



Best Practices for Mitigating Risk on Construction Projects

Steve Jones Senior Director of Industry Insights, Dodge Data & Analytics

Bevan Mace, PhD Vice President of National Operations & Lean Balfour Beatty

David Allison, CPA, CCIFP Chief Administrative Officer Crossland Construction Company



To Earn CEUs for this Session

Participants must:

- 1. Check in with attendance proctor at the door.
- 2. Attend at least 95% of the session.
- 3. Complete the post-program evaluation.
- 4. Complete a brief assessment with a score of 75% or greater.



The Associated General Contractors of America (AGC) has been accredited as an Accredited Provider by The International Association for Continuing Education and Training (IACET). In obtaining this accreditation, AGC has demonstrated that it complies with the ANSI/IACET Standard which is recognized internationally as a standard of good practice. As a result of their Accredited Provider status, AGC is authorized to offer IACET CEUs for its programs that qualify under the ANSI/IACET Standard.

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada



Learning Objectives

By attending this session participants will be able to:

- 1. Compare their experience of risk against industry benchmarks established in the Dodge Data & Analytics study.
- 2. Identify the most important risks based on both frequency and cost impact, by project sector and size of firm, so that they can determine more targeted and effective risk management strategies before problems arise.
- 3. Advocate driving change in their organization by learning about the most important triggers and obstacles to increased investment in risk planning and mitigation.
- 4. Examine how approaches like Lean Construction and Integrated Project Delivery can help manage risk effectively in projects.



Agenda

- Data: Risk and Owner Performance Studies
- Panel Discussion About Risk and Best Practices
- Audience Questions



Two Studies

<u>Risk</u>

- Over 500 participants: Owners, GCs, Trade Contractors
- Study conducted online Summer 2016



LCI Owner Satisfaction and Project Performance

- 81 Owners providing information on two of their projects: best and typical
 - Establish the difference in performance
 - Look at what they are doing differently on each
- Conducted online in 1st and 2nd quarters of 2016



RISK: Experienced a Dispute or Claim in Last 5 Years



Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

⁷AGC Events

RISK: Most Frequent and Most Costly Disputes

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RISK: High Risk Factors: Strategic

Brand/Reputation Risks 14% 6% 1% Contractual Specification of Risk 13% 27% Owners GCs 27% Trade Contractors

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RISK: High Risk Factors: Operational

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RISK: High Risk Factors: Financial

Contractual Risks (Owners of Project Specs, Warranty Guarantees, etc.)

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

Trade Contractors

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RISK: High Risk Factors: Hazards

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RISK: Top Three High Risk Factors by Player

Owners

- 1. Planning/Scope Changes
- 2. Schedule Changes
- 3. Cost Escalation

GCs

- Labor Procurement/ Subcontract Management
- 2. Contractual Specification of Risk
- 3. Schedule Changes

Trades

- 1. Schedule Changes
- 2. Contractual Specification of Risk
- Delays in Payment/Claims

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RISK: Risk Evaluation Strategies

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RISK: Risk Evaluation Strategies

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RISK: Timing of Risk Evaluation Strategies:

Formal Brainstorming With Team

Expert Input From External Resources

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RISK: Top GC Benefits of Formal Brainstorming: (% that ranked it among top three)

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

Cultivate, Innovate, Accelerate

44%

RISK: Risk Mitigation Strategies

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RISK: Risk Mitigation Strategies

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RISK: Top GC Benefits of Team Risk Meetings:

(% that ranked it among top three)

Increased Reliability in Overall Project Performance

Increased Client Satisfaction

Maintain Original Intent for Level of Project Quality

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

Trade Contractors

Owners

GCs

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RISK: Top 4 Obstacles to Risk Management:

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RELATED FINDING:

	Kankir	ng of Impo	ortance	
Top 7 Causes of Uncertainty	Owner	Architect	Contractor	
Unforeseen Site or Construction Issues	1	3	1	Smart
Design Errors				
Design Omissions				
Construction Coordination Issues				
Contractor-Caused Delays				Managing Uncertainty Expectations in Buildin
Owner-Driven Changes				
Accelerated Schedule				analyticsstore.construe

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RELATED FINDING:

Rankir	ng of Impo	ortance	
Owner	Architect	Contractor	
1	3	1	
		_	CONSTRUCTION AIA LARGE FIRM ROUNDTABLE
3	6	5	
2	7	2	
			Managing Uncertainty and Expectations in Building
			analyticsstore.construction.
	Rankii Owner 1 3 2	Ranking of ImpoOwnerArchitect133627	Ranking of ImportanceOwnerArchitectContractor131365272

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RELATED FINDING:

	Rankir	ng of Impo	ortance	
Top 7 Causes of Uncertainty	Owner	Architect	Contractor	
Unforeseen Site or Construction Issues	1	3	1	SmartMarket R
				CONSTRUCTION AIA LARGE FIRM ROUNDTABLE
Design Errors	3	6	5	
Design Omissions	2	7	2	
Construction Coordination Issues	7	5	7	
Contractor-Caused Delays	4	4	6	Managing Uncertainty and Expectations in Building
Owner-Driven Changes				
Accelerated Schedule				analyticsstore construction

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RELATED FINDING:

Top 7 Causes of UncertaintyOwnerArchitectContractorUnforeseen Site or Construction Issues131Design Errors365Design Omissions272
Unforeseen Site or Construction Issues131Design Errors365Design Omissions272
Design Errors365Design Omissions272
Design Errors365Design Omissions272
Design Omissions 2 7 2
Construction Coordination Issues757
Contractor-Caused Delays 4 4 6
Owner-Driven Changes 5 1 4
Accelerated Schedule 6 2 3

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

²⁵AGC Events

(% who rank it in their top 3 most effective)

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

²⁶AGC Events

GOAL: Reducing the Cost of Construction

(% who rank it in their top 3 most effective)

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

²⁷AGC Events

(% who rank it in their top 3 most effective)

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

KEY TREND: Increased Collaboration Reduces Risk

Agree That Increased Collaboration With Other Members of the Project Team Reduces Risk

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

KEY TREND: Positive Impact of BIM on Risk

Contractors **Owners** 56% 66%

Agree That BIM Reduces Risk

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

KEY TREND: Positive Impact of Lean Construction on Risk

Agree That Lean Design and Construction Reduces Risk

Source: Managing Risk in the Construction Industry SmartMarket Report, Dodge Data & Analytics, 2017

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RELATED FINDINGS: Performance from Approval of Capital Project

98th Annual AGC Convention March 7-9, 2017 Las Vegas, Nevada

Cultivate, Innovate, Accelerate

Total (n=81)

AGC of America

RELATED FINDINGS: Timing of Key Stakeholder Engagement

98th Annual AGC Convention March 7-9, 2017 Las Vegas, Nevada

RELATED FINDINGS: Project Management Methods

Methods with Most Degree of Difference Between Usage

Total (n=81)

98th Annual AGC Convention | March 7-9, 2017 | Las Vegas, Nevada

RELATED FINDINGS: Top 5 Team-Related Methods

98th Annual AGC⁴Convention | March 7-9, 2017 | Las Vegas, Nevada

RELATED FINDINGS: Lean Intensity vs Schedule & Budget

Correlation of lean intensity to outcomes on best projects (% likelihood) **2X 3X Completed Ahead of Schedule Completed Under Budget** High Lean Intensity Low Lean Intensity

98th Annual AGC Convention March 7-9, 2017 Las Vegas, Nevada

Panelist Insights

Bevan Mace, PhD

Vice President of National Operations & Lean Balfour Beatty

David Allison, CPA, CCIFP

Chief Administrative Officer Crossland Construction Company

98TH ANNUAL AGC CONVENTION MARCH 7-9, 2017 LAS VEGAS, NEVADA

SUMMARY

- Strong correlation to risk reduction:
 - Evaluation: Formal Brainstorming with Team
 - Mitigation: Regular Risk-focused Meetings
- Seek external input prior to start of construction

Join Us Next Year in the Big Easy!

February 26-28, 2018 New Orleans, LA

Convention.AGC.org