



**A Report to the  
Audit Committee**

**Mayor**  
John Cooper

**Director of Schools**  
Dr. Adrienne Battle

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Kevin Crumbo  
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# Audit of Metropolitan Nashville Public Schools Capital Projects Process

September 29, 2020

Metropolitan  
Nashville  
Office of  
Internal Audit



## **Why We Did This Audit**

The audit was conducted due to the high amount of funding that goes into Metropolitan Nashville Public Schools capital projects, and since the program has not been audited by the Metropolitan Nashville Office of Internal Audit.

## **What We Recommend**

- Ensure all contractors are procured through a public solicitation process with the involvement of the Procurement Department.
- Consider adding a clause in construction contracts requiring workers to be paid a prevailing wage.
- Allocate invoiced project management costs to appropriate projects based on actual hours worked to ensure project costs are accurately evaluated compared to the budget.

# Audit of the Metropolitan Nashville Public Schools Capital Projects Process

## **BACKGROUND**

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The Metropolitan Nashville Public Schools Facilities Planning and Construction team is responsible for overseeing all Metropolitan Nashville Public Schools capital projects. Capital projects include technology and infrastructure improvements, small repair projects, large school renovations, and new builds. The audit focused on moderate to large construction projects due to the high amount of funds going into capital projects. In the three fiscal years between 2017 and 2019, over \$309 million dollars of the Mayor's Capital Spending Plan was allocated to Metropolitan Nashville Public Schools.

## **OBJECTIVES AND SCOPE**

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The objectives of this audit are to determine if:

- Controls are in place over the identification, planning, and cost estimation of Metropolitan Nashville Public Schools capital projects.
- Controls are in place over the procurement and monitoring of capital projects.

The scope of the audit included the 2017, 2018, and 2019 capital spending plans. The audit focused on moderate to large construction projects due to the funds going into capital projects.

## **WHAT WE FOUND**

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Metropolitan Nashville Public Schools is using an effective method to prioritize the needs of school facilities to improve the health, safety, and welfare conditions of existing buildings in most need. While policies and procedures are in place to inspect and score schools to request funding for facilities, Metropolitan Nashville Public Schools does not utilize a project management system to organize and track capital projects. Metropolitan Nashville Public Schools could benefit by using a project management software to organize and maintain documentation.

## GOVERNANCE

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The Department of Facilities has two divisions: Facilities and Grounds Maintenance and Facility Planning and Construction. CBRE|Heery is contracted by Metropolitan Nashville Public Schools to perform the project management function for capital construction projects. The Facilities and Grounds Maintenance division, the Construction division, and the contracted project managers all report to an Executive Director of Facilities, Maintenance and Construction.

## BACKGROUND

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### *Capital Needs and Budgeting Process*

Each year the Facility Planning and Construction department will work with Metropolitan Nashville Public Schools administration to prepare a Capital Improvements Budget that covers a ten-year period. Metropolitan Nashville Public Schools uses eight standards that form the basis for capital projects:

1. To improve the health, safety, and welfare conditions of existing buildings.
2. To correct overcrowding.
3. To replace worn-out buildings and components.
4. To anticipate future growth and other demographic changes
5. To accommodate the interim and long-range pupil assignment plan.
6. To replace obsolete rolling stock and equipment to improve opening and closing schedules.
7. To respond to educational program changes.
8. To make other improvements to the physical environment for learning.

The two most common reasons for a Capital Improvements Budget request are anticipated growth relating to the capacity of a school and low Facility Index Scores. The Facility Index Score is used for every school and Metropolitan Nashville Public Schools buildings. The score is comprised of four parts: physical condition, suitability, site condition, and technology infrastructure. These four parts are weighted to produce a cumulative facility condition score. These scores are reviewed every five years by an independent third party.

Once a capital project need is determined, the Facilities Planning and Construction team will begin to estimate the cost of the project. Projects are determined to be a renovation, an addition, a combination of renovation and addition, a replacement, or a new school. The cost estimate is developed in-house using a standard Metropolitan Nashville Public Schools estimate form to include all costs associated with the project. If a project is large and complex, the in-house estimate will be a temporary estimate until a contractor is procured for pre-construction services and can develop an accurate estimate. Any additional funds needed based on the pre-construction estimate can be added to the next Capital Improvements Budget request. No construction will take place until all funding is acquired.

The finalized Capital Improvements Budget is reviewed and approved by the Metropolitan Nashville Board of Education and presented to the Mayor's Office through the Planning Department. The Mayor's Office will then present a Capital Spending Plan with the annual budget that may or may not include capital projects included on the Metropolitan Nashville Public Schools' Capital Improvements Budget. Exhibit A shows the Metropolitan Nashville Public Schools' capital projects funded for fiscal years 2017 through 2019.

## Exhibit A – Funded Metropolitan Nashville Public Schools Capital Projects by Spending Plan

Project	2016-17 Capital Spending Plan	2017-18 Capital Spending Plan	2018-19 Capital Spending Plan
Capital Projects	\$ 105,000,000	\$ 77,500,000	\$ 10,000,000
District-wide Projects*	45,000,000	22,050,000	50,000,000
<b>Total</b>	<b>150,000,000</b>	<b>\$ 99,550,000</b>	<b>\$ 60,000,000</b>

Source: Metropolitan Government Capital Spending Plans for Fiscal Years 2016 through 2019

\*District-wide projects are smaller projects completed using capital funds, such as improved technology, bus repairs and replacements, minor construction repairs, etc.

### Procurement Process

Once a project is placed on the Capital Spending Plan and provided funding, Metropolitan Nashville Public Schools will procure contractors to design, construct, and manage the projects. Depending on the size and complexity, the overall process includes one year of design, permitting, bidding, etc. and two or more years for construction.

A design consultant, generally an architecture or engineering firm, is procured through a qualifications-based selection process. For large projects, a pre-construction services contractor may be used. Once the design is complete, the project goes out for public bid for a general contractor. The solicitation is prepared and posted on the Metropolitan Nashville Public Schools website.

The evaluation committee for bids consists of the Facility Planning and Construction division, the design consultant, and project management staff. Responses are ranked and the contract is awarded to the highest score. Prior to 2016, the procurement process has been completed without the assistance of the Metropolitan Nashville Public Schools Procurement Department. All contracts are reviewed and approved by the Metropolitan Nashville Board of Education and Metropolitan Nashville Department of Law.

### Project Management Process

Metropolitan Nashville Public Schools has contracted with CBRE | Heery for project management services for twenty years; each contract being publicly bid and set for a five-year period. CBRE | Heery project managers utilize the project budget, manage the expected time frame, monitor and maintain documentation, project costs, and track and resolve any issues that arise.

CBRE | Heery does not utilize a project management software. Microsoft products, such as Microsoft Project and Microsoft SharePoint are used for tracking time and maintaining documentation.

The method of approving invoices depends on the size of the project. For small capital projects, invoices can be approved solely by the assigned project manager. For large projects, the invoices are approved during a meeting with the owner, the general contractor, and the architect. For construction projects, the architect will walk the site to verify completion of the work and recommend approval of the invoice to the project manager.

Change orders are reviewed and approved in a similar process to invoices, with further requirements. In a meeting with the owner, the general contractor, and the architect, change orders will be reviewed and discussed. Because change orders involve changing the contract price, these will also be reviewed and

approved by the Metropolitan Nashville Board of Education. When a change order is approved, the contract will be amended to the new contract price. Project managers will maintain all project documentation and track the project’s progress through to close out.

**Audit Methodology**

The scope of the audit included the Capital Spending Plans for fiscal years 2017 through 2019. A judgmental sample of three construction projects of moderate to large size were selected for review. The projects selected for review and the design and general contractors for each project can be found below in Exhibit B.

**Exhibit B – Capital Projects Sampled for Review**

<b>Project</b>	<b>Project Type</b>	<b>Architect</b>	<b>General Contractor</b>	<b>Budget</b>
Hillsboro High School	Replace	ARTiface	American Constructors	\$ 97,794,996
McMurray Middle School	Renovation	HMK Architects	Orion Building Corporation	\$ 20,750,000
East Nashville Magnet – Bleachers & Concessions	Stadium Upgrade	EOA Architects	Romach General Contractors	\$ 3,022,258

*Source: Metropolitan Nashville Public Schools Facilities Maintenance and Construction division.*

The McMurray Middle School renovation and the East Nashville Magnet School stadium upgrade were completed and closed out at the time of this audit. The Hillsboro High School addition and renovation project is ongoing. Cost estimation and procurement documents, invoices, change orders, and all supporting material were reviewed for completeness for each project.

## AUDIT OBJECTIVES AND CONCLUSIONS

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1. *Were controls in place over the identification, planning, and cost estimation of Metropolitan Nashville Public Schools capital projects?*

**Yes.** Metropolitan Nashville Public Schools utilizes a scoring and assessment process to effectively prioritize capital projects based on facility condition, capacity utilization, and expected enrollment. For the three fiscal years during the audit period, all three capital improvement budget requests prioritized funding for projects with the lowest facility condition scores and schools near or above capacity. Controls are in place to review and score facilities by a third party as well as in-house by the Facilities Maintenance and Construction team to ensure the scoring system is fair and accurate.

The Facilities Maintenance and Construction team uses a cost estimation form to determine the estimated budget and necessary funds to complete each capital project. While current cost estimation processes are in place, Facilities Maintenance and Construction management changed at the beginning of the audit period, and cost estimation documentation was not retained by previous management for one sampled project. However, reviews of sampled projects after the change in management show documentation was being maintained properly.

2. *Were controls in place over the procurement and monitoring of capital projects?*

**Generally, no.** A review of procurement documentation for six contractors found that the Department of Facility Planning and Construction procured all six contractors without the involvement or oversight of the Metropolitan Nashville Public Schools Procurement Department. Two contractors (33 percent) did not go through the public solicitation process. The Procurement Department should be involved in the solicitation, review, and selection of capital project contractors.

Contractors were not required to pay their employees prevailing wages on Metropolitan Nashville Public Schools capital projects. The Metropolitan Nashville Government's Procurement Code requires prevailing wage clauses be included in all construction contracts. Metropolitan Nashville Public Schools elects not to follow the Metropolitan Nashville Government's Procurement Code. However, since Metropolitan Nashville Government funds are received for capital projects, the Metropolitan Board of Education should consider adding this prevailing wage requirement to Metropolitan Nashville Public Schools construction contracts.

Project management costs are budgeted to account for 4% of a large construction project's budget. However, small capital projects do not include a budget for project management costs. Rather than allocating project management expenditures to individual projects based on the actual hours worked, the current process is to allocate project management costs to the oldest projects with available project management funds. Project management costs should be allocated to projects where the hours were actually worked. Budgets and cost estimations should be adjusted to account for the estimated hours. (See Observations A, B, C.)

## AUDIT OBSERVATIONS

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Internal control helps ensure entities achieve important objectives to sustain and improve performance. The Committee of Sponsoring Organizations of the Treadway Commission (COSO), Internal Control – Integrated Framework, enables organizations to effectively and efficiently develop systems of internal control that adapt to changing business and operating environments, mitigate risks to acceptable levels, and support sound decision-making and governance of the organization. See **Appendix B** for a description of the observation *Assessed Risk Rating*.

### **Observation A – Procurement**

A review of procurement documentation related to the Hillsboro High School renovation, McMurray Middle School facility renovation, and East Nashville Magnet High School stadium upgrade found that six contractor procurements were handled entirely by the Facilities Planning and Construction Department without the involvement or oversight from the Metropolitan Nashville Public Schools Procurement Department. Two out of six contractor procurements (33 percent) did not go through a public solicitation process. The two contractors were ARTifice and EOA Architects. As of August 13, 2020, ARTifice has been paid \$4,616,188 for architectural services on the Hillsboro High School renovation. EOA Architects was paid \$138,278 for architectural services for the East Nashville Magnet High School stadium upgrade. Additionally, the bid scores were collected and averaged by a single member of the same evaluation committee. The scores should be tallied and averaged by someone who was not a member of the evaluation committee to prevent bias.

#### *Criteria:*

- COSO Principle 10: The organization selects and develops control activities that contribute to the mitigation of risks to the achievement of objectives to acceptable levels.

#### *Assessed Risk Rating:*

**High**

#### *Recommendations for management of Metropolitan Nashville Public Schools:*

1. Ensure all contractors for capital projects are procured through a public solicitation process and with the involvement of the Procurement Department.
2. Ensure the person who tallies score sheets is not a member of the evaluation committee.

### **Observation B – Prevailing Wages**

Metropolitan Nashville Public Schools does not require capital projects contractors to pay prevailing wages to their employees. The Davis-Bacon Act requires contractors and subcontractors to pay their workers no less than the locally prevailing wages and fringe benefits for corresponding work on similar projects in the area for federally funded projects. Prior to 2014, the Metropolitan Nashville Government’s Procurement Code required contractors on Metropolitan Nashville Government construction projects to pay their workers no less than the wages specified in the federal Davis-Bacon Act. Due to Tennessee Code Annotated changes in 2013, the Metropolitan Nashville Government’s Procurement Code was amended to require Metropolitan Nashville Government contractors on construction projects to pay their workers no less than the wages specified in the Tennessee Occupational Wage Report published by the Tennessee Department of Labor and Workforce Development, Employment Security Division. The Metropolitan Nashville Government’s Procurement

Code states that the requirement is to be put in all construction related solicitations and contracts and gives the Procurement Agent the authority to request payroll records from contractors to ensure compliance with minimum wage requirements.

Metropolitan Nashville Public Schools is not required to follow the Metropolitan Nashville Government's Procurement Code, and Metropolitan Nashville Public Schools elects not to include the wage requirements in construction project contracts. However, since Metropolitan Nashville Government funding is allocated to Metropolitan Nashville Public Schools capital projects, the Board of Education should consider amending their procurement regulations to include a similar prevailing wage requirement. Adding a prevailing wage clause can reduce the chance of contractors paying their employees less than a living wage.

*Criteria:*

- COSO Principle 10: The organization selects and develops control activities that contribute to the mitigation of risks to the achievement of objectives to acceptable levels.

*Assessed Risk Rating:*

**Medium**

*Recommendation for management of the Metropolitan Nashville Public Schools:*

Consider amending Metropolitan Nashville Public Schools procurement regulations to include a prevailing wage requirement similar to the Metropolitan Nashville Government's Procurement Code.

### ***Observation C – Project Management Allocation***

CBRE|Heery contracted with Metropolitan Nashville Public Schools as the project manager for capital projects and construction work for 24 years. For large capital projects, cost estimation includes a 4% budget for project management. Small capital projects do not include a project management budget. All CBRE|Heery invoices are broken down to indicate the hours worked by each project manager on each project. However, the project management costs are not being properly allocated to projects based on the actual hours worked. Rather, the invoices are being allocated to the oldest open projects with availability in their project management budget. Project management costs should be allocated to projects based on actual hours per project, and project budgets should be adjusted to include estimated project management costs to ensure that the hours and costs spent are reasonable for the size and complexity of each individual project.

*Criteria:*

- COSO Principle 12: The organization deploys control activities through policies that establish what is expected and procedures that put policies into action.

*Assessed Risk Rating:*

**Medium**



*Recommendations for management of the Metropolitan Nashville Public Schools:*

1. Ensure all projects have estimated budgets for project management costs. Allocate invoiced project management costs to appropriate projects based on actual hours worked to ensure project costs are accurately evaluated compared to the budget.
2. Consider implementing the use of a project management software to organize, track, and maintain documentation across various capital projects.

## **GOVERNMENT AUDITING STANDARDS COMPLIANCE**

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We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our observations and conclusions based on our audit objectives.

## **METHODOLOGY**

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To achieve the audit objectives, auditors performed the following steps:

- Reviewed Metropolitan Nashville Government Code of Laws and ordinances, and Metropolitan Nashville Public Schools policies and procedures.
- Reviewed Metropolitan Nashville Public Schools contracts with the construction manager, other major contractors, the project manager, and subcontractors.
- Interviewed key personnel within the Department of Facilities Planning and Construction and the project management firm.
- Reviewed prior audits performed by the Metropolitan Nashville Office of Internal Audit and by other jurisdictions.
- Reviewed and analyzed financial data to determine compliance with contract, fiscal, and best practices.
- Evaluated internal controls currently in place.
- Considered risk of fraud, waste, and abuse and information technology risks.
- Detail-tested sampled project costs and other transactions.

## **AUDIT TEAM**

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Laura Henry, CFE, In-Charge Auditor

Seth Hatfield, CPA, CIA, CFE, Assisting Auditor

Lauren Riley, CPA, CIA, ACDA, CMFO, Metropolitan Auditor

## APPENDIX A – MANAGEMENT RESPONSE AND CORRECTIVE ACTION PLAN

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**David Proffitt**, Executive Director  
Facilities, Maintenance & Construction

To: Lauren Riley, Metropolitan Auditor  
Re: Audit of MNPS Capital Projects Process  
Date: 09/25/2020

Dear Ms. Riley,

This letter acknowledges that Metro Nashville Public Schools has received the Audit of the Metropolitan Nashville Public Schools Capital Project Process and has reviewed the comments and recommendations.

Please find attached Appendix A – Management Response and Action Plan

It was a pleasure working with your team on this project. Thank you for your time and dedication to helping us improve our processes for capital project procurement and management.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Proffitt", with a long horizontal stroke extending to the right.

David Proffitt, AIA  
Architect  
Executive Director  
Facilities, Maintenance and Construction  
Metro Nashville Public Schools

Cc: file  
Chris Henson, MNPS COO

## APPENDIX A – MANAGEMENT RESPONSE AND CORRECTIVE ACTION PLAN

We believe that operational management is in a unique position to understand best their operations and may be able to identify more innovative and effective approaches, and we encourage them to do so when providing their response to our recommendations.

Risk	Recommendation	Concurrence and Action Plan	Expected Completion Date
<i>Recommendations for management of the Metropolitan Nashville Public Schools:</i>			
H	<b>A.1</b> Ensure all contractors for capital projects are procured through a public solicitation process and with the involvement of the Procurement Department.	<b>Accepted</b> All reviewed contracts were entered into began mid 2016. Since early 2020, all construction contracts have involved the Procurement Department.	Began in 2016, fully implemented 2020
H	<b>A.2</b> Ensure the person who tallies score sheets is not a member of the evaluation committee.	<b>Accepted</b>	Began in 2018, fully implemented 2020
M	<b>B.1</b> Consider amending Metropolitan Nashville Public Schools procurement regulations to include a prevailing wage requirement similar to the Metropolitan Nashville Government’s Procurement Code.	<b>Rejected</b> As noted by the Audit Report, the Metropolitan Government’s Procurement Code does not apply to MNPS. While MNPS does not have a procurement regulation requiring a prevailing wage, MNPS will consider this recommendation in conjunction with the administration and the Board of Education.	Not applicable
M	<b>C.1</b> Ensure all projects have estimated budgets for project management costs. Allocate invoiced project management costs to appropriate projects based on actual hours worked to ensure project costs are accurately evaluated compared to the budget.	<b>Accepted</b>	In process. Will fully implement October 2020
M	<b>C.2</b> Consider implementing the use of a project management software to organize, track, and maintain documentation across various capital projects.	<b>Accepted</b> MNPS FPC currently uses PM software (eBuilder) to track project expenses. Fully implementing the software may be considered if funding is available.	PM software may be considered if funding is available.

## APPENDIX B – ASSESSED RISK RANKING

Observations identified during the course of the audit are assigned a risk rating, as outlined in the table below. The risk rating is based on the financial, operational, compliance or reputational impact the issue identified has on the Metropolitan Nashville Government. Items deemed “Low Risk” will be considered “Emerging Issues” in the final report and do not require a management response and corrective action plan.

Rating	Financial	Internal Controls	Compliance	Public
<b>HIGH</b>	Large financial impact >\$25,000  Remiss in responsibilities of being a custodian of the public trust	Missing, or inadequate key internal controls	Noncompliance with applicable Federal, state, and local laws, or Metro Nashville Government policies	High probability for negative public trust perception
<b>MEDIUM</b>	Moderate financial impact \$25,000 to \$10,000	Partial controls  Not adequate to identify noncompliance or misappropriation timely	Inconsistent compliance with Federal, state, and local laws, or Metro Nashville Government policies	The potential for negative public trust perception
<b>LOW/ Emerging Issues</b>	Low financial impact <\$10,000	Internal controls in place but not consistently efficient or effective  Implementing / enhancing controls could prevent future problems	Generally, complies with Federal, state, and local laws, or Metro Nashville Government policies, but some minor discrepancies exist	Low probability for negative public trust perception
<b>Efficiency Opportunity</b>	An efficiency opportunity is where controls are functioning as intended; however, a modification would make the process more efficient			