

Back by customer demand!

You asked and we listened. For customer convenience and estimating ease, we have made the 2018 Project Costs available for download at www.RSMeans.com/2018books. You will also find sample estimates, an RSMeans data overview video and book registration form to receive quarterly data updates throughout 2018.

Estimating Tips

- The cost figures available in the download were derived from hundreds of projects contained in the RSMeans database of completed construction projects. They include the contractor's overhead and profit. The figures have been adjusted to January of the current year.
- These projects were located throughout the U.S. and reflect a tremendous variation in square foot (S.F.) costs. This is due to differences, not only in labor and material costs, but also in individual owners' requirements. For instance, a bank in a large city would have different features than one in a rural area. This is true of all the different types of buildings analyzed. Therefore, caution should be exercised when using these Project Costs. For example, for courthouses, costs in the database are local courthouse costs and will not apply to the larger, more elaborate federal courthouses.
- None of the figures "go with" any others. All individual cost items were computed and tabulated separately. Thus, the sum of the median figures for plumbing, HVAC, and electrical will not normally total up to the total mechanical and electrical costs arrived at by separate analysis and tabulation of the projects.
- Each building was analyzed as to total and component costs and percentages. The figures were arranged in ascending order with the results tabulated as shown. The 1/4 column shows that 25% of the projects had lower costs and 75% had higher. The 3/4 column shows that 75% of the projects had lower costs and 25% had higher. The median column shows that 50% of the projects had lower costs and 50% had higher.
- Project Costs are useful in the conceptual stage when no details are available. As soon as details become available in the project design, the square foot approach should be discontinued and the project priced as to its particular components. When more precision is required, or for estimating the replacement cost of specific buildings, the current edition of *RSMeans Square Foot Costs* should be used.
- In using the figures in this section, it is recommended that the median column be used for preliminary figures if no

additional information is available. The median figures, when multiplied by the total city construction cost index figures (see City Cost Indexes) and then multiplied by the project size modifier at the end of this section, should present a fairly accurate base figure, which would then have to be adjusted in view of the estimator's experience, local economic conditions, code requirements, and the owner's particular requirements. There is no need to factor the percentage figures, as these should remain constant from city to city.

- The editors of this data would greatly appreciate receiving cost figures on one or more of your recent projects, which would then be included in the averages for next year. All cost figures received will be kept confidential, except that they will be averaged with other similar projects to arrive at square foot cost figures for next year.

See the website above for details and the discount available for submitting one or more of your projects.

No part of this cost data may be reproduced, stored in a retrieval system, or transmitted in any form or by any means without prior written permission of Gordian.

Did you know?

RSMeans data is available through our online application with 24/7 access:

- Search for unit prices by keyword
- Leverage the most up-to-date data
- Build and export estimates

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www.rsmeans.com/2018freetrial

50 17 | Project Costs

50 17 00 Project Costs			UNIT	UNIT COSTS			% OF TOTAL			
				1/4	MEDIAN	3/4	1/4	MEDIAN	3/4	
01	0000	Auto Sales with Repair	S.F.							01
	0100	Architectural		98.50	110	119	58%	64%	67%	
	0200	Plumbing		8.25	8.65	11.55	4.84%	5.20%	6.80%	
	0300	Mechanical		11.05	14.80	16.35	6.40%	8.70%	10.15%	
	0400	Electrical		17	21	26.50	9.05%	11.70%	15.90%	
	0500	Total Project Costs		165	173	177				
02	0000	Banking Institutions	S.F.							02
	0100	Architectural		149	183	222	59%	65%	69%	
	0200	Plumbing		6	8.35	11.60	2.12%	3.39%	4.19%	
	0300	Mechanical		11.90	16.45	19.40	4.41%	5.10%	10.75%	
	0400	Electrical		29	35	54	10.45%	13.05%	15.90%	
	0500	Total Project Costs		247	278	340				
03	0000	Court House	S.F.							03
	0100	Architectural		78.50	78.50	78.50	54.50%	54.50%	54.50%	
	0200	Plumbing		2.96	2.96	2.96	2.07%	2.07%	2.07%	
	0300	Mechanical		18.55	18.55	18.55	12.95%	12.95%	12.95%	
	0400	Electrical		24	24	24	16.60%	16.60%	16.60%	
	0500	Total Project Costs		143	143	143				
04	0000	Data Centers	S.F.							04
	0100	Architectural		177	177	177	68%	68%	68%	
	0200	Plumbing		9.70	9.70	9.70	3.71%	3.71%	3.71%	
	0300	Mechanical		24.50	24.50	24.50	9.45%	9.45%	9.45%	
	0400	Electrical		23.50	23.50	23.50	9%	9%	9%	
	0500	Total Project Costs		261	261	261				
05	0000	Detention Centers	S.F.							05
	0100	Architectural		164	174	184	52%	53%	60.50%	
	0200	Plumbing		17.35	21	25.50	5.15%	7.10%	7.25%	
	0300	Mechanical		22	31.50	37.50	7.55%	9.50%	13.80%	
	0400	Electrical		36	42.50	55.50	10.90%	14.85%	17.95%	
	0500	Total Project Costs		278	293	345				
06	0000	Fire Stations	S.F.							06
	0100	Architectural		97	120	174	49%	55.50%	63%	
	0200	Plumbing		9.45	13.30	15.75	4.86%	5.80%	6.30%	
	0300	Mechanical		12.80	18.65	24	5.45%	8.25%	9.70%	
	0400	Electrical		21.50	27.50	32.50	8.35%	12.80%	14.70%	
	0500	Total Project Costs		195	222	294				
07	0000	Gymnasium	S.F.							07
	0100	Architectural		82	108	108	57%	64.50%	64.50%	
	0200	Plumbing		2.01	6.60	6.60	1.58%	3.48%	3.48%	
	0300	Mechanical		3.09	28	28	2.42%	14.65%	14.65%	
	0400	Electrical		10.10	19.60	19.60	7.95%	10.35%	10.35%	
	0500	Total Project Costs		128	189	189				
08	0000	Hospitals	S.F.							08
	0100	Architectural		99.50	164	178	43%	47.50%	48%	
	0200	Plumbing		7.30	13.95	30	6%	7.45%	7.65%	
	0300	Mechanical		48.50	54.50	71	14.20%	17.95%	23.50%	
	0400	Electrical		22	44	57.50	10.95%	13.75%	16.85%	
	0500	Total Project Costs		233	345	375				
09	0000	Industrial Buildings	S.F.							09
	0100	Architectural		42	66.50	216	46%	54%	56.50%	
	0200	Plumbing		1.62	6.10	12.30	2%	3.06%	6.30%	
	0300	Mechanical		4.47	8.50	40.50	4.77%	5.55%	14.80%	
	0400	Electrical		6.80	7.80	65	7.85%	13.55%	16.20%	
	0500	Total Project Costs		74.50	97	400				
10	0000	Medical Clinics & Offices	S.F.							10
	0100	Architectural		79.50	118	152	48.50%	55.50%	62.50%	
	0200	Plumbing		8.10	12.20	19.65	4.44%	6.40%	8.05%	
	0300	Mechanical		13.70	25	42.50	8.30%	11.05%	17.25%	
	0400	Electrical		18.60	25	36	8.55%	12.10%	14.65%	
	0500	Total Project Costs		156	208	272				

50 17 | Project Costs

50 17 00 Project Costs			UNIT	UNIT COSTS			% OF TOTAL			
				1/4	MEDIAN	3/4	1/4	MEDIAN	3/4	
11	0000	Mixed Use	S.F.						11	
	0100	Architectural		85	120	182	45.50%	52.50%		70%
	0200	Plumbing		5.70	8.70	11	2.84%	3.44%		4.18%
	0300	Mechanical		14.05	36.50	65	8.05%	13.75%		20%
	0400	Electrical		14.85	36.50	49	8.30%	12.95%		15.80%
	0500	Total Project Costs		179	201	320				
12	0000	Multi-Family Housing	S.F.						12	
	0100	Architectural		70.50	106	158	56.50%	61.50%		66.50%
	0200	Plumbing		5.90	10.20	13.90	4.81%	6.30%		7.40%
	0300	Mechanical		6.60	8.80	35.50	4.92%	6.90%		11.20%
	0400	Electrical		9.20	14.35	17.40	6.20%	8.45%		10.25%
	0500	Total Project Costs		104	194	233				
13	0000	Nursing Home & Assisted Living	S.F.						13	
	0100	Architectural		66.50	87	116	51.50%	56.50%		69%
	0200	Plumbing		6.75	10.45	11.70	6.05%	7.40%		8.80%
	0300	Mechanical		5.90	7.55	17.05	4.04%	6.70%		9.55%
	0400	Electrical		9.75	12.80	21.50	7%	10.05%		12.20%
	0500	Total Project Costs		114	135	179				
14	0000	Office Buildings	S.F.						14	
	0100	Architectural		90.50	120	168	56.50%	62%		71.50%
	0200	Plumbing		4.73	7.05	11.45	2.62%	3.48%		5.85%
	0300	Mechanical		10.25	15.80	23.50	5.50%	8.20%		11.10%
	0400	Electrical		11.85	20	31.50	7.75%	10%		12.70%
	0500	Total Project Costs		150	186	262				
15	0000	Parking Garage	S.F.						15	
	0100	Architectural		29.50	36	37.50	70%	79%		88%
	0200	Plumbing		.97	1.01	1.90	2.05%	2.70%		2.83%
	0300	Mechanical		.75	1.16	4.39	2.11%	3.62%		3.81%
	0400	Electrical		2.58	2.83	5.90	5.30%	6.35%		7.95%
	0500	Total Project Costs		36	43.50	47				
16	0000	Parking Garage/Mixed Use	S.F.						16	
	0100	Architectural		95.50	104	106	61%	62%		65.50%
	0200	Plumbing		3.06	4.01	6.15	2.47%	2.72%		3.66%
	0300	Mechanical		13.10	14.75	21	7.80%	13.10%		13.60%
	0400	Electrical		13.70	19.70	20.50	8.20%	12.65%		18.15%
	0500	Total Project Costs		156	162	168				
17	0000	Police Stations	S.F.						17	
	0100	Architectural		108	121	152	49%	56.50%		61%
	0200	Plumbing		14.25	17.10	17.20	5.05%	5.55%		9.05%
	0300	Mechanical		32.50	45	46.50	13%	14.55%		16.55%
	0400	Electrical		24.50	26.50	28	9.15%	12.10%		14%
	0500	Total Project Costs		202	248	282				
18	0000	Police/Fire	S.F.						18	
	0100	Architectural		105	105	320	55.50%	66%		68%
	0200	Plumbing		8.40	8.70	32	5.45%	5.50%		5.55%
	0300	Mechanical		12.85	20.50	73.50	8.35%	12.70%		12.80%
	0400	Electrical		14.65	18.70	84	9.50%	11.75%		14.55%
	0500	Total Project Costs		154	159	580				
19	0000	Public Assembly Buildings	S.F.						19	
	0100	Architectural		119	148	200	58%	61.50%		64%
	0200	Plumbing		5.65	7.40	11.45	2.60%	3.32%		4.01%
	0300	Mechanical		14.95	23	33	6.90%	9.15%		12.75%
	0400	Electrical		19.70	24.50	38.50	8.65%	10.75%		13%
	0500	Total Project Costs		188	242	335				
20	0000	Recreational	S.F.						20	
	0100	Architectural		103	162	219	53.50%	59%		66%
	0200	Plumbing		8.40	15.30	20	3.12%	4.76%		7.40%
	0300	Mechanical		12.65	19.25	30.50	5.35%	7.90%		12.75%
	0400	Electrical		14.15	24.50	33	7.35%	8.50%		10.65%
	0500	Total Project Costs		183	272	375				

50 17 | Project Costs

50 17 00 Project Costs			UNIT	UNIT COSTS			% OF TOTAL			
				1/4	MEDIAN	3/4	1/4	MEDIAN	3/4	
21	0000	Restaurants	S.F.							21
	0100	Architectural		50.50	179	231	57.50%	60.50%	78%	
	0200	Plumbing		9.45	29.50	37	7.35%	7.75%	8.95%	
	0300	Mechanical		7.25	18.30	44.50	6.50%	10.80%	18.30%	
	0400	Electrical		11.65	21.50	48.50	6.75%	8.45%	12.45%	
	0500	Total Project Costs		65	283	400				
22	0000	Retail	S.F.							22
	0100	Architectural		52	57.50	104	60%	60%	64.50%	
	0200	Plumbing		5.35	8.05	10.15	5.05%	6.70%	9%	
	0300	Mechanical		4.88	7	8.60	5.05%	6.15%	6.60%	
	0400	Electrical		6.85	10.95	17.60	7.90%	10.15%	12.25%	
	0500	Total Project Costs		87	106	173				
23	0000	Schools	S.F.							23
	0100	Architectural		88.50	114	152	52.50%	57%	61.50%	
	0200	Plumbing		7.10	9.85	14.40	3.75%	4.82%	7%	
	0300	Mechanical		16.85	23	35.50	9.50%	12.25%	14.55%	
	0400	Electrical		16.65	23	29	9.45%	11.40%	13.05%	
	0500	Total Project Costs		151	206	272				
24	0000	University, College & Private School Classroom & Admin Buildings	S.F.							24
	0100	Architectural		115	142	179	50.50%	55%	59.50%	
	0200	Plumbing		6.55	10.15	14.35	2.74%	4.30%	6.35%	
	0300	Mechanical		24.50	35.50	43	10.10%	12.15%	14.70%	
	0400	Electrical		18.55	26	31.50	7.65%	9.50%	11.55%	
	0500	Total Project Costs		191	264	350				
25	0000	University, College & Private School Dormitories	S.F.							25
	0100	Architectural		75	132	140	54.50%	65%	68.50%	
	0200	Plumbing		9.95	14.05	21	6.45%	7.30%	9.15%	
	0300	Mechanical		4.46	18.95	30	4.13%	9%	12.05%	
	0400	Electrical		5.30	18.40	28	4.75%	7.35%	12.30%	
	0500	Total Project Costs		111	211	249				
26	0000	University, College & Private School Science, Eng. & Lab Buildings	S.F.							26
	0100	Architectural		129	137	178	50.50%	56.50%	58%	
	0200	Plumbing		8.90	9.30	24.50	3.29%	3.95%	8.40%	
	0300	Mechanical		40.50	64	64	13.20%	21.50%	23.50%	
	0400	Electrical		26	30	35.50	8.95%	9.70%	12.85%	
	0500	Total Project Costs		265	271	295				
27	0000	University, College & Private School Student Union Buildings	S.F.							27
	0100	Architectural		69.50	102	102	51%	59.50%	59.50%	
	0200	Plumbing		5	23	23	4.27%	11.45%	11.45%	
	0300	Mechanical		11.25	29.50	29.50	9.60%	14.55%	14.55%	
	0400	Electrical		15.40	25.50	25.50	12.80%	13.15%	13.15%	
	0500	Total Project Costs		117	201	201				
28	0000	Warehouses	S.F.							28
	0100	Architectural		44	68.50	162	61.50%	67.50%	72%	
	0200	Plumbing		2.28	4.88	9.40	2.82%	3.72%	5%	
	0300	Mechanical		2.70	15.40	24	4.56%	8.20%	10.70%	
	0400	Electrical		4.91	18.45	30.50	7.50%	10.10%	18.30%	
	0500	Total Project Costs		65.50	116	226				

Square Foot Project Size Modifier

One factor that affects the S.F. cost of a particular building is the size. In general, for buildings built to the same specifications in the same locality, the larger building will have the lower S.F. cost. This is due mainly to the decreasing contribution of the exterior walls plus the economy of scale usually achievable in larger buildings. The Area Conversion Scale shown below will give a factor to convert costs for the typical size building to an adjusted cost for the particular project.

The Square Foot Base Size lists the median costs, most typical project size in our accumulated data, and the range in size of the projects.

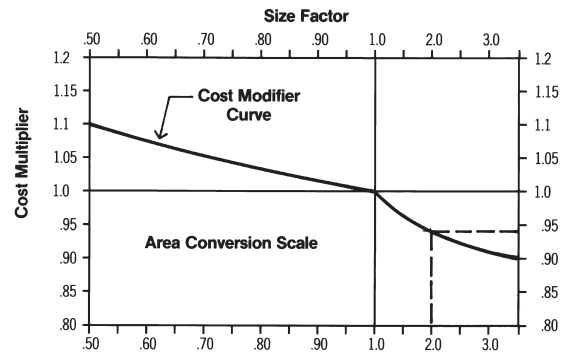
The Size Factor for your project is determined by dividing your project area in S.F. by the typical project size for the particular Building Type. With this factor, enter the Area Conversion Scale at the appropriate Size Factor and determine the appropriate cost multiplier for your building size.

Example: Determine the cost per S.F. for a 152,600 S.F. Multi-family housing.

$$\frac{\text{Proposed building area} = 152,600 \text{ S.F.}}{\text{Typical size from below} = 76,300 \text{ S.F.}} = 2.00$$

Enter Area Conversion scale at 2.0, intersect curve, read horizontally the appropriate cost multiplier of .94. Size adjusted cost becomes $.94 \times \$194.00 = \182.36 based on national average costs.

Note: For Size Factors less than .50, the Cost Multiplier is 1.1
For Size Factors greater than 3.5, the Cost Multiplier is .90



System	Median Cost (Total Project Costs)	Typical Size Gross S.F. (Median of Projects)	Typical Range (Low - High) (Projects)
Auto Sales with Repair	\$173.00	25,300	8,200 - 28,700
Banking Institutions	278.00	26,300	3,300 - 38,100
Detention Centers	293.00	42,000	12,300 - 183,300
Fire Stations	222.00	14,600	6,300 - 29,600
Hospitals	345.00	137,500	54,700 - 410,300
Industrial Buildings	\$97.00	16,900	5,100 - 200,600
Medical Clinics & Offices	208.00	5,500	2,600 - 327,000
Mixed Use	201.00	49,900	14,400 - 49,900
Multi-Family Housing	194.00	76,300	12,500 - 1,161,500
Nursing Home & Assisted Living	135.00	16,200	1,500 - 242,600
Office Buildings	186.00	10,000	1,100 - 930,000
Parking Garage	43.50	174,600	99,900 - 287,000
Parking Garage/Mixed Use	162.00	5,300	5,300 - 318,000
Police Stations	248.00	15,400	15,400 - 31,600
Public Assembly Buildings	242.00	30,500	2,200 - 235,300
Recreational	272.00	2,300	1,500 - 223,800
Restaurants	283.00	6,100	5,500 - 42,000
Retail	106.00	28,700	5,800 - 61,000
Schools	206.00	30,000	5,500 - 410,800
University, College & Private School Classroom & Admin Buildings	264.00	89,200	9,400 - 196,200
University, College & Private School Dormitories	211.00	50,800	1,500 - 126,900
University, College & Private School Science, Eng. & Lab Buildings	271.00	39,800	36,000 - 117,600
Warehouses	116.00	2,100	600 - 303,800