Renovation Planning
- Furniture Layouts
- Funding Support
- Donor Support
- Preventative Maintenance
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- Strategic Planning/
  Space Planning
- Sustainability
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  Evacuation Plans
- Recruitment
- Disaster Planning
- Congestion/ Workflow Analysis
Use:
Renovation Planning

Customers:
Senior Leaders,
Space Planners,
Interior Designers

Effort:
Easy
Planned Transformation

Enhance space planning and communication resulting in improved quality and speed of the decision-making regarding:

- Facility use
- Renovation
- Maintenance
- Wayfinding
- Energy consumption
Multi-phased Approach

Phase 0: Standards and Process Development
Phase 1: Big Bang Implementation
Phase 2: Future Model Development

- February 2011: Phase 0
- June 2011: Medical Center Phase 1
- June 2012: Medical Center Phase 2
- May 2013: Non-Medical Center Phase 1
Standards and Process Development

Standards and Template Development

CAD to BIM Process

Field Verification/ Data Collection
53 Buildings (Medical Center Only)
6,015,281 square feet

Pace
Conversion only (student labor) = .04 min/sq ft
Total (all phases and staff) = .07 min sq/ft
Renovation Decision Making
Renovation Decision Making
Design Options
Lab Reconfiguration
Funding Decisions
Donor Recognition
Donor Recognition
Energy Consumption Analysis
Opportunities Ahead

Implementation of BIM standards and workflow during design and construction

Expansion of BIM Implementation to campus buildings (about 800 additional buildings and 30 million square feet)
People

Start with power users and power uses
Train heavily and walk them through it
Hire Revit savvy employees in key roles
Resource the maintenance
Have a long term view of culture change
Keys to Higher ROI

Process

Develop standards and process early
Determine complexity of families/ overall modeling effort up front
Ensure that built models meet the expectations and quality of power users
1. BIM for existing buildings improves communication and creates a foundation for the future
2. Maximum ROI comes from understanding the intersection of Use - Customers - Effort
3. Spend sufficient time in Phase 0 developing standards and processes
Further Information

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