

Benchmarking Project Management Staffing and Productivity

Results from EAB's Survey of the Project Management Office in Higher Education

Facilities Forum

3 Ways to Use This Report

- Compare your project management function against higher education benchmarks
- Learn about the future of project management activities and structures
- Identify areas for additional investment of project management staff or resources

Facilities Forum

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Executive Summary

Overview of Project

Higher Education Project Management Facing Significant Challenges

Project management (PM) is an essential component of capital construction and renewal work. However, a variety of factors—an expanding pipeline of projects, growing project costs, increasing project complexity, and reduced campus resources—have strained the capacity of higher education project managers to deliver on-time, on-budget performance. Therefore, leaders must improve the effectiveness and efficiency of their project management functions to meet their campuses' needs.

Benchmarks Critical to Maximizing Project Management Function Efficiency

Two critical components of improved deployment of limited project management resources and talent are trustworthy data and benchmarking. However, few project management industry surveys separate education data or provide comparative data across software platforms and campus environments. This lack of higher education- and Facilities-specific project management data has resulted in institutions' use of informal observations and unverified trends to drive major decisions in project management structure and investment.

2018 Survey Provides Detailed Information on Most Critical Project Management Statistics

To provide reliable higher education-specific project management benchmarks for institutions to reference, EAB deployed a survey of the project management function in 2018. The following report provides national benchmarks on critical project management statistics, including project delivery, staffing, technological investment, structure, and funding. Thanks to the responses of 36 partner institutions, this report offers overall benchmarks, as well as graphical displays, quartile ranks, and data cuts between public and private institutions.

Executive Summary

Survey Design and Research Definitions

Data Collection and Presentation

EAB collected data for this benchmark report from 36 North American higher education institutions during the fall of 2018. Participating institutions represent colleges and universities of varying sizes, locations, and type. *For more information about participant demographics, please see page 10.*

This report defines project management as the function that oversees new capital construction, major capital renewal, and smaller Facilities projects on higher education campuses. The report provides overall project management staffing and productivity benchmarks, including detailed tabular results, quartile rankings, and data cuts between public and private institutions. In some instances, sample sizes for data cuts are relatively small. Leaders should consider results with smaller sample sizes only as guidelines because they may not necessarily reflect national results.

Survey Design and Deployment

The 2018 Project Management Survey contained 45 questions across six categories:

- Demographic information
- Project management definitions
- Project management structure
- Projects delivered
- Project managers
- Project management tools

Questions were designed in consultation with feedback from senior Facilities officers, project management directors, and industry experts at various institutions and organizations. Some questions were made available to participants based on their responses to previous questions in the survey.

Participants were asked to provide data on their projects delivered from January 1, 2017, to December 31, 2017. The complete survey is available at the end of this report.

Executive Summary

Survey Design and Research Definitions

Research Definitions

Project management function: All project management staff who report through Facilities. It does not include project management staff who reside in and report through individual academic units or non-Facilities departments.

Capital projects: Larger Facilities efforts that require substantial funds, approvals, and planning.

New construction: A type of project that involves the planning, design, and construction of from-scratch space on campus.

Major renovation: A type of capital project that involves the planning, design, and renovation of existing spaces on campus (from a single space to an entire floor up to an entire building). May also be described as capital renewal.

Smaller projects: Facilities work that requires less funding, approvals, and/or planning than capital projects. Most institutions have a dollar amount threshold (either formal or informal) that separates smaller projects from major renovation or new construction capital projects. Participants were asked to self-report this number as part of their data; the average of these results was \$1.2 million.

Full-time equivalent (FTE): The number of hours worked by one employee on a full-time basis (for most institutions, 40 hours a week). This is used to calculate accurate staffing and workload amounts when employees may perform multiple roles. For example, two half-time project management employees (i.e., 20 hours each) would sum to one project management FTE.

Support staff: Individuals who work more 50% of their time in the project management function but who are not project managers, designers, engineers, or architects.

Key Takeaways from Project Management Survey

1. Despite Evolving Approaches, Project Delivery Methods Remain Conservative.

While newer delivery models such as public-private partnerships and integrated project delivery have received significant press, the vast majority of projects are still delivered using design-bid-build (59.5% of projects) or construction manager/general contractor (34.9%). *For more information, please see page 15.*

2. Change Order Spending Seems to Depend on Thresholds.

Institutions report a median of 10 change orders per project. As well, across all percentiles the average ratio of percentage of project budget spent versus set aside for change orders remains relatively consistent. This suggests that some institutions may be allowing for unnecessary change orders due to high change order resource allocations. *For more information, please see page 15.*

3. Campus Budget and Footprint Are Better Predictors of Staffing Than Projects Delivered.

There is a positive correlation between both larger operating budget and larger campus footprint with increased project management FTEs. However, the correlation between number of projects delivered and project management FTEs is much weaker. This is most evident with capital projects, as some institutions delivered 8-10 times more capital projects compared to similarly staffed campuses. *For more information, see page 16.*

4. Project Management Delivers a Significant Number of Capital and Smaller Projects.

As campuses continue to grow and age, the number of projects that project management delivers remains substantial. The median number of capital projects delivered by an institution in 2017 was nine, costing \$44 million and impacting 235,000 gross square feet on campus. The median number of smaller projects delivered by an institution in the same period was 130. *For more information, please see page 18.*

5. Higher Education Project Managers Are Older, More Senior Than Industry Averages.

It has long been observed that higher education tends to employ veteran project managers who have significant experience in the private sector. Results from the survey confirm this observation. Project managers working in higher education are four years older on average than project managers in US industries (47 years vs. 43 years). These project managers also tend to be senior (30%) rather than entry-level (17%) and have 10 or more years of experience (70%). *For more information, please see page 23.*

6. Project Managers Perform a Variety of Lower-Skill Tasks.

Project managers are essential for ensuring the strategic and customer-facing activity of a project are performed but can be prevented from doing so due to administrative and lower-skill work. The survey found that most institutions have the majority of all project managers creating and completing forms (71%), reviewing systems (50%), and procuring furniture (45%). Offloading tasks like these to dedicated specialists, support staff, or student interns can create capacity for project management-specific activities. *For more information, please see page 23.*

Key Takeaways from Project Management Survey

7. Project Management Workloads Vary Significantly by Institution.

There is significant deviation in project management workload based on staffing and institutional size. Institutions at the 25th percentile have 0.3 capital projects per project manager, consisting of \$2.02 million in portfolio. Institutions at the 75th percentile have 2.8 capital projects per project manager, consisting of \$14.02 million in portfolio. For smaller projects, the project management workload interquartile range (25th to 75th percentile) spans from 5 to 19. *For more information, please see page 24.*

8. Capital Project Workloads Decrease as Project Management FTEs Increase.

Institutions with more project managers tend to have smaller capital project workloads. While theoretically capital project workload should remain constant as institutions hire more project managers to meet rising need, a variety of factors—including long recruitment cycles, increased project complexity, and growing amounts of smaller projects—instead decrease effectiveness. While the smaller project pipeline impacts this correlation, the magnitude of the effect is less on smaller project workloads as staffing increases. *For more information, see page 24.*

9. Among Institutions, There Is No Consensus on Assignment of Projects to Managers.

Institutions use a variety of overlapping methods to assign projects to project managers. This includes assigning projects by unit (25% of institutions), by space type (33% of institutions), and by project type (44%, e.g., utilities or infrastructure projects). Nevertheless, 81% of institutions assign at least some projects by availability of project managers, which may lead to decreased customer satisfaction and increased project risk. (Note that the sum of results is greater than 100% as institutions may use multiple assignment methods simultaneously.) *For more information, please see page 26.*

10. Institutions Have Largely Completed Centralizing Project Management Functions.

86% of institutions have all project managers report to a single Facilities executive. As well, 75% of institutions do not use contracted project managers, and those that do have them working on a small proportion of projects. This centralization of in-house staff, a transition that occurred over the last decade, has helped many institutions complete more projects with fewer resources. *For more information, please see page 28.*

11. Institutions Are Divided on Approach to Project Management Technology Systems.

While 61% of institutions use a vendor platform instead of homegrown software to oversee projects, there is no consensus among institutions on preferred vendors. 22% of institutions use their computerized maintenance management systems (CMMS) project management module. 39% use an independent project management software, with the majority of them deploying eBuilder. *For more information, please see page 29.*

12. Among Institutions, No Consensus on Project Management Funding Models.

While 27.7% of institutions fund project management through a central allocation, the use of single rate fees and banded rate fees (or some combination of the three) is also common. *For more information, please see page 29.*



Project Management Data and Benchmarks

SECTION

1

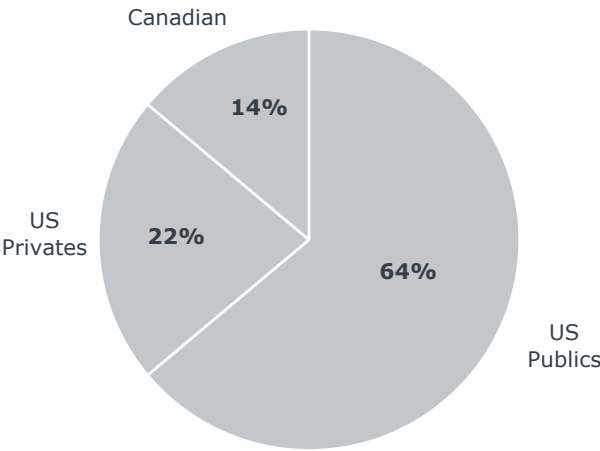
- Respondent Demographics
- Project Delivery
- Project Managers
- Project Management Offices

Respondent Demographics

Cohort Benchmarks

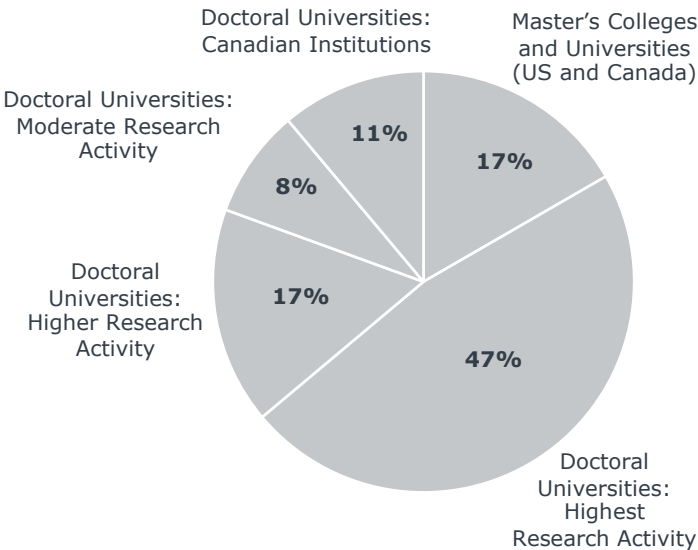
Institutional Type

n=36



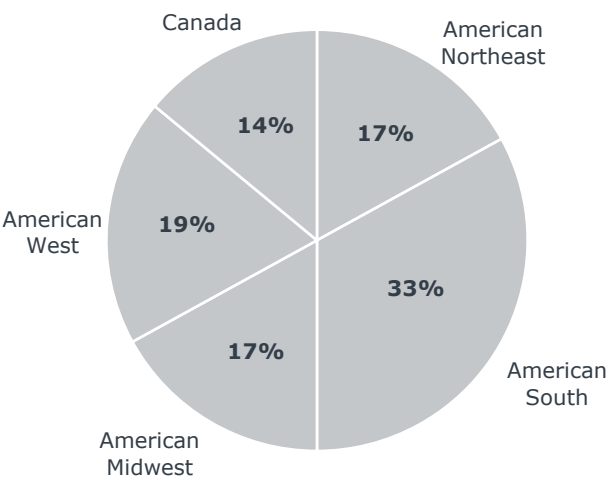
Carnegie Classification

n=36



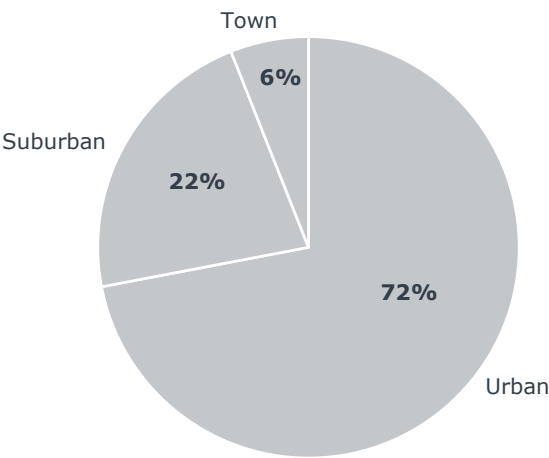
Regional Distribution¹

n=36



Campus Setting Distribution²

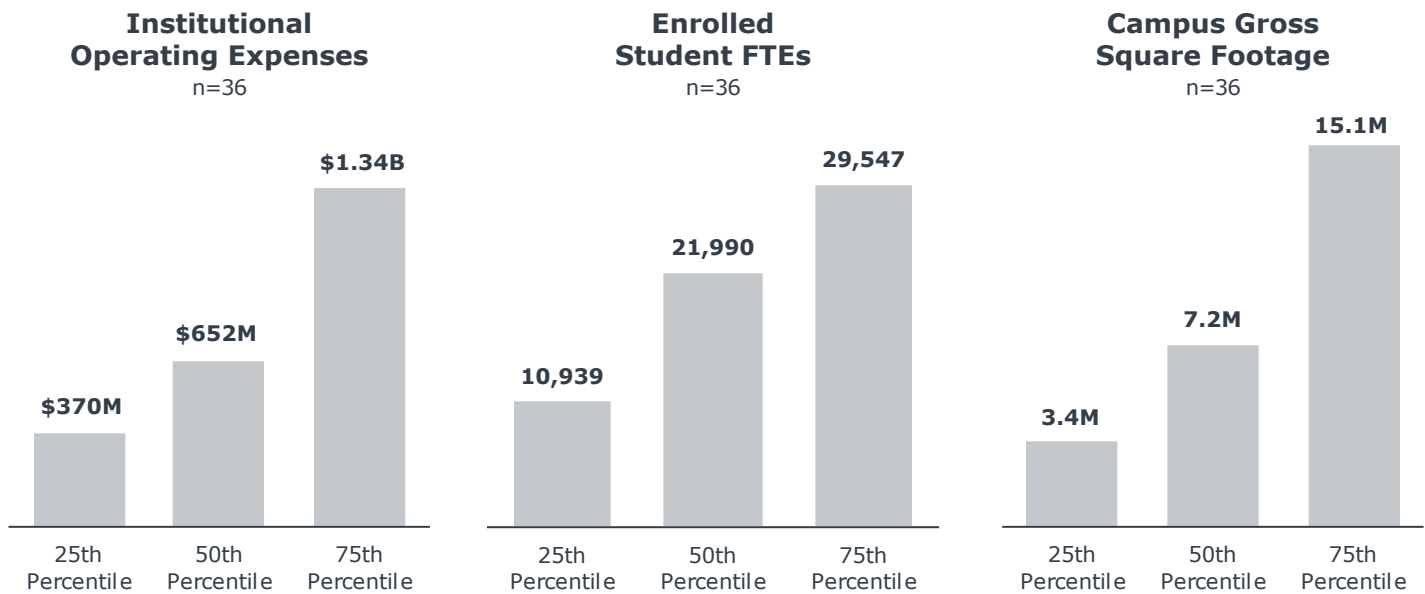
n=36



1) Regions as defined by the US Census Bureau.
2) Data from IPEDS; Canadian institutions sorted by EAB based on IPEDS criteria.
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Respondent Demographics

Cohort Benchmarks



Respondent Demographics

Detailed Report

		Entire Cohort	Public Institutions	Private Institutions
Institutional Operating Expenses	<i>n</i>	36	28	8
	25 th Percentile	\$369,615,250	\$363,306,750	\$465,781,000
	50 th Percentile	\$652,040,000	\$597,322,000	\$693,026,500
	75 th Percentile	\$1,343,909,000	\$1,343,909,000	\$1,338,211,750
Enrolled Student FTE	<i>n</i>	36	28	8
	25 th Percentile	10,939	13,393	9,438
	50 th Percentile	21,990	23,365	11,852
	75 th Percentile	29,547	31,693	19,032
Campus Gross Square Footage (GSF)	<i>n</i>	36	28	8
	25 th Percentile	3,425,000	3,426,505	3,125,000
	50 th Percentile	7,200,000	7,796,026	6,050,000
	75 th Percentile	15,062,500	15,709,750	12,200,000

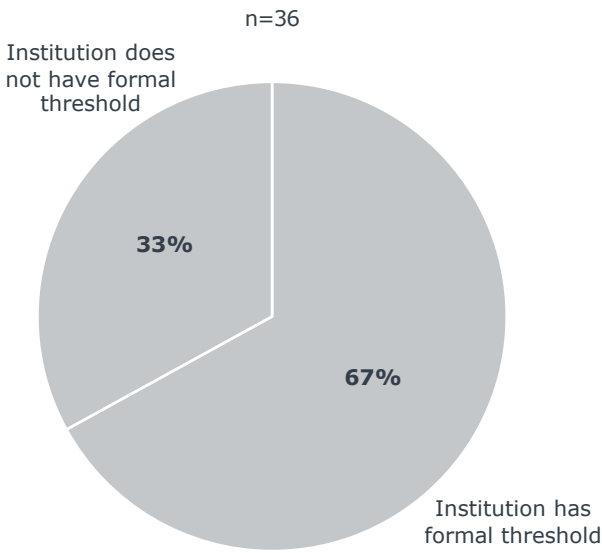
Source: EAB Project Management Survey, 2018; EAB interviews and analysis.

Project Delivery

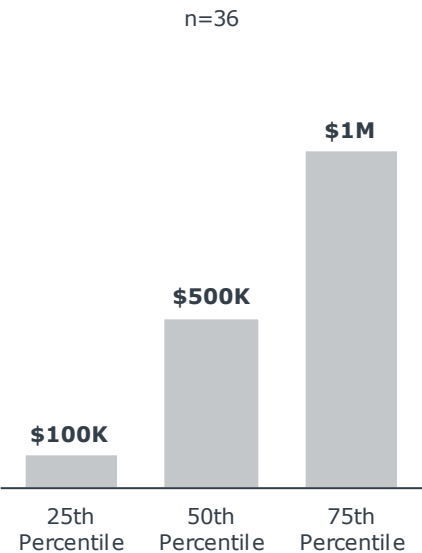
Cohort Benchmarks

Distinguishing Project Type

Formalization of Threshold Between Capital and Smaller Projects

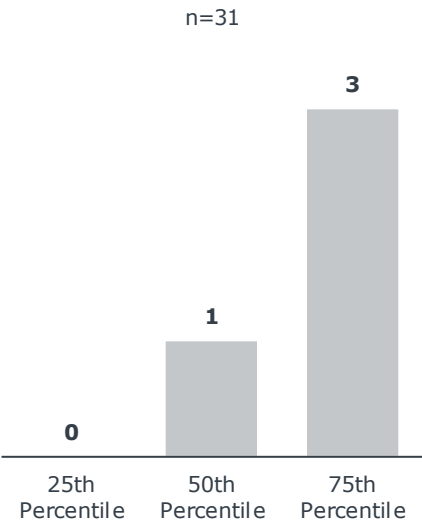


Threshold Amount Between Capital and Smaller Projects

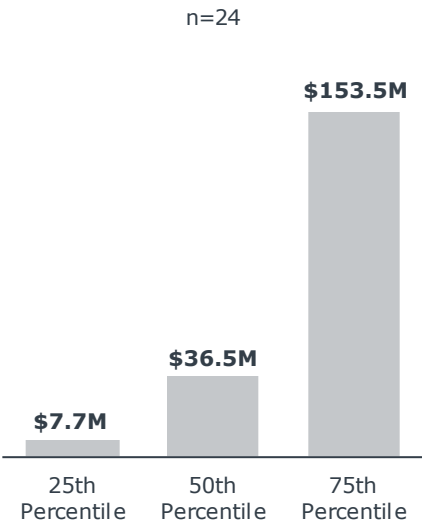


New Construction

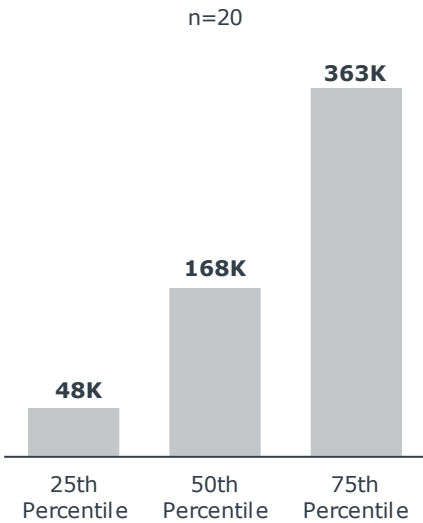
Number of Projects



Dollars Spent



GSF¹ Impacted

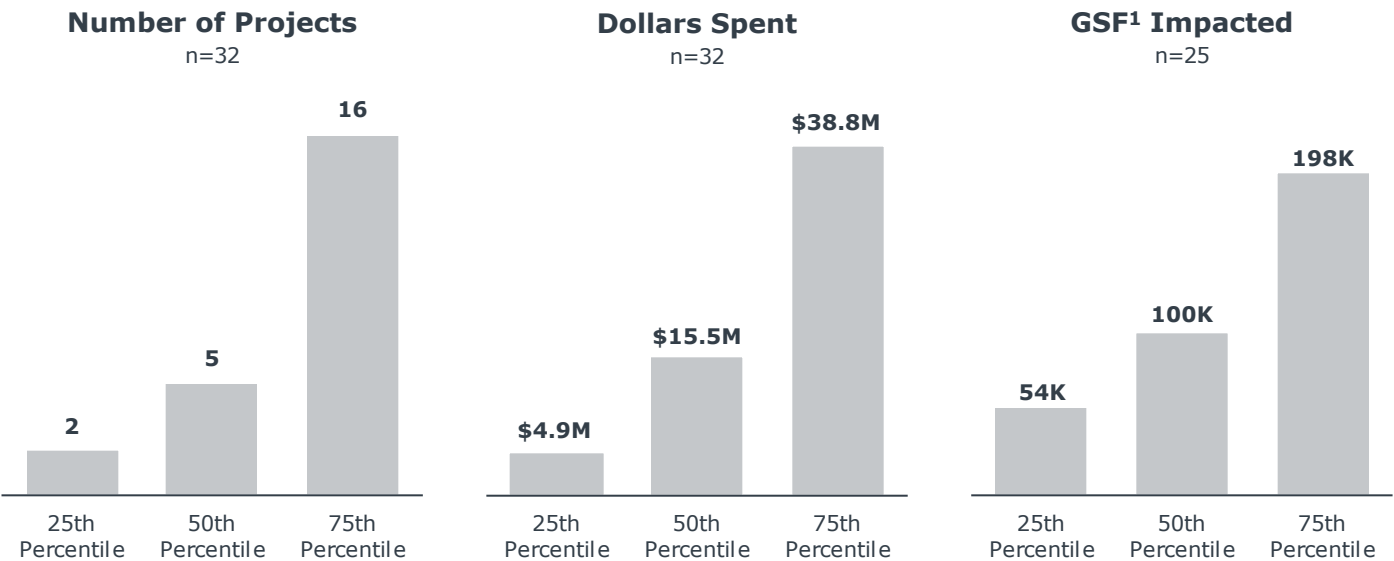


1) Gross square footage.

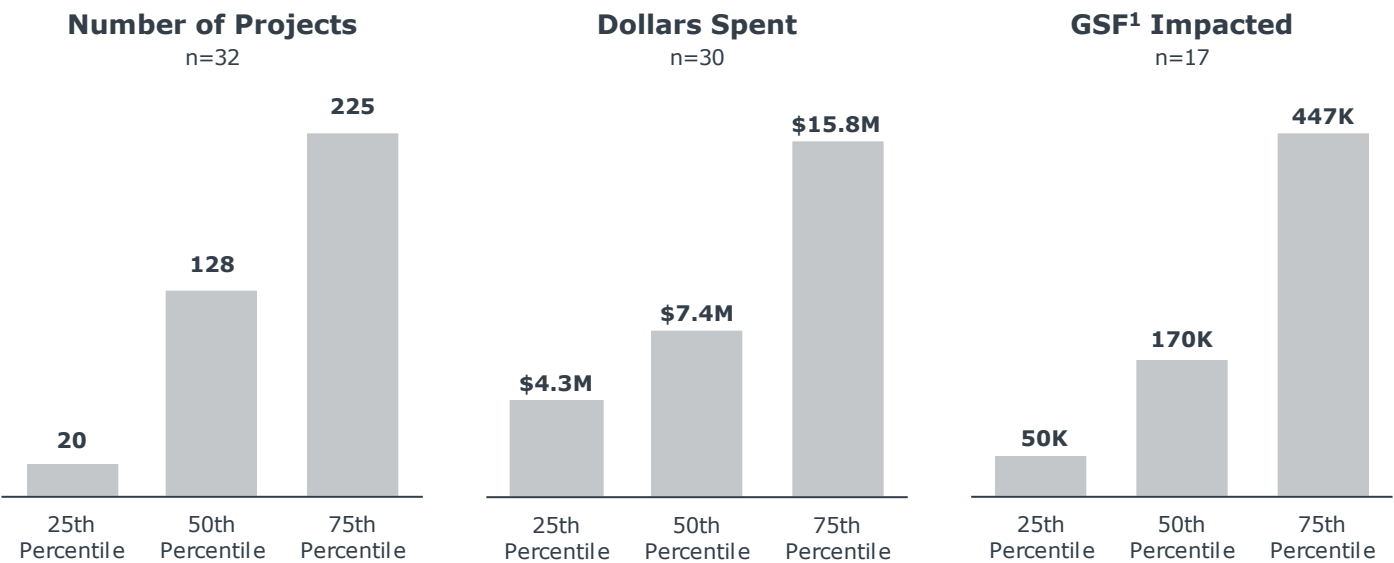
Project Delivery

Cohort Benchmarks

Major Renovation



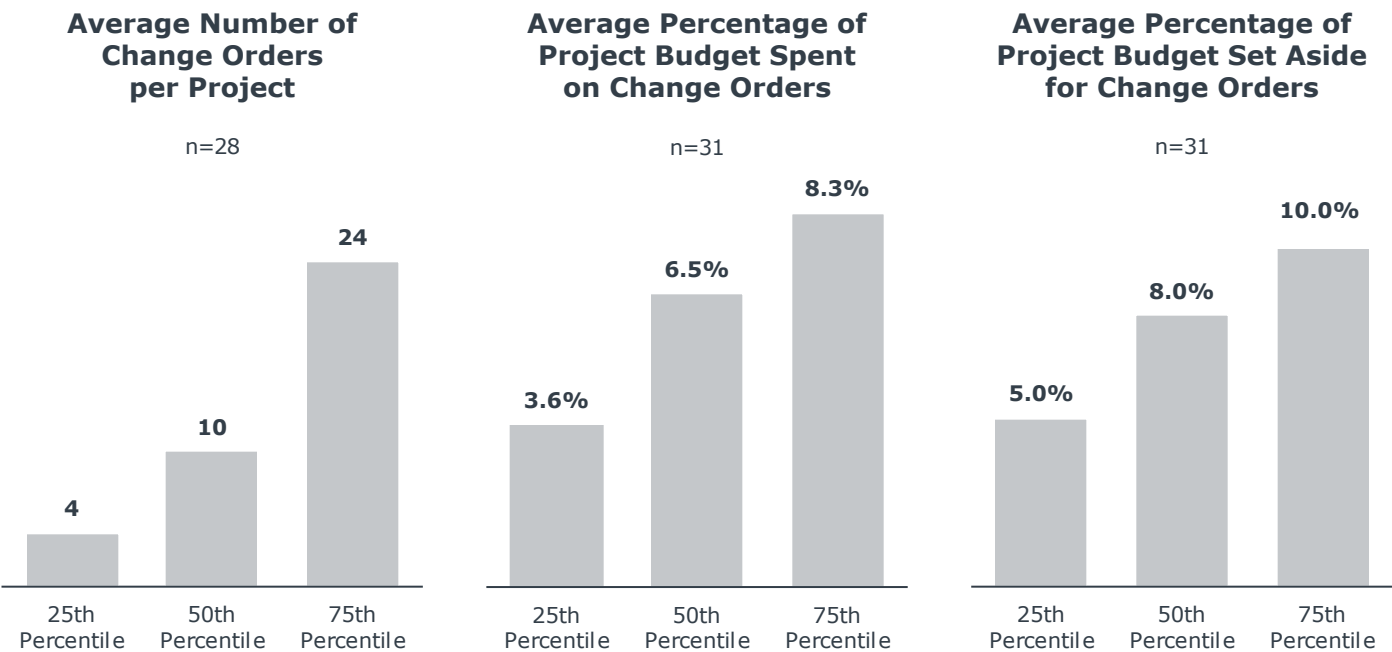
Smaller Projects



Project Delivery

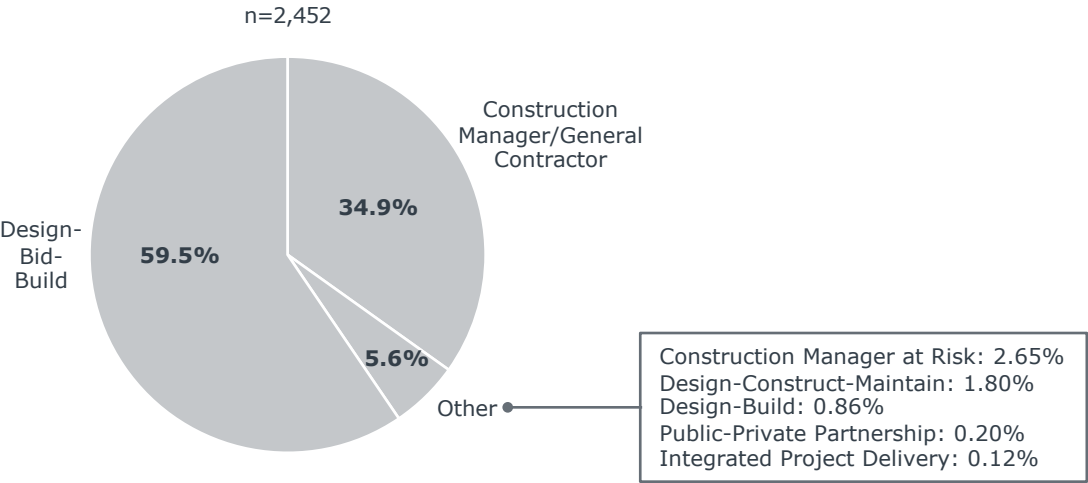
Cohort Benchmarks

Change Orders



Delivery Methods

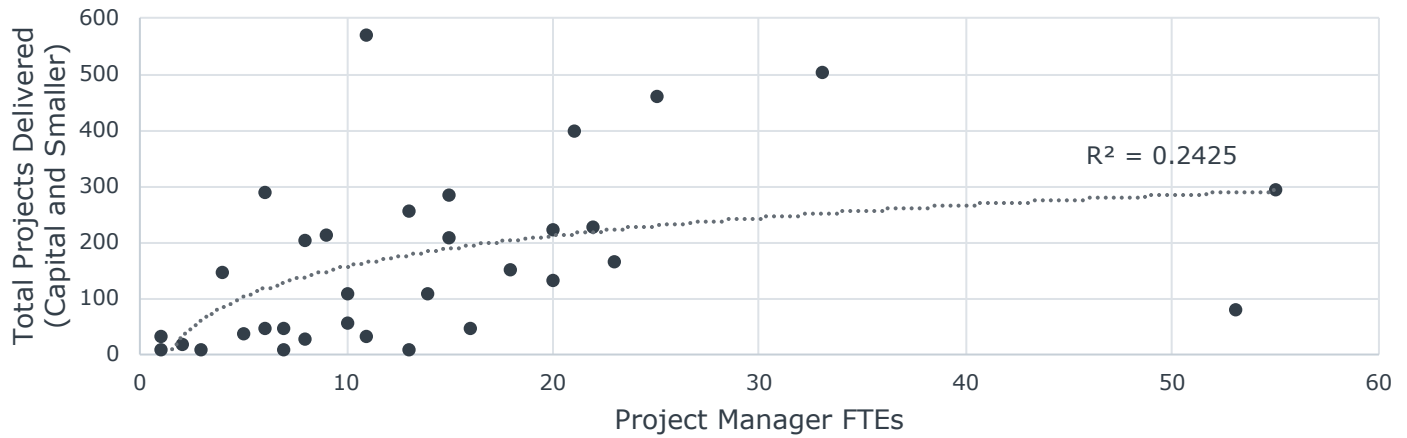
Delivery Method of Reported Projects



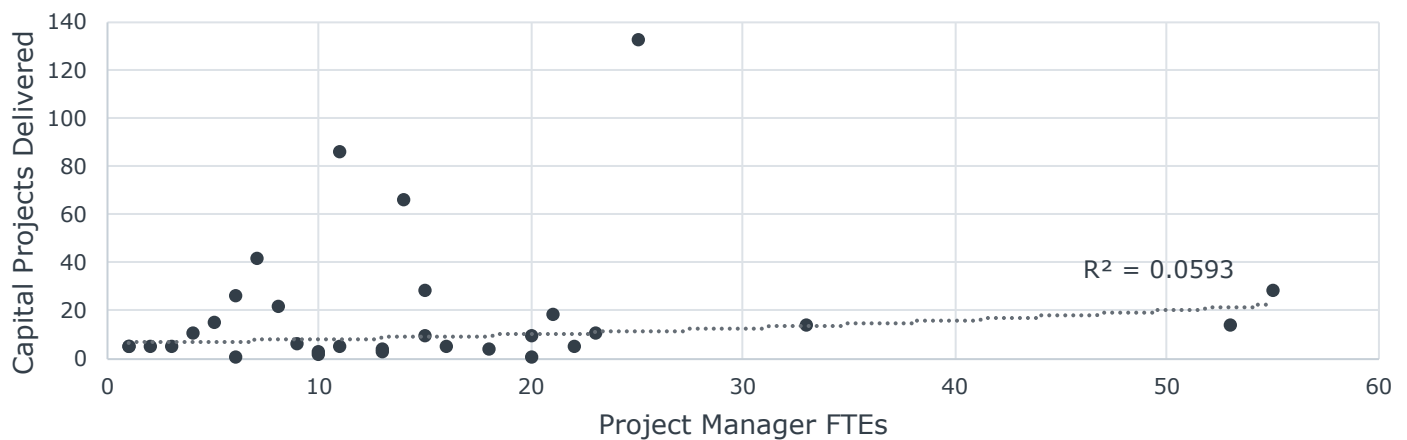
Project Delivery

Comparative Analysis

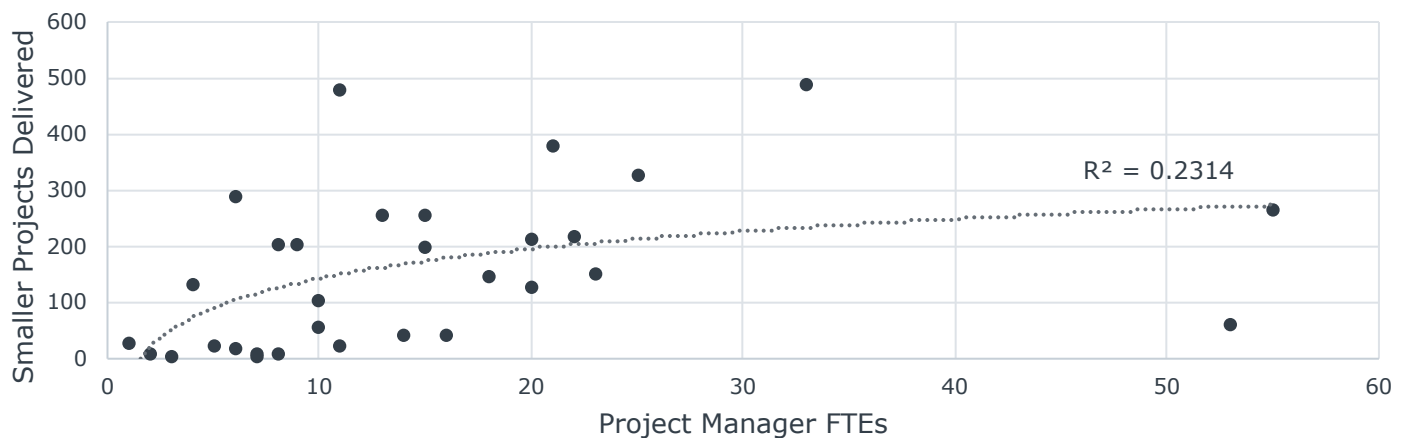
Project Management FTE Versus Total Projects Delivered (Capital and Smaller Combined)



Project Management FTE Versus Capital Projects Delivered



Project Management FTE Versus Smaller Projects Delivered

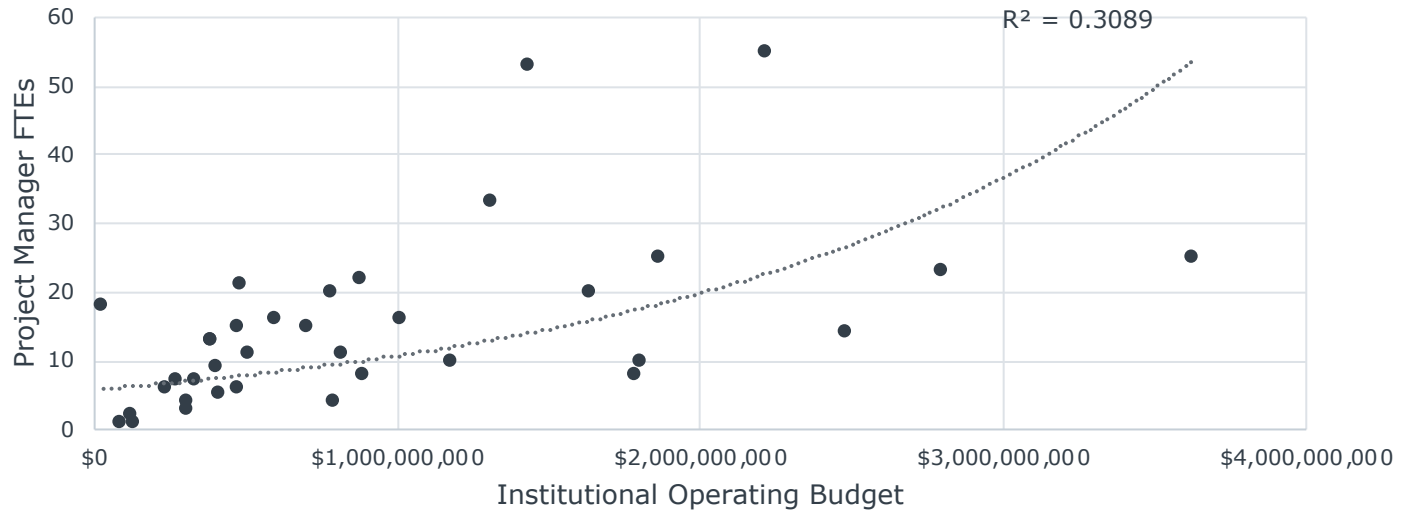


Source: EAB Project Management Survey, 2018; EAB interviews and analysis.

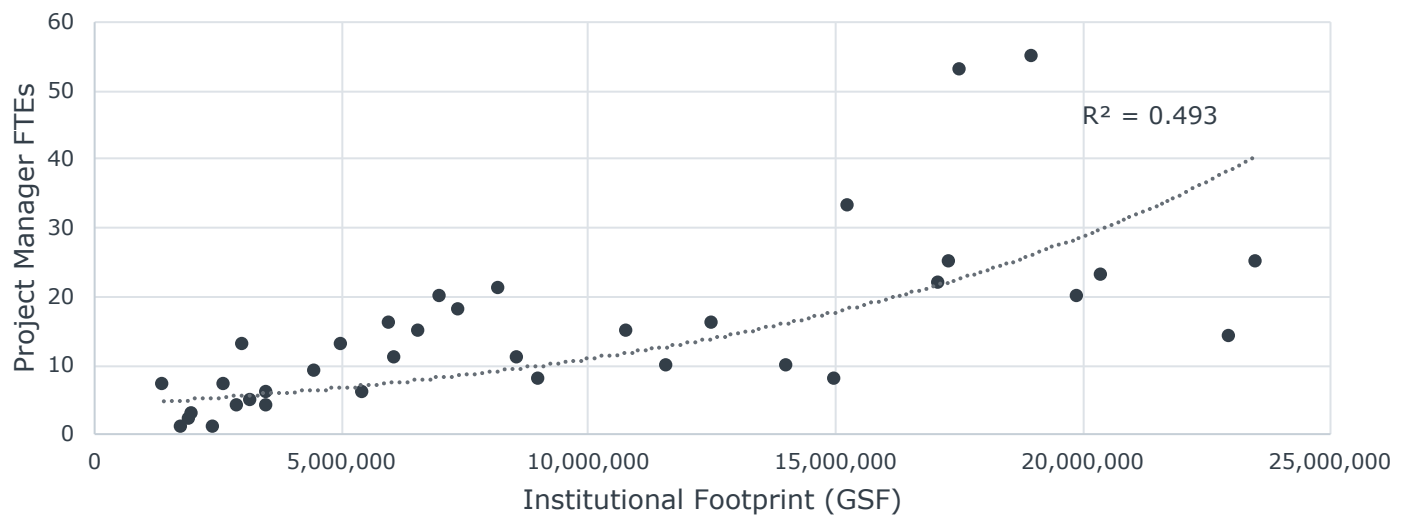
Project Delivery

Comparative Analysis

Operating Dollars Versus Project Management FTE



GSF¹ Versus Project Management FTE



1) Gross square footage.

Source: EAB Project Management Survey, 2018; EAB interviews and analysis.

Project Delivery

Detailed Report

		Entire Cohort	Public Institutions	Private Institutions
Number of Capital Projects (New Construction and Major Renovation)	<i>n</i>	31	24	7
	25 th Percentile	5	5	4
	50 th Percentile	9	9	5
	75 th Percentile	20	16	64
Dollars Spent on Capital Projects (New Construction and Major Renovation)	<i>n</i>	31	24	7
	25 th Percentile	\$12,588,659	\$13,294,329	\$15,025,000
	50 th Percentile	\$42,000,000	\$38,200,000	\$50,799,585
	75 th Percentile	\$106,911,762	\$95,055,881	\$104,000,000
GSF ¹ Impacted by Capital Projects (New Construction and Major Renovation)	<i>n</i>	27	20	7
	25 th Percentile	129,550	137,775	102,500
	50 th Percentile	234,545	242,273	198,000
	75 th Percentile	421,813	446,296	351,842
Number of New Construction Projects	<i>n</i>	31	24	7
	25 th Percentile	0	0	1
	50 th Percentile	1	2	1
	75 th Percentile	3	3	2
Dollars Spent on New Construction Projects	<i>n</i>	24	19	5
	25 th Percentile	\$7,700,000	\$6,400,000	\$18,500,000
	50 th Percentile	\$36,473,241	\$32,000,000	\$40,946,482
	75 th Percentile	\$153,521,553	\$159,847,702	\$118,000,000

1) Gross square footage.

Source: EAB Project Management Survey, 2018; EAB interviews and analysis.

Project Delivery

Detailed Report

		Entire Cohort	Public Institutions	Private Institutions
GSF Impacted by New Construction Projects	<i>n</i>	20	15	5
	25 th Percentile	48,039	61,128	50,000
	50 th Percentile	167,750	140,000	195,000
	75 th Percentile	362,500	400,000	237,334
Number of Major Renovation Projects	<i>n</i>	32	25	7
	25 th Percentile	2	2	3
	50 th Percentile	5	6	3
	75 th Percentile	16	14	63
Dollars Spent on Major Renovation Projects	<i>n</i>	32	25	7
	25 th Percentile	\$4,875,000	\$7,500,000	\$4,475,000
	50 th Percentile	\$15,493,444	\$15,986,888	\$9,853,103
	75 th Percentile	\$38,775,600	\$37,000,800	\$45,000,000
GSF Impacted by Major Renovation Projects	<i>n</i>	25	18	7
	25 th Percentile	54,239	55,404	48,675
	50 th Percentile	100,000	90,184	100,000
	75 th Percentile	198,000	210,000	161,500
Number of Smaller Projects	<i>n</i>	32	25	7
	25 th Percentile	20	21	20
	50 th Percentile	128	144	50
	75 th Percentile	225	216	213

Source: EAB Project Management Survey, 2018; EAB interviews and analysis.

Project Delivery

Detailed Report

		Entire Cohort	Public Institutions	Private Institutions
Dollars Spent on Smaller Projects	<i>n</i>	30	23	7
	25 th Percentile	\$4,250,000	\$5,447,422	\$2,620,000
	50 th Percentile	\$7,383,816	\$10,000,000	5,000,000
	75 th Percentile	\$15,789,000	\$18,056,000	\$7,155,768
GSF Impacted by Smaller Projects	<i>n</i>	17	11	6
	25 th Percentile	50,000	36,000	81,250
	50 th Percentile	169,500	169,500	152,046
	75 th Percentile	447,000	457,769	379,909
Average Number of Change Orders per Project	<i>n</i>	28	21	7
	25 th Percentile	4	3	5
	50 th Percentile	10	12	6
	75 th Percentile	24	30	10
Average Percentage of Budget Spent on Change Orders per Project	<i>n</i>	31	23	8
	25 th Percentile	3.6%	3.6%	3.0%
	50 th Percentile	6.5%	7.5%	4.4%
	75 th Percentile	8.3%	8.8%	6.2%
Average Percentage of Budget Allocated for Change Orders per Project	<i>n</i>	31	23	8
	25 th Percentile	5.0%	5%	6.3%
	50 th Percentile	8.0%	8%	10%
	75 th Percentile	10.0%	10%	10%

Source: EAB Project Management Survey, 2018; EAB interviews and analysis.

Project Delivery

Detailed Report

		Entire Cohort	Public Institutions	Private Institutions
Number of Projects Delivered Using the Described Method	<i>n</i> ¹	2,452	1,837	615
	Design-Bid-Build	1,459	1,040	419
	Construction Manager/General Contractor	855	681	174
	Construction Manager at Risk	65	50	15
	Design-Construct-Maintain	44	44	0
	Design-Build	21	17	4
	Public-Private Partnership	5	5	0
	Integrated Project Delivery	3	0	3

1) Total number of projects reported with delivery method per category.

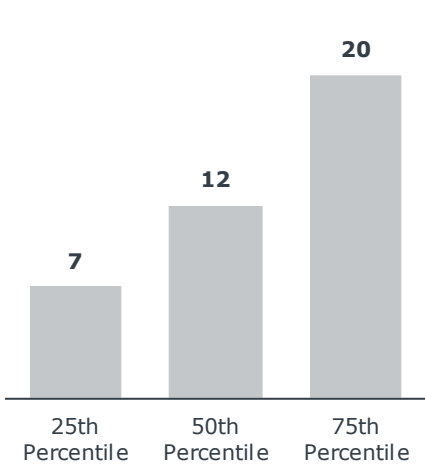
Source: EAB Project Management Survey, 2018; EAB interviews and analysis.

Project Managers

Cohort Benchmarks

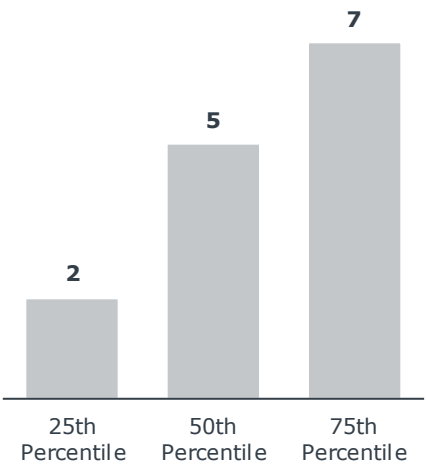
Number of Project Managers

n=36



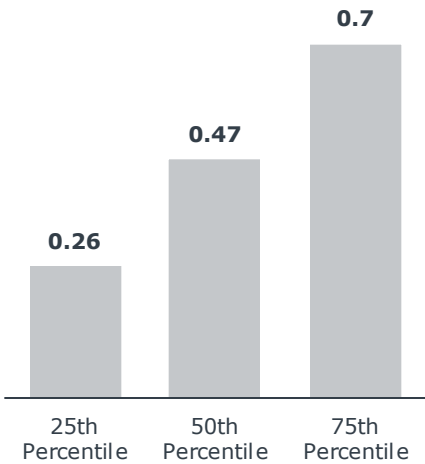
Number of Project Management Support Staff

n=36



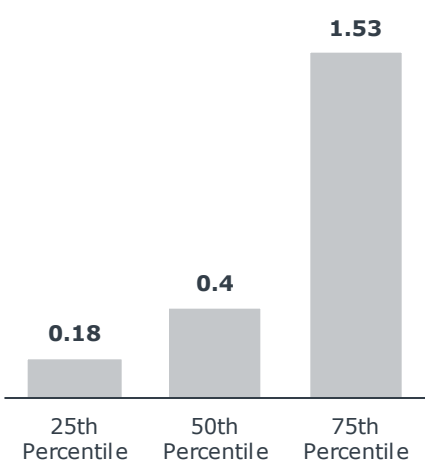
Support Staff per Project Manager

n=36



Support Staff per Capital Project

n=31



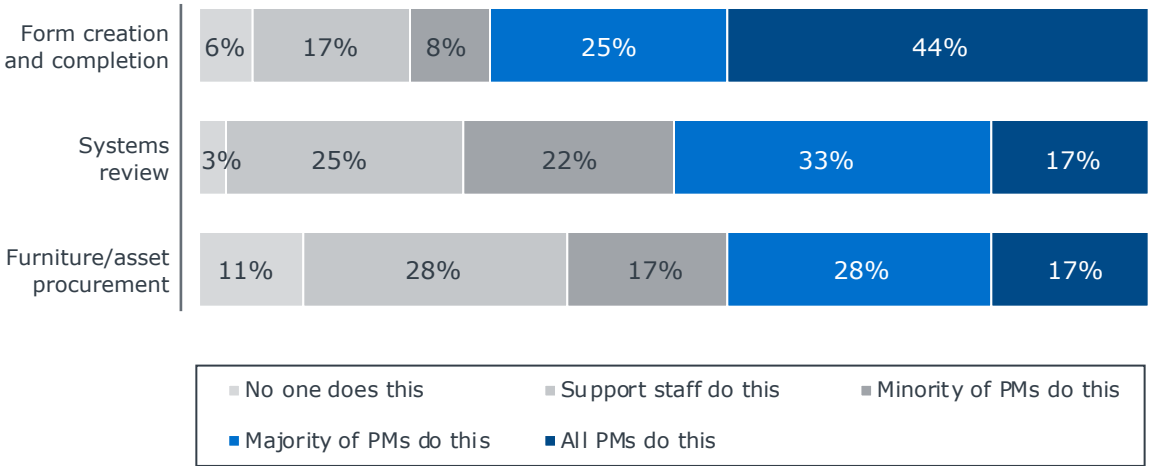
Project Managers

Cohort Benchmarks

Performance of Lower-Skilled Project Tasks¹

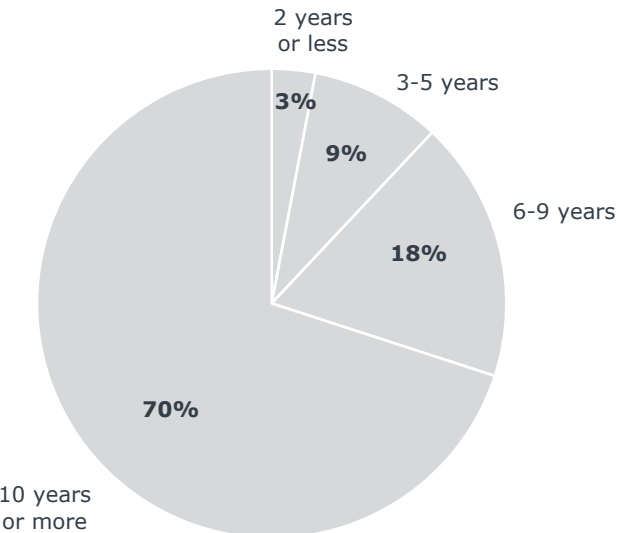
Institutions answering the question "What proportion of PMs/support staff perform the following task?"

n=36



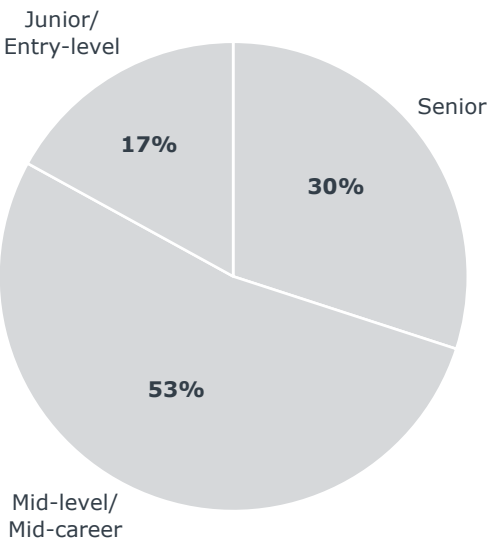
Project Manager Experience

n=493



Project Manager Seniority

n=548



1) Answers do not sum to 100% due to rounding.

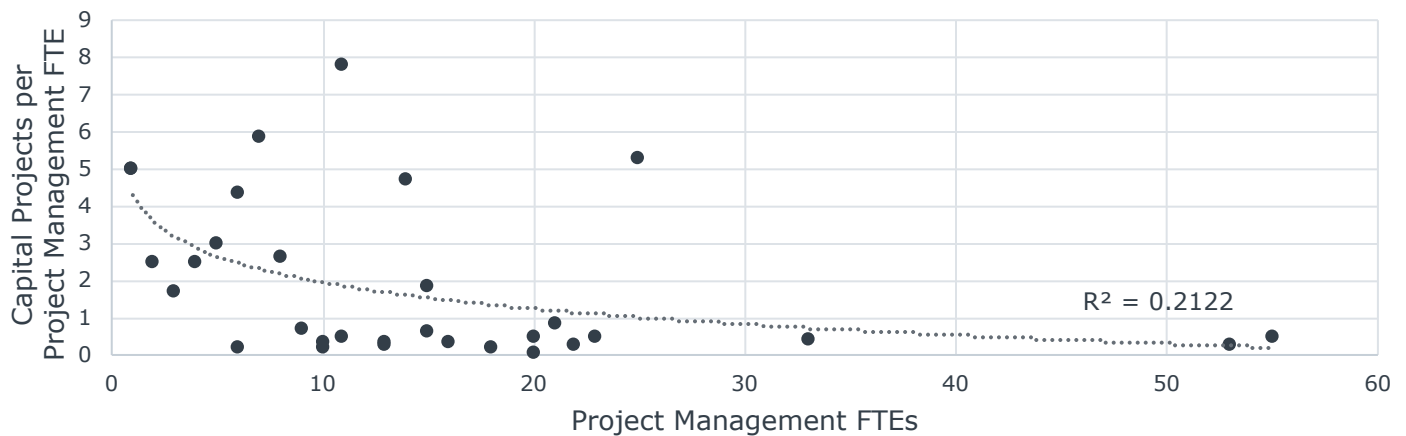
Project Managers

Comparative Analysis

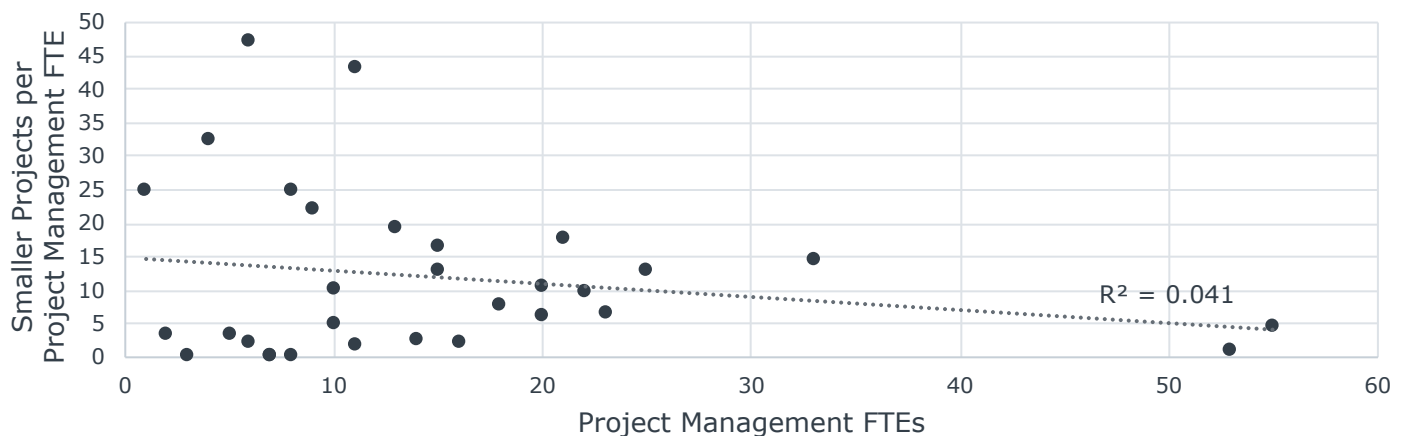
Project Management Workload Metrics

Workload Metric	<i>n</i>	25 th Percentile	50 th Percentile	75 th Percentile
Capital Projects per Project Management FTE	32	0.30 projects	0.60 projects	2.81 projects
Capital Dollars per Project Management FTE	31	\$2,024,304	\$4,472,285	\$14,019,013
Capital GSF Impacted per Project Management FTE	26	10,158 GSF	28,286 GSF	38,586 GSF
Smaller Projects per Project Management FTE	32	2.45 projects	8 projects	17.29 projects
Total Projects (Capital + Smaller) per Project Management FTE	32	5.2 projects	7.29 projects	18.53 projects

Project Management FTE Versus Capital Project Workload



Project Management FTE Versus Smaller Project Workload



Source: EAB Project Management Survey, 2018; EAB interviews and analysis.

Project Managers

Detailed Report

		Entire Cohort	Public Institutions	Private Institutions
Number of Project Managers	<i>n</i>	36	28	8
	25 th Percentile	7	7	6
	50 th Percentile	12	14	10
	75 th Percentile	20	20	12
Number of Support Staff	<i>n</i>	36	28	8
	25 th Percentile	2	2	2
	50 th Percentile	5	5	3
	75 th Percentile	7	8	5
Number of Support Staff per Project Manager	<i>n</i>	36	28	8
	25 th Percentile	0.26	0.23	0.31
	50 th Percentile	0.47	0.47	0.45
	75 th Percentile	0.70	0.77	0.54
Number of Support Staff per Capital Project	<i>n</i>	31	24	7
	25 th Percentile	0.18	0.19	0.22
	50 th Percentile	0.40	0.33	0.50
	75 th Percentile	1.53	1.50	1.33
Average Project Manager Age	<i>n</i>	33	25	8
	25 th Percentile	45	43	45
	50 th Percentile	45	45	45
	75 th Percentile	50	50	51

Source: EAB Project Management Survey, 2018; EAB interviews and analysis.

Project Managers

Detailed Report

		Entire Cohort	Public Institutions	Private Institutions
Project Manager Assignment ¹	<i>n</i>	36	28	8
	By Unit Sponsor	25%	14%	63%
	By Type of Project	44%	36%	75%
	By Type of Space	33%	25%	63%
	No Formal Mechanism	81%	79%	88%
Senior Project Managers as a Percentage of Total	<i>n</i>	35	28	7
	25 th Percentile	18%	17%	29%
	50 th Percentile	30%	26%	33%
	75 th Percentile	41%	40%	45%
Mid-Level Project Managers as a Percentage of Total	<i>n</i>	35	28	7
	25 th Percentile	38%	39%	39%
	50 th Percentile	56%	58%	50%
	75 th Percentile	70%	76%	59%
Entry-Level Project Managers as a Percentage of Total	<i>n</i>	35	28	7
	25 th Percentile	0%	0%	10%
	50 th Percentile	13%	9%	18%
	75 th Percentile	26%	26%	25%

1) Total greater than 100% because institutions could indicate multiple assignment methods used.

Project Managers

Detailed Report

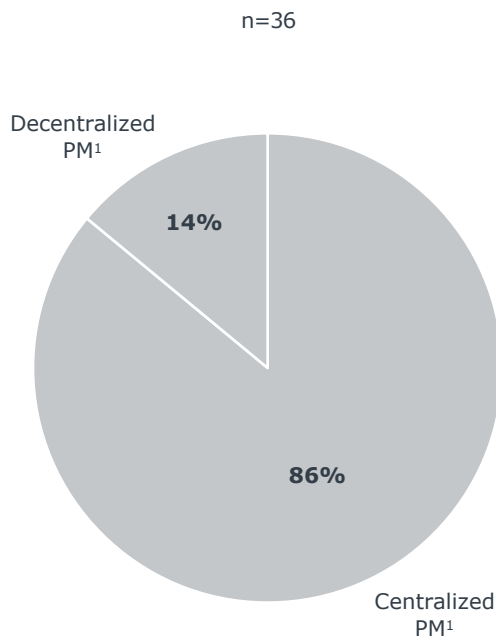
		Entire Cohort	Public Institutions	Private Institutions
Project Manager Time Spent on New Construction Projects	<i>n</i>	36	28	8
	25 th Percentile	10%	10%	15%
	50 th Percentile	15%	15%	20%
	75 th Percentile	30%	23%	30%
Project Manager Time Spent on Major Renovation Projects	<i>n</i>	36	28	8
	25 th Percentile	30%	30%	34%
	50 th Percentile	35%	34%	53%
	75 th Percentile	50%	41%	60%
Project Manager Time Spent on Smaller Projects	<i>n</i>	36	28	8
	25 th Percentile	20%	20%	24%
	50 th Percentile	42%	50%	28%
	75 th Percentile	56%	60%	41%
Project Manager Training	<i>n</i>	36	28	8
	By Institution	39%	36%	50%
	By Third Party or State	44%	43%	50%

Source: EAB Project Management Survey, 2018; EAB interviews and analysis.

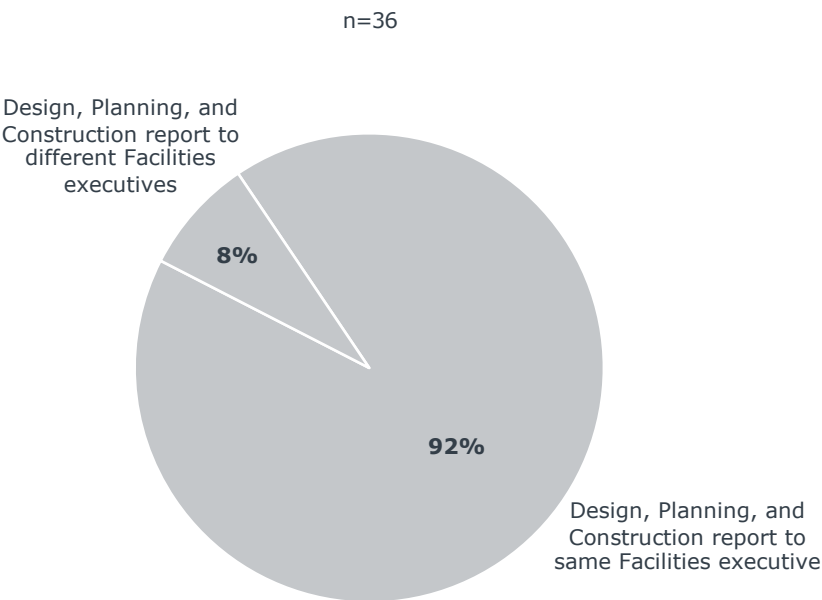
Project Management Offices

Cohort Benchmarks

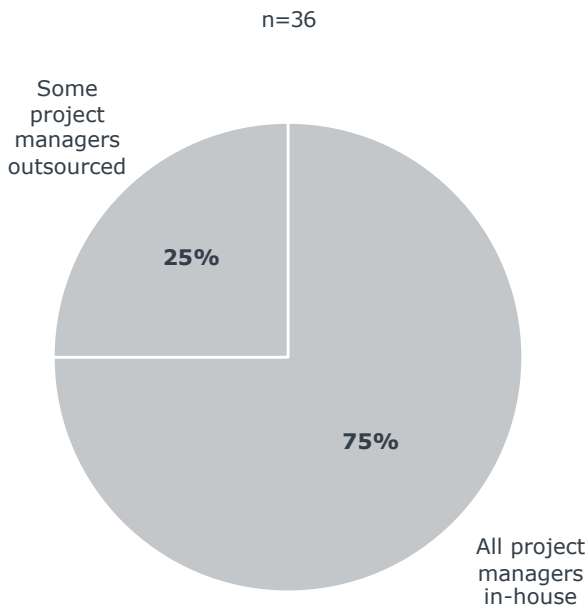
Project Management Centralization



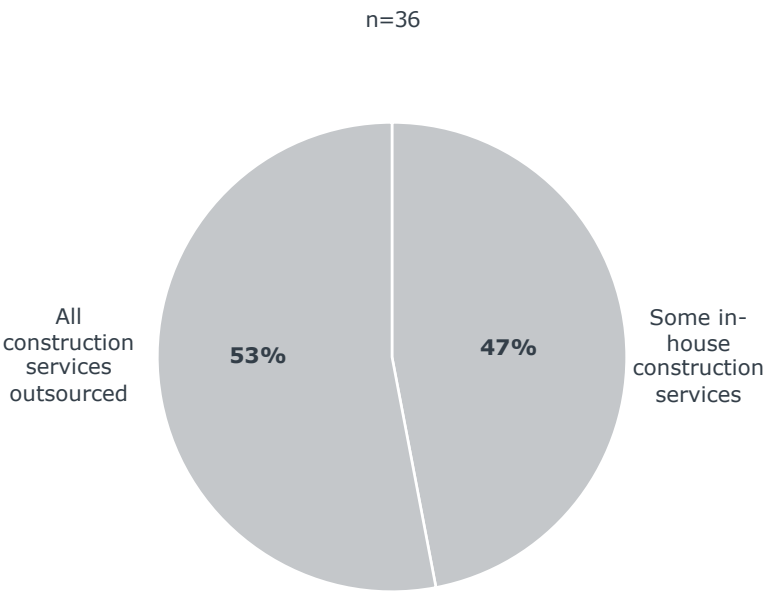
Internal Reporting Structure



Outsourcing Project Management



Outsourcing Construction Services

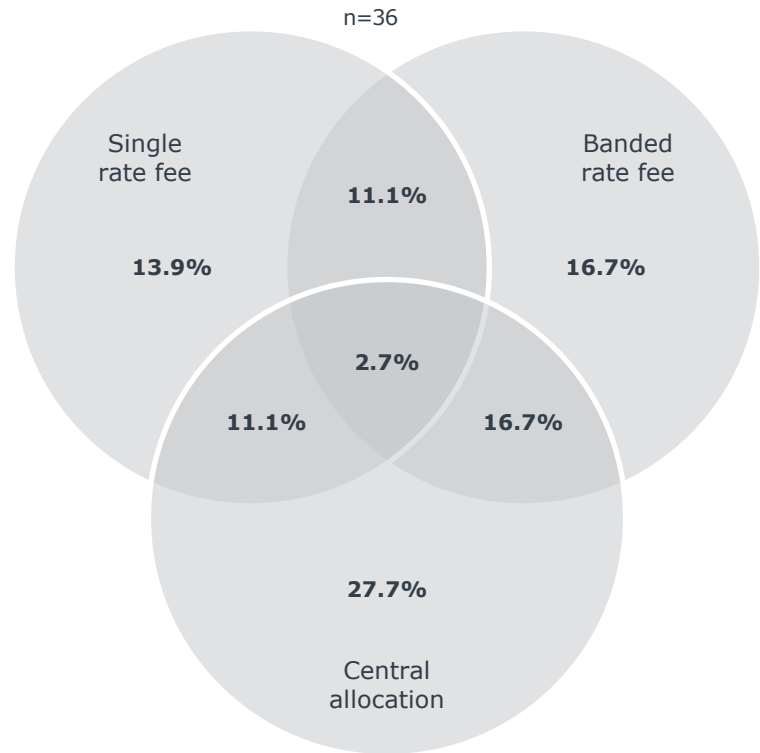


1) Project management.

Project Management Offices

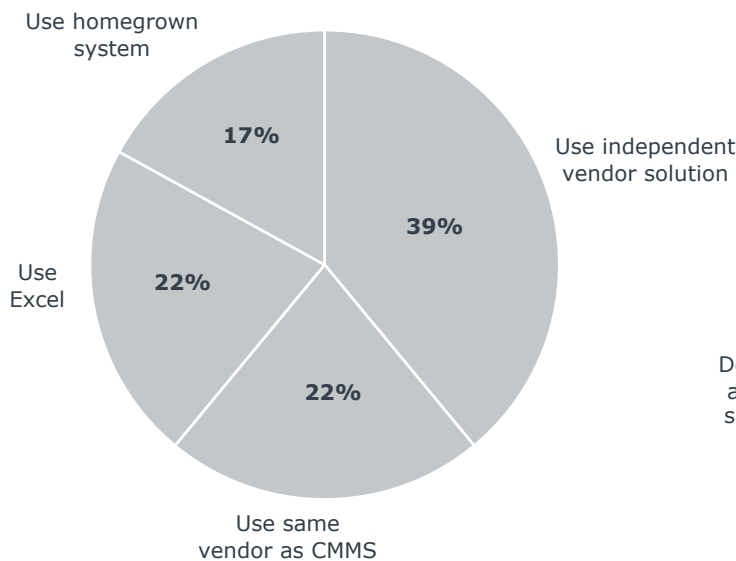
Cohort Benchmarks

Distribution of Project Management Funding Mechanisms¹



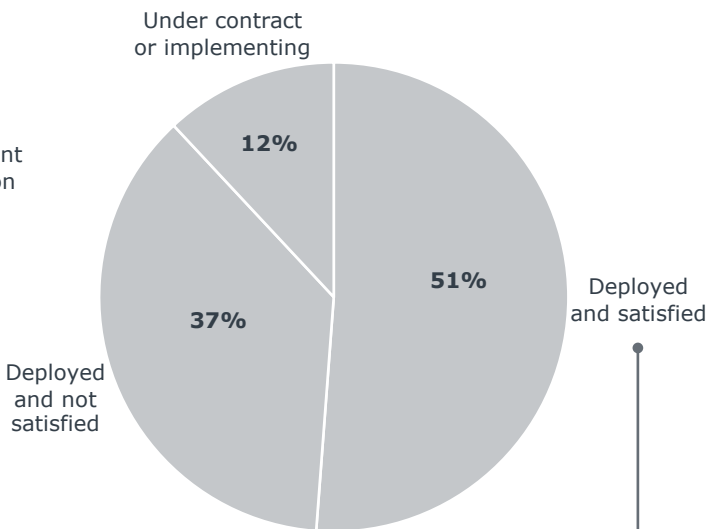
Prevalence of Project Management Software²

n=36



Status of Project Management Software

n=35



AiM and eBuilder were the two most prevalent vendors used by deployed and satisfied institutions

1) Values do not add up to 100% due to rounding.
2) A list of vendors can be found on page 31.

Source: EAB Project Management Survey, 2018; EAB interviews and analysis.

Project Management Offices

Detailed Report

		Entire Cohort	Public Institutions	Private Institutions
Unionization Rates (% of institutions where function is partially or fully unionized)	<i>n</i>	36	28	8
	Planning	8.3%	10.7%	0.0%
	Design	11.1%	14.3%	0.0%
	Trades	47.2%	50%	37.5%
	Construction	38.9%	46.4%	12.5%
Institutions Using Described Project Funding Mechanism(s)	<i>n</i>	36	28	8
	Single Rate Fee	5	5	0
	Banded Rate Fee	6	5	1
	Central Allocation	10	5	5
	Single and Banded Rate Fees	4	3	1
	Single Rate Fee and Central Allocation	4	4	0
	Banded Rate Fee and Central Allocation	6	5	1
	Single, Banded, and Central Allocation	1	1	0

Source: EAB Project Management Survey, 2018; EAB interviews and analysis.

Project Management Offices

Detailed Report

		Entire Cohort	Public Institutions	Private Institutions
Institutions Using Described Project Management Software ¹	<i>n</i>	36	28	8
	Homegrown	8	5	3
	Excel	6	5	1
	Accruent/ FAMIS	1	1	0
	AiM/ Asset Works	6	5	1
	eBuilder	6	6	0
	Oracle	1	0	1
	PMWeb	2	1	1
	Procore	2	1	1
	TMA Systems	2	2	0
	Other	2	2	0

1) Excluded from data due to zero responses were Autodesk, Dude Solutions, IBM/Maximo, PlanGrid, and no software.



Copy of Project Management Survey

SECTION

2

Project Management Survey Questions



Facilities Forum

Project Management Survey

Instructions: Please answer the following questions about the project management function at your institution. Answers can be submitted through a web platform located [here](#).

Contact Information

1. Survey Participant Name:
2. Title:
3. Email:
4. Phone Number

Demographic Information

5. Institutional Name
 - o EAB will pull the following demographic information from IPEDS: USA/Canada, Public/Private, Research Level, Number of Students, Total Operating Expenditure of Institution
6. Gross square footage of institution (*for institutions with multiple campuses, please report main campus only*)
7. Gross square footage of institution managed by Facilities
8. Gross square footage served by the project management function (*Please exclude campus space where project management is handled by individual units and/or external parties [e.g., alumni association, some auxiliaries]. For institutions with multiple campuses please include all space across all campuses served by the institution's project managers.*)
9. How unionized is your design, planning, and construction function? [*Choose all that apply*]
 - o Not unionized
 - o Planning is partially or fully unionized
 - o Design is partially or fully unionized
 - o In-house trades that handle self-performed construction are partially or fully unionized
 - o Contracted or in-house groups that handle major construction are partially or full unionized

Project Management Survey Questions (cont.)

Project Management Definition

A major source of confusion among higher education leaders is the diverse and nuanced ways different institutions define projects and project managers. The information on this page outlines the definitions used through the survey and asks questions to help ensure data is ultimately comparable.

The **project management function** encompasses all project management staff who report through Facilities. It does not include staff who reside and report through individual academic units or non-Facilities departments.

Capital projects are defined as larger Facilities efforts that require substantial funds, approvals, and planning. The survey asks for data about on-time status, on-budget status, and delivery methods used for projects completed between **January 1, 2017** and **December 31, 2017**. The survey on occasion asks for separate data about two subcategories of capital projects:

- **New Construction:** The planning, designing, and building of from-scratch space on campus.
- **Major renovation:** The planning, designing, and renovation of larger buildings and spaces currently on campus. May also be described as capital renewal.

Smaller projects are defined as smaller Facilities efforts that tend to not require substantial funds, approvals, and/or planning. Most institutions have a dollar amount threshold that separates smaller projects from major renovation or new construction capital projects; however, the specific number varies by campus. A few questions ask for data on these types of projects, but generally the focus of the survey is on capital projects.

Full-time equivalent (FTE) is the amount of hours worked by one employee on a full-time basis (for most institutions, 40 hours a week). This is used to calculate accurate staffing and workload amounts when employees may perform multiple roles. For example, two employees who work half-time (e.g., 20 hours each) for project management would sum to one FTE for project management.

10. Which of the following types of projects does your project management function complete? *[Check all that apply]*

- New construction
- Capital renewal/major renovation
- Minor renovation/smaller projects

11. Consider how your institution distinguishes between capital projects and smaller projects.

- If your institution has a formal dollar amount threshold that usually separates the two, what is it?
- If your institution does not have a formal threshold, what would you approximate the informal dollar amount threshold between capital and smaller projects to be? *An estimate is fine.*

12. Does your project management function ever oversee projects in the following areas? *[Check all that apply]*

- Utilities projects
- Auxiliaries projects
- Athletics projects
- Specialty projects (i.e., laboratories and research spaces)

Project Management Survey Questions (cont.)

Questions about Project Management Structure

The following questions are about how your project management function is organized.

13. How is your Facilities division organized?

- o Planning, Design, and Construction report to the same Facilities executive
- o Planning and Design report to the same Facilities executive; Construction reports to a different executive/is not a formal function
- o Design and Construction report to the same Facilities executive; Planning reports to a different executive/is not a formal function
- o Planning and Construction report to the same Facilities executive; Design reports to a different executive/is not a formal function
- o Planning, Design, and Construction all report to different executives
- o Other (please describe)

14. Who performs capital projects on your campus? *[Check all that apply]*

- o One or more project management functions that report to Facilities executives
- o Individual colleges and/or divisions whose project managers report to Facilities executives
- o Individual colleges and/or divisions whose project managers are independent of Facilities executives
- o Outsourced or contracted project managers

15. How is the management of capital projects that Facilities oversees structured?

- o Project managers report to a single Facilities executive (i.e., they are centralized in one unit/team)
- o Project managers report to multiple Facilities executives (i.e., they are spread across multiple units/teams)

16. Who performs smaller projects on your campus? *[Check all that apply]*

- o The same group that performs major renovation projects
- o A group within the Operations and Maintenance unit
- o The individual colleges/units

17. Does your institution sometimes or always outsource project management of capital projects (new construction and major renovations)? *(Note: If your institution only outsources construction management, please answer no and see question 18.)*

- o *If yes:* What percentage of capital projects in 2017 were completed with contracted project managers?
- o *If yes:* What was the total dollar amount of capital projects in 2017 that were completed with contracted project managers?

18. Does your institution sometimes or always outsource construction management of capital projects (new construction and major renovations)?

- o *If yes:* What percentage of capital projects in 2017 were completed with contracted construction managers?
- o *If yes:* What was the total dollar amount of capital projects in 2017 that were completed with contracted construction managers?

19. Does your institution ever employ in-house construction services for capital projects?

Project Management Survey Questions (cont.)

Questions about Projects

The following questions ask about projects. Unless specified answers should consider projects managed by the project management function as well as those contracted out through the project management function.

20. What is the total number of **new construction projects** that were completed from January 1, 2017 to December 31, 2017?
 - o What was the total cost attributed to these projects?
 - o What is the total GSF impacted by these projects?
21. What is the total number of **major renovation projects** that were completed from January 1, 2017 to December 31, 2017?
 - o What was the total cost attributed to these projects?
 - o What is the total GSF impacted by these projects?
22. What is the total number of **smaller projects** that were completed from January 1, 2017 to December 31, 2017? *[Note: Please only report smaller projects performed by the project management function, not those completed by individual units independently of central oversight.]*
 - o What was the total cost attributed to these projects?
 - o What is the total GSF impacted by these projects?
23. At what stage do you determine a completion deadline for capital projects? *[Note: Completion deadline is defined here as the date by which a project will be considered delivered on-time.]*
 - o Pre-design
 - o Design
 - o Post-design, pre-construction
 - o Construction
24. What percentage of the capital projects completed during 2017 were on-time?
25. What percentage of the capital projects completed during 2017 were on-budget?
26. The following questions ask about change orders:
 - o What was the average number of change orders per capital project completed in 2017?
 - o What was the average percentage of the project budget spent on change orders for capital projects completed in 2017?
 - o What was the average percentage of the project budget set aside for change orders for capital projects completed in 2017?
27. Does your institution deploy a customer satisfaction survey that collects data on project management satisfaction?
 - o *If yes:* Do you deploy the survey on a recurring basis (e.g., annually/semiannually) or continuously?
 - *If recurring:* In what year was this survey last deployed?
 - o *If yes:* What scale do you use to measure satisfaction? ___ to ___ *[Note: If your scale is qualitative, treat the lowest qualitative ranking as 1 and count the number of options to scope the range.]*
 - o *If yes:* In the most recently deployed survey/averaged scores across the past 12 months, what was the overall satisfaction with your institution's project management function?

Project Management Survey Questions (cont.)

28. For capital projects completed in 2017, please indicate how many were delivered with each of the following methods. If your answer is zero, please also indicate whether you are restricted from using that method:

- Construction Manager at Risk (CMR/CMAR)
- Construction Manager/General Contractor (GMGC)
- Design-Bid-Build (DBB)
- Design-Build (DB)
- Design-Construct-Maintain (DCM)
- Integrated Project Delivery (IPD)
- Public Private Partnership (P3)
- **Note:** For any of the methods described above that you answered "0", are you restricted from using that method? Please elaborate below on which methods you cannot use and why. If there are methods you use but they require special permissions you may also note that here.

Project Management Survey Questions (cont.)

Questions about Project Managers

The following questions ask about your institution's project managers. Please note that the term project manager is used to describe anyone who spends the majority of his or her time managing projects. Data on architects, engineers, construction managers, and support staff should not be included unless those staff spend the majority of their time managing projects regardless of their title.

29. How many project managers does your institution employ in total?

- Senior Project Managers or equivalent
- Project Managers or equivalent
- Assistant/Associate Project Managers or equivalent

30. What is the average age of your project managers?

- How many project managers do you anticipate retiring within the next five years?

31. Please describe the salary range of your project managers (as well as senior project managers and assistant/associate project managers if you have them):

- Minimum salary:
- Average salary:
- Maximum salary:

32. Of your currently employed project managers, please estimate the following:

- What percentage have an undergraduate degree in engineering?
- What percentage have a graduate degree in engineering?
- What percentage have an undergraduate degree in architecture?
- What percentage have a graduate degree in architecture?
- What percentage have a degree or certification in construction management or other construction-related studies?
- What percent of your project management FTE has a project management certification or license? *These certifications include but are not limited to PMI's project management certification (PMP), Scrum Alliance's Certified ScrumMaster, ASQ's Certified Six Sigma Black Belt, and professional certifications from a college or university.*

33. Of your currently employed project managers, how many fall into each of the following ranges of project management experience:

- 0-2 years
- 3-5 years
- 6-9 years
- 10 or more years

Project Management Survey Questions (cont.)

34. For each of the following, indicate how frequently your project managers perform the task for a standard capital project, using the following scale:

- *This task is not completed by project managers or anyone else on staff*
 - *This task is not completed by project managers but is performed by other in-house staff*
 - *The minority of project managers do this*
 - *The majority of project managers do this*
 - *All project managers do this*
- Project scoping
 - Project cost estimation
 - Form creation and completion
 - Document review
 - Design and architectural tasks
 - Systems review
 - Construction material procurement
 - Furniture and asset procurement
 - Contractor procurement
 - Delivery method selection

35. Do your project managers receive formal training? *[Check all that apply]*

- Yes, provided by the institution
- Yes, provided by the state or a third party
- No

36. How are projects distributed among project managers? *(Check all that apply)*

- Project managers are formally assigned to individual colleges/units to work on their projects
- Project managers are formally assigned to types of projects (e.g., classrooms, new construction, smaller projects)
- Project managers are assigned to project portfolios (e.g., utilities, infrastructure, labs)
- Project managers take on various projects
- Other (please describe)

37. Please estimate the percentage of project manager time spent on each of these types of projects: *[Results must equal 100%]*

- New construction
- Major renovation
- Smaller projects

38. What is the average percentage of work hours that your project managers spend monitoring capital projects in the field? *[Please estimate]*

39. How many FTEs does your institution have for in-house designers and/or architects?

40. How many FTEs does your institution have for project management support staff?

- Please list out the roles that your support staff perform within project management (e.g., coordinators, accountants, IT, administrative assistants, etc.)

Project Management Survey Questions (cont.)

Questions about Project Management Tools

The following questions ask about the tools and processes institutions use to run and pay for project management.

Note: The list of software vendors is the same for each question. This does not mean each vendor provides a specific module for the function in question.

41. For each of the following tasks, please indicate what platform you use, at what stage of deployment you are in, and your satisfaction in the platform. Please use the following lists:

- List of potential software options:
 - *Homegrown system*
 - *Excel*
 - *Accruent/FAMIS*
 - *AiM/Asset Works*
 - *Autodesk*
 - *Dude Solutions/SchoolDude*
 - *eBuilder*
 - *IBM/Maximo*
 - *Oracle*
 - *PlanGrid*
 - *PMWeb*
 - *Procore*
 - *TMA Systems*
 - *Other (please describe)*
 - *We do not use software for this function*
- Deployment stage
 - *Under contract, not yet deployed*
 - *In process of deploying*
 - *Deployed and satisfied*
 - *Deployed, not satisfied, not looking for replacement*
 - *Deployed, not satisfied, looking for replacement*

Project Management Survey Questions (cont.)

- List of Software-supported Tasks
 - Project Management
 - Software
 - Deployment stage
 - Construction Management
 - Software
 - Deployment stage
 - Asset Management
 - Software
 - Deployment stage
 - Data input/transfer
 - Software
 - Deployment stage
 - Digitization/archiving
 - Software
 - Deployment stage
 - Maintenance Management
 - Software
 - Deployment stage

42. How is your project management function funded? *[Check all that apply]*

- Central allocation
- Project fees: single rate for all projects
- Project fees: banded range of rates depending on project
- Other (please describe)

43. *If selected project fees from above: Please describe the rate and/or ranges charged for projects.*

Open-Ended Questions

How has the number of project management FTEs changed in the last decade? If you have the data, how many project management FTEs did your institution employee five years ago? Ten years ago?

Has your institution made any significant changes or implemented new approaches within the project management function in the last two years? If so, please briefly describe them below.



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