
Managing
Capital Projects:
An Innovative Approach
Sustainability through Partnering
New Orleans
NACUBO
July 28 – 31, 2007
Crossroads:
New Beginnings Built
on Valued Traditions

Introduction

Today's Speakers

Janet Waldron

Vice President for Administration and Finance
University of Maine

Bill Charland

Associate Executive Director for Facilities Management
University of Maine

Brad Noyes

Vice President
Brailsford & Dunlavey

Learning Objectives

Session Overview

1865 THE UNIVERSITY OF MAINE

BRAILSFORD & DUNLAVEY

Learning Objectives

- **Today's Speakers**
- **Learning Objectives**
  - **Obtain a strong understanding of the management of capital projects.**
  - **Learn specific ways to take project participation to the achievement level.**
  - **Discover an innovative, collaborative approach to overseeing major campus projects.**
  - **Become skilled at basic facility and financial planning techniques.**
- **Session Overview**

1865 THE UNIVERSITY OF MAINE

BRAILSFORD & DUNLAVEY

Introduction

What makes a successful project?

- Identified and articulated as a campus priority
- Meets the needs of end users
- Financially feasible for both capital and operations
- Finished on time and under budget
- Utilizes industry best practices for delivery
- Offers the opportunity for cultural change
- Safe project for all constituents
- Generates positive excitement

Overview of Capital Project Management

Roles

- Owner
- Architect/Engineer
- Builder

Responsibilities

- Budget, Site, Program, Schedule, etc.

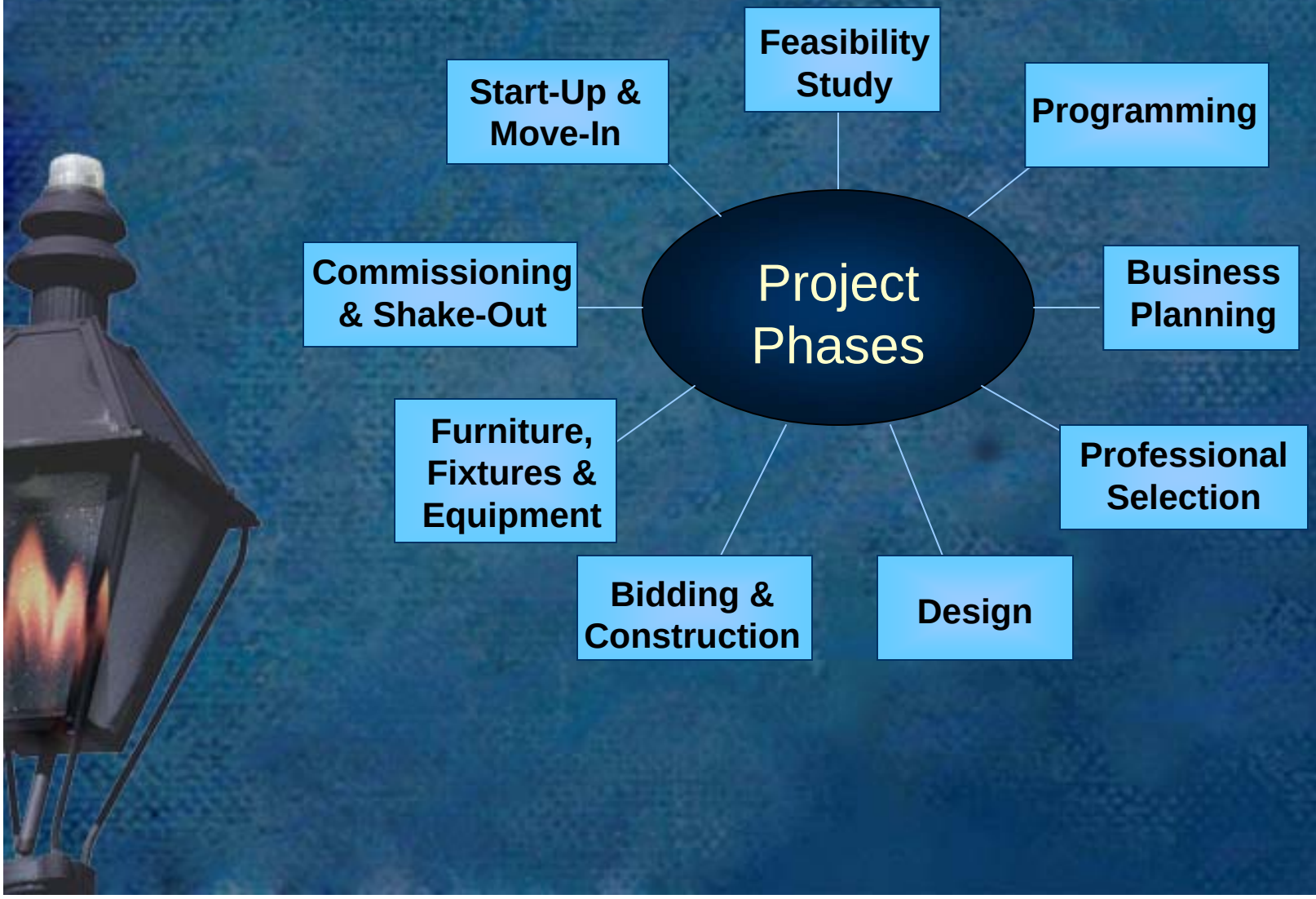
History

- Variety of Contracts
- Complexity
- Evolution

Who is the Owner?

- Publicly Appointed Board of Trustees
- President's Office
- Administration & Finance
- Facilities Management
- Student Affairs
- Development
- Students
- Faculty & Staff
- Academic Departments
- Alumni
- Neighbors
- Consultants

Overview of Capital Project Management



Student Recreation and Fitness Center

Quick Facts

- 86,000 GSF indoor facility
- LEED Silver certification target
- 4 acres of site improvements
- $25 million comprehensive budget
- Tax-exempt revenue bond financing
- Self-funding using primarily student fees
- Specialized building components
- Employing 14 staff FTE and 200 students
- Opening Fall 2007

Student Recreation and Fitness Center

Student Recreation and Fitness Center

Importance of Partnering
During Planning

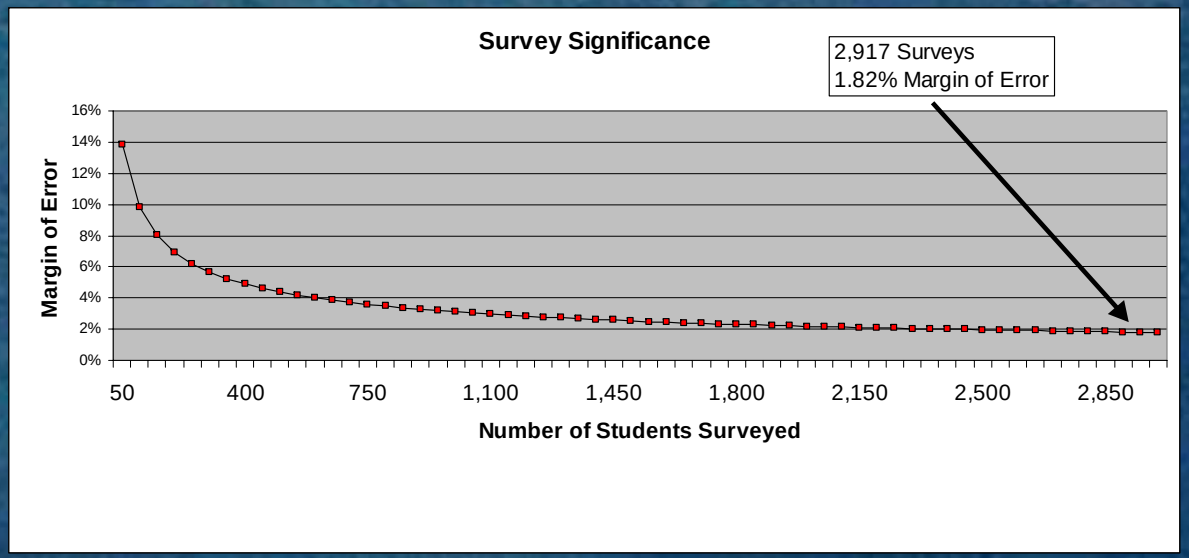
- Do we need additional facilities?
- Where will any new facility be sited?
- What will be the comprehensive project cost?
- How much facility can we afford?
- How will we pay for the facility?
- What will it cost to operate the facility?
- When does the facility need to be completed?
- How do we best redeploy current facilities?

Market Analysis

SURVEY

2,917 Student Responses

- Match Student Body Demographics Closely
- Used Incentives to Attract Diverse Sample, NOT Just Current Rec Users
- 95% Confidence Level
- +/- 1.82 Margin of Error



Market Analysis

SURVEY

- 81% Felt New Rec Facilities Should Be “Medium – Very High” UMaine Priority

- Fee Support:

		Choose 1:
60%	• $100 / Sem. Fee Inc.: New Comprehensive Facility	**46%**
67%	• $75 / Sem. Fee Inc.: Reduced New Facility	**27%**
46%	• $50 / Sem. Fee Inc.: Small Facility or Expansion	**14%**
	• None of the Above	**13%**

Student Recreation and Fitness Center

Importance of Partnering
During Programming

- What spaces need to be in the building?
- What are the technical requirements of needed spaces?
- What is required for a sustainable functioning facility?
- What adjacencies between spaces are required?
- What are the furniture, fixtures, equipment requirements?
- What are the campus utilities implications?
- What are the project priorities?

Student Recreation and Fitness Center

Demand-Based Programming

Activity	Peak Accommodation	Space Allocation
Weight / Fitness Machines	75% - 85%	11,100 - 12,700 SF
Aerobics	55% - 65%	3,500 – 4,200 SF
Indoor Jogging / Walking / Running	55% - 65%	22 – 26 Joggers
Recreational / Leisure Swimming	40% - 50%	1,000 – 1,300 SF
Lap Swimming	40% - 50%	3 - 4 Lanes
Basketball	40% - 50%	5 – 6 Courts
Sport Climbing	40% - 50%	93 – 117 Linear Ft
Roller / Floor Hockey	25% - 35%	0 Rinks
Water Aerobics	25% - 35%	1 Lane
Skateboarding	25% - 35%	600 – 800 SF
Indoor Soccer	25% - 35%	1 - 2 Courts
Racquetball	25% - 35%	1 - 2 Courts
Volleyball	25% - 35%	1 Courts
Squash	10% - 20%	0 Courts

Student Recreation and Fitness Center

Recreational Facility – Analysis of Alternative Sites					
	Site #1: Stewart Lot	Site #2: PM Lot	Site #3: Lengyel Field	Site #4: Crossland Hall	Site #5: Tennis Courts
Water					
Sewer					
Electric					
Steam					
Tel-Com					
Storm Sewer					
Gas					
Total Utility Cost					
Permitting Issues					
Other Site Notes					
Parking Issues					

Student Recreation and Fitness Center

Importance of Partnering
During Business Planning

- What will it take to pay for both capital and operating costs?
- What are the projected non-personnel operating costs?
- What are the projected personnel operating costs?
- What replacement reserves are required?

- Who is in charge of operating the facility?
- What are the required start-up costs?
- How long is the ramp-up period for operations?
- What is the draw schedule for funding?
- What needs to be included in the comprehensive budget?

Student Recreation and Fitness Center

UNIVERSITY OF MAINE
STUDENT RECREATION CENTER

PROJECTED BASIC OPERATING PRO FORMA

INCOME	Base Year	First Year Factor	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
New User Fee Income (New Student Fee and Memberships)									
Current Student Fee Income									
Other Income									
TOTAL INCOME									
EXPENSES									
Existing Campus Recreation Personnel Expense:									
New Facility Personnel Expense:									
Full-Time Staff Salaries and Fringes									
Part-Time Staff Salaries and Fringes									
Work Study Return (36% of Student Salaries)									
New Facility Subtotal									
New Facility Subtotal less Existing Personnel Expense									
Existing Campus Recreation Operating Expenses:									
New Facility Operating Expenses:									
Utilities - Electricity									
Utilities - Steam									
University Overhead Charge									
Management, Marketing & Admin									
Building Maintenance & Repairs									
Custodial									
Service Contracts									
Miscellaneous Expenses									
Start-Up Budget									
Sports Equipment Maintenance & Repairs									
New Facility Subtotal									
New Facility Subtotal less Existing Operating Expenses									
TOTAL EXPENSES									
NET OPERATING INCOME									
Debt Service Recreation Center (Issue #1)									
Debt Service Recreation Center (Issue #2)									

Student Recreation and Fitness Center

Importance of Partnering
During Professional Selection

- Who are the best firms for the project?
- What are the campus requirements for procurement?
- How much should their services cost?
- How long should it take to perform their services?
- What is the optimal contract structure?
- How to implement a qualifications-based process?
- How should the committee(s) be structured?

Student Recreation and Fitness Center

University of Maine - Student Recreation & Fitness Center
Architecture/Engineering Team Interviews

19-Jul-07

Team: _____

	Selection Criteria	Weight	Score 1 to 5	Comments
1	**Staffing**			
2	**Design Capability**			
3	**Project Approach**			
4	**Site Approach**			
5	**Experience**			
6	**Answers to Questions**			
7	**Quality of Presentation**			
	Total Points			

Student Recreation and Fitness Center

Importance of Partnering
During Design

- Are any adjustments to the space program required?
- What image and aesthetics fit with the campus?
- What are the sustainability criteria?
- What impacts are there on the business plan projections?
- Can building materials comply with campus standards?

- What are the operational impacts of selected materials?
- What is the projected cost at major design milestones?
- What is the method and schedule for bidding?
- What is the schedule for required public approvals?

Student Recreation and Fitness Center

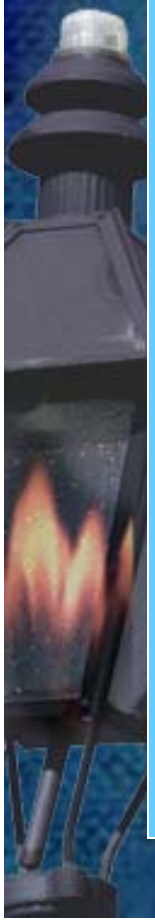
IMPORTANCE OF PARTNERING
During Bidding & Construction

- What is the critical path for the construction schedule?
- What is the status of the project budget during construction?
- How will the construction team mobilize and stage efforts?
- Can any construction by-products be re-used?
- Will construction efforts have any impact on campus events?
- Are installed materials consistent with the specifications?
- Are the monitoring and testing requirements followed?

Student Recreation and Fitness Center

Student Recreation and Fitness Center

Importance of Partnering
during Commissioning & Close-out



- Are furniture, fixtures, and equipment items on schedule?
- What is the schedule for operations start-up?
- What training is required for building users?
- Are there any LEED documentation requirements?
- Have commissioning requirements been incorporated?

- Are warranty and operation manuals complete?
- Are budget tracking and auditing efforts complete?
- Have “as-builts” been incorporated into a final drawing set?
- What are the requirements for a certificate of occupancy?
- How long is the operations shake-out period?

Student Recreation a

LEED Scorecard

6			**Materials & Resources**			13 Points
Y		D				
			Prereq 1	**Storage & Collection of Recyclables** (UM- volume of bins to be installed?)		Required
			Credit 1.1	**Building Reuse**, Maintain 75% of Existing Shell		1
			Credit 1.2	**Building Reuse**, Maintain 100% of Shell		1
			Credit 1.3	**Building Reuse**, Maintain 100% Shell & 50% Non-Shell		1
1		CL	Credit 2.1	**Construction Waste Management**, Divert 50% (CM)		1
1		C	Credit 2.2	**Construction Waste Management**, Divert 75% (CM)		1
			Credit 3.1	**Resource Reuse**, Specify 5%		1
			Credit 3.2	**Resource Reuse**, Specify 10%		1
1		CL	Credit 4.1	**Recycled Content**, Specify 5% (CM)		1
1		CL	Credit 4.2	**Recycled Content**, Specify 10% (CM)		1
1		CL	Credit 5.1	**Local/Regional Materials**, 20% Manufactured Locally (CM)		1
1		CL	Credit 5.2	**Local/Regional Materials**, 50% Harvested Locally (CM)		1
			Credit 6	**Rapidly Renewable Materials**		1
			Credit 7	**Certified Wood** (CM- forfeited, flooring & glulam not FSC)		1
Yes	?	T				
9			**Indoor Environmental Quality**			15 Points
Y		D	Prereq 1	**Minimum IAQ Performance** (MEP)		Required
Y		D	Prereq 2	**Environmental Tobacco Smoke Control** (UM)		Required
1		D	Credit 1	**Carbon Dioxide** (CO_2) **Monitoring** (MEP)		1
			Credit 2	**Ventilation Effectiveness**		1
1		C	Credit 3.1	**Construction IAQ Management Plan**, During Construction (CM)		1
1		C	Credit 3.2	**CIAQMP**, Before Occupancy (CM- MERV 13 media not required after flush-out)		1
1		C	Credit 4.1	**Low-Emitting Materials**, Adhesives & Sealants (CM)		1
1		C	Credit 4.2	**Low-Emitting Materials**, Paints (CM, CD to do VOC Budget)		1
1		C	Credit 4.3	**Low-Emitting Materials**, Carpet (CM)		1
1		C	Credit 4.4	**LEM**, Composite Wood & Agrifiber (CM- Skybland in lieu of Baltic birch)		1
1		D	Credit 5	**Indoor Chemical & Pollutant Source Control** (MEP/CD)		1
			Credit 6.1	**Controllability of Systems**, Perimeter (MEP/CD)		1
			Credit 6.2	**Controllability of Systems**, Non-Perimeter (MEP/CD)		1
			Credit 7.1	**Thermal Comfort**, Comply with ASHRAE 55-1992		1
			Credit 7.2	**Thermal Comfort**, Permanent Monitoring System		1
			Credit 8.1	**Daylight & Views**, Daylight 75% (CD, forfeited achieved only 30%)		1
1		CL	Credit 8.2	**Daylight & Views**, Views for 90% of Spaces (CD, achieved 93%)		1
Yes	?	T				
5			**Innovation & Design Process**			5 Points
1		C	Credit 1.1	**Innovation in Design**: Green Housekeeping (UM)		1
1		C	Credit 1.2	**Innovation in Design**: Green Building Education- signage & ed outreach (UM)		1
1		C	Credit 1.3	**Innovation in Design**: Exemplary EAc6 (UM- 100% offset)		1
1		C	Credit 1.4	**Innovation in Design**: Low-Emitting Systems Furniture & Seating (UM)		1
1		CL	Credit 2	**LEED™ Accredited Professional** (RMEC)		1
Yes	?	No				
38	1		**Project Totals** (pre-certification estimates)			69 Points

Certified 26-32 points **Silver** 33-38 points **Gold** 39-51 points **Platinum** 52-69 points

Student Recreation and Fitness Center

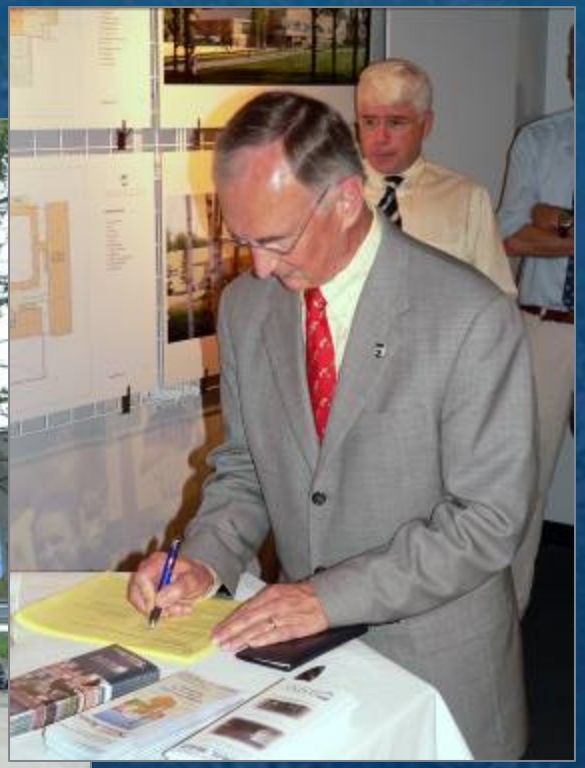
Lessons Learned

- Partnering assembles many strengths while minimizing knowledge gaps
- Excellent planning and programming are a critical foundation
- Partnering minimizes many negative impacts of campus politics
- Establishment and constant monitoring of the business plan is an effective tool
- Consider public relations throughout including media, tours, and campus events to maximize investment

Student Recreation and Fitness Center

Lessons Learned

Signing of the Beam



First Rec Center Membership, *UMaine President Robert Kennedy*

Student Recreation and Fitness Center

1865 THE UNIVERSITY OF MAINE

BRAILSFORD & DUNLAVEY


Managing
Capital Projects:
An Innovative Approach
Sustainability through Partnering
New Orleans
NACUBO
July 28 – 31, 2007
Crossroads:
New Beginnings Built
on Valued Traditions

Student Recreation and Fitness Center

Charrette Video