



Discover a World of Opportunity™

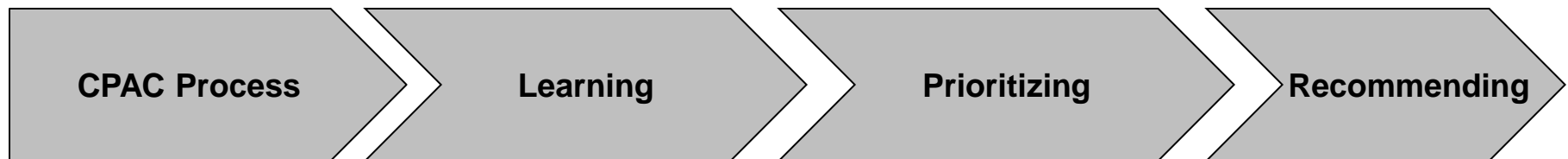
2016 CPAC Capacity & QLE Sub-Committee Meeting #4

Capacity Solution Cost Estimates

April 20, 2016

Where are we in the process?

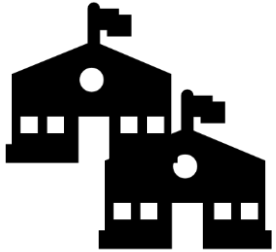
| | Overview | 2020 Capacity Plan and Investment Priorities | Quality Learning Environments Overview | Cost Estimations for Project Solutions | CPAC Recommendations |
|------------------|--|--|--|---|---|
| Date: | March 7 | March 21 | April 4 | April 20 | May 2 |
| Location: | West HS | North HS | George Wash. | CLA | Morey MS |
| Agenda: | <ul style="list-style-type: none"> Review 2012 investments Enrollment forecasting methodology Overview of Quality Learning Environments | <ul style="list-style-type: none"> Detailed regional capacity needs & prelim solutions Develop criteria to rate projects according to need | <ul style="list-style-type: none"> Understanding need Approach to reviewing Prioritization criteria | <ul style="list-style-type: none"> Cost estimating methodology Cost estimates for Capacity and QLE solutions Part 1 of CPAC Prioritization | <ul style="list-style-type: none"> Review any remaining questions “Draw the line” for QLE and Capacity Discuss next steps for CPAC |



Meeting Agenda

- Finish up Focused Investments Presentations
- Overview of Cost Methodology
- Preliminary Investment Sizes for Capacity & QLE
- Capacity Cost Estimates
- CPAC: Input and Discussion of Capacity Projects Recommendations
- QLE Cost Estimates
- CPAC: Input and Discussion of QLE Project Recommendations

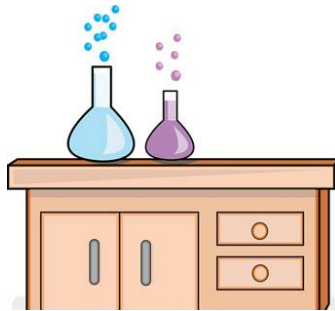
Initial Thinking on 2016 Bond Projects



New Capacity

- New facilities
- Expanded capacity at existing campuses

\$110-\$150M



Quality Learning Environments

- Targeted investments at select older facilities to allow them to upgrade and personalize learning spaces
- Investments to bring facilities up to Education Suitability guidelines

\$110-\$150M



Maintenance

- Addressing deficiencies in existing assets (e.g., heating/cooling, roofing, electrical, plumbing)
- Addressing ADA & code issues

\$220-\$280M



Technology and Safety

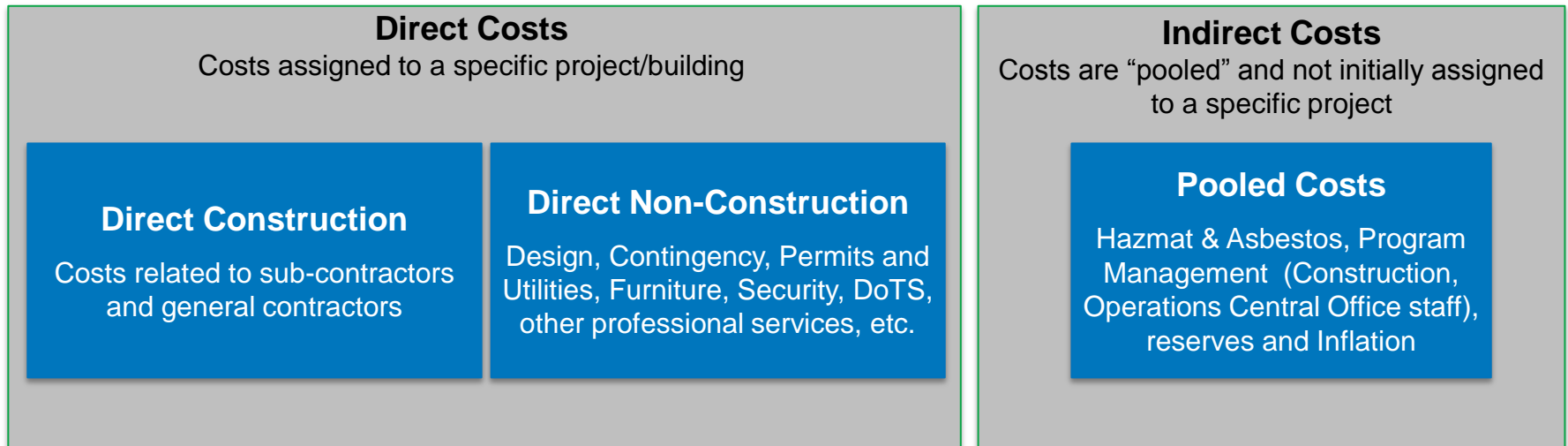
- Classroom technology
- District infrastructure and systems
- Safety, cameras, door access

\$60-\$80M

Cost Estimate Definitions & Categories

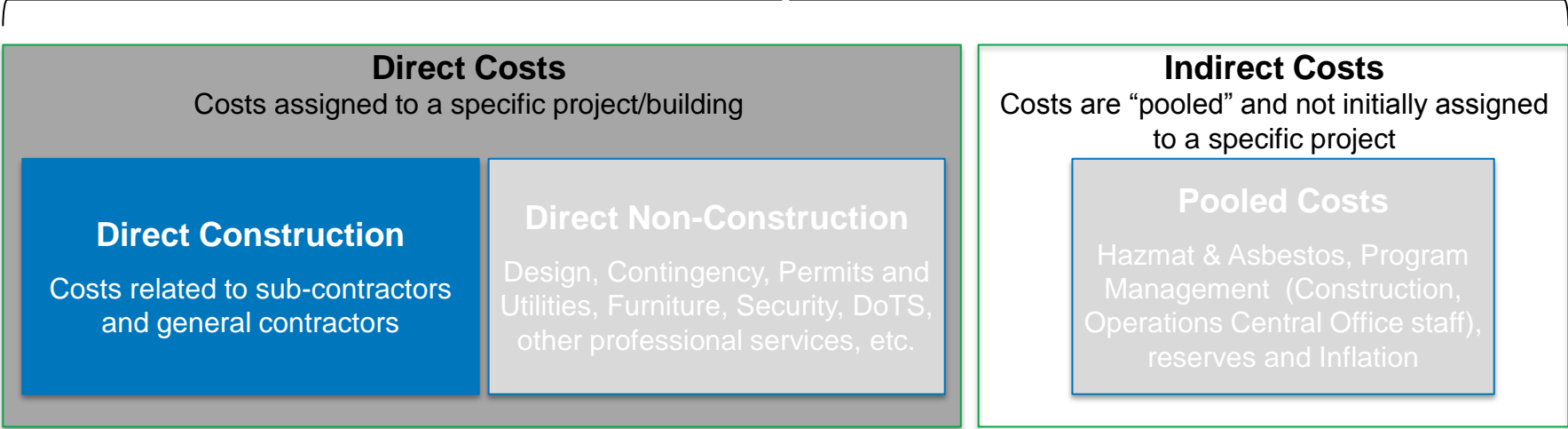
There are 3 categories of costs: Direct-Construction, Direct-Non-Construction and Indirect

Total Cost of Construction Project



Cost Estimate Definitions & Categories

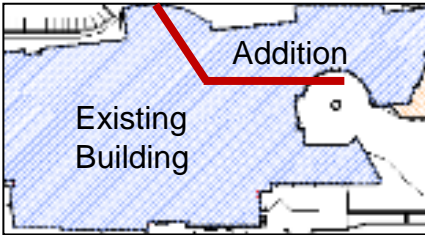
Total Cost of Construction Project



Construction costs are differentiated based on the type of new capacity / renovation



New build \$ per square foot



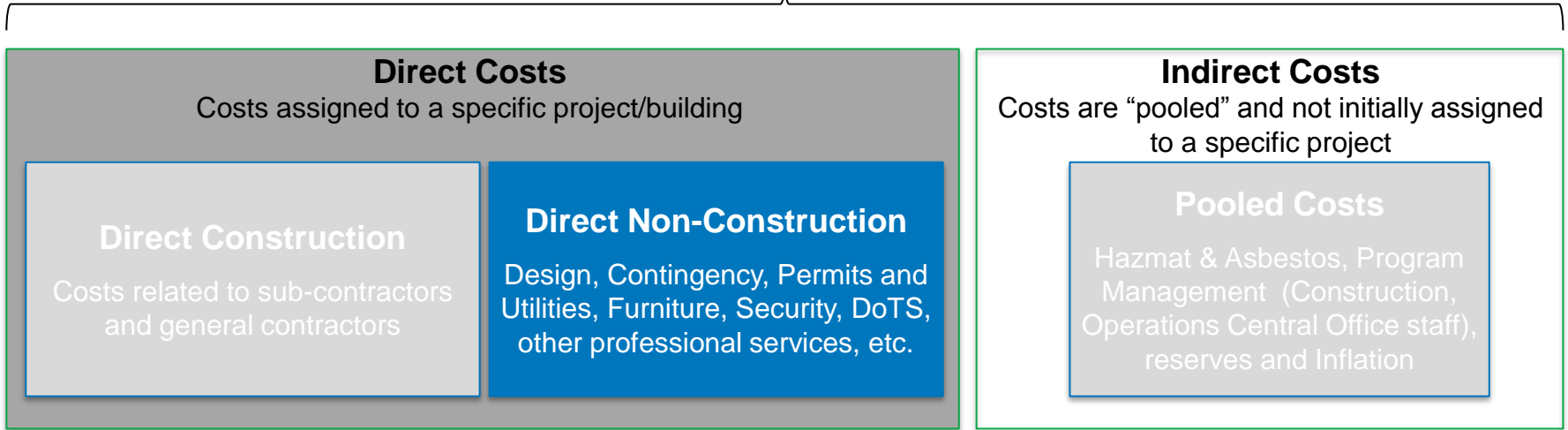
Addition \$ per square foot



Renovation \$ per square foot

Cost Estimate Definitions & Categories

Total Cost of Construction Project

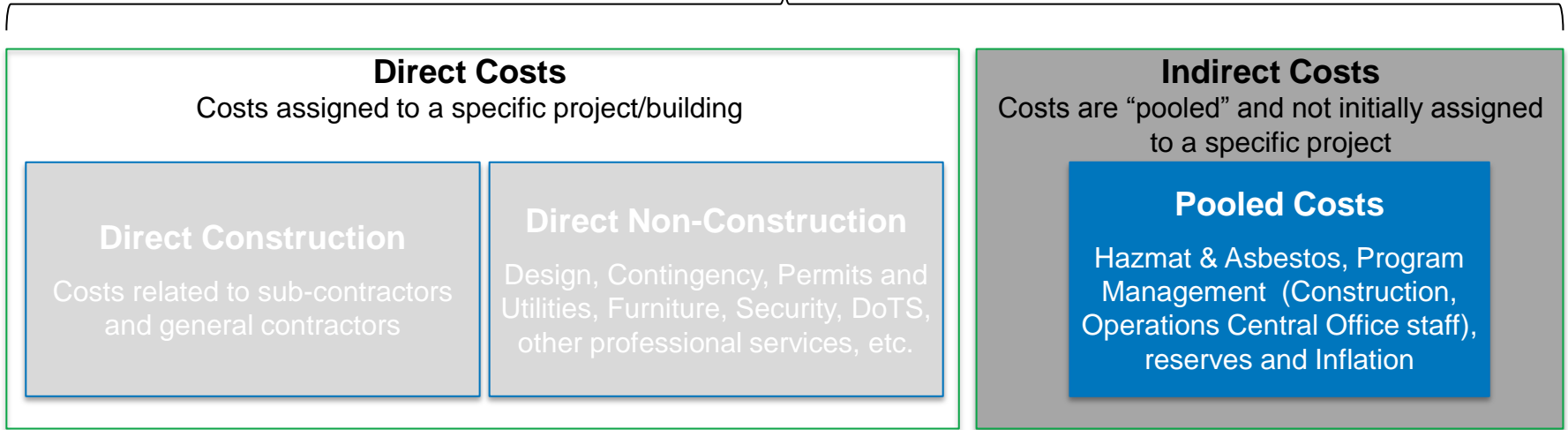


There are a series of costs that are directly related to the construction project, but go beyond the construction costs. These costs are calculated as a % of the Direct Construction cost.

| | | | |
|---------------------------------------|---------------------------------------|------------------|-------------------------------|
| Architectural / Engineering Fees % | Furniture Fixtures and Equipment % | Permits & Fees % | Construction Contingency % |
|---------------------------------------|---------------------------------------|------------------|-------------------------------|

Cost Estimate Definitions & Categories

Total Cost of Construction Project



These are types of costs that are not directly related to an individual construction project, but are shared costs used to support all projects or specific projects as needs arise. These costs are applied as a % of the Direct Construction cost

| | | | |
|------------------------------|-----------------------------|-------------------|--------------------|
| Hazardous Materials % | Program Management % | Reserves % | Inflation % |
|------------------------------|-----------------------------|-------------------|--------------------|

Data Sources / Inputs into Cost Calculations

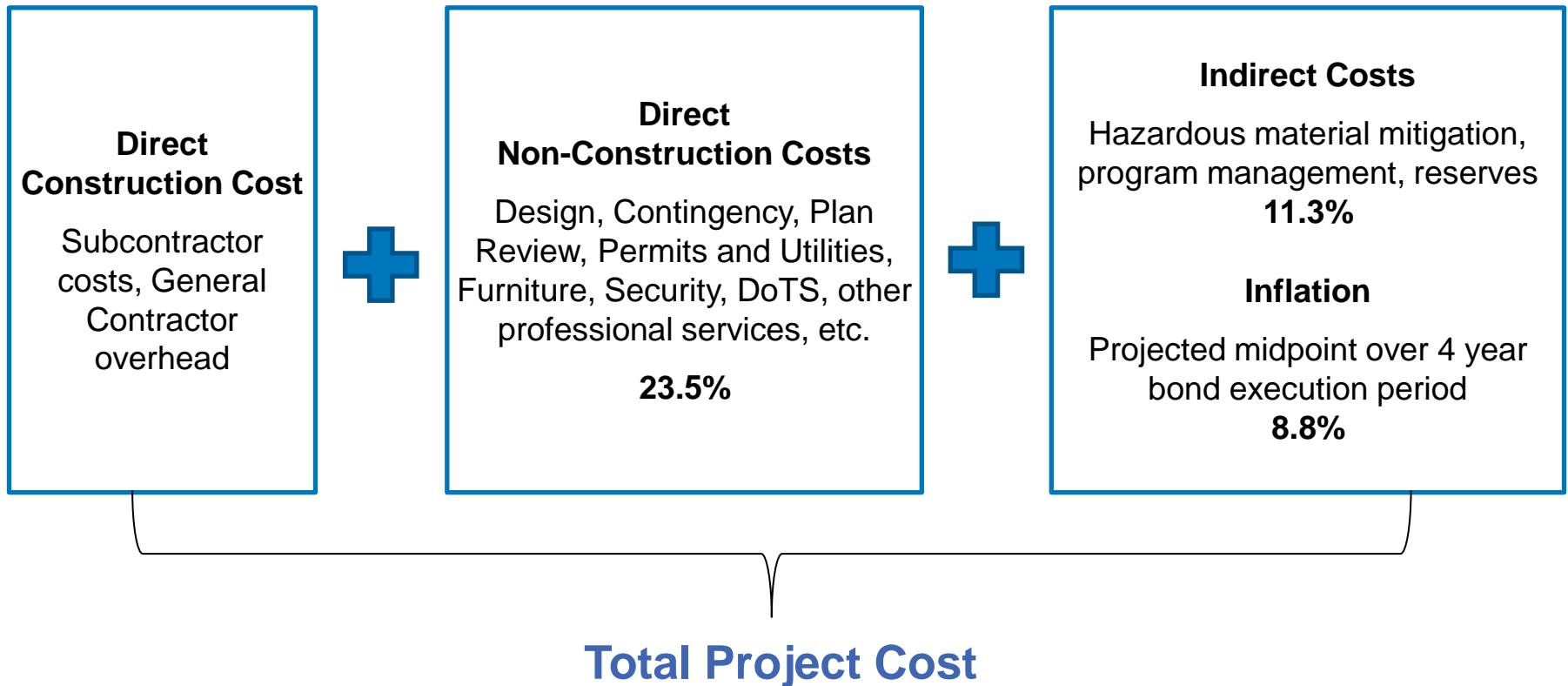
A mix of 5 internal and external sources are used to develop the cost estimates

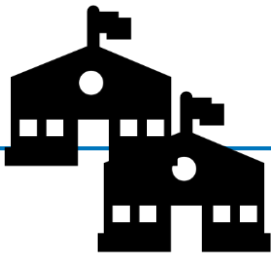
| DPS Historical Costs | Market Analysis | Third Party Cost Estimating Firms | DPS Educational Specifications | Non-DPS Project Comparison |
|---|---|--|---|---|
|  |  |  |  |  |

- Analyzed comparable projects from the 2008 and 2012 bonds.
- Compared RSMeans and internal databases with historic construction costs.
- Compiled data from local estimating firms and contractors to anticipate macroeconomic factors such as regional labor, materials costs, and inflation forecasts.
- Utilized relationships with third party estimating firms to create and validate our cost estimates as well as confirm our estimating methodology.
- Updated building specifications that DPS utilizes to guide the construction requirements and bidding process based on changes to instruction and historical project outcomes.
- Completed a market review of 8 Denver Metro school district actual project costs and active planning estimates to help inform our estimating methodology.

DPS Recommendations for Cost Estimation

For each \$100 budgeted in Direct Construction Costs, an additional \$43.60 is required to be budgeted to support the non-construction, indirect costs, and inflation, which total 43.6%. For example, a capacity project with a direct construction cost of \$10,000,000 would require a total bond project budget of \$14,360,000.





Capacity - Cost Scenarios

New Capacity

- New facilities
- Expanded capacity at existing campuses

\$110-\$150M

| Where would you draw the line to hit these cost targets? | |
|--|---------------|
| New Capacity Projects: | \$110,000,000 |
| Additional Capacity Projects: | |
| | |
| New Capacity Projects: | \$125,000,000 |
| Additional Capacity Projects: | |
| | |
| New Capacity Projects: | \$140,000,000 |
| Additional Capacity Projects: | |

New Capacity Project Cost Estimates

| Project | Year | DPS Priority | Seats | Prelim Cost |
|---|------|--------------|-------|----------------------|
| K-8 Campus in Gateway / GVR | 2017 | 1 | 950 | \$43.6M |
| FNE HS @ Groff Campus in GVR | 2017 | 1 | 500 | \$33.1M |
| McGlone Expansion in Montbello | 2017 | 1 | 270 | N/A – 2012 Bond |
| North Stapleton ES Seats | 2018 | 1 | 1,000 | N/A – TIF Funded |
| HS Expansion @ Sandoval Campus | 2018 | 1 | 500 | \$22.4M |
| Capacity Utilization Fund | All | 1 | TBD | \$8.0M |
| Student Services Fund | All | 1 | TBD | \$4.2M |
| Early Ed Center at Place Bridge Academy | 2018 | 2 | 150 | \$7.1M |
| Elem. Expansion near Wash Park West | 2018 | 2 | 100 | \$2.7M |
| Elem. Expansion near Hale / Mayfair | 2018 | 2 | 150 | \$3.1M + TIF Funding |
| Early Ed Center at Shoemaker | 2018 | 3 | 150 | \$9.4M |
| Elementary School in Montbello | 2019 | 3 | 500 | \$34.1M |

Additional Capacity Project Cost Estimates

| School / Campus | Description | DPS Priority | Prelim Cost |
|------------------------------------|---|--------------|-------------|
| Montclair Elementary | 4 classroom addition; new cafeteria and breakouts | 1 | \$5.4M |
| Conservatory Green Campus | 6 classroom addition for build-out of High Tech Elementary and DSST CG MS | 1 | \$4.4M |
| GALS* | Additional classrooms, cafeteria, locker rooms, and parking, | 2 | \$5.8M |
| Slavens Campus | Additional classrooms | 2 | \$0.7M |
| North HS Campus | 6 classroom addition; modifications to annex building to support build-out of STRIVE HS | 2 | \$3.4M |
| Kepner Campus | 6 classroom addition; modifications to accommodate shared campus | 2 | \$5.6M |
| Asbury Campus | Additional classrooms | 3 | \$1.3M |
| Cory Campus | Additional classrooms and cafeteria expansion | 3 | \$5.5M |
| Denver Language School | Add classrooms via several options under consideration | 3 | \$3.7M |
| Downtown Denver Expeditionary MS | Additional campus | 3 | \$11.0M |
| Ellis Campus | Additional intervention and admin space | 3 | \$0.8M |
| Green Valley Campus | Additional classrooms | 3 | \$2.0M |
| Rocky Mtn School of Exped Learning | Additional classrooms | 3 | \$9.6M |
| ROOTS Elementary | Additional classrooms | 3 | \$14.4M |
| Southwest Early College | Potential new locations | 3 | \$3.7M |
| West Career Academy | Additional space | 3 | \$1.2M |

Student Services Fund

Funds to cover:

- Special Education Center Program moves and expansions to serve students with significant special needs.
- Denver Health Center renovations at oldest seven sites – funded at \$75,000 each.

| Cost | site |
|---------------------|---|
| \$ 500,000 | STRIVE Smart High School - building addition for new center program |
| \$ 150,000 | DSST Cole MS – building modification to create new center program |
| \$ 160,000 | DSST College View MS – building modification to create new center program |
| \$ 560,000 | KSPA -building addition for new center program |
| \$ 300,000 | 2017-18 Annual relocation, closure, and expansion support |
| \$ 300,000 | 2018-19 Annual relocation, closure, and expansion support |
| \$ 400,000 | 2019-20 Annual relocation, closure, and expansion support |
| \$ 525,000 | Denver Health Center renovation 7 sites @ \$75K each |
| \$ 2,895,000 | SUB TOTAL |
| \$ 4,157,000 | TOTAL* |

Capacity Utilization Fund

Funds to address capacity needs due to unforeseen demographic changes between 2018 and 2020.

| Cost | Use |
|--------------------|--------------------------------------|
| \$2,000,000 | Facility modifications for fall 2018 |
| \$3,000,000 | Facility modifications for fall 2019 |
| \$3,000,000 | Facility modifications for fall 2020 |
| \$8,000,000 | Total Cost* |

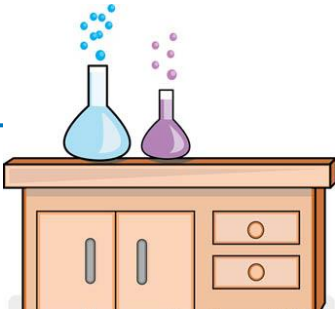
Capacity Discussion - Feedback

New Capacity:

- Are there any New Capacity Projects that you recommend changing the priority ranking?

Additional Capacity:

- Are there any Additional Capacity Projects that you recommend changing the priority ranking?



Quality Learning Environments

- Targeted investments at select older facilities to allow them to upgrade and personalize learning spaces
- Investments to bring facilities up to Education Suitability guidelines

\$110-\$150M

Quality Learning Environments – Cost Scenarios

| Where would you draw the line to hit these cost targets? | |
|--|---------------|
| Educational Suitability: | \$110,000,000 |
| Innovative Classrooms: | |
| Focused Investments: | |
| Career Connect: | |
| Learning Landscapes: | |
| | |
| Educational Suitability: | \$125,000,000 |
| Innovative Classrooms: | |
| Focused Investments: | |
| Career Connect: | |
| Learning Landscapes: | |
| | |
| Educational Suitability: | \$140,000,000 |
| Innovative Classrooms: | |
| Focused Investments: | |
| Career Connect: | |
| Learning Landscapes: | |

QLE Cost Estimates – Prong #1: Educational Suitability

Education Suitability Investments

Provide funding to address priority building deficiencies which negatively impact school programs and the learning environment.

- Ed suitability projects are estimated the same way that capacity projects are estimated.
- In response to committee members' concerns that some high priority projects included both high priority scope items and lower priority scope items, we created more option 2s for Ed suitability projects. (option 2s are all lower scope and cost).
- Added whether building is leased or owned (per committee member request).

QLE Cost Estimates – Prong #2: Innovative Classroom Upgrades

Innovative Classroom Upgrades

Provide funding to make relatively low-dollar-value, school driven, high-impact investments that would support upgrades to a broader set of schools and increase community engagement

Depending on how funds are allocated between Ed Suitability and Focused Investments, Innovative Classroom Formula can flex in scenarios below:

| | Small School (250) | Medium School (400) | Large School (800) | Extra Large school (1600) | Total # of allocations to eligible schools | Total estimated cost* |
|--------------------------|--------------------|---------------------|--------------------|---------------------------|--|-----------------------|
| # upgrades @ 90:1 | 3 \$30,000 | 4 \$40,000 | 9 \$90,000 | 18 \$180,000 | 759 | \$10,900,000 |
| # upgrades @ 80:1 | 3 \$30,000 | 5 \$50,000 | 10 \$100,000 | 20 \$200,000 | 848 | \$12,200,000 |
| # upgrades @ 70:1 | 4 \$40,000 | 6 \$60,000 | 11 \$110,000 | 23 \$230,000 | 860 | \$12,400,000 |
| # upgrades @ 60:1 | 4 \$40,000 | 7 \$70,000 | 13 \$130,000 | 27 \$270,000 | 1113 | \$16,000,000 |
| # upgrades @ 50:1 | 5 \$50,000 | 8 \$80,000 | 16 \$160,000 | 32 \$320,000 | 1345 | \$19,300,000 |

Innovative Classroom Upgrades - What Does This Buy?

Based on this proposal, schools would be able to make some real investments in upgrades

| Improvement Requested | Unit Cost | Classroom Cost | Variables Affecting Cost |
|---|----------------------|----------------------|---|
| New classroom furniture | \$100-\$500 | \$4000 - \$7000 | Number of student, classroom size |
| Specialized program equipment (e.g., science, art, music) | \$100-\$5000 | \$1,000 - \$10,000 | HVAC, Electrical, Plumbing costs |
| New Technology (projectors, doc. cameras, | \$100 - \$4000 | \$100 - \$4000 | HVAC, Electrical |
| Smartlab | | \$150,000-\$200,000 | HVAC, Electrical, Plumbing costs |
| Classroom Flooring Replacement/Refinish Wood (gym) | ~ \$50.00 sq. ft. | ~ \$35,000-\$45,000 | Floor condition |
| Classroom Flooring Replacement/Refinish (classroom) | ~ \$3.50-\$4 sq. ft. | ~ \$3,000-\$4,000 | Haz Mat, floor conditions, schedule |
| Classroom or other area Painting/Accents | ~ \$2.50-\$3 sq. ft. | ~ \$1,000 - \$2,000 | Wall condition, obstacles, schedule |
| Updated Lighting Treatments | ~ \$6 - 9 sq. ft. | ~ \$6,000 - \$10,000 | Ceiling condition, fixtures used, electrical capacity |
| Classroom subdivision (minor) | ~ \$100-500 L/ft. | ~ \$5,000-\$15,000 | Length, electrical, plumbing, cabinets |
| Auditorium Update | | \$100,000-\$150,000+ | Condition of current seating, Need for new lighting/sound |

QLE Cost Estimates – Prong #3: Focused Investments

Focused Investments

Target concentrated investments in the collection of large baby boomer era “efficiency” secondary facilities that have received minimal visible updates or remodels in recent decades.

Cost estimates created from principal requests and maintenance opportunities that meet eligible criteria.

QLE Cost Estimates – Prong #3: Focused Investments

| School Site | Year Built | Facility Sq Ft | Projected 16-17 Enrollment | Total Focused Impact Project Budget* | Focused impact per student | Focused impact per sf |
|------------------|------------|---------------------|----------------------------|--------------------------------------|----------------------------|-------------------------|
| A. Lincoln | 1960 | 296,631 | 1635 | \$ 6,100,000 | \$3,731 | \$20.56 |
| Jefferson | 1960 | 257,819 | 1045 | \$ 4,000,000 | \$3,828 | \$15.51 |
| Kennedy | 1964 | 285,895 | 1127 | \$ 7,300,000 | \$6,477 | \$25.53 |
| North Campus Gym | 1959 | | 1503 | \$ 3,600,000 | \$2,395 | |
| Washington | 1960 | 329,254 | 1305 | \$ 11,100,000 | \$8,506 | \$33.71 |
| Baker | 1957 | 142,861 | 725 | \$ 2,900,000 | \$4,000 | \$20.30 |
| Grant | 1953 | 78,835 | 462 | \$ 2,900,000 | \$6,277 | \$36.79 |
| Hamilton | 1969 | 178,096 | 993 | \$ 5,900,000 | \$5,942 | \$33.13 |
| Hill | 1955 | 150,753 | 710 | \$ 3,300,000 | \$4,648 | \$21.89 |
| Kepner | 1951 | 147,193 | 810 | \$ 7,600,000 | \$9,383 | \$51.63 |
| Merrill | 1953 | 122,637 | 835 | \$ 6,200,000 | \$7,425 | \$50.56 |
| Remington | 1954 | 48,151 | 313 | \$ 500,000 | \$1,597 | \$10.38 |
| Rishel | 1957 | 142,580 | 635 | \$ 3,400,000 | \$5,354 | \$23.85 |
| | | Total Budget | | \$ 64,800,000 | Average: \$5,351 | Average: \$28.93 |

*Total cost includes direct construction, direct non-construction, and indirect costs. Not all funds will go directly to construction project.

Learning Landscape Investment Opportunity

Option 1:

Base project:

Update 14 learning landscapes – includes:

- 8 oldest
- 1 non-traditional building without real LL
- 5 need updating for a various reasons (early aging, smaller installation etc.)

| School | Year Built | School | Year Built |
|---------------------|------------|------------------|----------------|
| Bromwell | 2000 | Smith | 2003 |
| Garden Place | 2000 | Columbian | 2005 |
| Eagleton | 2002 | Greenlee | 2005 |
| Munroe | 2002 | Archuleta | 2009 |
| Castro | 2003 | Greenwood | 2009 |
| Crofton | 2003 | Harrington | 2010 |
| Remington | 2003 | STRIVE-Ruby Hill | N/A |
| Base Project | | | \$4.5 M |

Future refresh fund to address

- 10-15 highest need Learning Landscapes as assessed in the latter portion of bond.

| | |
|---------------------------------|---------|
| Learning Landscape Refresh fund | \$2.3 M |
|---------------------------------|---------|

| | |
|-----------------------|----------------|
| Option 1 Total | \$6.8 M |
|-----------------------|----------------|

Option 2:

Base Project only - \$4.5 M



Youth Career Pathways (CTE) Expansion Fund

Expansion of existing CareerConnect sites and addition of new sites to allow more students access to these successful programs.

| Draft Projects | Request |
|--------------------------------------|---|
| A Lincoln High School | Improve existing CareerConnect classrooms |
| John F. Kennedy High School | Expand existing popular program |
| George Washington High School | Expand existing popular program |
| Manual High School | Expand existing popular program and improve existing CareerConnect classrooms |
| Martin Luther King Jr. Early College | Expand existing popular program and improve existing CareerConnect Classrooms |
| East High School | Expand existing popular program |
| Legacy Options High School | Add new CareerConnect classrooms |
| CEC High School | Expand existing popular program |
| K-8 Stem Expansion | Capital improvements to accompany grants for K-8 STEM classrooms. Sites to be determined through application process. |
| West Campus | Expand existing popular program |
| Mill levy CareerConnect Expansion | 5 new schools with fully built career pathways – School sites to be determined. |
| TOTAL COST* | \$5.3M |

| Courses of Study Include |
|--------------------------|
| BusinessConnect |
| CreativeConnect |
| EdConnect |
| EngineeringConnect |
| HospitalityConnect |
| MakerConnect |
| MedConnect |
| PublicSafetyConnect |
| TechConnect |
| ACEConnect |

QLE Discussion - Feedback

Ed Suitability:

- Are there any Educational Suitability Projects that you recommend changing the priority ranking?
- Which option (1 or 2) do you support for particular projects?

Innovative Classroom Upgrades:

- Which level of funding do you lean towards for Innovative Classroom Upgrades?
- Is there a level that you are uncomfortable with (high or low)?

Focused Investments:

- General feedback on the proposal?
- Any changes you would recommend for the level of investment over all or per school?

CareerConnect and Learning Landscapes:

- General feedback on the proposals?
- Changes you would recommend to the cost estimates?