



PROJECT MANAGEMENT CENTER FOR EXCELLENCE

A.J. CLARK SCHOOL OF ENGINEERING
Civil & Environmental Engineering Department



REBRANDING LEADERSHIP: EVOLVING EXPECTATIONS FOR CONSTRUCTION PROJECT MANAGERS AND EMPLOYERS

Ryan Anderson

Sara Collins

2018 Project Management Symposium



 **CHRISTMAN** | **HITT**

Rebranding Leadership:

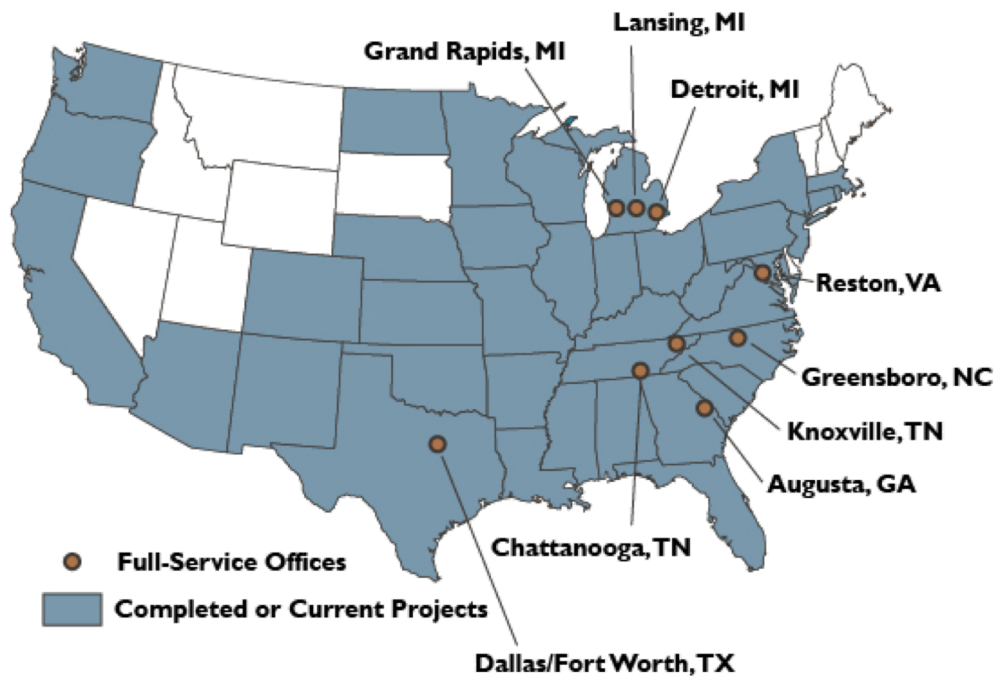
Evolving Expectations
for Construction
Project Managers
and Employers

Sara Collins, HITT Contracting
Ryan Anderson, The Christman Co.

Agenda

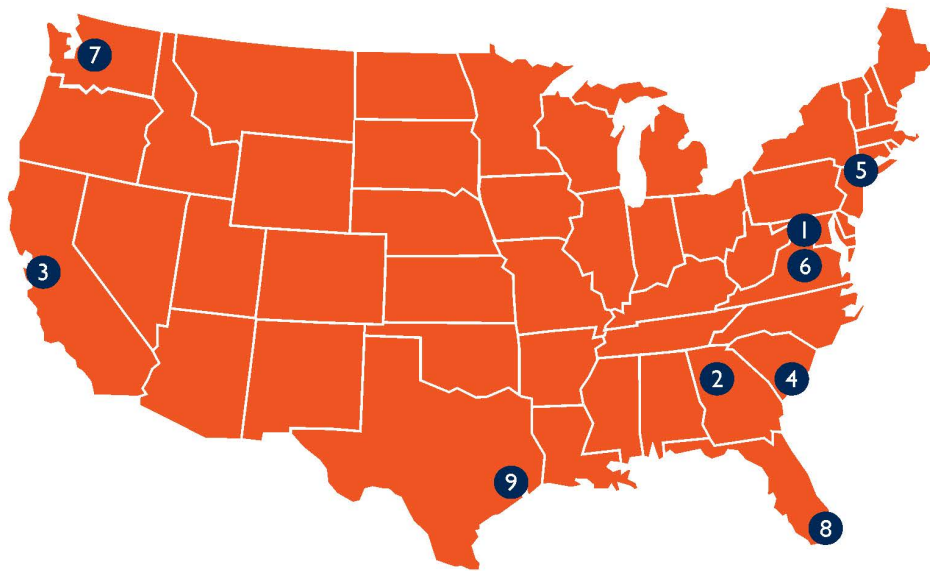
- Evolution of the Industry
- What You (PMs) Expect From Us
- What We (Employers) Expect From You
- Alphabet Soup:
Education, Skills, Certifications
- Questions

Christman Overview



- Revenue of \$700M
- 122 years in business
- 270 professional staff
- #102 ENR 400 Top Contractors
- 0.85 Safety EMR
- Differentiator: employee owned

HITT Overview



HITT OFFICE LOCATIONS

- | | | |
|------------------|--------------|-----------------|
| 1 Washington, DC | 4 Charleston | 7 Seattle |
| 2 Atlanta | 5 New York | 8 South Florida |
| 3 California | 6 Richmond | 9 Texas |

- Revenue of \$1.5B (2017)
- 81 years in business
- 1,000 employees
- 9 specialized market sectors, 9 offices nationwide
- 4th “generation” of leadership
- Differentiator: Results-based incentive program = entrepreneurial culture

Evolution of the Industry

Evolution of the Industry – Moving Forward



Evolution of the Industry – Materials

Ultra Touch Jeans Insulation



Jean is recycled through some process and it can be used for roofing like this

It is light weight and this method reduces landfill waste.

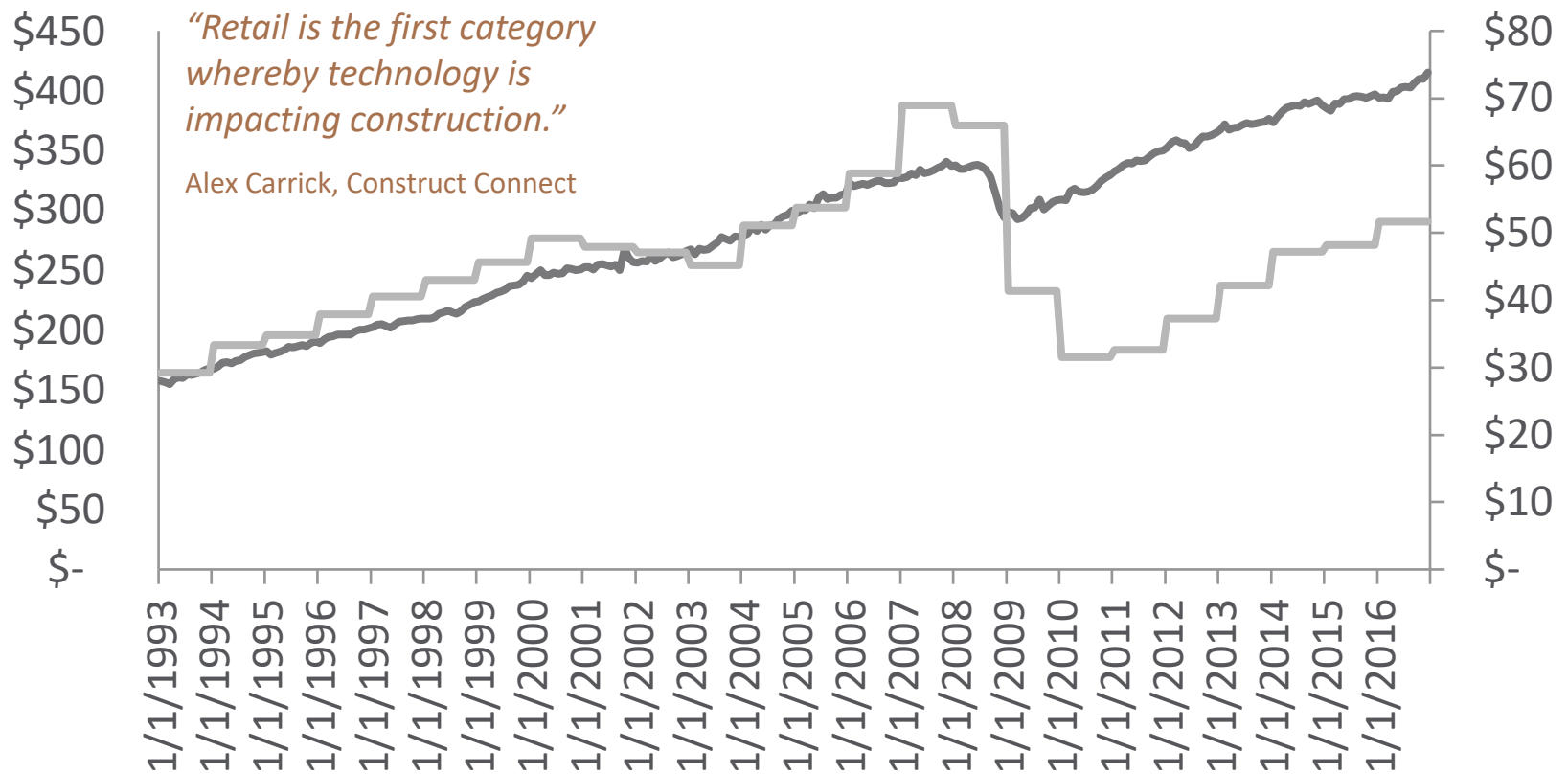


Hempcrete 
Hemp + lime
Designed to build not to smoke



Construction
Carbon negative material

Evolution of the Industry – Technology



Source: FMI

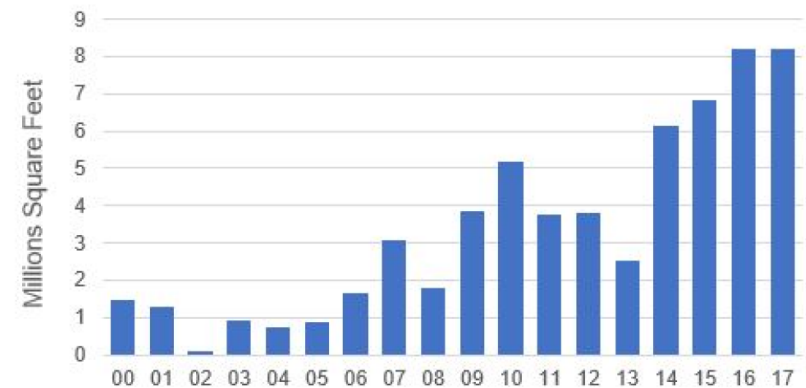
Data Center Construction

Largest Data Center Starts (2014-2017)

Title	City/State	Start Month	Millions	Area (Thou. SF)
Microsoft (Project Alluvion) Data Center	West Des Moines, Iowa	2014:09	\$1,200	1,160
Facebook Data Center - Project Echo Ph I	Sandston, Virginia	2017:12	\$750	1,000
Switch SuperNap Data Center Tahoe Reno 1	Mccarran, Nevada	2016:10	\$600	1,300
McClellan Business Park/Xtream Data Center	McClellan, California	2017:01	\$600	1,000
Facebook Data Center	Papillion, Nebraska	2017:06	\$585	970
Facebook Data Center Phase 1	Fort Worth, Texas	2015:10	\$570	950
Google Southland CBFS	Council Bluffs, Iowa	2015:04	\$500	350
Switch Supernap of Michigan Data Center Facility	Grand Rapids, Michigan	2016:07	\$400	0
Facebook Data Centers (Buildings 4 and 5)	Prineville, Oregon	2017:12	\$400	985
Facebook (Catapult) Data Center II (Bldg 3)	Altoona, Iowa	2015:10	\$396	660

Source: Dodge Data & Analytics

Data Center Starts



Source: Dodge Data & Analytics

The Digital Frontier

Project & Task Management/ Collaboration



Robotics



Design



Building / Project Information



Data & Analytics



Inventory & Supply Chain



Financial Management



Equipment Share



Source: FMI

Rise of The Machines

Artificial Intelligence

Replicating or replacing
knowledge-work tasks

Internet of Things

Process optimization via a
network of sensors and other
devices for data collection,
monitoring, etc.

Advanced Robotics

Human augmentation and/or
task automation that
enhances precision and speed
of delivery



Iterative Manufacturing

Increased customization, creation of
unique products, and reduction of
waste

Autonomous Vehicles

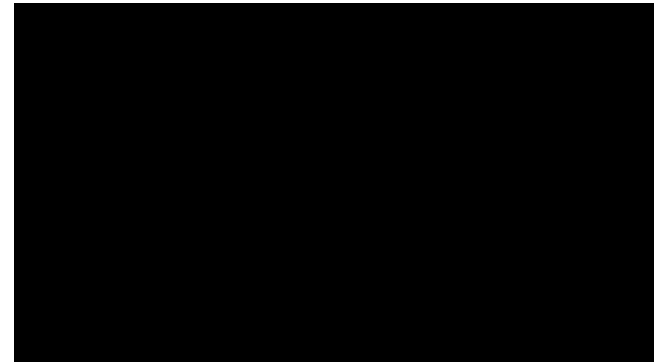
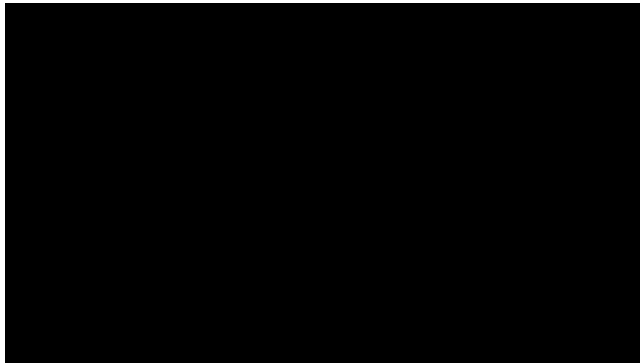
Machine-to-machine
communication and elimination
of human operation

Modularization/ Prefabrication

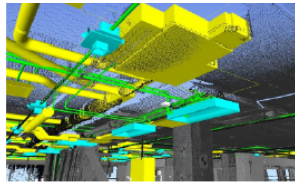
Off-site fabrication and kitting
services

Source: FMI

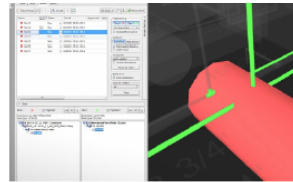
Evolution of the Industry – Methods



Evolution of the Industry – People



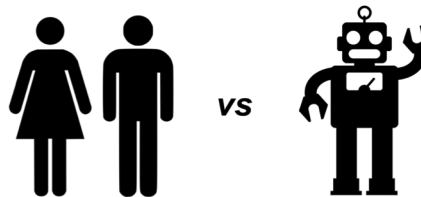
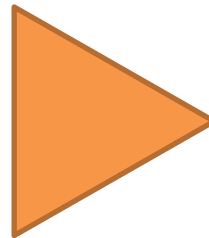
3D Laser Scanning



Clash Detection

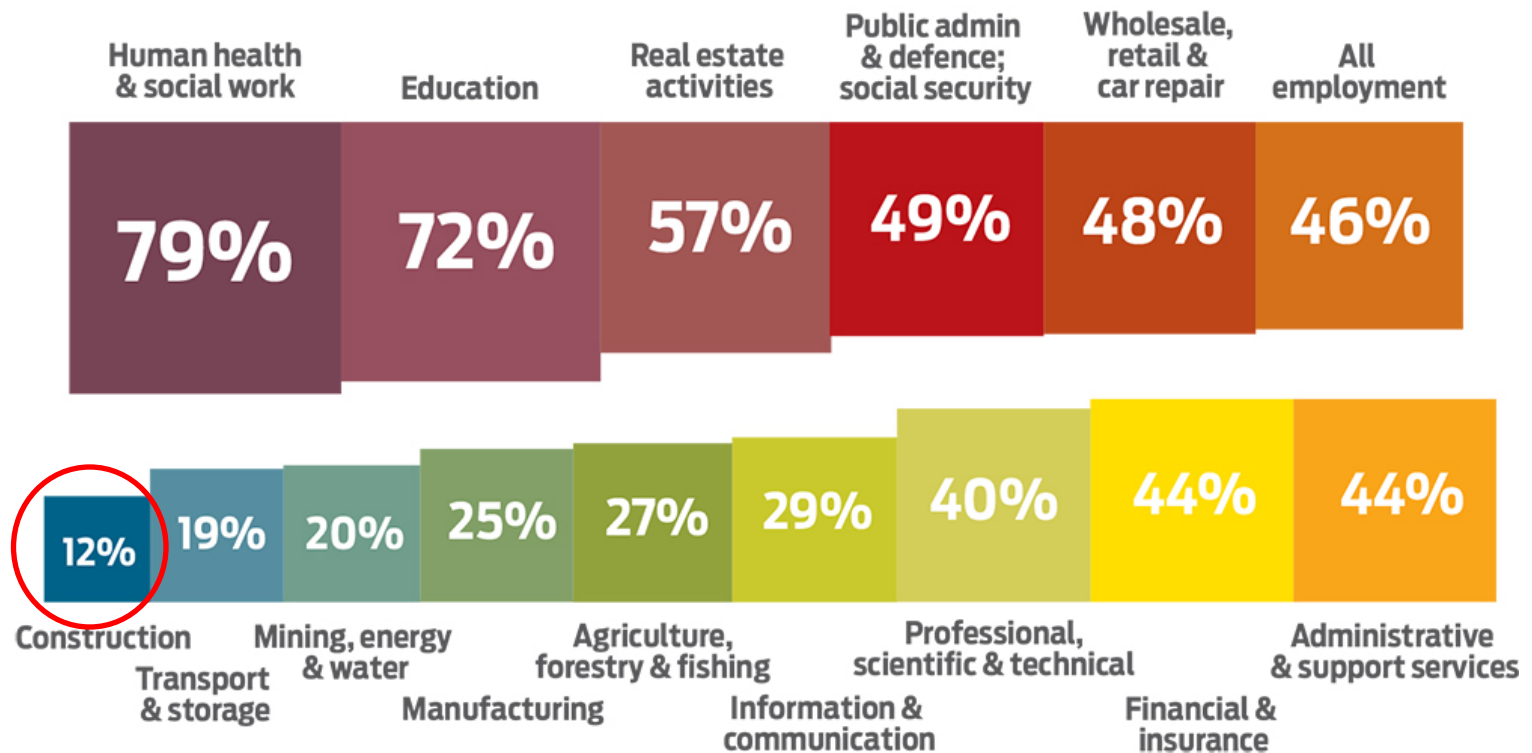


Robotic Layout



Evolution of the Industry - People

GENDER BALANCE BY SECTOR ONS DATA ON % OF WOMEN IN EACH INDUSTRY



The Business Case for Diversity

18. Employed persons by detailed industry, sex, race, and Hispanic or Latino ethnicity

18. Employed persons by detailed industry, sex, race, and Hispanic or Latino ethnicity

[Numbers in thousands]

Industry	2017					
	Total employed	Percent of total employed				
		Women	White	Black or African American	Asian	Hispanic or Latino
Total, 16 years and over	153,337	46.9	78.4	12.1	6.2	16.9
Construction	10,692	9.1	88.8	6.1	1.9	29.8
Support activities for agriculture and forestry	181	36.7	95.0	1.5	3.0	43.8
Mining, quarrying, and oil and gas extraction	748	12.5	87.7	5.6	2.6	18.6
Oil and gas extraction	87	12.8	85.2	9.1	5.4	13.9
Coal mining	49	-	-	-	-	-
Metal ore mining	35	-	-	-	-	-
Nonmetallic mineral mining and quarrying	95	10.7	91.2	5.0	0.7	9.9
Not specified type of mining	4	-	-	-	-	-
Support activities for mining	478	14.4	86.5	5.8	2.6	22.8
Construction	10,692	9.1	88.8	6.1	1.9	29.8

Diversity and Retention – The Good News



Kingspan Insulation @King... · 08 Mar ▾
Proudly celebrating
#internationalwomensday2018 and the
achievements of our 145 female
employees here in the UK!
#WomenInConstruction #IWD2018 ♀



💬 11 ❤️ 1



AGC Houston @AGCHoust... ·
Hard hat tip to all the women v
job sites. #wicweek2018
#womeninconstruction



❤️ 26



CEMEX USA @CEMEX_USA · 07 Mar ▾
Proud of the women of @CEMEX who
help us build a better future every day.
#womeninconstructionweek
#WomenInConstruction #WICW



💬 3 ↻ 17 ❤️ 61 ➦



HITT Contracting @twHITTr · 09 Mar ▾
As behavioral health remains a critical
part of our national dialogue, SVP Sara
Collins shares how we in healthcare
construction are aiding client efforts to
meet new regulatory requirements and
preserve patient safety. #WICweek2018
#womeninconstruction



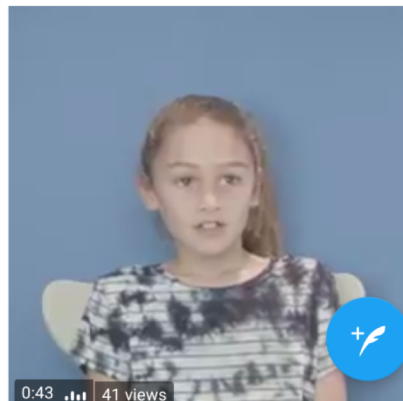
Addressing
Behavioral Health N...
hitt.com



DeAngelis Diamond
March 4th-10th is W
Construction Week!

Only 9% of U.S. cons
women. At DD, we a
of women in the cor
so we can #Change
the way for future
#WomenInConstruc

Katrina Doty, Project Engineer



0:43 41 views



Kimberley McGinty @Kim... · 08 Mar ▾
A great way to celebrate #IWD2018 ♀
with @VGCGroup women's network
nch. A brilliant turn out. We hope to
e inspired you all to do great things
ether #WomenSupportingWomen
omeninconstruction



↻ 1 ❤️ 8 ➦



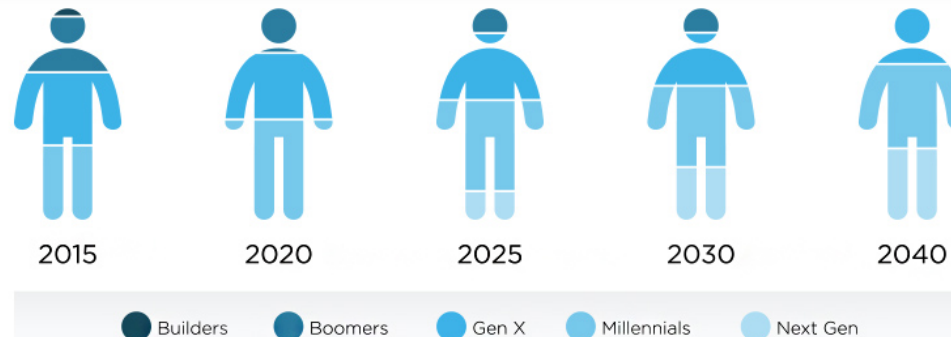
Calgary Construct Assn @C... · 08 Mar ▾
Women are already strong! It's about
changing the way the world perceives
that strength. -G.D. Anderson
#WomenInConstruction
#InternationalWomensDay ♀ - at
Calgary Construction Centre



💬 17 ❤️ 40 ➦

Generational Diversity

The multigenerational workforce



1 Anticipate

Look ahead to make sure your business is ready for generational changes.

2 Innovate

Don't wait for a crisis to address evolving needs. Experiment with new strategies and ways of working.

3 Adapt

Keep iterating. Your workforce won't stop changing. If you get stuck in the past, they'll move on.

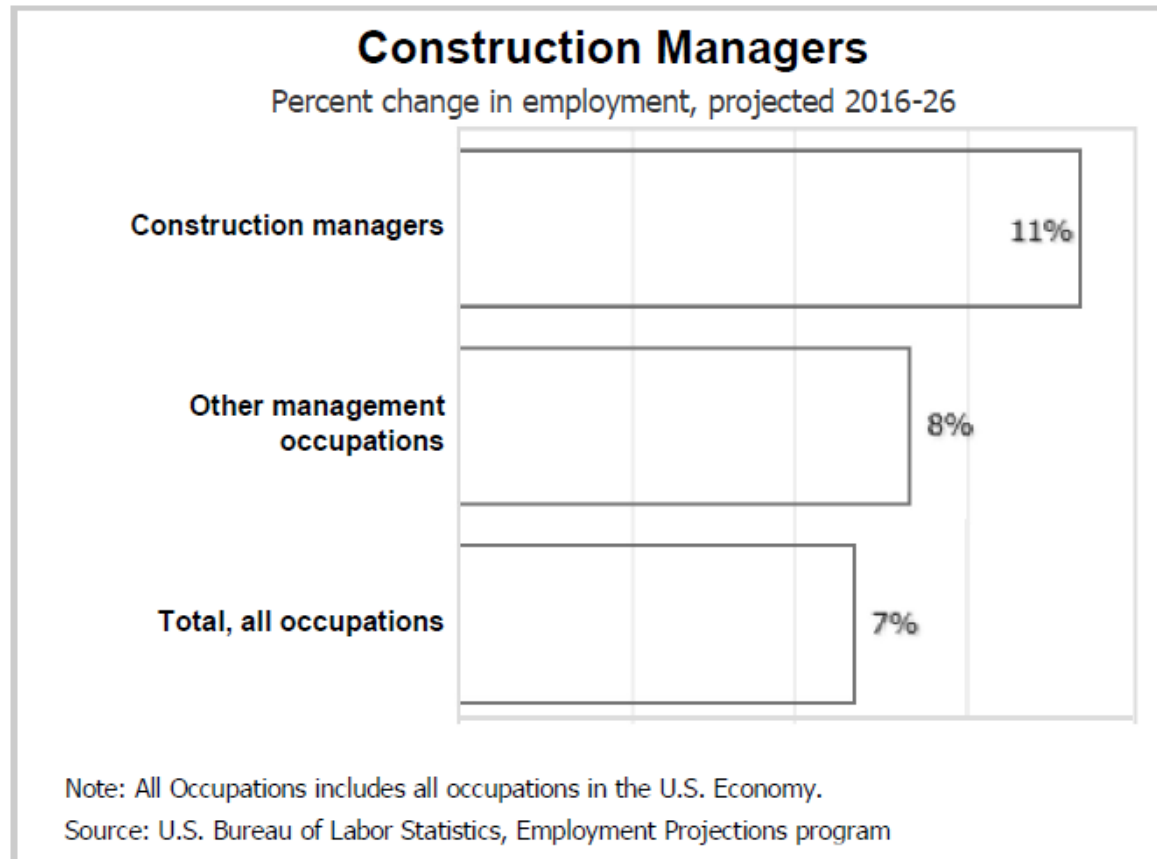
Source: U.S. Census Bureau, 2015

Factors Affecting Construction Industry Employment

- Continued growth in market
- New skill sets required of managers
- Trade labor shortage
- Awareness of construction management as a professional occupation

What do Project Managers Expect From Employers?

Plentiful opportunities exist in construction project management nationwide...

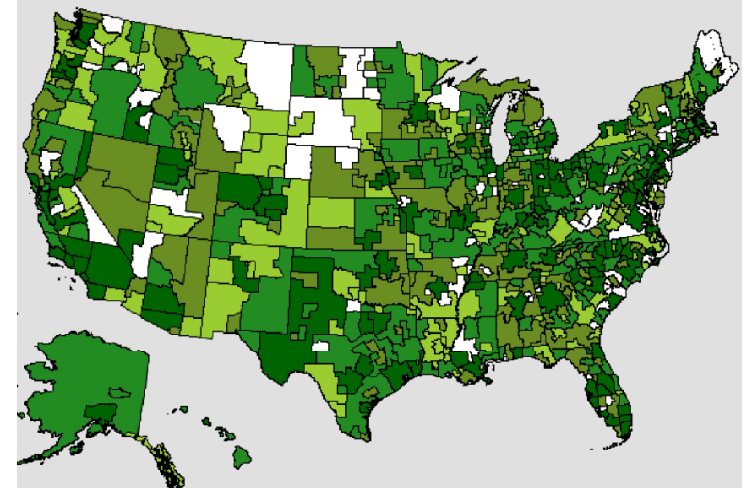


...with metro DC area paying among the highest salaries.

Metropolitan areas with the highest employment level in this occupation:

Metropolitan area	Employment (1)	Employment per thousand jobs	Location quotient (9)	Hourly mean wage	Annual mean wage (2)
New York-Jersey City-White Plains, NY-NJ Metropolitan Division	9,940	1.51	0.85	\$63.95	\$133,020
Houston-The Woodlands-Sugar Land, TX	9,280	3.16	1.78	\$49.59	\$103,150
Los Angeles-Long Beach-Glendale, CA Metropolitan Division	6,460	1.53	0.86	\$43.66	\$90,800
Chicago-Naperville-Arlington Heights, IL Metropolitan Division	5,810	1.60	0.90	\$50.17	\$104,350
Dallas-Plano-Irving, TX Metropolitan Division	5,320	2.19	1.23	\$44.77	\$93,120
Phoenix-Mesa-Scottsdale, AZ	4,720	2.44	1.37	\$41.58	\$86,490
Anaheim-Santa Ana-Irvine, CA Metropolitan Division	4,680	3.00	1.68	\$54.91	\$114,210
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Division	4,240	1.70	0.96	\$54.04	\$112,410
Seattle-Bellevue-Everett, WA Metropolitan Division	4,200	2.64	1.49	\$47.03	\$97,830
Atlanta-Sandy Springs-Roswell, GA	4,190	1.64	0.92	\$51.57	\$107,260

Employment of construction managers, by area, May 2016



Employment

30 - 70 80 - 140
150 - 390 400 - 13,350

Blank areas indicate data not available.

Employee Expectations – Benefits



Flexible Hours



Telecommuting Option



Employee Expectations – Environment / Culture



Pay Transparency



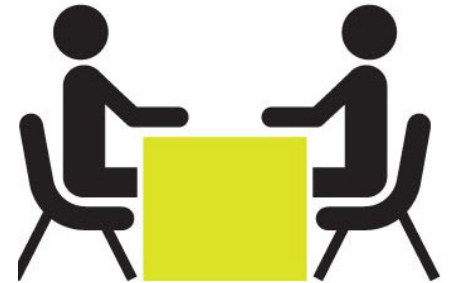
Pay Parity



Recognition

Which employer will best fit your priorities?

- Ask the right questions
- Ask the right people
- Do not rely entirely on social media
- Match what's important to you with what the company values
- Your values = company values



What Employers Expect From Employees

Project Manager Skills Needed for the New Economy

- Innovative thinking
- Systems integration savvy
- Ability to adapt to new technology
- Passion for building things

Expectations for Project Manager



Skills and Experiences You Need – The Real Story



Don't Underestimate the Value of Soft Skills



Don't Underestimate the Value of Soft Skills



Bottom Line: Effective Communication Matters



Alphabet Soup: Education, Skills, and Certifications

Educational Achievements

- Trade apprenticeship and/or field experience
- Military service / achievements
- Internship / externship
- Construction management degree(AD, BS or BA)
- Architecture degree (BA)
- Engineering degree (BS)
- Other AD, BS or BA
- Graduate degree (MS)
- Graduate business degree (MBA, EMBA)

Certifications / Pros & Cons

What's Meaningful to You; What's Relevant to Your Career?

- EIT/FE
- PE
- PMP
- CCM
- OSHA-10
- OSHA-30
- STS
- CLD
- LEED
- WELL

Thank You!

