

**AGENCY OF EDUCATION  
Montpelier, Vermont**

**TEAM:** School Finance

**ITEM:** Will the State Board of Education update the **Capital Outlay Financing Formula (COFF)** by replacing the existing unit cost table on page 68 of the 2008 Vermont School Construction Planning Guide, **Table #1** below, with the proposed unit cost table, **Table #2** below, so that construction unit costs are more reflective of current construction sector pricing.

**SECRETARY'S RECOMMENDED ACTION:**

**That the State Board of Education update the Capital Outlay Financing Formula (COFF) by replacing the existing unit cost table on page 68 of the 2008 Vermont School Construction Planning Guide, Table #1 below, with the proposed unit cost table, Table #2 below, so that construction unit costs are more reflective of current construction sector pricing.**

## MAXIMUM COST PARAMETERS FOR CONSTRUCTION AID

The Maximum Cost for State Participation shall be determined by multiplying the basic unit cost by the total allowable square footage. The basic unit cost reflects all costs associated with the construction.

### A. BASIC UNIT COST INCREMENTS THAT WOULD BE ELIGIBLE FOR STATE CONSTRUCTION AID

A	B	C	D	E
FOR NEW PROJECT 10,000 SQUARE FEET OR LARGER	BUILDING COSTS INCLUDING FIXED EQUIPMENT (OR EQUIVALENT) AND FEES (PER SQUARE FOOT)	DEMOLITION (WHERE NECESSARY) (PER SQUARE FOOT)	SITE WORK (EXCLUDING WASTE TREATMENT) (PER SQUARE FOOT of <i>Impacted site</i> )	WASTE TREATMENT FACILITIES (WHEN NOT ON MUNICIPAL SEWER) (PER SQUARE FOOT)
Elementary K-6	175.00	\$3.00	\$3.00	\$5.00
Elementary K-8	185.00	\$3.00	\$3.00	\$5.00
Middle Grades or Junior High School	185.00	\$3.00	\$3.00	\$5.00
High School	195.00	\$3.00	\$3.00	\$5.00
Technical & Career Centers	204.00			

**Table #1**

**Existing Unit Cost Table on page 68 of the 2008 Vermont School Construction Planning Guide**

MAXIMUM COST PARAMETERS FOR CONSTRUCTION AID				
A	B	C	D	E
FOR NEW PROJECT 10,000 SQUARE FEET OR LARGER	BUILDING COSTS INCLUDING FIXED EQUIPMENT (OR EQUIVALENT) AND FEES (PER SQUARE FOOT)	DEMOLITION (WHERE NECESSARY) (PER SQUARE FOOT)	SITE WORK (EXCLUDING WASTE TREATMENT) (PER SQUARE FOOT <i>of Impacted site</i> )	WASTE TREATMENT FACILITIES (WHEN NOT ON MUNICIPAL SEWER) (PER SQUARE FOOT)
Elementary K-6	\$570	\$12.50	\$12.50	\$19.00
Elementary K-8	\$575	\$12.50	\$12.50	\$19.00
Middle Grades or Junior High School	\$595	\$12.50	\$12.50	\$19.00
High School	\$620	\$12.50	\$12.50	\$19.00
Technical & Career Centers	\$695	\$12.50	\$12.50	\$19.00

**Table #2**  
**Proposed Unit Cost Table**

**STATUTORY AUTHORITY:** Title 16 V.S.A. § **3448 (e) Rules**  
State Board Rules **6000, 6124 The Maximum Cost for**  
**State Participation**

**3448 (e):** The State Board shall adopt rules pertaining to school construction and capital outlay.

**6124.1:** The State Board of Education shall adopt and update annually a document entitled Capital Outlay Financing Formula. The capital outlay formula shall establish the maximum and minimum square footage parameters by school size, and grade range through a square footage allowance per student or program. The formula shall also establish an allowable cost per square foot of construction.

In 2021, the General Assembly of the State of Vermont enacted Act 72, an act relating to addressing the needs and conditions of public-school facilities in the state. One of the mandates of Act 72 was for the State Board of Education to update the Capital Outlay Financing Formula as detailed in Sec. 2. (b) in which it states *On or before January 15, 2023, the State Board of Education shall update and adopt the Capital Outlay Financing Formula.*

**BACKGROUND:**

In 2007 Acts and resolves No. 52, Sec. 36, the General Assembly suspended State aid for school construction to permit the Secretary of Education and the Commissioner of Finance and Management to recommend a sustainable plan for state aid for school construction. At the time of this suspension, a formula was used to calculate the state financial contribution towards a school construction project. This formula was known as the **Capital Outlay Financing Formula (COFF)** and the number derived from it was known as the **Maximum Cost for State Participation (MCSP)**. The **COFF** was a detailed facility specification and cost guide for school construction projects. The formula specified the following:

- minimum allowable square footage for programs and services for each educational level (K-6, K-8, Middle School, High School)
- maximum allowable square footage per student for each educational level (K-6, K-8, Middle School, High School)
- allowable unit costs for site work, construction, demolition and where required, waste treatment site development.

**Table #3** below contains the unit costs that were used at the time.

**MAXIMUM COST PARAMETERS FOR CONSTRUCTION AID**

The Maximum Cost for State Participation shall be determined by multiplying the basic unit cost by the total allowable square footage. The basic unit cost reflects all costs associated with the construction.

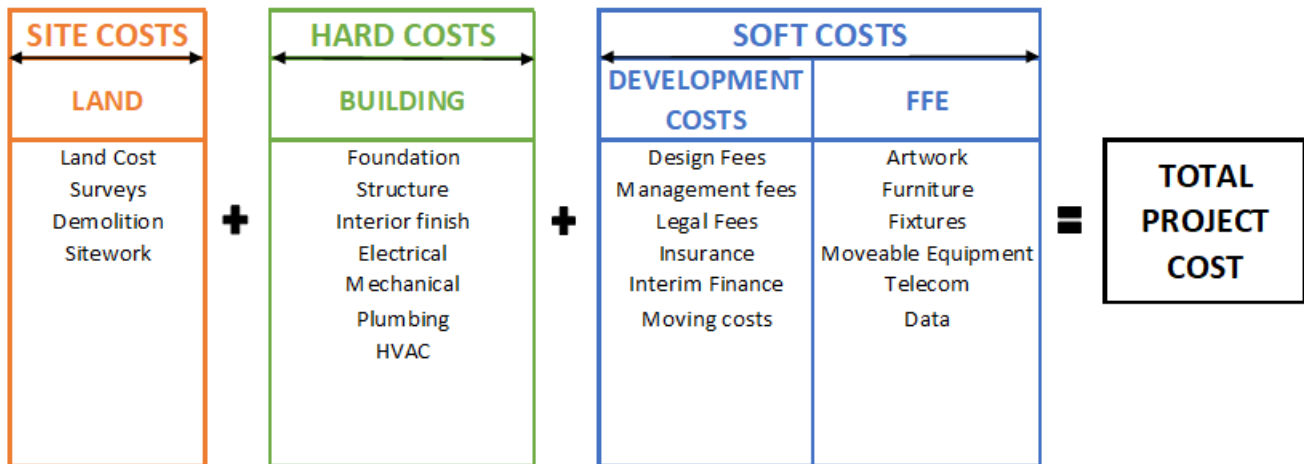
**A. BASIC UNIT COST INCREMENTS THAT WOULD BE ELIGIBLE FOR STATE CONSTRUCTION AID**

FOR NEW PROJECT 10,000 SQUARE FEET OR LARGER	BUILDING COSTS INCLUDING FIXED EQUIPMENT (OR EQUIVALENT) AND FEES  (PER SQUARE FOOT)	DEMOLITION (WHERE NECESSARY)  (PER SQUARE FOOT)	SITE WORK (EXCLUDING WASTE TREATMENT)  (PER SQUARE FOOT of Impacted site)	WASTE TREATMENT FACILITIES (WHEN NOT ON MUNICIPAL SEWER) (PER SQUARE FOOT)
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High School	\$195.00	\$3.00	\$3.00	\$5.00
Technical & Career Centers	\$204.00			

**Table #3**

In the ensuing years since state construction aid was suspended, costs have risen, and an effort to arrive at unit costs that more accurately reflect current pricing has been undertaken.

**Diagram #1** below summarizes each of the three major categories of costs that contribute to the total project cost of a construction project. The **Hard Costs** category is that component that represents the direct cost to construct the building. Project size and complexity can influence what percentage each of the other categories represent in terms of the **Total Project Cost** and can vary significantly from site to site.



**Diagram #1**

The following organizations were solicited for their input on current construction pricing.

- BRD Architects
- Truexcullins Architects
- HP Cummings Construction
- Vermont Agency of Building and General Services

The Rhode Island School Building Authority Website contained the School Cost Analysis summary sheet which is in the Research References section at the end.

Their collective input has informed the values arrived at in **Table #4, Column B**, below.

MAXIMUM COST PARAMETERS FOR CONSTRUCTION AID				
A	B	C	D	E
FOR NEW PROJECT 10,000 SQUARE FEET OR LARGER	BUILDING COSTS INCLUDING FIXED EQUIPMENT (OR EQUIVALENT) AND FEES (PER SQUARE FOOT)	DEMOLITION (WHERE NECESSARY) (PER SQUARE FOOT)	SITE WORK (EXCLUDING WASTE TREATMENT) (PER SQUARE FOOT of Impacted site)	WASTE TREATMENT FACILITIES (WHEN NOT ON MUNICIPAL SEWER) (PER SQUARE FOOT)
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Technical & Career Centers	\$695	\$12.50	\$12.50	\$19.00

**Table #4**

Costing data for Demolition, Site Work and Waste Treatment Facilities was not readily available. Costs that were available from the resources consulted were widely varying due to site specific circumstances, making it difficult to derive solid numbers. As such, the unit cost numbers arrived at were computed as a percentage of the High School unit cost for construction. Columns C & D were calculated at 2% of \$620 and rounding up, and Column E was calculated at 3% of \$620 and rounding up.

## **FISCAL IMPLICATIONS:**

The **COFF** formula was used to calculate the **Maximum Cost for State Participation (MCSP)** towards an approved construction project. With the 2008 suspension of state aid for school construction, the unit costs for construction that were used in the **COFF** have become dated, and do not reflect current construction sector pricing. Although the state construction aid program remains on suspension, the **COFF** remains connected to the Excess Spending calculations for a district. School districts must pay an additional tax if the education spending per equalized pupil (less approved and preliminary approval construction costs, and other specific exclusions) exceeds the threshold amount. The use of unit construction costs that are not reflective of current market pricing adversely impacts school districts by overstating their education spending, which could subject them to an excess spending liability. Updated unit construction costs will produce more accurate excess spending calculations. While Excess Spending is on suspension until June 30, 2029, the Secretary of Education must offer approval to exclude approved construction costs (including the MCSP for major addition/renovation or new projects) prior to the start of construction per statute.

## **STAFF AVAILABLE:**

Jill Briggs-Campbell, Administrative Services Director II  
Bob Donohue, School Facilities Program Manager  
Cassandra Ryan, Director of Regulatory Compliance and Risk Management

# Research References

**Donohue, Bob**

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**From:** Keith Robinson <keithr@blackriverdesign.com >  
**Sent:** Thursday, June 1, 2023 12:52 PM  
**To:** Donohue, Bob  
**Subject:** RE: Agency of Education Capital Funding Outlay Formula for K-12 School Construction

**EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.**

Bob,

Good to hear from you. I hope you are doing well also. We are almost done on the trace metals lab. It should get turned over Friday or early next week.

The numbers that the State was using in 2008 look quite attractive, but is it amazing how much costs have gone up since then.

We do not have any hard data, but based on a recent school project estimate, we are seeing numbers over the \$500/SF range. If you asked us for a good starting point for costs I would use the following:

- K-6: \$500/SF
- K-8: Prorate \$500/SF for K-6 portion and \$525 for Middle Grades portion
- Middle Grades/Junior High: \$525/SF
- High School: \$550/SF
- Career Center: \$650/SF (assuming there are a number of specialized areas that have expensive equipment)

We don't have a good sense of demolition and I suspect it can vary widely, but Burlington should have a good sense of the cost since they will be doing a significant amount of demo. The PCB portion is the real wildcard.

I hope this helps. We will have better info going forward, after we have hard bids.

Keith

**Keith Robinson, Partner**

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## VT School Construction Cost Matrix



Cam Featherstonhaugh <cam@TruexCullins.com>

To ● Donohue, Bob; ○ David Epstein

 This sender cam@TruexCullins.com is from outside your organization.

 You replied to this message on 6/26/2023 12:17 PM.



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Bob,

Attached is a matrix of our post pandemic cost opinions from comparable projects to Winooski (whole building rehab or building replacement).

There are more projects we could look at, but these are the ones that are closest to Winooski in terms of overall project scope and complexity.

I wanted to get you this information ASAP, but if you have any ideas about how to better format or present this information for different audiences, please let us know.

Please let me know if you have any questions.

Thank you,

Cam

CAM FEATHERSTONHAUGH, AIA, CSI  
Senior Associate

**truexcullins**

**ARCHITECTURE + INTERIOR DESIGN**

802.658.2775 main

802.488.8248 direct

Projected School Construction Costs - Selected Vermont Schools

21-Jun-23

School	District	School type	Project type	Date of estimate	Estimating firm	Estimated cost* (rounded)	time since estimate (months)	Annual Inflation** (assumed)	Adjusted Cost (escalated to today)	Project Size	Cost per ft <sup>2</sup> (today's \$)	Notes
Danville Schools	Caledonia Central Supervisory Union	Pre K - grade 12	Reno/Additions	Dec-21 Vermeulens	\$ 66,100,000.00	18	10%	\$ 76,015,000.00	120,000	\$ 633.46	Existing building undersized by ~1/3	
Allen Brook School	Champlain Valley School District	Pre K - grade 2	Reno/Additions	Aug-22 DEW	\$ 47,200,000.00	10	10%	\$ 51,133,333.33	78,500	\$ 651.38	Existing building undersized by ~1/4	
Central Vermont Career Center	CVCC School District	Tech Center	New Build	May-21 Vermeulens	\$ 84,200,000.00	25	10%	\$ 101,741,666.67	140,000	\$ 726.73	Existing building unuseable for program	
Milton Elementary Middle School	Milton Town School District	Pre K - Grade 8	Reno/Additions	Mar-23 PM&C	\$ 147,600,000.00	3	10%	\$ 151,290,000.00	225,000	\$ 672.40	Existing building undersized by ~1/4	
Milton Elementary Middle School	Milton Town School District	Pre K - Grade 8	New Build	Mar-23 PM&C	\$ 158,200,000.00	3	10%	\$ 162,195,000.00	225,000	\$ 720.69	Existing building undersized by ~1/4	

\*Cost opinions presented here include estimated cost of construction and estimated professional fees but do not include FF&E

\*\*Cost opinions are presented in this column without accounting for cost escalation




\*\*\*numerous sources indicate real inflation for commercial construction between 15% and 19% between december of 2021 and early 2023.

\*\*In 2023, the market has cooled, and we only have one estimate performed in 2023.

\*\*\*For illustration purposes, we are using a global annual inflation rate of 10% so that we can compare theoretical costs as of today.

Average School Construction Cost in today's dollars (projected) \$ 680.93




## OPTION COMPARISON

CRITERIA OPTIONS	LEARNING ENVIRONMENT	DISRUPTION	COST
 <p><b>A</b></p>	<ul style="list-style-type: none"> <li>+ PURPOSE BUILT ELEMENTARY SCHOOL</li> <li>- RENOVATED MIDDLE SCHOOL</li> </ul>	<ul style="list-style-type: none"> <li>+ PROJECT DOES NOT REQUIRE TEMPORARY CLASSROOMS</li> <li>- PROJECT MUST BE BUILT IN 4 PHASES</li> <li>- MIDDLE SCHOOL STUDENTS MOVE TWICE</li> </ul>	<ul style="list-style-type: none"> <li>+ LESS EXTENSIVE SITEWORK</li> <li>- 4 YEAR CONSTRUCTION DURATION</li> <li>+LEAST COST (-3%)</li> </ul>
 <p><b>B</b></p>	<ul style="list-style-type: none"> <li>+ PURPOSE BUILT ELEMENTARY SCHOOL</li> <li>+ SEPARATE PRESCHOOL</li> <li>- RENOVATED MIDDLE SCHOOL</li> </ul>	<ul style="list-style-type: none"> <li>+ PROJECT DOES NOT REQUIRE TEMPORARY CLASSROOMS</li> <li>- PROJECT MUST BE BUILT IN 4 PHASES</li> <li>- MIDDLE SCHOOL STUDENTS MOVE TWICE</li> </ul>	<ul style="list-style-type: none"> <li>+ LESS EXTENSIVE SITEWORK</li> <li>- MOST SQUARE FOOTAGE</li> <li>- SEPARATE PRE-K BUILDING</li> <li>- 4 YEAR CONSTRUCTION DURATION</li> <li>+MIDDLE COST</li> </ul>
 <p><b>C</b></p>	<ul style="list-style-type: none"> <li>+ PURPOSE BUILT ELEMENTARY SCHOOL</li> <li>+ PURPOSE BUILT MIDDLE SCHOOL</li> </ul>	<ul style="list-style-type: none"> <li>+ PROJECT CAN BE BUILT WITHOUT DISRUPTING THE EXISTING ES/MS</li> <li>+PROJECT CAN BUILT IN 2 PHASES</li> <li>+STUDENTS MOVE ONCE</li> </ul>	<ul style="list-style-type: none"> <li>+ EFFICIENT LAYOUT</li> <li>+ 3 YEAR CONSTRUCTION DURATION</li> <li>-EXTENSIVE SITEWORK</li> <li>-HIGHEST COST (+3%)</li> </ul>

## COST ESTIMATING NOTES

- **Intent:** The purpose of this estimate is for comparison purposes only between the schemes. Further design refinement is necessary for accurate costing information.
- **Outline specifications:** 2-story building, slab-on grade, steel structure, brick and metal panel exterior, metal stud walls, fiberglass windows, fully sprinklered, open-loop ground source heat pump system with full air-conditioning, LED lighting, solar array by Owner. Goal is a net zero energy use building.
- **Capacity:** Proposed school design 1350 students grades PK - 8.
- **Bond Vote:** Assumed bond vote date of November 2023.
- **Bidding:** Assumed construction bid date of January 2025. Additional cost escalation may need to be added if bidding occurs at a later date.
- **Soft Costs:** 20% added for soft costs for Option C. 23% added for soft costs for Option A & B due to additional complication, duration and risk. Determination of amount of furniture and AV equipment to be reused may affect percentage. Hazardous Material Abatement not included.
- **Estimate:** By PM&C dated 03/22/23 based on preliminary drawings by TruexCullins dated 02/28/23.

## HERRICK AVE PROJECT - COMPARATIVE COSTS

	CONSTRUCTION COST <sub>1</sub>	PROJECT COST <sub>2</sub>	PROJECT SIZE	SQUARE FT PER STUDENT	COST PER SQUARE FOOT	CONSTRUCTION DURATION
 <b>A</b>	\$132,100,000	\$162,400,000	219,068 ft <sup>2</sup>	162 ft <sup>2</sup> / student	\$742 / ft <sup>2</sup>	4 years
 <b>B</b>	\$136,000,000	\$168,000,000	225,071 ft <sup>2</sup>	167 ft <sup>2</sup> / student	\$747 / ft <sup>2</sup>	4 years
 <b>C</b>	\$143,400,000	\$172,100,000	226,849 ft <sup>2</sup>	168 ft <sup>2</sup> / student	\$759 / ft <sup>2</sup>	3 years

## Donohue, Bob

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**From:** Mike Hulbert <m.hulbert@hpcummings.com>  
**Sent:** Thursday, June 8, 2023 7:26 AM  
**To:** Donohue, Bob  
**Cc:** Travis Hulbert  
**Subject:** Re: Cost data for school construction projects

**EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.**

Bob,

We haven't done much recently with K-12 schools mainly college construction. We are currently working on the Colby Sawyer Nursing School Building (\$600/sf) but it's a difficult comparison as there is a lot of wasted space and design features that you wouldn't normally see in a towns K-12 building. The sf costs you've noted, are they construction costs including fixed equipment or project costs including owner costs which generally are 25-30% above construction costs? The sf costs you've shown seem more like overall project costs and a very dependent upon the construction types. A wood structure should be in the \$400./sf range. It may be ideal to put some qualifications to these numbers especially the Sitework as that can vary significantly. Hope this helps. If you have more specific questions feel free to email or call. Good to hear from you and hope all is going well. We are just finally finishing the Trace Metals Lab due to deliveries. Speaking of which be careful as schedules are a huge issue with electrical transformers being over 24 months and swithgear being 14-16 months!!

**Mike Hulbert**

**Principal /Senior Project Manager**  
**H.P. Cummings Construction Co.**  
PO Box 269, 5 High St, Woodsville NH 03785  
T: 603-747-3303 | C: 802-371-7028 |  
E: mhulbert@hpcummings.com |  
Visit our Website at [www.hpcummings.com](http://www.hpcummings.com)

**Donohue, Bob**

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**From:** Aja, Joe  
**Sent:** Tuesday, June 6, 2023 6:38 AM  
**To:** Donohue, Bob  
**Subject:** RE: Construction costs per square foot

Hello Bob,

Unfortunately, we are seeing prices that are similar or higher:

1. The new Public Safety Facility in Williston (\$19.0M) is \$554/SF. This facility does contain few unique items: Public Safety Answering Point (E911), a radio tower and room, a heated garage, and two holding cells, the rest of the building is office space.
  - a. Site work cost came in at \$33,583/SF. This site had ledge removal and a lot of fill.
2. The new psychiatric facility (\$16.0M) in Essex that just opened, came in at \$928/SF. Demolition of the old building at this site was \$23/SF. I don't have a good site number for this project due to all the anomalies we had.
3. When estimating for a clear span metal building for storage for the Urban Search and Rescue / Hazardous Materials with a small amount of office space, the estimate is \$350/SF.
4. Modernizing a five-stop elevator, new fire alarm, and reroofing and restoring two canopies on a courthouse in Newport is \$1.2M.
5. Smaller (\$20,000 to \$500,000) renovations are all over the place and we typically only get one bidder, if we are lucky.

We have not had to build an on-site system since the early 80's.

Not a lot of good news but should help out some.

Feel free to reach out if you have more questions.

Good luck.

---

E. Joseph Aja, Jr. | Director  
Vermont Department of Buildings and General Services  
Design and Construction Division  
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## SCHOOL COST ANALYSIS

December 2022



### School Cost

For the RIDE school facilities assessments, project costs per square foot were developed based on a review of a variety of school project cost data from completed Rhode Island projects, similar Massachusetts and Connecticut K-12 schools, and national square foot school cost publications. As the determination of a single square foot cost for each school type is variable, due to its location geographically (suburbs versus city), varying site conditions, un-predictable economic influences, etc., the square foot costs reflect total project costs per square foot for the representative school type.



### COST PER SQUARE FOOT

The total project square foot costs assumed 2022 economics and a hard bid (lump sum) environment. Focused on the low bidder's bid, these costs include a 20% allowance for all project soft costs and are in line with RIDE School Construction Regulations (5/24/07) regarding eligible project costs:

- Elementary School: \$529/sf
- Middle School: \$555/sf
- High School: \$589/sf



### COST PER STUDENT

Combining furniture, fixtures, and equipment (FF&E), and technology (IT) into one total budget provides the most flexibility to each district. The FF&E and IT allowances assumes an ES of 75,000 sf with 350 students; a MS of 120,000 sf with 675 students; and a HS of 175,000 sf with 890 students. The following per student budgets for FF&E and IT budgets are:

- FF&E: \$2,100 /student
- IT: \$3,000/student