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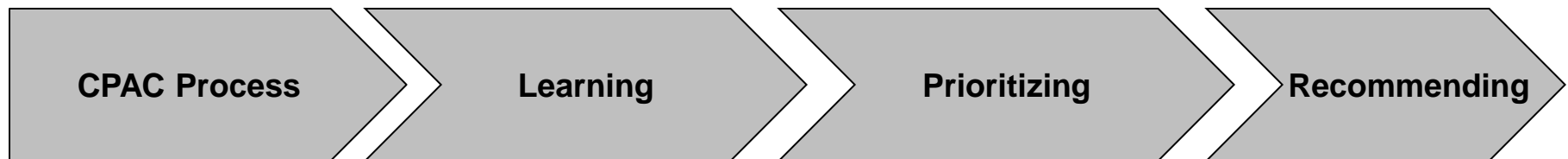
2016 CPAC Capacity & QLE Sub-Committee Meeting #4

Capacity Solution Cost Estimates

April 20, 2016

Where are we in the process?

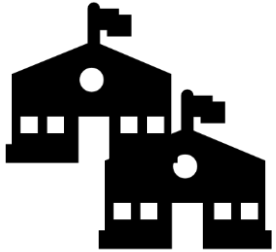
	Overview	2020 Capacity Plan and Investment Priorities	Quality Learning Environments Overview	Cost Estimations for Project Solutions	CPAC Recommendations
Date:	March 7	March 21	April 4	April 20	May 2
Location:	West HS	North HS	George Wash.	CLA	Morey MS
Agenda:	<ul style="list-style-type: none"> Review 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

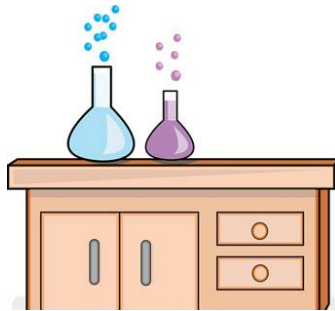
Initial Thinking on 2016 Bond Projects



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

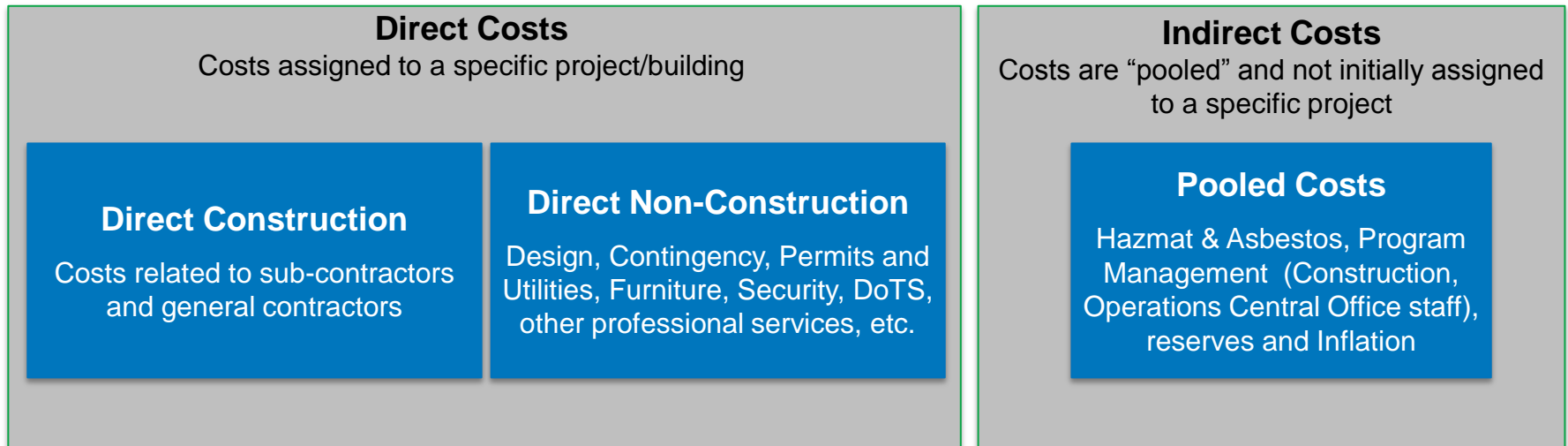
- Classroom technology
- District infrastructure and systems
- Safety, cameras, door access

\$60-\$80M

Cost Estimate Definitions & Categories

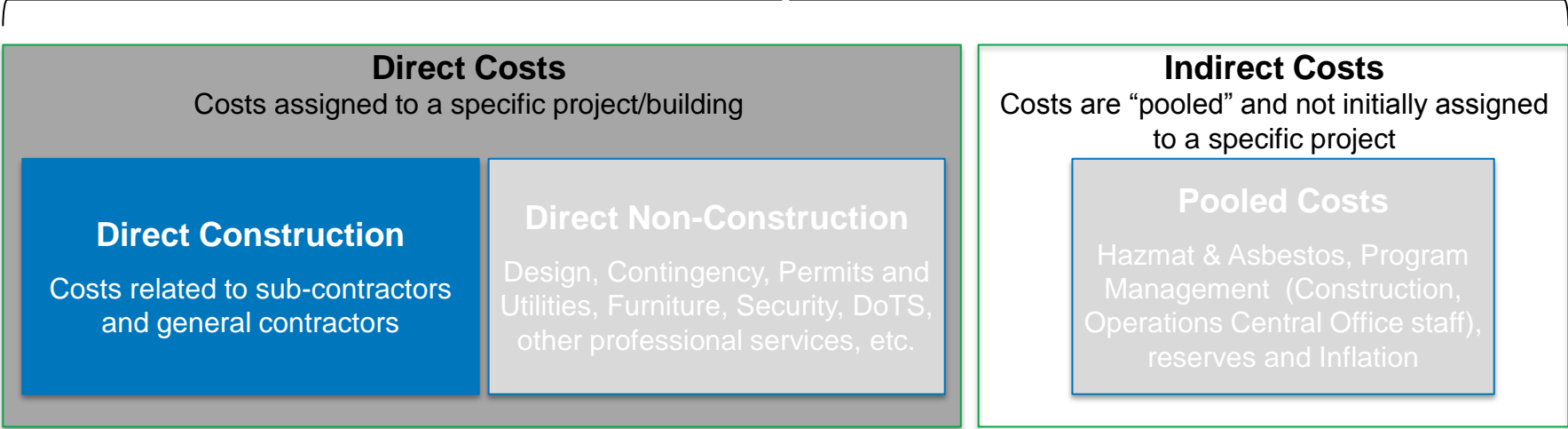
There are 3 categories of costs: Direct-Construction, Direct-Non-Construction and Indirect

Total Cost of Construction Project



Cost Estimate Definitions & Categories

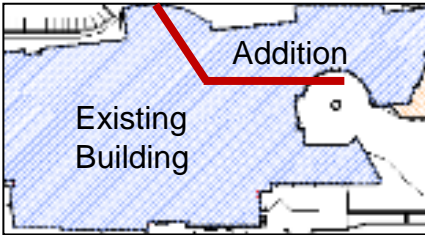
Total Cost of Construction Project



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



New build \$ per square foot



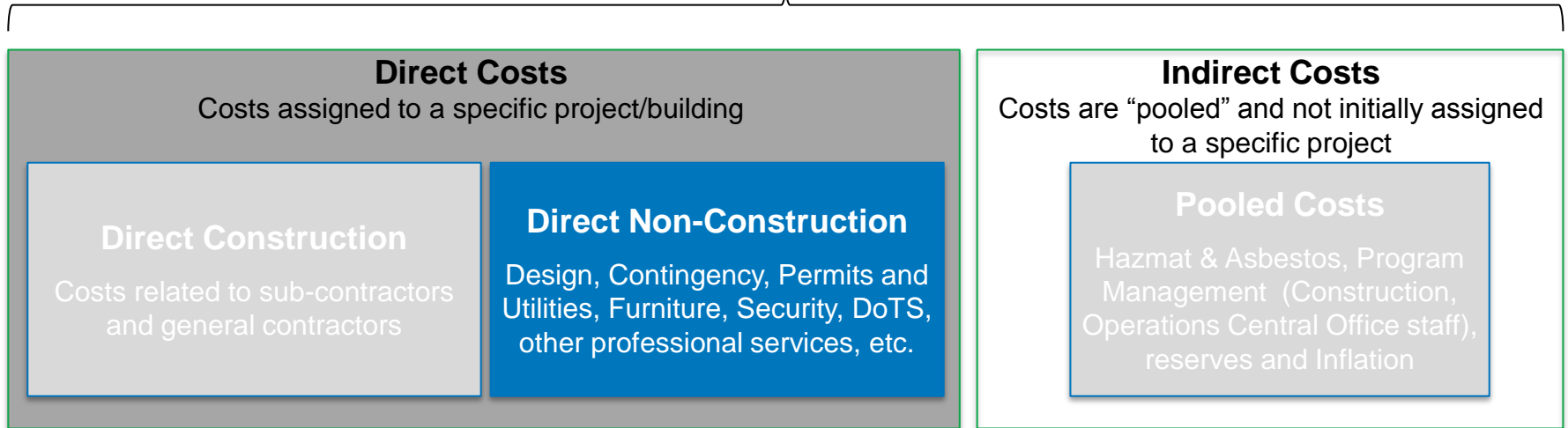
Addition \$ per square foot



Renovation \$ per square foot

Cost Estimate Definitions & Categories

Total Cost of Construction Project

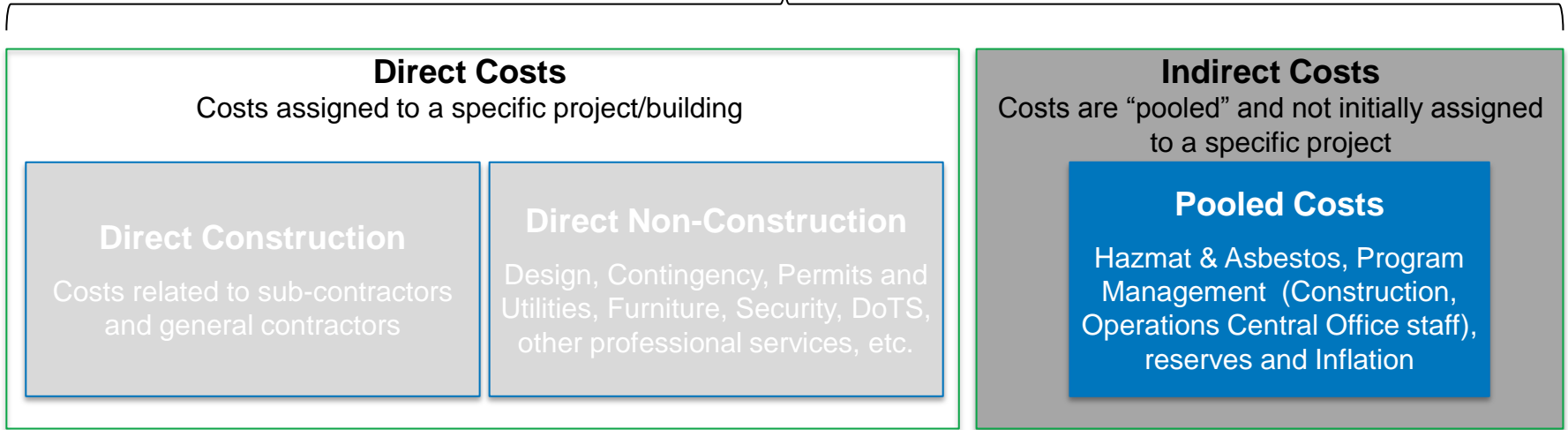


There are a series of costs that are directly related to the construction project, but go beyond the construction costs. These costs are calculated as a % of the Direct Construction cost.

Architectural / Engineering Fees %	Furniture Fixtures and Equipment %	Permits & Fees %	Construction Contingency %
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Cost Estimate Definitions & Categories

Total Cost of Construction Project



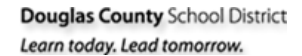
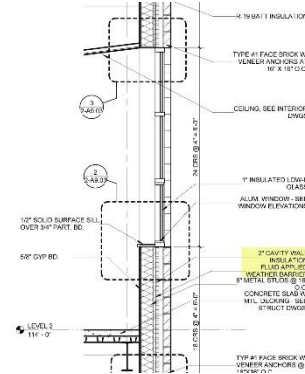
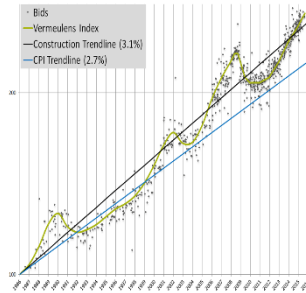
These are types of costs that are not directly related to an individual construction project, but are shared costs used to support all projects or specific projects as needs arise. These costs are applied as a % of the Direct Construction cost

Hazardous Materials %	Program Management %	Reserves %	Inflation %
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Data Sources / Inputs into Cost Calculations

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

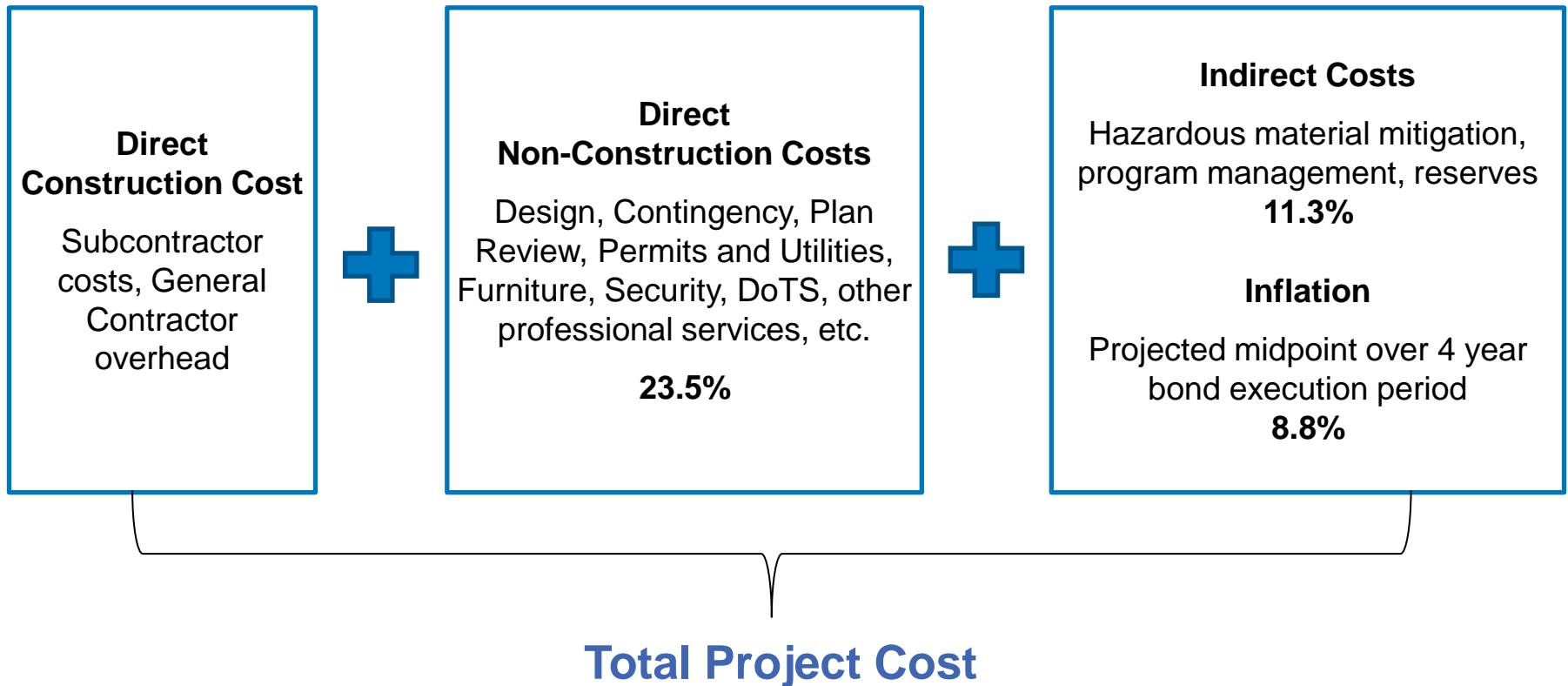
DPS Historical Costs	Market Analysis	Third Party Cost Estimating Firms	DPS Educational Specifications	Non-DPS Project Comparison
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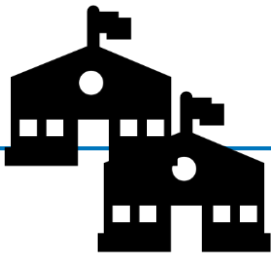


- Analyzed comparable projects from the 2008 and 2012 bonds.
- Completed data from local estimating firms and contractors to anticipate macroeconomic factors such as regional labor, materials costs, and inflation forecasts.
- Utilized relationships with third party estimating firms to create and validate 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.
- Compared RSMeans and internal databases with historic construction costs.

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*

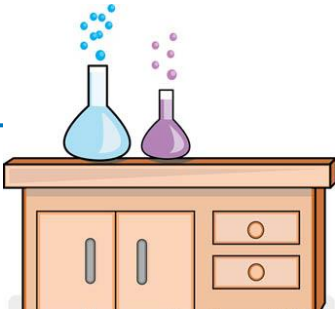
Capacity Discussion - Feedback

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

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

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
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Option 1 Total	\$6.8 M
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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?