CMAA NorCal
Owners Webinar
Presents....

Owners
Management of Risk: Joint Industry Webinar: CMAA - DBIA - AGC

June 29th, 2021
UPCOMING CMAA NORCAL EVENTS

Wed Jun 30th, 4:00 – 5:00 PM
CODE Webinar - Managing Insurance Risks For Small Business Enterprises

Wed Jul 21st, 11:30 – 1:00 PM
WEBINAR: Progressive Design Build

Thurs Aug 26th, 11:30am – 1:00pm
Healthcare Capital Improvement Programs (original date April 29th)

Sun, Sept 12th – Tues Sept. 14th

Thurs Oct 7th, 5:00pm – 9:00pm
AWARDS GALA & INDUSTRY CELEBRATION – Kimpton Hotel Sacramento CA

Nov 05, 10:00 AM – 4:30 PM
CMAA Virtual Rising CM Conference | Students, Young Professionals
THANK YOU MEGA SPONSOR

2021 CMAA NORCAL ANNUAL MEGA SPONSOR

AUTODESK CONSTRUCTION CLOUD™
Solving a Fragmented Industry

**TEAMS**
35% of time is wasted on non-optimal activities (14+ hours/person/week)

**PROJECTS**
$280B industry annual rework costs caused by poor project data and communication

**OWNERS**
95.5% of all data goes unused in engineering & construction

Source: Construction Disconnected – FMI Report
Source: Construction Disconnected – FMI Report
Source: Big Data = Big Questions for the Engineering and Construction Industry – FMI Report
Owners... own your data

Common Data Environment
- Models
- Drawings
- Issues
- Specifications
- RFIs
- Cost
- Assets
- As-Builts

Predictive Analytics & Risk Management
- Predictive Analytics
- Benchmark Reports
- Mitigation Strategies

Builders Network

Autodesk Construction Cloud™
Mojgan Yousefkhan
Principal Engineer/Project Controls Manager
San Francisco Public Utilities Commission
Josh Portner
GOOGLE

Director, Real Estate District Development Real Estate & Workplace Services
CMAA Director-At-Large: Private Owner
MODERATOR
Brendan Carter, Esq.
Vice President Labor Relations

Associated General Contractors of California
Raaj Patel
Project Director III
California Department of General Services
CMAA NorCal – Vice President
Georgia Wright
Associate Director
Turner & Townsend
Gareth Bevins
Associate Director
Turner & Townsend
Risk Management – The Risk Register

Gareth Bevins & Georgia Wright

CMAA NorCal
Risk Management – The Risk Register

Agenda

- Why Risk Management?
- The Process
- Workshop How To
- The Register
- Reporting at Project vs Program Level
- Key Takeaways
Why Risk Management?

“Anything that can go wrong, will go wrong...”

*Murphy's Law.*

Goals of Risk Management

Make sure we can respond to Murphy’s Law

Ensure we do not have single points of failure without contingency plans

Provide transparency to risks that could impact Projects ability to deliver and operate at scale and velocity

Have proactive measures in place to reduce impacts on project cost & schedule

*The chart at right shows the top five specific risks considered to have the greatest impact by respondents.*

*Survey provided by Dodge Data & Analytics. Full report is available here.*
Risk Registry

We'll capture our risks in this spreadsheet.

So you can do something with them.

So you can do something with them right?
The Process

- Identify Risk Exposure
- Analyze Risk Impacts
- Evaluate The Results
- Implement Mitigation Plan
- Incorporate Risk into Budget and Schedule

Workshops at key project milestones

Risk review on a bi-weekly or monthly basis
Risk Workshop Model

**Pre-work Initiation**
1. **Review** risk questionnaire
2. **Select** top 3 questions that have the highest impact
3. **Understand** the possible impact of 3 identified risks

**Risk Workshop**
1. **Identify** top 10 risks that have impact to the entire team
2. **Assess**
   - Probability of the risk turning into an issue
   - Impact of the risk
3. **Evaluate**
   - Acceptance of the risks
   - Mitigation plan

**Follow-up**
1. **Follow up** on action items and provide update on a monthly basis
2. **Present** risk resolutions & results at the next workshop
Risk Workshop Format

- **Introduce team & process (10 min)**
- **Sticky note brainstorming (10 min)**
  - Each person writes down top 3 most concern risks that they have
  - Locate the risks within different probability ranges & impact areas
- **Risk discussion (30 min)**
  - Review risks in each category
  - Evaluate / rearrange risk impacts (probability & impact level)
- **Break (5 min)**
- **Risk mitigation (30 min)**
  - Select the top 10 most important / highest impact risks
  - Determine high level risk mitigation plan & assign risk owners
- **Recap & summary (5 min)**
The Risk Register

Main Data Input: High level information and categorization of Risk alongside Risk Owner. It's at this stage the Probability of the Risk is also assessed.

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Risk / Opp</th>
<th>Category</th>
<th>Description</th>
<th>Risk Owner</th>
<th>Prob %</th>
<th>Cost Estimate ($)</th>
<th>Cost Exposure</th>
<th>Schedule Estimate (Wks)</th>
<th>Schedule Exposure</th>
<th>Action / Mitigation</th>
<th>Action Owner</th>
<th>Action Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 R</td>
<td>Site Utilities / Infrastructure</td>
<td>Construction as a result of existing tenants.</td>
<td>GB</td>
<td>H</td>
<td>$5,000K</td>
<td>$3,500K</td>
<td>VH</td>
<td>32</td>
<td>22.4</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 R</td>
<td>City Approval</td>
<td>City require Traffic Impact Analysis as per Formal Application response.</td>
<td>GB</td>
<td>L</td>
<td>$937K</td>
<td>L</td>
<td>M</td>
<td>0.75</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 O</td>
<td>City Approval</td>
<td>Telecommunications Cell Tower Relocation</td>
<td>GB</td>
<td>M</td>
<td>$1,562K</td>
<td>M</td>
<td>M</td>
<td>-3.75</td>
<td>-36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 R</td>
<td>Environmental</td>
<td>Contaminants found</td>
<td>GB</td>
<td>L</td>
<td>$4,500K</td>
<td>M</td>
<td>H</td>
<td>2.25</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 R</td>
<td>Scheduling / Resources</td>
<td>Weather Delay</td>
<td>GB</td>
<td>L</td>
<td>$75K</td>
<td>H</td>
<td>VL</td>
<td>5.25</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 R</td>
<td>City Approval</td>
<td>Extra round of City Questions prior to approval</td>
<td>GB</td>
<td>VL</td>
<td>$87K</td>
<td>M</td>
<td>L</td>
<td>0.75</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Probability x Cost Estimate = Cost Exposure**

**Probability x Schedule Estimate = Schedule Exposure**

**Weighted Cost Exposure x Weighted Schedule Exposure = Risk Score**
Project Reporting

**Project Overview**

- No. of Open Risks: 5
- Risks Closed to Date: 0
- Exposed Schedule Value (Wks): 28
- Exposed Risk Value: $7,537,500

**Top 5 Risks:**

1. **R1-[FXXX]** Site Utilities / Infrastructure: Potential impact to Phase 2 Construction as a result of existing tenants. New, Work with the Asset Management Team to explore options for current Tenants. $3,500K
2. **R4-[FXXX]** Environmental: Contaminants found. Steady, Accelerate Due Diligence Program. $4,500K
3. **R5-[FXXX]** Scheduling / Resources: Weather Delay. Steady, Ensure float is included in Client Schedule. $75K
4. **R2-[FXXX]** City Approval: City require Traffic Impact Analysis as per Formal Application response. Steady, Continue to liaise with City. $937K
5. **R6-[FXXX]** City Approval: Extra round of City Questions prior to approval. Steady, Continue to liaise with City. $87K
Portfolio Reporting

Roll-Up Summary

- Open Risks: 153
- Realized: 17
- Mitigated: 91
- Uncategorized: 51

Cost Impact
- Open Risks: 32.3%
- Realized: 9.6%
- Mitigated: 8.3%
- Uncategorized: 10.8%

Schedule Impact
- Open Risks: 17.4 weeks
- Realized: 6.5 weeks
- Mitigated: 6.8 weeks
- Uncategorized: 9 weeks

Month Over Month

- No. Of Risks
- Cost Impact

Cost Impact:
- Construction
- City Approval
- Design
- Financial
- Site Utilities / Infrastructure
- Contract / Procurement
- Scheduling / Resources
- Permitting / Jurisdiction
- Design
- Financial
- Others

No. Of Risks:
- Oct 2020: 185
- Nov 2020: 221
- Dec 2020: 327
- Feb 2021: 323
- Mar 2021: 292
- Apr 2021: 310
- May 2021: 315
- Jun 2021: 321
Key Takeaways

Collaborate

Mitigate

Contingency

Report

Repeat

Learn
Owner’s Management of Risk

Designing with Risk (Presentation of how using DBIA processes we can design risk out of construction projects)

Raaj Patel, Project Director
raaj.patel@dgs.ca.gov
Department of General Services

June 29th, 2021
Owner’s Management of Risk

AGENDA

• Delivery Method, Procurement Method and Contract Format
• Choosing Design-Build
• Choosing Owner Advisor
• DBIA Best Practices to Minimize Risk
## Owner’s Management of Risk
### Determine Project Delivery Method

<table>
<thead>
<tr>
<th>Project Delivery Systems</th>
<th>Procurement Methods</th>
<th>Contract Formats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Management at Risk (CMR) also known as CM/GC</td>
<td>Best Value (BVS)</td>
<td>Cost Plus Fee</td>
</tr>
<tr>
<td>Design-Bid-Build (DBB)</td>
<td>Low Bid</td>
<td>Guaranteed Maximum Price (GMP)</td>
</tr>
<tr>
<td>Design-Build (DB)</td>
<td>Negotiated</td>
<td>Lump Sum (or Fixed Price)</td>
</tr>
<tr>
<td>Multi-Prime (MP)</td>
<td>Qualifications-Based (QBS)</td>
<td>Target Price</td>
</tr>
<tr>
<td></td>
<td>Sole Source (or Direct Select)</td>
<td>Unit Price</td>
</tr>
</tbody>
</table>

*Items listed in alphabetical order.*
Owner’s Management of Risk
Choosing Design-Build as the Delivery Method

<table>
<thead>
<tr>
<th>Metric</th>
<th>Design-Build vs. Design-Bid-Build</th>
<th>Design-Build vs. CM@Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Cost</td>
<td>6.1% lower</td>
<td>4.5% lower</td>
</tr>
<tr>
<td>Construction Speed</td>
<td>12% faster</td>
<td>7% faster</td>
</tr>
<tr>
<td>Delivery Speed</td>
<td>33.5% faster</td>
<td>23.5% faster</td>
</tr>
<tr>
<td>Cost Growth</td>
<td>5.2% less</td>
<td>12.6% less</td>
</tr>
<tr>
<td>Schedule Growth</td>
<td>11.4% less</td>
<td>2.2% less</td>
</tr>
</tbody>
</table>

Source: Construction Industry Institute (CII)/Penn State research comprising 351 projects ranging from 5K to 2.5M square feet. The study includes varied project types and sectors.
Why Owners Choose Design-Build

- Single point of responsibility for Owner
- Collaborative relationship with Contractor & Designer
- A/E & Contractor on the same team providing unified recommendations to Owner
- The Owner considers controlling project Risks under one entity a high priority
- Allocate Risks to those who can best manage
Why Owners Choose Design-Build

- Fewer changes, fewer claims & less litigation
- Project will benefit from innovation
- Earlier knowledge of firm costs
- Faster, more cost-effective delivery system
- The Owner wishes to fast track the project
- Owner is able to specify performance requirements & specifications
Owner’s Management of Risk

Project delivery selection influences when Contractor gets on board. Contractor on-board early allows best opportunity to achieve objectives and Minimize Risk.
Owner’s Management of Risk

- Design-Build Done Right – Best Design Build Practices
Owner’s Management of Risk
CHOOSE AN OWNER ADVISOR

• Sooner than later and sooner than you think
• Careful assessment of owner experience/expertise
• If you think you need help...you probably do

• Owner Advisor - A design and/or construction individual or firm(s) that is employed or engaged by an Owner to assist in various services (for collaborative delivery projects).
Owner Advisor Services

» Project delivery selection
» Procurement
» Technical
  - Minimum Technical Requirements/Design Criteria
  - Performance Requirements
  - Design review
» Negotiation's assistance
» Construction oversight and monitoring

» Legal counsel
» Cost validation
» **Insurance and risk**
» Financial advisor
» Operation & Maintenance
» Environmental/permitting
Collaborative Environment

- Owner
- Design-Builder
- Owner Advisor

Requires Additional Skillset to help mitigate Risk
Design-Build Owner Advisor Qualifications

» Appropriate skills in four critical areas

- Design-Build
  - Done Right
  - Best Practices
  - Expert

- Leadership

- Technical

- Facilitation
Design-Build Owner Advisor Qualifications

- DBIA Professional(s)
- Expert command of Best Practices
- Successful acquisition history
Design-Build Owner Advisor Qualifications

Leadership Skills

» Establish vision and motivate others
» Foster healthy and collaborative relationships
» High emotional intelligence
» Build and maintain environment of trust
» Facilitate issue and conflict resolution
» Promote "One Team-One Goal" mentality
» Guide team to consensus
» Represent the project to all parties
» Formulate integrated and cohesive team
» Recognize/address potential conflicts of interest
» Carry out duties with integrity and character
Design-Build Owner Advisor Qualifications

» Experience and in-depth knowledge of
  - Required policies, processes and procedures
  - Appropriate risk allocation and management
  - Different program/project delivery methodology

» Strong capability to review schedule, design, and project cost
  - Ensure design submissions meet the RFP intent
  - Confirming enhancement and/or deviations
  - Cost estimating

» Knowledge of market conditions

» Knowledge of industry standards
Design-Build Owner Advisor Qualifications

» Active listening
» Team participation and engagement
» Spark innovative thinking
» Guide strategic consideration of alternatives
» Drive informed decision making
» Honor different learning styles
» Manage contrasting perspectives
» Achieve consensus
» Pose strategic questions
Design-Build Owner Advisor Qualifications

» Other important skills and knowledge
  - Commitment to the project first
  - Skilled at integrated project delivery
  - Stakeholder facilitation
  - Environmental impact process, site selection and evaluation
  - Familiar with local and targeted workforce hiring programs
Best Practices/Lessons Learned

• Build a Culture of Trust, Transparency and Collaboration
• Incorporate Partnering from the start
• Confidential meetings
• Initiate Early Change Management Process
• Fine-tune Owner vs DB Enhancements
• Clear and Concise Critical Success Factors
• Right balance between Performance and Prescriptive Criteria
• Appropriate Allowances
• Have a Dispute Resolution Process
• Actively monitor and manage a Risk Register
• Promote the Big Room
• Implement LEAN Principles
OWNERS MANAGEMENT OF RISK

one team one goal
• Labor & Material Pricing: What is Going On?

• Market Projections: Where are We Going Post COVID

• Workforce Development: How Do We Continue to Staff Our Projects
Producer Price Indexes (PPIs) for Construction and Selected Inputs
Cumulative Change in PPIs, May 2020 - May 2021

- Lumber and plywood: 111%
- Steel mill products: 76%
- Copper and brass mill shapes: 60%
- Aluminum mill shapes: 29%
- Plastic construction: 18%
- Products: 14%
- Gypsum: 2.8%
- 'Bid price' (new nonres building construction):

80% Diesel fuel PPI (Producer Price Index) has increased by 80% between March 2020 to March 2021.
Construction Input and ‘Bid Price’ Producer Price Indexes

Cumulative change in PPIs, Apr 2020 - Apr 2021 (not seasonally adjusted)

- Inputs to construction
  May 20-May 21: 24.3%

- ‘Bid price’ (new nonres building construction) May 20-May 21: 2.8%
US & California Construction Employment
Cumulative change, Jan 2020-May 2021, seasonally adjusted

<table>
<thead>
<tr>
<th>Date</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/20</td>
<td>-21%</td>
</tr>
<tr>
<td>3/20</td>
<td>-18%</td>
</tr>
<tr>
<td>4/20</td>
<td>-15%</td>
</tr>
<tr>
<td>5/20</td>
<td>-12%</td>
</tr>
<tr>
<td>6/20</td>
<td>-9%</td>
</tr>
<tr>
<td>7/20</td>
<td>-6%</td>
</tr>
<tr>
<td>8/20</td>
<td>-3%</td>
</tr>
<tr>
<td>9/20</td>
<td>0%</td>
</tr>
<tr>
<td>10/20</td>
<td>3%</td>
</tr>
<tr>
<td>11/20</td>
<td>6%</td>
</tr>
<tr>
<td>1/21</td>
<td>9%</td>
</tr>
<tr>
<td>2/21</td>
<td>12%</td>
</tr>
<tr>
<td>3/21</td>
<td>15%</td>
</tr>
<tr>
<td>4/21</td>
<td>18%</td>
</tr>
<tr>
<td>5/21</td>
<td>21%</td>
</tr>
</tbody>
</table>

% change
Jan 2020-May 2021:
US -2.5%
California -2.5%
2020 First Year Total Package Increases

Exhibit 1.1
First year increases, shown as percentages

Exhibit 1.2
First year increases, shown as dollar amounts

2020 = settlements reached from January through December of 2020
COVID 19 Impact on First Year Settlements in 2020

Distribution of first year increases, shown as dollar amounts—2019-Yr 1 vs 2020 COVID-Yr 1

2020 COVID-Yr 1 = settlements effective April 1 - December 31, 2020

Change in distribution of first year increases, shown as dollar amounts—2019-Yr 1 vs 2020 COVID-Yr 1
# COVID-19 Basic Trade & Select Building Trade Settlements

<table>
<thead>
<tr>
<th>Year</th>
<th>Duration (Years)</th>
<th>National 1st Year Percentage</th>
<th>California 1st Year Percentage</th>
<th>National 1st Year Dollars</th>
<th>California 1st Year Dollars</th>
<th>Total Increase Dollars</th>
<th>Contract End Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Engineers Local 3</td>
<td>2020 3</td>
<td>3.40%</td>
<td>3.73%</td>
<td>$2.24</td>
<td>$2.90</td>
<td>$8.50</td>
<td>$86.26</td>
</tr>
<tr>
<td>NorCal Teamsters</td>
<td>2020 3</td>
<td>3.30%</td>
<td>3.55%</td>
<td>$1.71</td>
<td>$2.25</td>
<td>$6.75</td>
<td>$70.12</td>
</tr>
<tr>
<td>Iron Workers (S.F. &amp; Bay Area)</td>
<td>2021 4</td>
<td>2.00%</td>
<td>2.88%</td>
<td>$1.35</td>
<td>$2.20</td>
<td>$10.00</td>
<td>$86.36</td>
</tr>
<tr>
<td>SoCal Cement Mason</td>
<td>2021 4</td>
<td>3.00%</td>
<td>2.94%</td>
<td>$1.47</td>
<td>$2.20</td>
<td>$8.85</td>
<td>$83.71</td>
</tr>
<tr>
<td>SoCal Glaziers</td>
<td>2020 3</td>
<td>2.20%</td>
<td>4.42%</td>
<td>$1.55</td>
<td>$3.00</td>
<td>$10.00</td>
<td>$77.80</td>
</tr>
<tr>
<td>IBEW - Modesto</td>
<td>2020 3</td>
<td>2.70%</td>
<td>-</td>
<td>$1.64</td>
<td>$2.50</td>
<td>$7.80</td>
<td>-</td>
</tr>
<tr>
<td>IBEW - Alameda</td>
<td>2020 2</td>
<td>2.70%</td>
<td>4.60%</td>
<td>$1.64</td>
<td>$4.65</td>
<td>$9.40</td>
<td>-</td>
</tr>
<tr>
<td>IBEW - San Mateo</td>
<td>2021 3</td>
<td>2.70%</td>
<td>-</td>
<td>$1.64</td>
<td>$5.85</td>
<td>$17.75</td>
<td>-</td>
</tr>
</tbody>
</table>
First Year Settlements by Region

### Exhibit 1.5
First year increases in new settlements as percentages, by region in descending order

- Northwest: 4.0% (2020), 3.9% (2019)
- Mtn Northern Plains: 3.4% (2020), 2.9% (2019)
- East North Central: 3.1% (2020), 3.1% (2019)
- Southwest Pacific: 2.9% (2020), 3.9% (2019)
- United States: 2.8% (2020), 2.9% (2019)
- West North Central: 2.7% (2020), 2.8% (2019)
- Middle Atlantic: 2.5% (2020), 2.3% (2019)
- New England: 2.2% (2020), 2.7% (2019)
- Southeast: 2.0% (2020), 2.6% (2019)
- South Central: 1.6% (2020), 2.6% (2019)

### Exhibit 1.6
First year increases in new settlements as dollar amounts, by region in descending order

- Middle Atlantic: $1.72 (2020), $1.67 (2019)
- Southeast: $0.38 (2020), $0.82 (2019)
- South Central: $0.57 (2020), $0.82 (2019)
Architecture Billings Index (ABI)

April 2021

National

Architecture firms report another strong month of business in April

Graphs represent data from April 2020–April 2021.

Design Contracts
Inquiries
Billings

Above 50
Below 50
No change from previous period
Year-To-Date Construction Spending: Jan-April 2021 vs. Jan-April 2020

Total 6% | Private Residential +22% [Single-family +30%; Multi +19%] | Private Nonres -8% | Public -2%

Largest segments (in descending order of 2021 year-to-date spending)

- **Power -8%**
  - Electric -10% | Oil/Gas Fields & Pipelines -5%
- **Education -6%**
  - Primary/Secondary +1% | Higher Ed -16%
- **Office -3%**
- **Commercial -5%**
  - Warehouse +12% | Retail -22%
- **Manufacturing -5%**
  - Chemical +4% | Transp. Equip. -7% | Electronic -25% | Food/Bev +14%
- **Highway and Street -4%**
- **Transportation -2%**
  - Air -5% | Freight Rail/Trucking -2% | Mass Transit +8%
- **Health care -3%**
  - Hospital -1% | Medical Building -3% | Special Care -7%
- **Lodging -25%**
Medium-Term Impacts as Recovery Begins

- Economic recovery looks more certain but virus risks remain
- Slower rebound than for other sectors as owners, investors/lenders, institutions and public agencies have lost revenue and face uncertainty about future demand
- **Best private prospects:** remodeling, local distribution centers, data centers, restaurants
- Less demand than pre-crisis for retail, offices, higher ed, lodging & travel-related
- Less near-term demand for sports, entertainment, cultural facilities
- **Best public prospects:** K-12 schools
- Unclear how states and localities will spend added federal dollars
- Additional federal highway funding likely; other infrastructure remains uncertain
Long-run Construction Outlook (Post-Pandemic)

- Slower population growth means slower demand growth for most construction
- **Permanent shift from retail to e-commerce/distribution structures**
- More specialized and online healthcare facilities; fewer hospitals, nursing homes
- More wind, solar, battery storage and charging facilities, and related manufacturing
- Less oil drilling, pipelines, gas stations, auto repair
- **Continuing demand for K-12 but much less for higher ed construction**
- Not clear if offices will decentralize or remain in less demand
- No sign of change yet in urban/rural or state-to-state trends
California Results

If your firm is having trouble filling salaried positions, please indicate all the position types you are having trouble filling (Mark all that apply): 59

- Project managers/supervisors: 78%
- Engineers: 27%
- Quality control personnel: 20%
- Safety personnel: 14%
- BIM personnel: 8%
- IT personnel: 7%
- Environmental compliance professionals: 2%
- Lean construction professionals: 2%
- Software/database personnel: 2%
- Architects: 0%

If your firm is having trouble filling hourly craft positions, please indicate all the position types you are having trouble filling (Mark all that apply). Responses: 55

- Carpenters: 31%
- Laborers: 29%
- Equipment operators-crane, heavy equipment: 24%
- Cement masons: 15%
- Concrete workers: 13%
- Truck drivers: 13%
- Electricians: 11%
- Plumbers: 11%
- Pipefitters/steamfitters: 9%
- Installers-drywall: 7%
- Installers-other: 7%
- Painters: 7%
- Roofers: 7%
- Sheet metal workers: 5%
- Iron workers: 4%
- Millwrights: 2%
- Bricklayers: 0%
- Traffic control personnel: 0%
2020 Workforce Survey Results

California Results

How do you expect your firm's headcount to change in the next 12 months? Responses: 104

- Expect to furlough and or terminate employees: 20%
- Expect to terminate employees to reduce headcount: 14%
- Expect to furlough employees temporarily: 6%
- Expect to recall and or add employees: 47%
- Expect to add new employees: 43%
- Expect to recall employees: 7%
- No net change: 35%
Participation in an AGC Student Chapter provides members with opportunities to:
• Network with students, professors, industry professionals
• Attend professional development and training
• Attend job walks and tour construction projects
• Enhance practical industry experience and skillset outside the classroom
• Gain a competitive hiring advantage through job and internship placement
• Attend AGC of California and AGC of America annual conferences at student registration rate
• Apply for AGC of California and AGC of America scholarships

13 Active Chapters:
• California Baptist University
• California State University, Chico
• California State University, Fresno
• California State University, Fullerton
• California State University, Long Beach
• California State University, Sacramento
• California Polytechnic State University, Pomona
• California Polytechnic State University, San Luis Obispo
• San Jose State University
• Santa Clara University
• Stanford University
• University of California, Berkeley
• University of Southern California
VISION
To create a steady, motivated and skilled workforce pipeline for California's construction industry.

HOW?
We do this by shaping positive perceptions of the construction industry, informing young people and their influencers about the real career opportunities in construction and connecting them to local training programs.

GOALS
✓ Shape positive perceptions about the construction industry and careers
✓ Increase the number of motivated and skilled construction professionals
✓ Increase construction career information and access in disadvantaged communities, providing economic advancement opportunities.
Questions?