Your Money, Your Project

Reducing Risk & Adding Value

O

R

How do you want your project dollars to be used?

O

R

How does your community perceive you are using their money on construction and maintenance projects?

Introductions

John Duggan
Role: Speaker

The Concord Group
Chief Operating Officer

Kerry Leonard
Role: Speaker

Kerry Leonard, LLC
Educational Facility Adviser

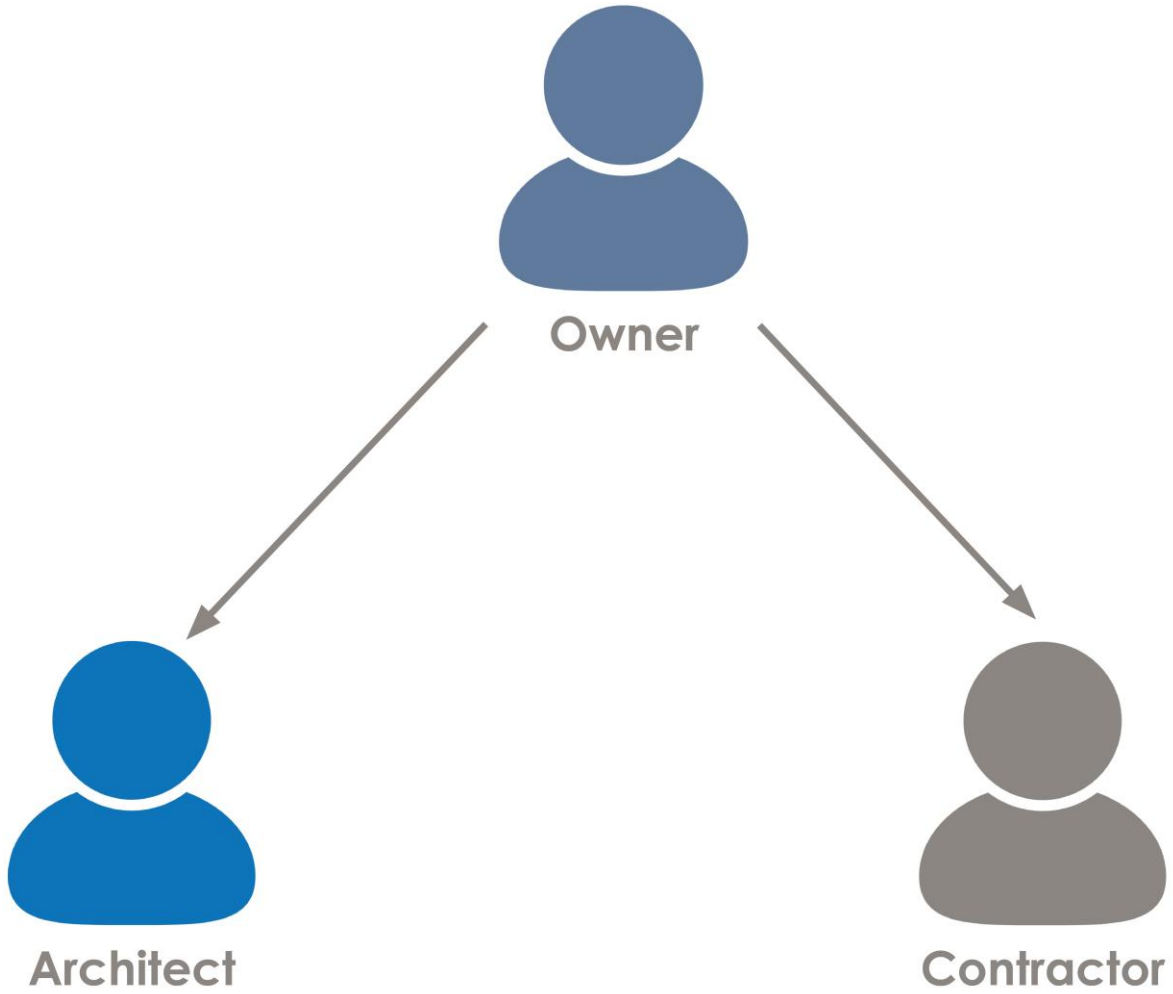
Eamon Ryan
Role: Speaker

The Concord Group
Chief Operating Officer

Mike Lodge
Role: Speaker

The Concord Group
Director, Technical Services

Contractual Relationships



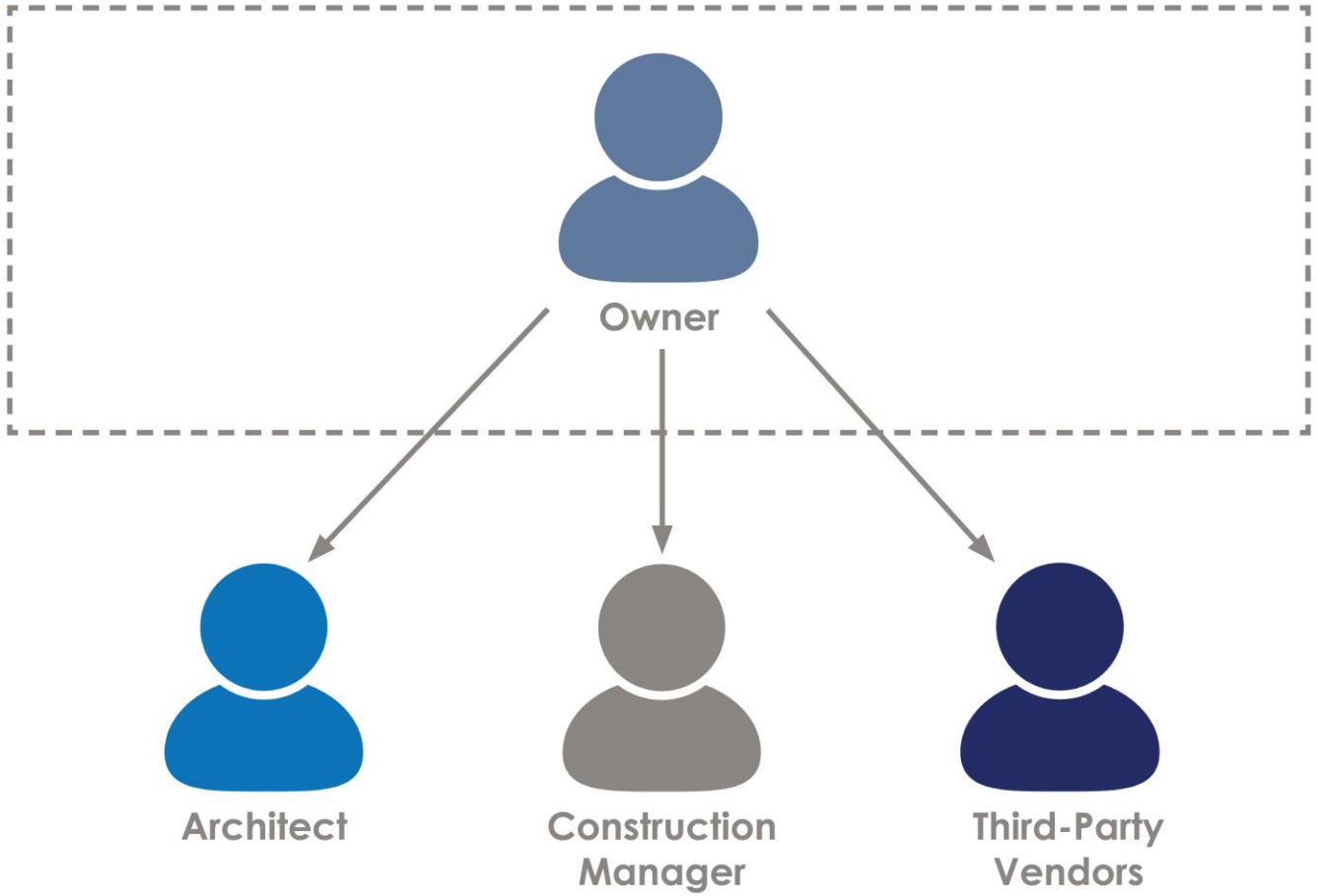
Understanding the Role of the Owner

- The role of the Owner is significant.
  - Numerous Decisions
  - Are you fully informed?
- Do you have the right team with the right skill sets?
- Are you being good stewards of taxpayer money?
  - Could we do better?
- Do you understand your Owner Project Requirements?
- Do you understand the project vision?
  - Are stakeholders aligned or fragmented?
  - Optimize or replace?

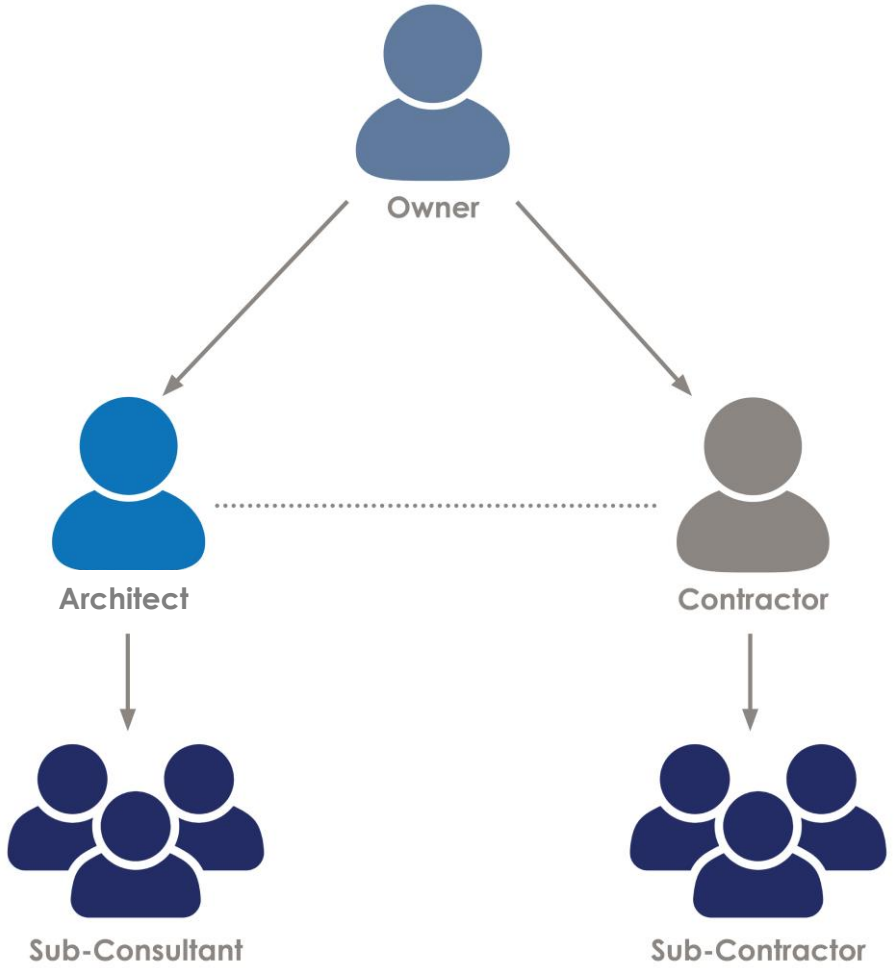
Why is the Role of the Owner Significant?

- Projects are becoming more complex.
- More demanding of the Owner.
- Owner's don't fully understand where some of the inherent risks exist.
- Engage a team with the right skill sets.
- Am I asking the **right** questions?

Delivery Method Options: *Traditional*



Delivery Method Options: *Design-Bid-Build*



Delivery Method Options: *Construction Management*

Figure 1: CMA

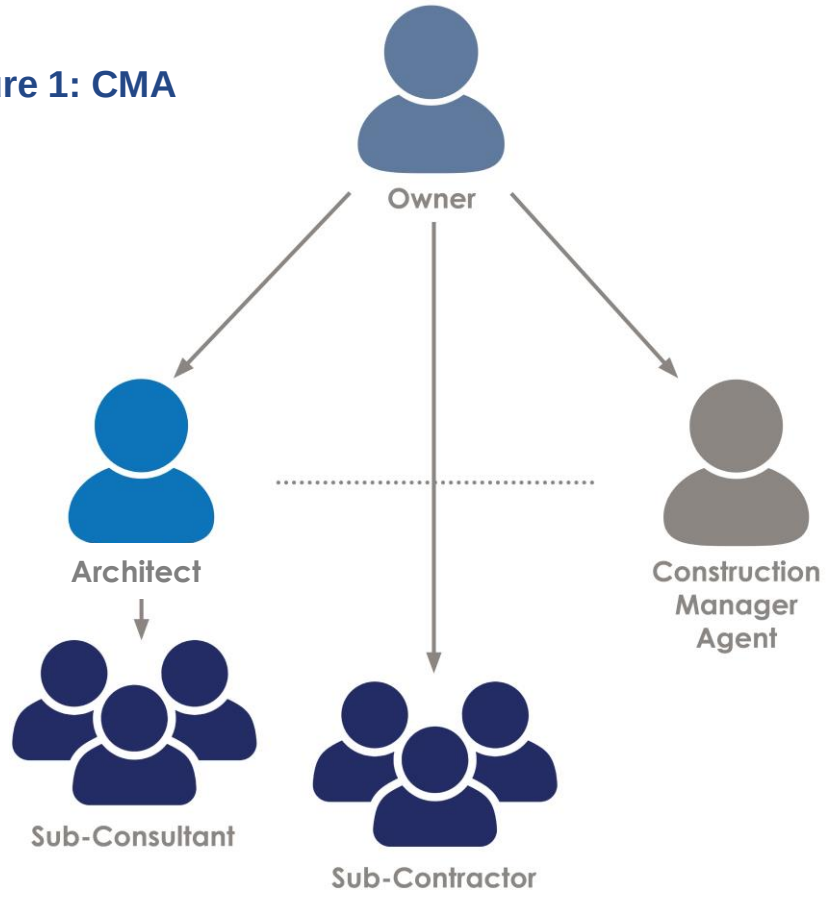
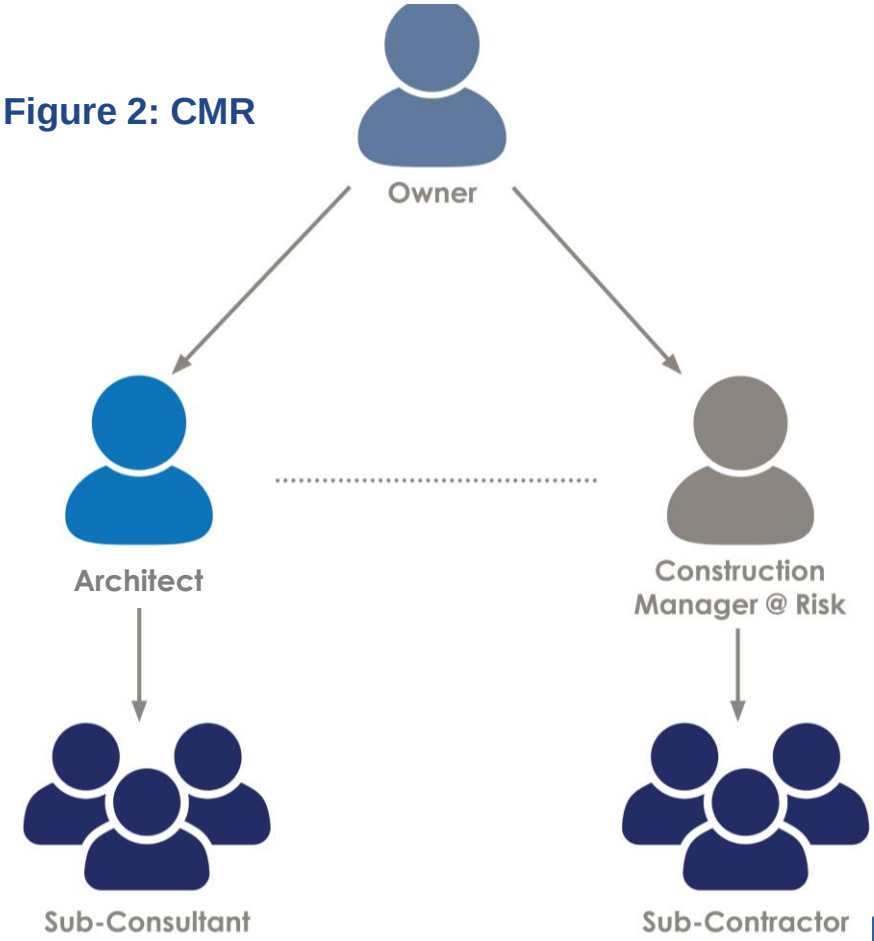
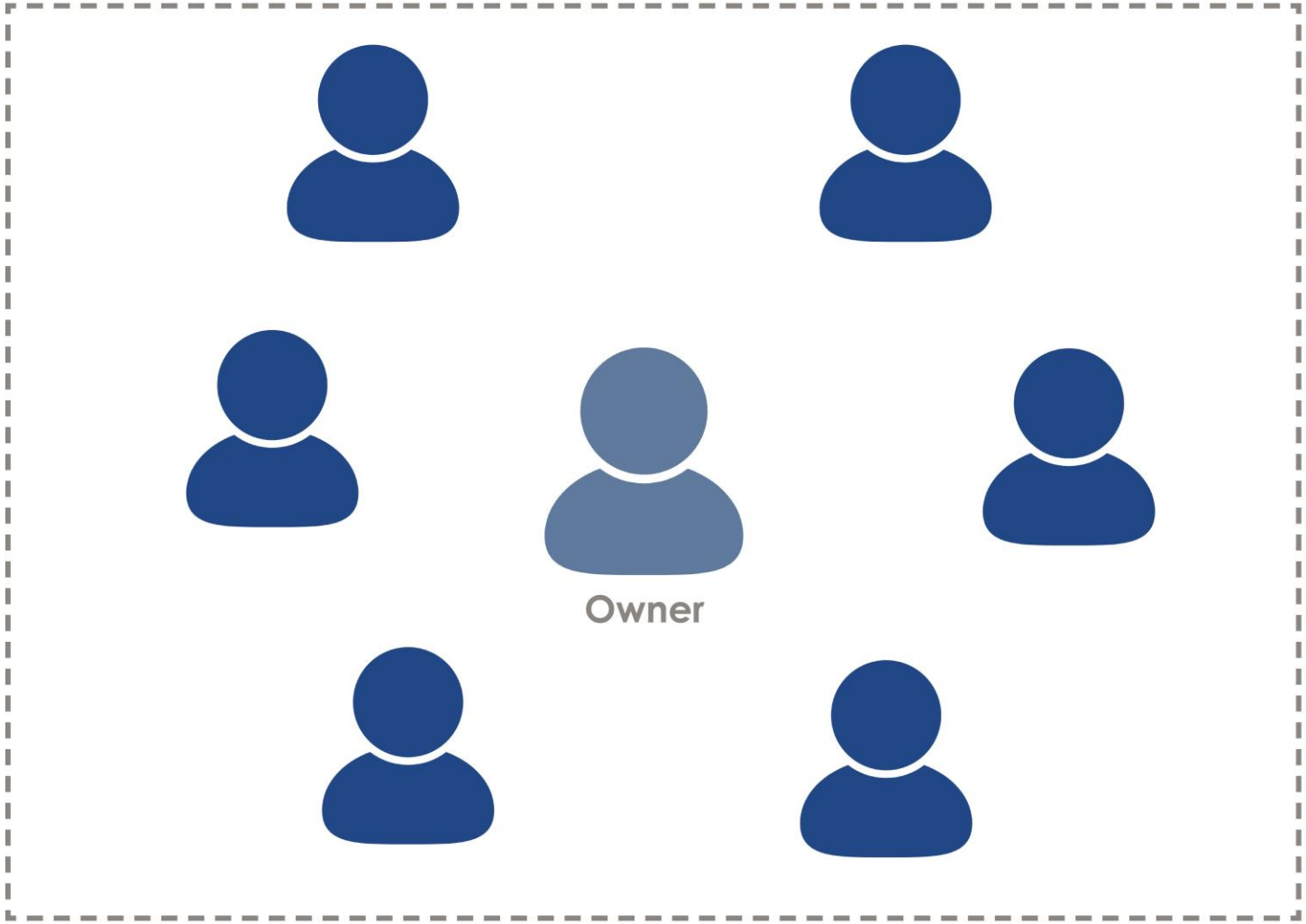


Figure 2: CMR



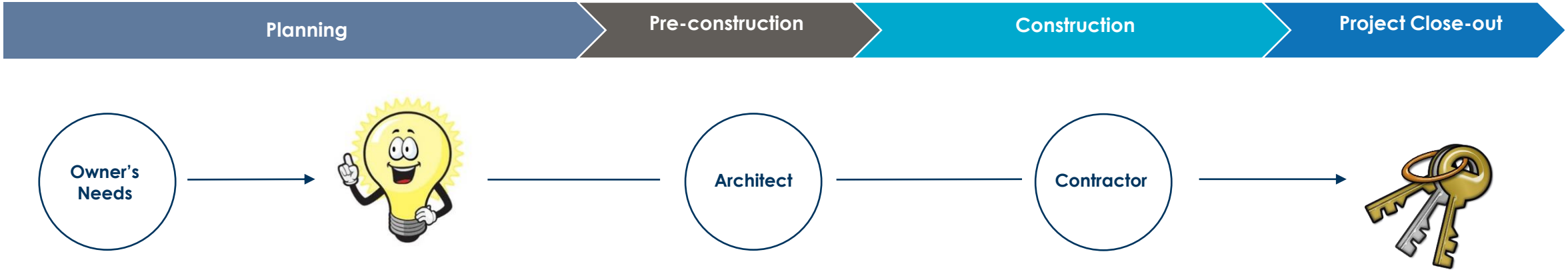
Owner



Questions to Ask Ourselves When Considering a Project

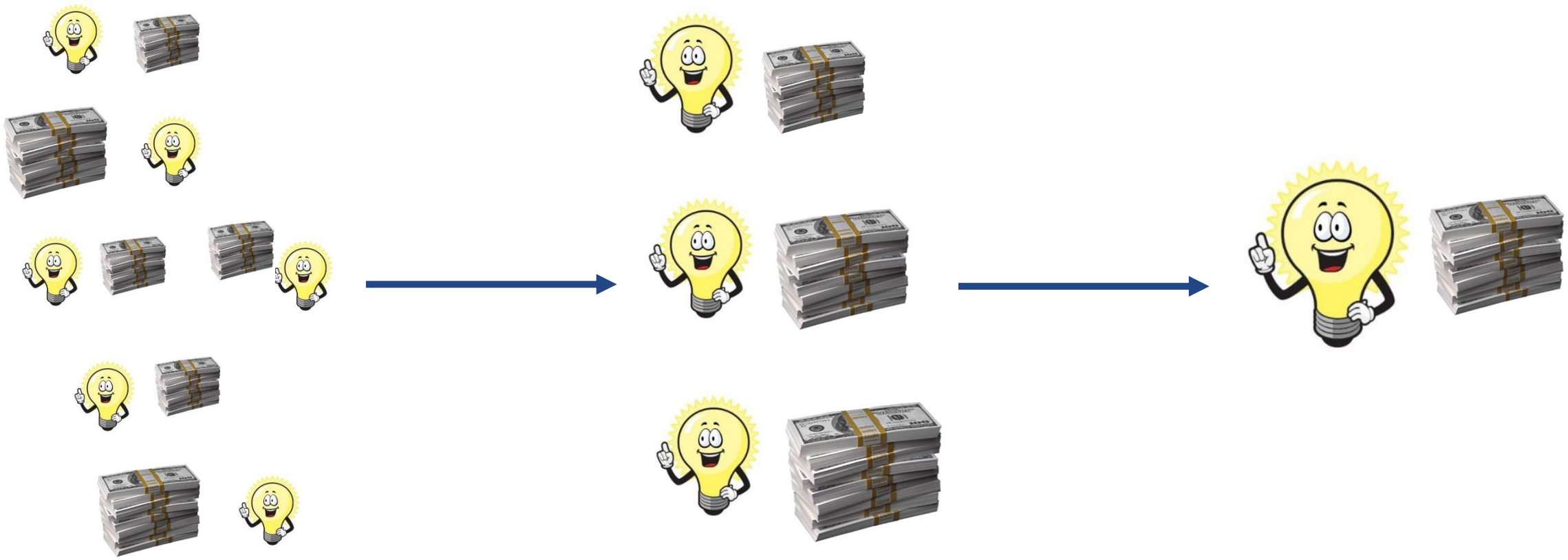
- Do I have the staff to plan and develop a significant project?
- What major gaps do I have to plan and implement a Capital Project?
- How do I fill those gaps?
- What do I know about my current facilities?
- Who are my stakeholders?
- What are my goals and objectives?
- Do I have a sufficient budget?
- Do I have a realistic schedule?
- Have we completed a sufficient risk analysis of our project?

Are We Using the Right Project Delivery Process for our Project?

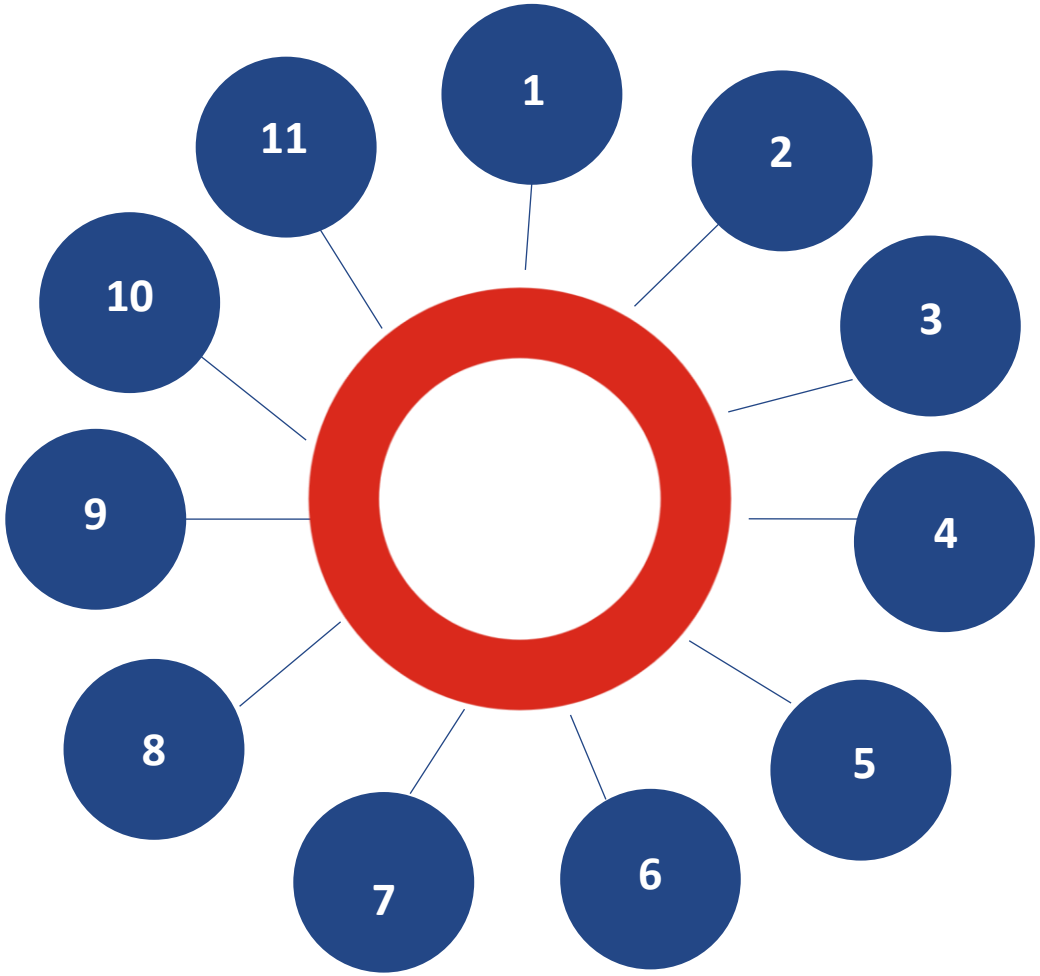


What is the Common Design Process used by School Districts?

Planning



What are all the Project Considerations?



What are all the Project Gaps?

Educational Planning & Programming
Stakeholder Management
Design Management
Project Management
Evaluation of Existing Facilities
Mind the Gap
Cost Management
Sustainability
Schedule Management
Life Cycle Costs
Post Occupancy/ Owner Training
Cost/Energy Modeling

Do I Have the Right Team in Place?

The Role of the Owner is significant

- Projects take significant resource to successfully manage
- The level of effort to manage a project is not even

What resources are available to the district?

- Engaging team members with the right skill to
    - Identify and manage project risk
    - Confirm taxpayer money is being appropriately spent

Do I Have the Right Team in Place?

Owner will have a lot of decision to make

- Timing of decisions can be critical
- Need to take the time to evaluate each issue
- Must have the resources with the right skill sets to *independently* evaluate

Do I need to supplement my team?

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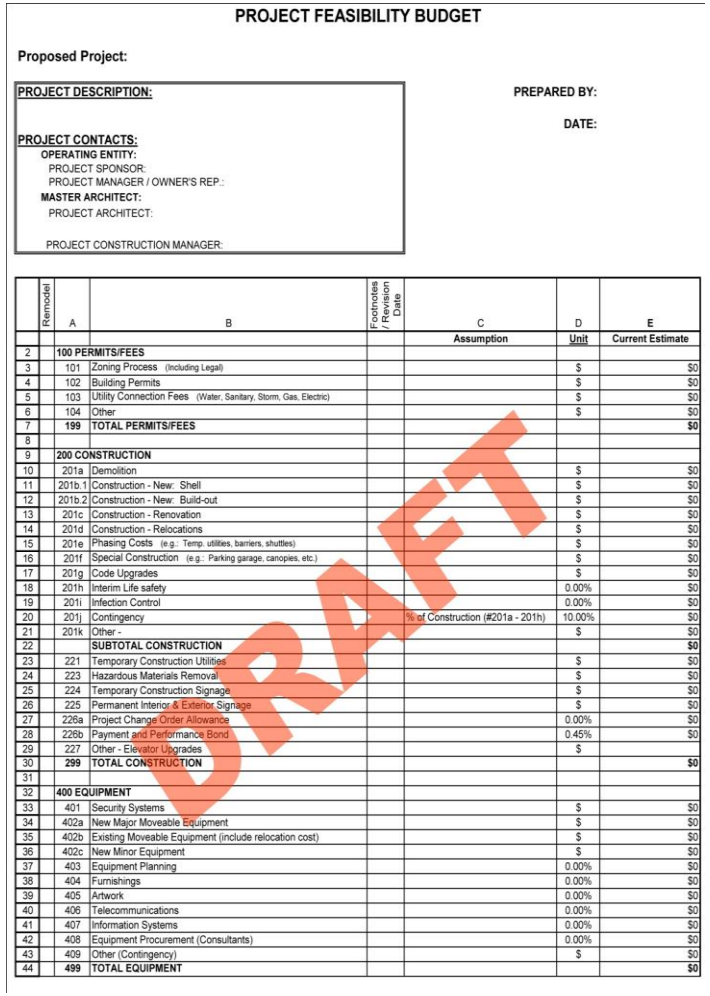
Managing Project Costs

- Project Cost
  - Construction
  - Design Fees
  - Land Acquisition
  - Legal Expenses
  - FF&E/Telecom/Data
  - Owner Costs
  - Contingency – Construction, Design, Owner
  - Use PFB to manage overall costs



PROJECT FEASIBILITY BUDGET

Proposed Project:

PROJECT DESCRIPTION:

PROJECT CONTACTS:
OPERATING ENTITY:
PROJECT SPONSOR:
PROJECT MANAGER / OWNER'S REP.:
MASTER ARCHITECT:
PROJECT ARCHITECT:
PROJECT CONSTRUCTION MANAGER:

PREPARED BY:

DATE:

	Remodel	A	B	Footnotes / Revision Date	C	D	E
					Assumption	Unit	Current Estimate
2		**100**	**PERMITS/FEES**				
3		101	Zoning Process (Including Legal)			$	$0
4		102	Building Permits			$	$0
5		103	Utility Connection Fees (Water, Sanitary, Storm, Gas, Electric)			$	$0
6		104	Other			$	$0
7		**199**	**TOTAL PERMITS/FEES**				**$0**
8							
9		**200**	**CONSTRUCTION**				
10		201a	Demolition			$	$0
11		201b.1	Construction - New: Shell			$	$0
12		201b.2	Construction - New: Build-out			$	$0
13		201c	Construction - Renovation			$	$0
14		201d	Construction - Relocations			$	$0
15		201e	Phasing Costs (e.g.: Temp. utilities, barriers, shuttles)			$	$0
16		201f	Special Construction (e.g.: Parking garage, canopies, etc.)			$	$0
17		201g	Code Upgrades			$	$0
18		201h	Interim Life safety			0.00%	$0
19		201i	Infection Control			0.00%	$0
20		201j	Contingency		% of Construction (#201a - 201h)	10.00%	$0
21		201k	Other -			$	$0
22			**SUBTOTAL CONSTRUCTION**				**$0**
23		221	Temporary Construction Utilities			$	$0
24		223	Hazardous Materials Removal			$	$0
25		224	Temporary Construction Signage			$	$0
26		225	Permanent Interior & Exterior Signage			$	$0
27		226a	Project Change Order Allowance			0.00%	$0
28		226b	Payment and Performance Bond			0.45%	$0
29		227	Other - Elevator Upgrades			$	
30		**299**	**TOTAL CONSTRUCTION**				**$0**
31							
32		**400**	**EQUIPMENT**				
33		401	Security Systems			$	$0
34		402a	New Major Moveable Equipment			$	$0
35		402b	Existing Moveable Equipment (include relocation cost)			$	$0
36		402c	New Minor Equipment			$	$0
37		403	Equipment Planning			0.00%	$0
38		404	Furnishings			0.00%	$0
39		405	Artwork			0.00%	$0
40		406	Telecommunications			0.00%	$0
41		407	Information Systems			0.00%	$0
42		408	Equipment Procurement (Consultants)			0.00%	$0
43		409	Other (Contingency)			$	$0
44		**499**	**TOTAL EQUIPMENT**				**$0**

DRAFT

Software and Technology

95% CD

Group By: Category | Add/Remove Columns...

Name	Quantity	Unit	Count (EA)	Area (SF)	Volume (CY)	Perimeter (LF)	Length (LF)	Width (LF)	Height (LF)	Thickness (LF)	Depth (LF)
Ceilings	700.37	SF	5								
Ceilings : Compound Ceiling : 1" SOFFIT	700.37	SF	5	700.37	2.16	240.81				0.08	
Columns	1	EA	1								
Columns : Curtain Wall Column2 : Curtain Wall Column	1	EA	1	0.78	0.52						
Curtain Panels	3,146.44	SF	304								
Curtain Panels : System Panel : CURTAIN WALL ALUMIN...	70.45	SF	16	70.45	1.36			62.94	17.85	0.52	
Curtain Panels : System Panel : CURTAIN WALL GLAZING	2,528.94	SF	235	2,528.94	7.81			1,081.03	440.94	0.08	
Curtain Panels : System Panel : Glazed	527.41	SF	46	527.41	1.63			199.21	134.17	0.08	

304 Selected Instances

Quantity Sum: 3,146.44 SF

Managing Project Costs

- Construction Cost is the main project cost driver
  - Needs to be managed from project initiation
  - Conceptual cost modeling
  - Recommend using an independent cost consultant who is an expert on K-12 constructions costs
  - Work closely with education planner to identify options and develop preliminary costs

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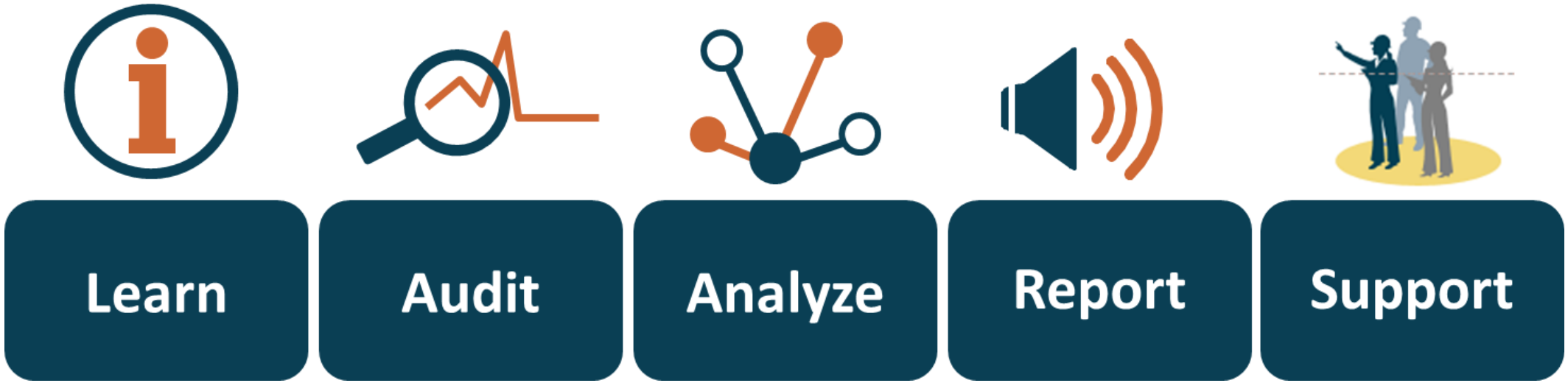
Facility Condition Assessments

Facility condition data is the key to uncovering the condition of your assets, putting them to best use today, and planning projects and capital improvements for the future.



Owner Project Requirements (OPR) Development

- Support/Lead the development of OPR, including:
  - Technology
  - Energy Considerations
  - Sustainability
  - Operational needs
  - Facility requirements
  - Stakeholders
  - Commissioning
  - Enclosure Commissioning

Common	Education Center	Greenhouse

• High Efficiency Cooling
• LED Lighting
• Advanced Lighting Controls
	• High Efficiency Envelope
	• High Performance Ventilation Systems
	• HVAC Controls
	• Plug Load Controls/Management
	• Daylighting
	• Water Conservation Measures
		• Automated Controls and Monitoring (Temperature, Humidity, Lighting, CO2, Irrigation, Ventilation, etc.)
		• High Efficiency Envelope
		  • Glazing Area and Orientation Optimization
		  • Retractable Curtains/Shutters and Automated Controls
		  • Glass Property Optimization
		  • Perimeter Foundation Insulation
		• Segmentation/Zoning
		• Ground Coupled Heat Exchanger/Thermal Storage
		• HIgh Performance Heating and Cooling Delivery

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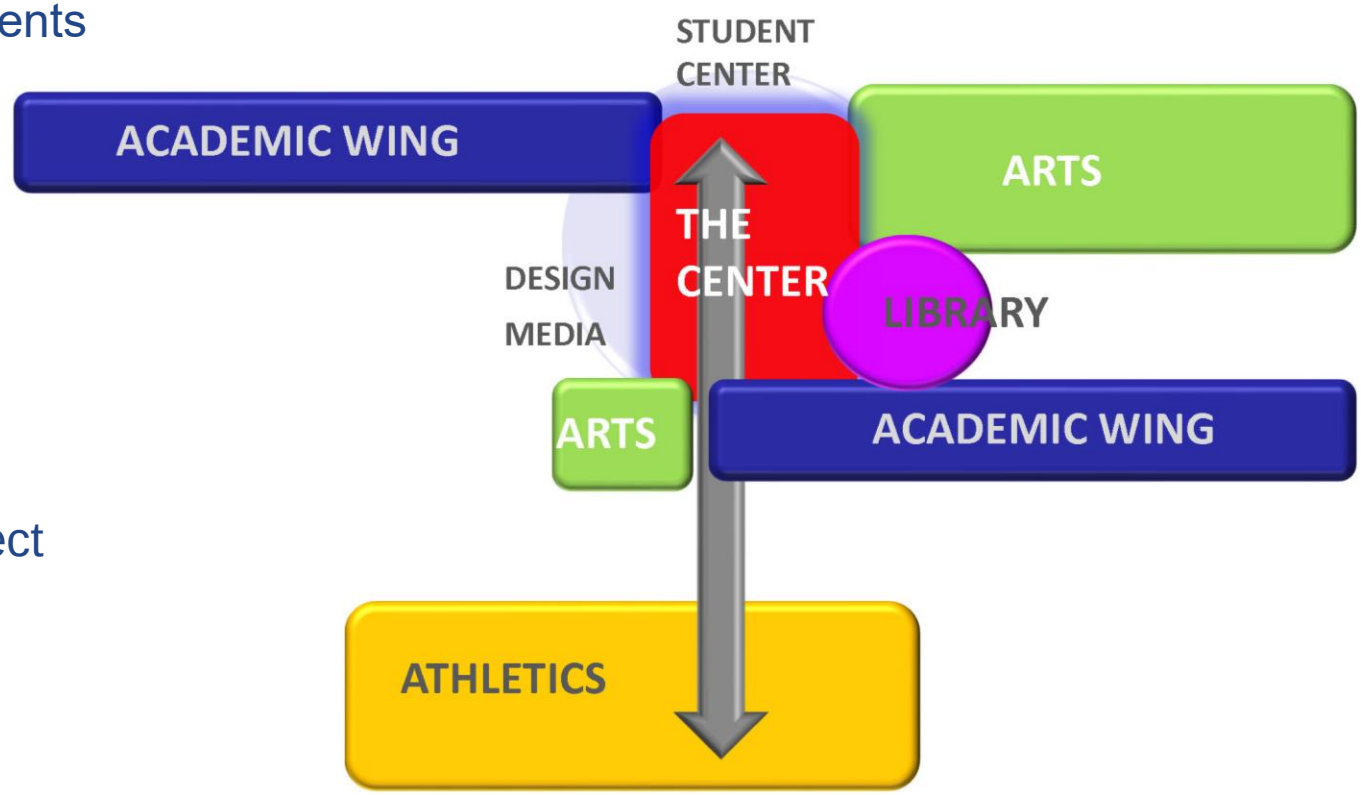
Common Program & Planning Gaps

- Owner's program needs and system requirements are not met resulting in:
  - Unfulfilled program needs
  - Future modifications, redesign, and costs
  - Higher initial costs
  - Increased operating costs
- This can happen during all phases of the project but has the most significant impact early:
  - Pre-design
  - Design phase



Owner's Program Needs are not Met – Pre-Design

- Insufficient time is spent identifying needs before a team is hired to design a solution
- Existing conditions are not assessed and documented
- Needs and requirements are not clearly identified
- Early budgeting is not accurate

The Importance of Early Design Decisions

Functional Impact of Changes

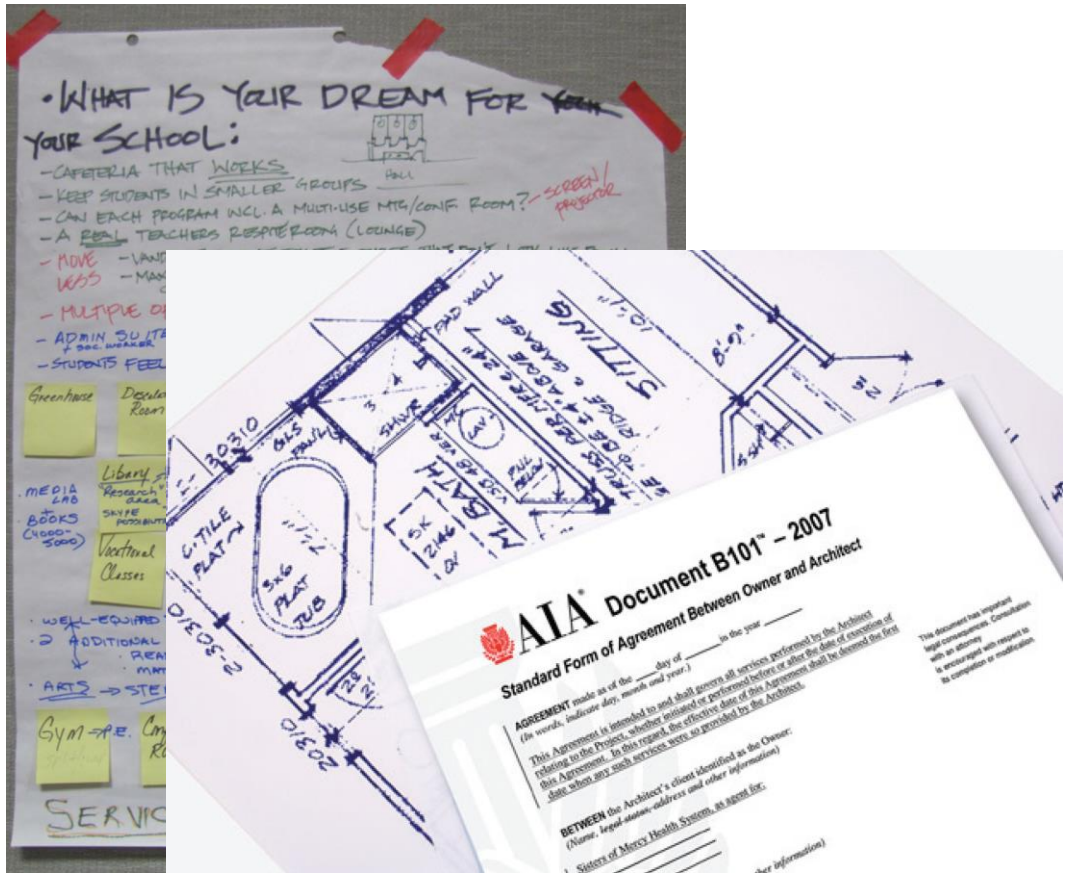
Cost Impact of Changes

$0

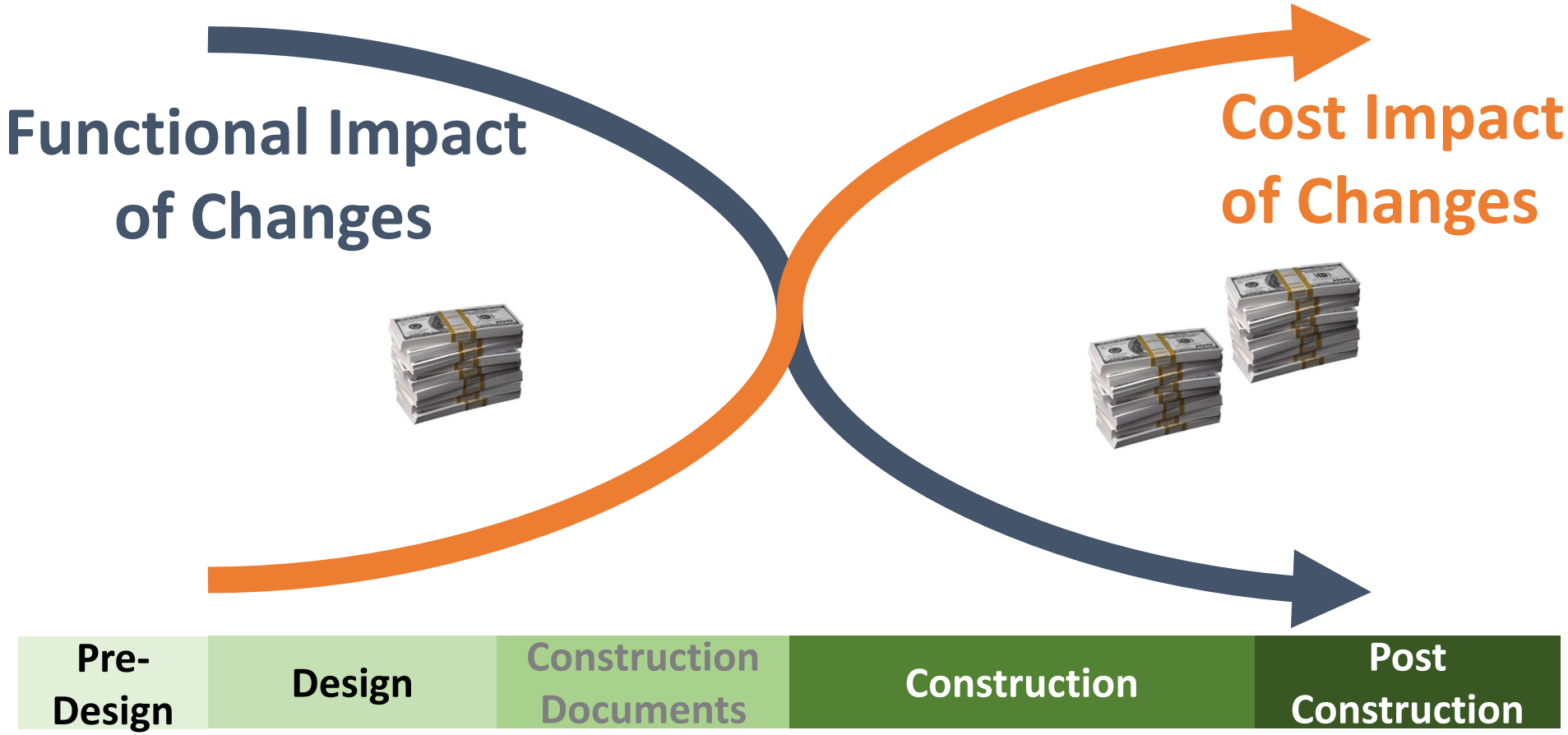
Pre-Design	Design	Construction Documents	Construction	Post Construction

Time to Plan – Pre-Design

- Article 5 of the Standard Agreement between Owner and Architect requires the Owner to furnish a program:
  - Objectives
  - Schedule
  - Space Requirements
  - Expandability
  - Systems
  - Site Requirements
- Often this is done during the design phases without a thoughtful planning and pre-design process
  - Adequate time is not spent understanding needs
  - Lack of rigorous pre-planning process creates gaps that disrupt design process



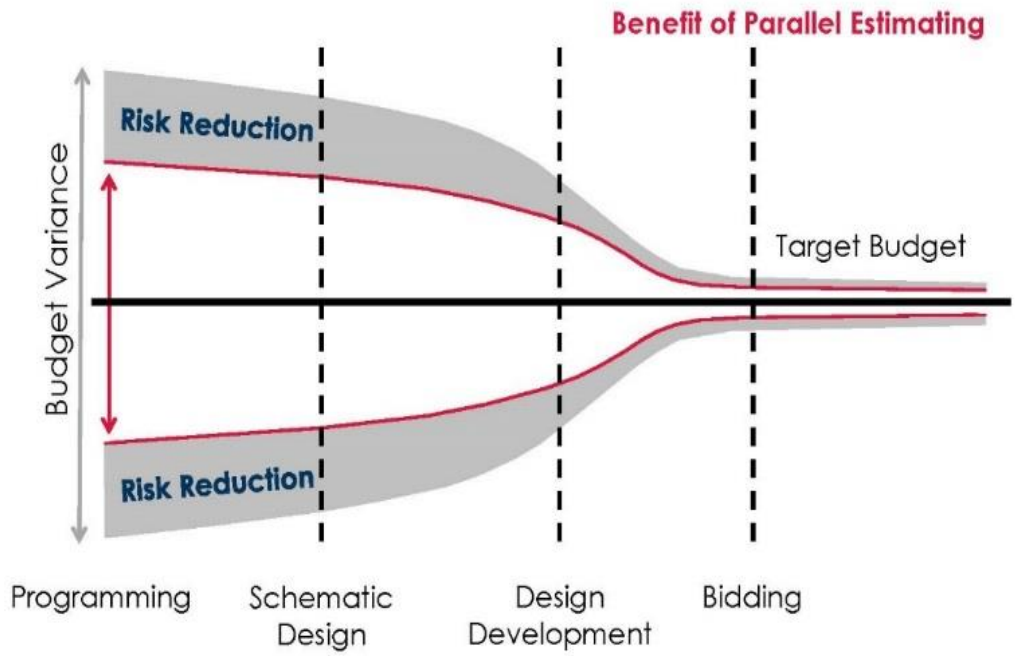
Maintain Program & Manage Costs - Design



The Benefits of Parallel Estimating

Parallel Estimating reduces risk and uncertainty during the early stages of design by confirming the following:

- All major scope items are covered
- We are carrying suitable allowances for scope items not yet designed
- Manages scope creep between design deliverable milestone
- All Contingencies are identified and are appropriate for the level of risk

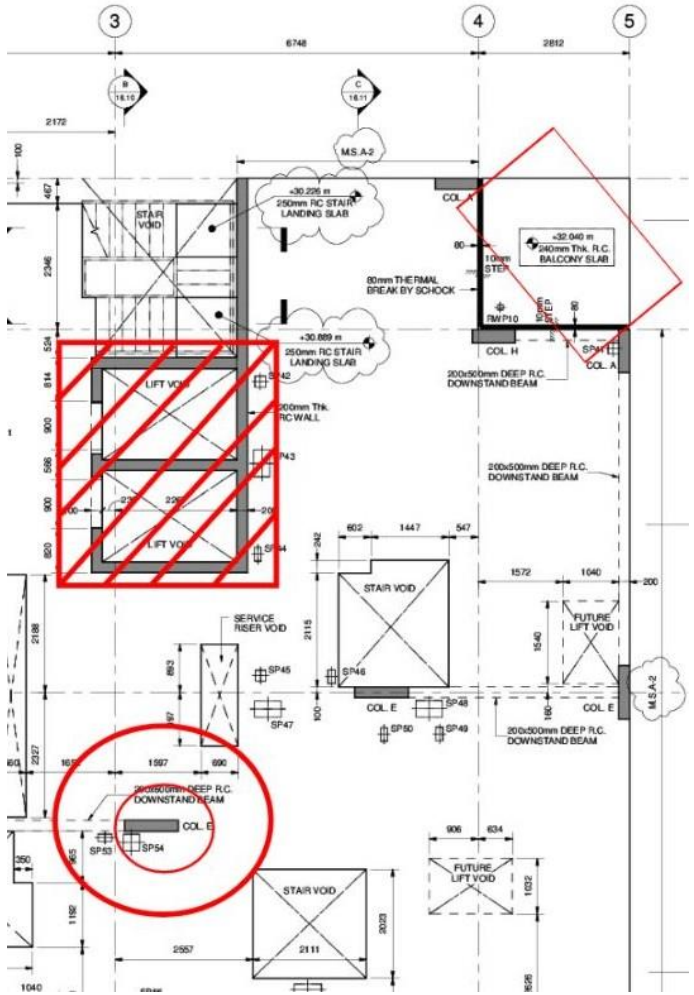


Owner’s Program Needs are not Met - Design

- Plan changes made after a design is approved negatively affecting the owner’s program
- Systems engineering and design is not integral to the building design resulting in higher operating and maintenance costs, inadequate performance, and compromise space use

Avoiding Plan Changes - Design

- Document user group meetings with design team
- Complete program variance review at phase milestones
- Fully develop feature space concepts or specialty systems early
  - Storm shelters
  - Atrium
  - Security or Technology
- Use the design process to explore options – don't settle
- Schedule phase milestones and review periods
  - Cost reconciliation
  - Phase sign-off by Owner's Team



Integrating Systems - Design

- Documented code analysis
- Fully incorporate systems in all design phases
  - Complete Owner's Project Requirement and Basis of Design
  - Perform life cycle and systems performance analysis
- Engineering concept drawings
  - Equipment size, location and serviceability
  - Trunk and branch lines sizes for locating vertical and horizontal chases
- Owner provided systems or equipment information is provided to the design team

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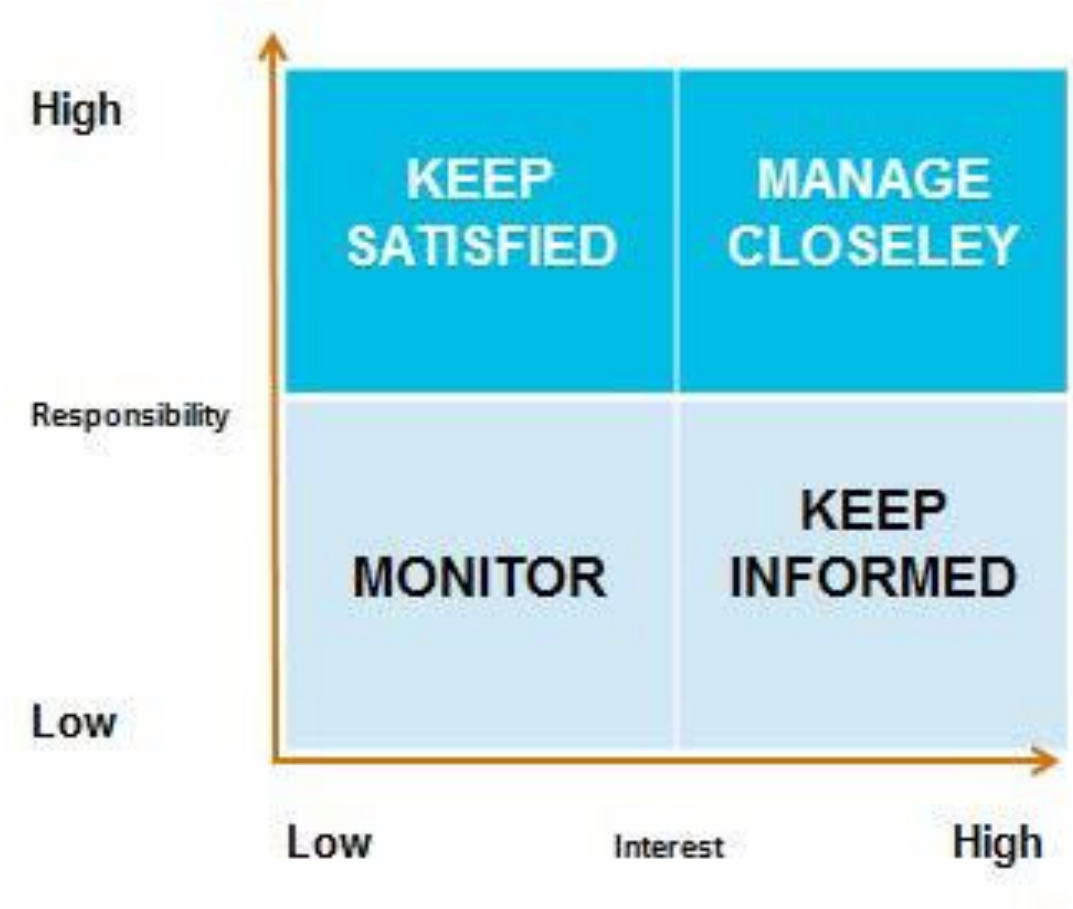
Who Are My Stakeholders?

- School Board
- District Leadership
- Building Leadership
- Teachers
- School Staff
- Students
- Parents
- PTO / PTA
- Taxpayers
- Community Groups
- Neighbors
- Business Community
- Maintenance Staff
- Contract Service Providers
  - Food Service
  - Transportation
  - Maintenance
- Utility Companies
- First Responders

How Do I Manage My Stakeholders?



PMBOK Power/ Interest Grid

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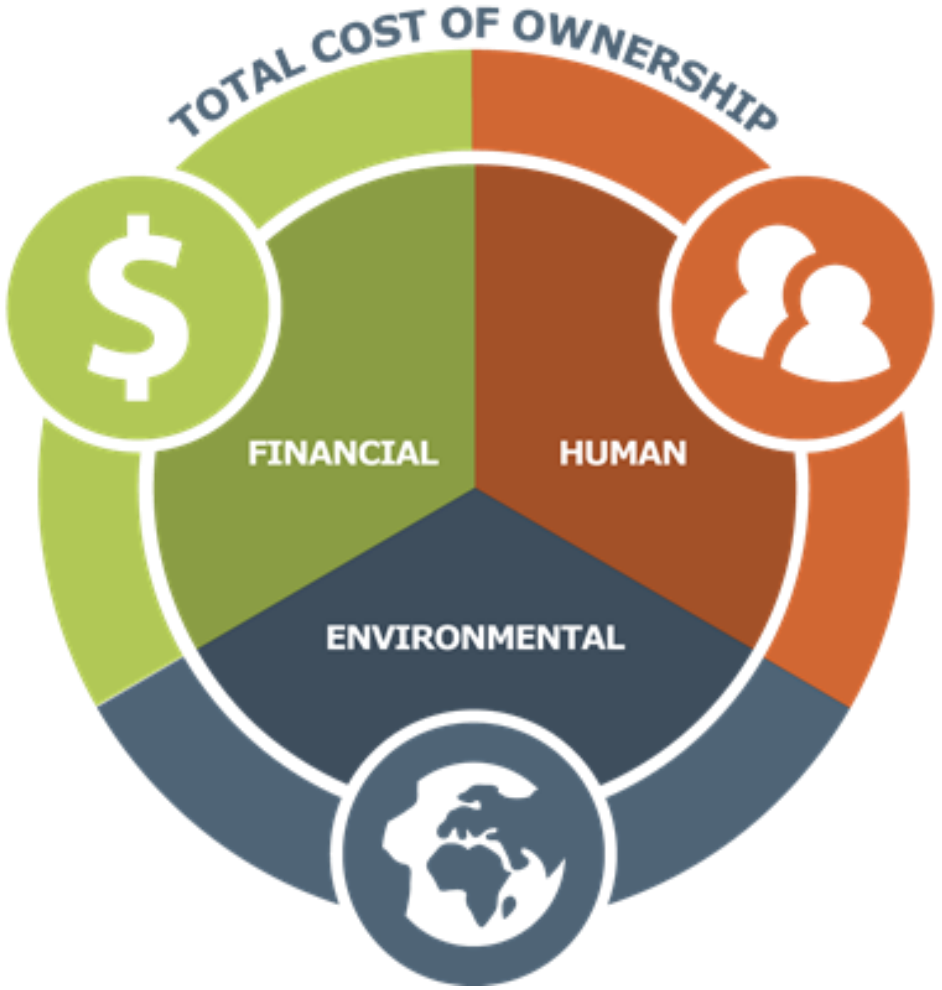
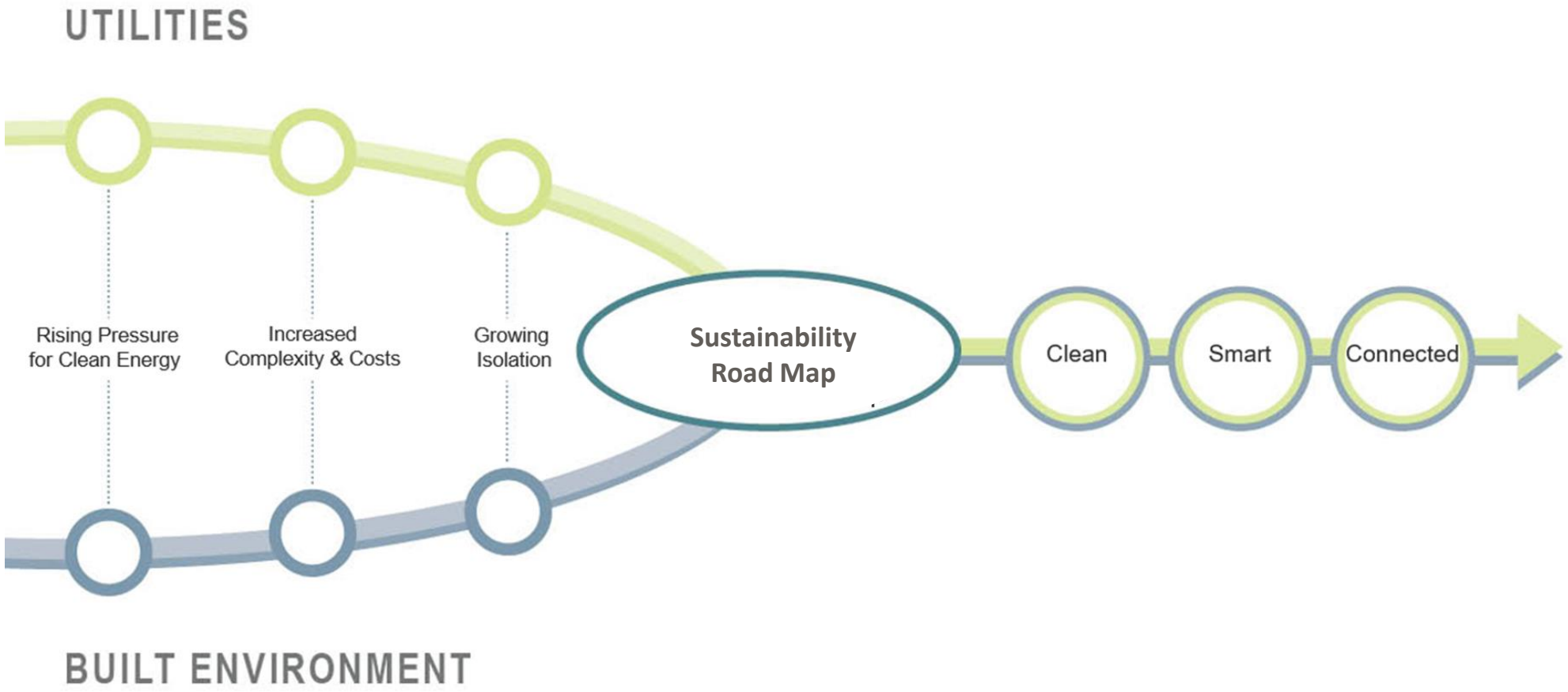
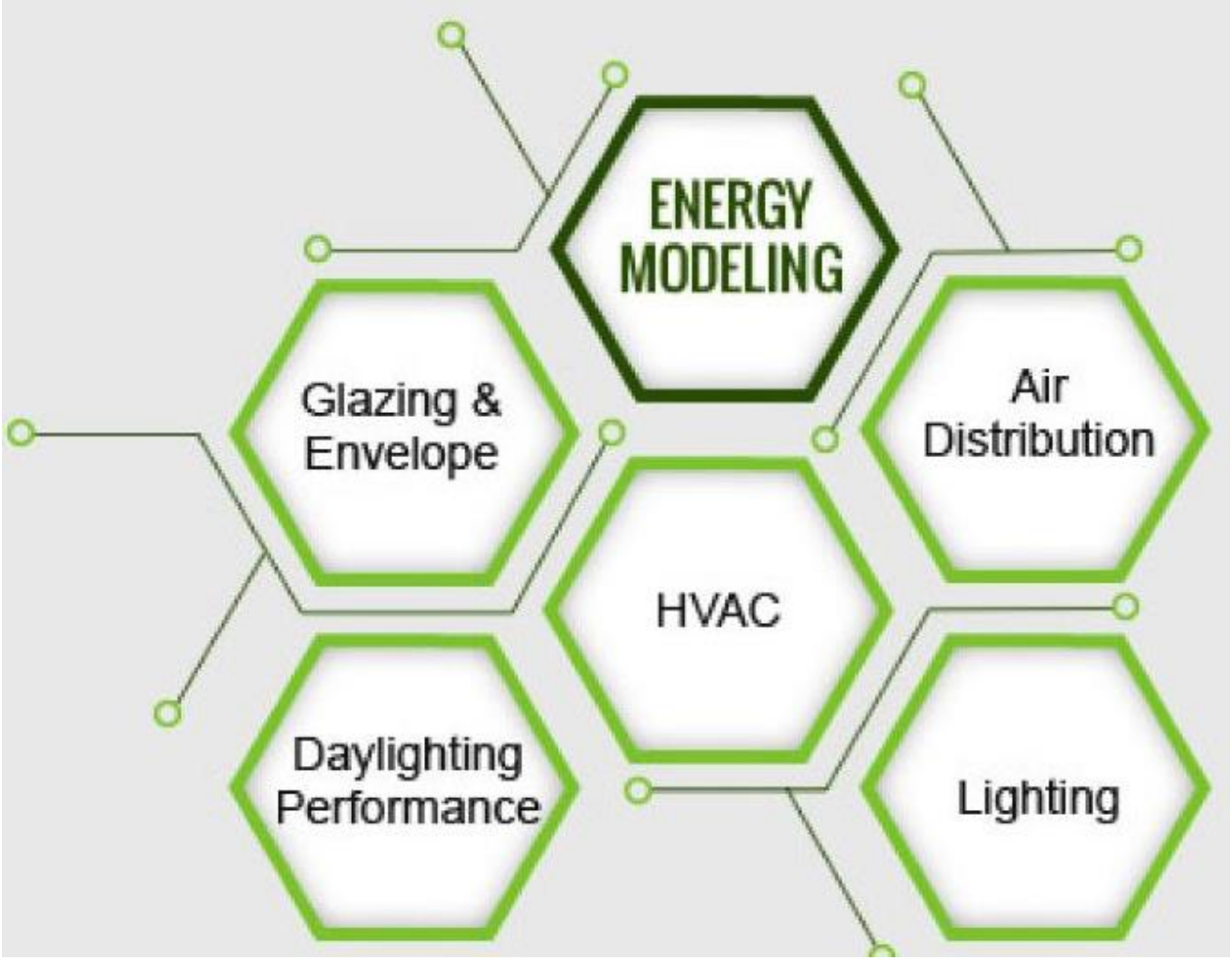
Have I Considered the Total Cost of Ownership?



Sustainability



Energy Modeling



Life Cycle Costs

50%

Half the lifetime costs of a building come from operations.
Half of energy and labor in the built environment is wasted. ***All of this is opportunity.***

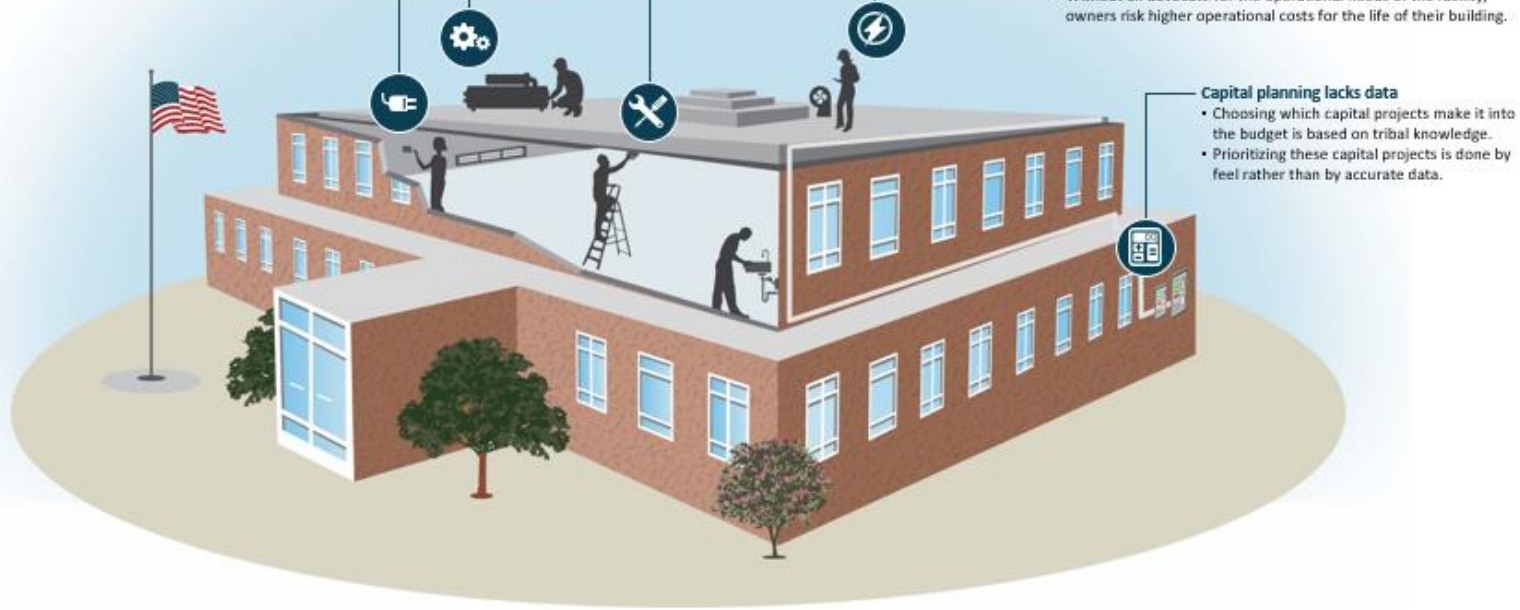
Capital projects don't transition well into operations
- No one in a traditional construction project is tasked with transitioning capital projects into operations.
- Warranty issues, training, complex system management and procedures are immediately the responsibility of the owner and the operator.

Energy consumption increases, not decreases
- Energy consumption steadily increases year-after-year.
- Opportunities to capture or eliminate energy waste are missed.

Maintenance is reactive and costs are unpredictable
- Maintenance teams struggle to get ahead of the daily onslaught of issues.
- Unplanned, emergency replacements always cost more than planned repairs.
- How much staff do you need to operate the building and what skillset do they need?

Form trumps function on new projects
- What gets cut when construction budgets are tight?
- Who thinks through operational needs during the design?
- Without an advocate for the operational needs of the facility, owners risk higher operational costs for the life of their building.

Capital planning lacks data
- Choosing which capital projects make it into the budget is based on tribal knowledge.
- Prioritizing these capital projects is done by feel rather than by accurate data.



SOURCES OF WASTE

Tight budgets force hard decisions about investing in what you already own.

There's no easy way to comprehensively understand the condition of your infrastructure.

The backlog of deferred maintenance and capital expenses continues to grow.

Costs to manage your infrastructure continue to rise.

Post-Occupancy & Owner Training

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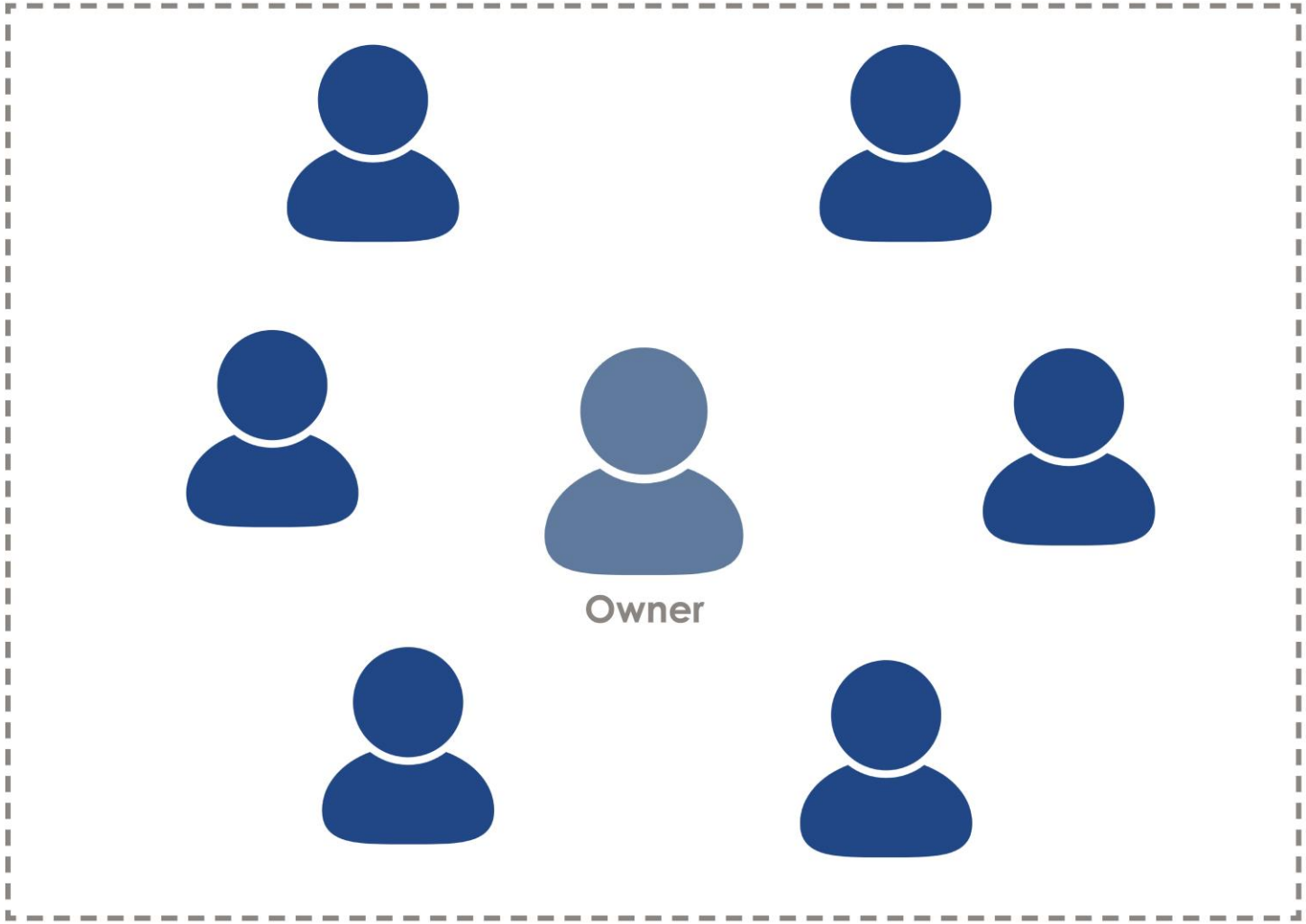
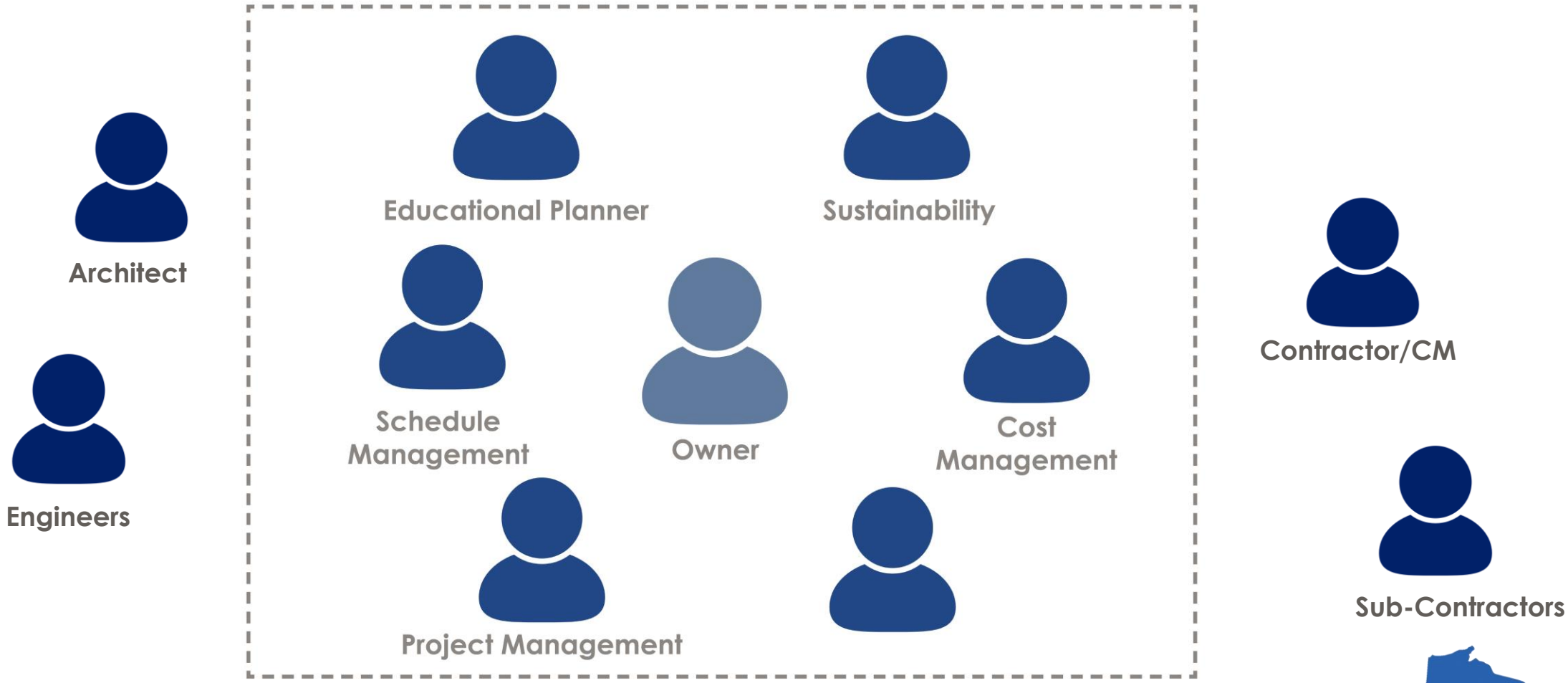
Owner



How do I fill those gaps?



How do I fill those gaps?

Architect

Engineers

Contractor/CM

Sub-Contractors

Ted Neitzke, CEO, CESA 6

CESA 6
SMART THINKING.

Questions and Answers

Feel free to contact us!

Presenters:

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