2016 Bond Planning

Community Planning Advisory Committee (CPAC)
Maintenance Subcommittee Meeting #2

Denver Public Schools

March 23, 2016  April 4, 2016
Agenda

- Public Comment
- Review of 2012 Investments
- Considerations for 2016
- Committee Feedback:
  Prioritizing sample opportunities
- Committee Next Steps
Reminder: What is the Role of CPAC in this Sub-Committee?

<table>
<thead>
<tr>
<th>CPAC</th>
<th>DPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review and understand the assessment methodology used to prioritize needs</td>
<td>Clear vision of facility maintenance and current state of facilities</td>
</tr>
<tr>
<td>Review and understand the estimating methodology used to cost projects</td>
<td>Share assessment process used and prioritization criteria for facility maintenance needs.</td>
</tr>
<tr>
<td>Evaluate and recommend appropriate level of funding and priorities within and across facility maintenance categories given overall funding constraints.</td>
<td>Transparency and Trust</td>
</tr>
<tr>
<td>Assist the team in working through options for projects with more than one potential solution</td>
<td>Pertinent Information and Data</td>
</tr>
<tr>
<td>Advocate for facility needs to stakeholders and the public</td>
<td>Timely and Responsive</td>
</tr>
</tbody>
</table>
Subcommittee role will be to balance funding across these four categories

Today we will focus on understanding these priorities

Priority 1.1s

Other Priorities
(1.2, 1.3,...)

Sustainability

Heat Mitigation

Next time we will dive deeply into these special investment areas
Review of 2012
Investments
The 2012 Bond has made significant investments in great schools in every neighborhood.

*Represents the planned budget allocations by building. Includes overhead and program management.
2012 Bond Summary by Project Group

Original $466M Planned Projects

- Facility Maintenance and Renovation
  - $230M

- New Capacity or Expansion
  - $196M

- Technology, Safety & Security
  - $39M

*On top of the $466M Bond issuance, we also received $74M in Bond premiums, totaling in about $540M in total Bond proceeds.*
Here’s How the 2012 Maintenance Sub-committee Prioritized Investments

**Criteria**

<table>
<thead>
<tr>
<th><strong>THINK SAFETY FIRST</strong></th>
<th><strong>Safe or efficient operation of a facility</strong></th>
<th><strong>Financially and environmentally sustainable</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Replacing or repairing systems in imminent danger of failure</strong></td>
<td><strong>Regional equity and strengthening the district as a whole</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Improving the teaching and learning environment</strong></td>
<td><strong>Visible and real improvements to our facilities</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Support the technological infrastructure</strong></td>
<td><strong>One-time capital projects</strong></td>
<td></td>
</tr>
</tbody>
</table>

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**Denmark Public Schools**

*Discover a World of Opportunity*
Where were the 2012 Bond Maintenance investments made?

Investments in 142 district buildings across all the district, including…

<table>
<thead>
<tr>
<th>Location</th>
<th>Sector</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Byers*</td>
<td>SE</td>
<td>$21.0M</td>
</tr>
<tr>
<td>Montbello*</td>
<td>FNE</td>
<td>$19.8M</td>
</tr>
<tr>
<td>West*</td>
<td>NW</td>
<td>$12.3M</td>
</tr>
<tr>
<td>Mitchell/Cole (DSST)*</td>
<td>NNE</td>
<td>$9.1M</td>
</tr>
<tr>
<td>Valdez*</td>
<td>NW</td>
<td>$6.8M</td>
</tr>
<tr>
<td>A Lincoln HS*</td>
<td>SW</td>
<td>$6.6M</td>
</tr>
<tr>
<td>South</td>
<td>SE</td>
<td>$6.5M</td>
</tr>
<tr>
<td>Del Pueblo (GALS)*</td>
<td>NW</td>
<td>$5.1M</td>
</tr>
<tr>
<td>Crofton (Uprep)*</td>
<td>NNE</td>
<td>$4.8M</td>
</tr>
<tr>
<td>Kennedy</td>
<td>SW</td>
<td>$4.6M</td>
</tr>
<tr>
<td>Washington</td>
<td>SE</td>
<td>$4.6M</td>
</tr>
<tr>
<td>Cheltenham</td>
<td>NW</td>
<td>$4.2M</td>
</tr>
<tr>
<td>Jefferson</td>
<td>SE</td>
<td>$4.2M</td>
</tr>
<tr>
<td>Manual</td>
<td>NNE</td>
<td>$4.0M</td>
</tr>
<tr>
<td>Kaiser</td>
<td>SW</td>
<td>$3.7M</td>
</tr>
<tr>
<td>Samuels</td>
<td>SE</td>
<td>$3.7M</td>
</tr>
<tr>
<td>Centennial</td>
<td>NW</td>
<td>$3.7M</td>
</tr>
</tbody>
</table>

*Includes major renovations for additional space and quality learning environment, which would be included in another categories (within the New Capacity subcommittee) this time around. Shows actual budgeted dollars as of March 2016 (including a Program Management/Overhead markup).
What issues did the 2012 Bond Maintenance investments address?

Some of the most frequent projects addressed:

<table>
<thead>
<tr>
<th>Buildings</th>
<th>Project Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>103</td>
<td>Cooling for MDF (computer mainframes)</td>
<td>$2.8M</td>
</tr>
<tr>
<td>92</td>
<td>Safety code issues</td>
<td>$5.2M</td>
</tr>
<tr>
<td>80</td>
<td>Accessibility improvements</td>
<td>$3.6M</td>
</tr>
<tr>
<td>71</td>
<td>Cooling enhancements</td>
<td>$17.4M</td>
</tr>
<tr>
<td>34</td>
<td>Fire systems issues</td>
<td>$13.5M</td>
</tr>
<tr>
<td>24</td>
<td>Roofing repaired or replaced</td>
<td>$14.0M</td>
</tr>
<tr>
<td>22</td>
<td>Boilers repaired or replaced</td>
<td>$21.1M</td>
</tr>
</tbody>
</table>

*Actual budgeted dollars as of March 2016. Includes a Program Management/Overhead markup.
South High School

Project highlights:
- Build up Roof EPDM/ PVC/ Single ply Roofing
- Boiler Room Pumps and Piping
- Info Tech related Air Cooling System
- Other Cooling Generating System
- ADA Related Improvements
- Building Code Issues Inclusive
- Building Remodel Renovation
- Clay tile Roofing
- Auditorium Ceiling
- Water Piping
- Electrical
- Science Classroom Renovations
Kennedy High School

Project Detailed Description:
- Re-roof decks 3, 4, 5, 10, 17, 18, 21 & 24.
George Washington High School Pool Piping & Equipment

Project Highlights:
- Replaced supply lines and sand filters Fall ‘14;
- main drains Summer ‘15;
- Main drains will be sidewall (unique for DPS Schools);
- Pool is full and running; turned over to operations Aug 18 for treatment and maintenance
- Modify SC/FC/ Settlement dates when boiler lead time/ installation time is finalized
Manual High School

Project highlights:
- Cooling enhancement: unit ventilators on 2nd and 3rd floor
- Galvanized piping in basement
School features: Bruce Randolph School serves students grades 6th-12th from Northeast Denver neighborhoods. Its turnaround in student graduation rates between 2006 and 2010 was praised by U.S. President Barack Obama during his 2011 State of the Union Address.

Project highlights:
• Convert Soccer Field to Turf Field
• Other issues addressed in building: ADA improvements, code issues, signage upgrades
2012 Bond Impact – Efficiency Improvements

Bond energy infrastructure improvements have had a direct effect on equipment efficiencies which result in energy and maintenance savings.

**Example: Mitchell Elementary: Replaced steam boilers and absorption chiller**

- Gas boilers were used to make steam for the chiller, so gas consumption was high in the Summer.
- After replacing the absorption chiller, the gas consumption decreased a great amount.
  - With a lower gas consumption, there was also a lower gas rate bracket as a result.
- The overall energy consumption, including electricity, decreased significantly.

![Total Energy Consumption: Electric and Gas](calendar-years-2013-before-vs-2015-after)

**Total Energy Consumption: Electric and Gas**

Calendar Years 2013 (Before) vs. 2015 (After)

- Before: 6,542 MMBtus
- After: 2,507 MMBtus
- Decrease of 62%

We will take a closer look at sustainability investments in the next meeting.
2012 Maintenance Bond Projects: Progress and Savings

% of Projects/Activities by Status

- Closed: 56%
- Substantially Complete / In Progress: 21%
- Planned: 23%

**Progress**
- 77% of the 2012 Bond Maintenance projects /activities have closed or are substantially complete / in progress for completion

**Plans**
- 167 Maintenance projects planned (mostly for Summer 2016) in about 55 different buildings
- Science classrooms upgrades, ADA/code upgrades, HVAC and cooling systems projects, water distribution system projects, fire and alarm system projects, among others
- On pace to complete the planned projects!

**Savings**
- 331 have closed and savings have been returned to funding programs,
- **$2.7M of savings**
- Strong project and financial management supporting delivery within budget despite unfavorable economic conditions

*Data as of March 2016.*
2012 Bond Impact – Economic Impact of Construction Projects

**Estimated economic impact of 2012 Bond Construction Projects***

<table>
<thead>
<tr>
<th>Year</th>
<th>2012 Bond Construction Budget**</th>
<th>Denver Jobs Created or Sustained</th>
<th>Denver Household Earnings Increase</th>
<th>Overall Economic Boost to Denver</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>$169 M</td>
<td>3,189</td>
<td>$132 M</td>
<td>$384 M</td>
</tr>
<tr>
<td>2014</td>
<td>$94 M</td>
<td>1,775</td>
<td>$73 M</td>
<td>$214 M</td>
</tr>
<tr>
<td>2015</td>
<td>$114 M</td>
<td>2,157</td>
<td>$89 M</td>
<td>$259 M</td>
</tr>
<tr>
<td>Impact 2013-2015</td>
<td>$377 M</td>
<td>7,121</td>
<td>$295 M</td>
<td>$857 M</td>
</tr>
</tbody>
</table>

2012 Bond spending has had a broad impact on jobs and wages in the Denver area.

- 2014: $94 M, 1,775 Denver Jobs, $73 M Denver Household Earnings Increase, $214 M Overall Economic Boost


This investment came at a critical time for the rebound of the CO economy.

**Includes 2012 Bond budgets for Maintenance and Capacity projects from 2013-2015. Does not include their Program Management.
Considerations for 2016 Investment
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

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**Preliminary Investment Range**

$110-$150M

$220-$280M

$60-$80M
Review Maintenance Priority Refinements

Initial prioritization

1 – Critical: Failure or Code Violations
2 / 3 – Potential to become critical in next 4 years
4 – Acknowledged requests for improvement, but not potential failures
5 – Grandfathered Code Issues and ADA
6 – New Construction

Priority 1 Refinements

1.1 – High Potential for System/Equipment failure that could keep a school from operating; Critical Life Safety issues; Code Corrections Required by Authorities Having Jurisdiction

1.2 – Partial System/Equipment with lesser potential keep a school from operating; Other less-critical safety Issues

1.3 – Potential to fail or become a safety issue in the next 1-2 years
Committee Feedback:
Prioritizing sample opportunities
• Deteriorated fire sprinkler piping. This resulted in system leakage requiring replacement.

• Domestic hot water storage tank. Multiple repair plugs and severe corrosion.
Sub Committee Prioritization Exercise

- Concrete stair
- Concrete sidewalk
Sub Committee Prioritization Exercise

- Running Track surface deterioration.

- Artificial turf seam. Installed in 2005
• Heating supply/return piping with repair clamps. 3 clamps in a 3’ section of pipe indicating piping failure.

• Antiquated supply air fan. Inefficient, high maintenance. Over 100 years old.
Sub Committee Prioritization Exercise

• Inadequate number of outlets for computers.

• ADA ramp is functional, but deteriorating and unsightly
- Rubber play surface deterioration.

- Rusting metal panel ceiling at entrance canopy.
Sub Committee Prioritization Exercise

- Wood floor buckled
- Original construction heating boiler. Vintage 1970’s
Group Discussion

- What else do you need to know about 1.1s and other priorities in order to make recommendations?
- What are your initial thoughts and questions?

Priority 1.1s

Other Priorities (1.2, 1.3, ...)

Sustainability

Heat Mitigation
Process for calculating all-in costs

- **Direct Construction Cost**
  - (includes 15% overhead & profit margin on subcontractors costs)

- **Direct Non-Construction Costs**
  - (Permits, contingency, design & engineering, furniture, etc.)
  - 23.5%

- **Indirect Costs**
  - (Program management, legal, reserves, hazardous material mitigation)
  - 11.29%

- **Inflation**
  - (Projected average over 4 year bond execution period)
  - 8.8%

≡ All-In Cost

Mark-up percentages are based on:

- Observed costs through 2012 bond
- Prospective estimates
  - estimating firms
  - regional school districts facing similar contexts
Next Steps & Reference
## Next steps

<table>
<thead>
<tr>
<th>Meeting #</th>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mar 7</td>
<td>Introductions, Overview of Facilities, Facility Funding Overview, Role of Sub-committee, Categorization and Assessment Approach, Cost estimation process</td>
</tr>
<tr>
<td>2</td>
<td>Mar 23</td>
<td>Overview of 2012 Maintenance Investments, Context around 2016 Investment Considerations, Committee Prioritization Exercise</td>
</tr>
<tr>
<td>3</td>
<td>Apr 4</td>
<td>Cooling Enhancement Overview, Sustainability Overview, Budgetary considerations – increasing annual costs, Pricing of Opportunities</td>
</tr>
<tr>
<td>4</td>
<td>April 18 and May 2</td>
<td>Review of potential investments, Committee discussion for prioritized needs</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Respond to CPAC review and questions, Finalize CPAC list</td>
</tr>
</tbody>
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### Options for rescheduling:

- **a. Add additional CPAC committee meeting**
  - possibly April 25
- **b. Extend April 18 and May 2 meetings to cover all remaining topics in two meetings**
Next meeting

Time: **April 18**
- 5 PM tour,
- 5:30 Meeting

Location: **Cole Arts and Sciences Academy**
- 3240 Humbolt Street
- Denver, CO 80205

Topics:
- Cooling Enhancement Overview
- Sustainability Overview
- Budgetary considerations
- Pricing of Opportunities